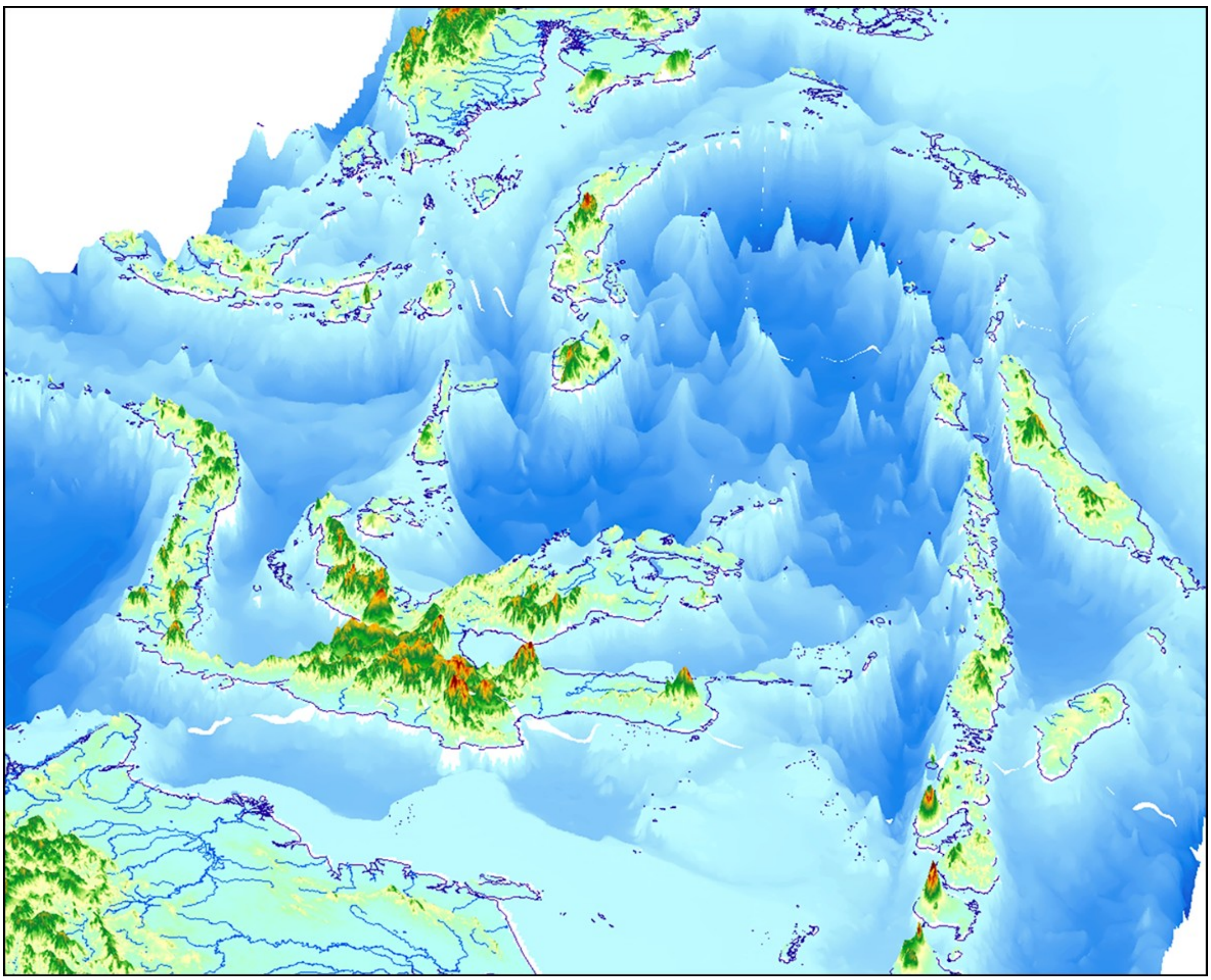
Bibliography of Indonesian Geology

BIBLIOGRAPHY OF THE GEOLOGY OF INDONESIA AND SURROUNDING AREAS

Edition 8.0, February 2026

J.T. VAN GORSEL

VII. BANDA SEA, LESSER SUNDA ISLANDS (incl. Timor)



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VII. BANDA SEA, LESSER SUNDA ISLANDS

This chapter VII of Bibliography 8.0 contains 242 pages with 1457 titles on the deep basins of the Banda Sea region as well as the geology of the 'Lesser Sunda Islands', which include islands of the active East Sunda- Banda volcanic 'inner arc' (Flores, Sumbawa, etc.) and the non-volcanic 'outer arc' (Sumba, Timor, Sumba, Leti, Tanimbar, Kai iskands, etc.). It is subdivided into five chapters, VII.1- VII.5.

The key elements of this southeastern part of Indonesia from the Banda Seas outward are:
1. Neogene 'back-arc' marginal oceanic basins (North and South Banda Seas, Weber Deep);
2. the East Sunda- Banda active volcanic arc, extending from Bali to Ambon;
3. 'non-volcanic outer arc' islands Sumba, Timor, Roti, Leti, Tanimbar, etc. (forearc and accretionary prism);
4. the Tanimbar- Timor Aru Trough outboard of the outer arc (eastern continuation if the Java Trench and now a fossil subduction trench).

Figure VII.1. Main tectonic elements and some locality names of Banda Sea region.

The outer arc islands are parts of a long fold-and-thrust belt, from Roti-Timor to Seram-Buru. Outcrops closest to the Timor- Tanimbar trench are parts an imbricated accretionary prism, composed of dominantly deep marine sediments scraped off subducted Indian Ocean floor sediments and cover of subducted continental crust of the distal NW Australian margin. Closer to the Banda Sea the islands also host volcanic, metamorphic, ophiolitic and sedimentary units that have no apparent relation to the NW Australian margin, but are elements of the forearc of the Banda Arc.

Where Australian continental crust has arrived at the subduction zone (Roti-Timor and farther East), the collision zone includes uplifted parts of the forearc of the overriding Banda Arc plate ('Banda Terrane').

VII.1. Banda Sea, East Banda Arc (incl. Tanimbar, Kai, Aru, etc.)

Sub-chapter VII.1 of Edition 8.0 contains 27 pages with 184 references on the geology of the Banda Sea, as well as some of the non-volcanic outer arc island groups like Tanimbar, Kai and Aru.

The most prominent features in this area are the active Banda Arc, the deep Banda Sea marginal oceanic basins and the non-volcanic outer arc islands, from Sumba, Timor to the Tanimbar and Kai Islands (Figures VII.1.1, VII.1.3).

Most or all of the Banda arc was built on oceanic crust, above the north-dipping Indian Ocean/ Cenotethys subduction zone. Oceanic crust has now been consumed completely from Sumba east to New Guinea.

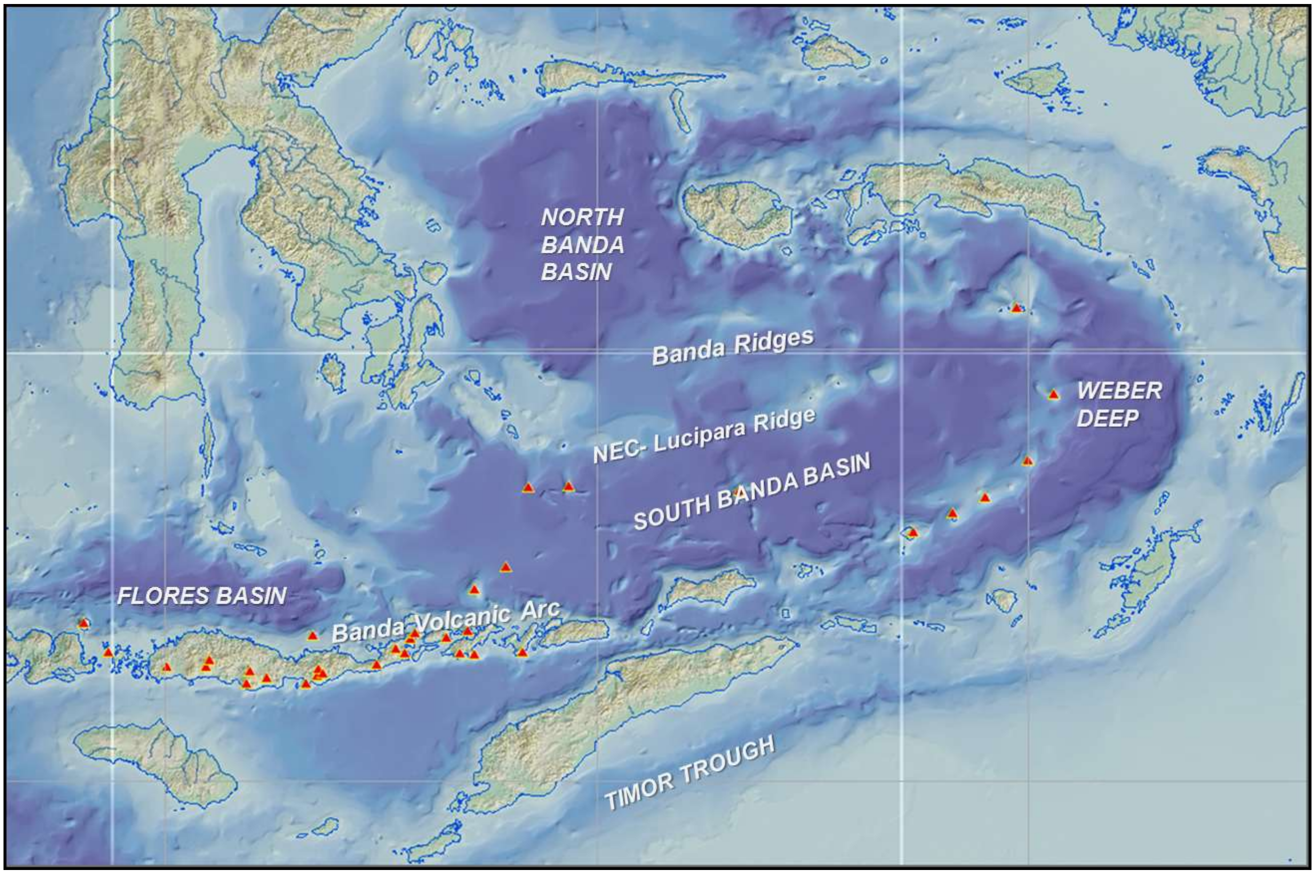

Figure VII.1.1. Bathymetric map showing North and South Banda Sea basins behind the curved volcanic Inner Banda Arc, and the Weber Deep basin between the volcanic arc and the non-volcanic Outer Banda Arc. Red triangles are active volcanoes.

North and South Banda Seas Neogene basins

There have been several theories on the origin of the deep Banda Sea. Verbeek (1908) noticing major extensional features along the islands surrounding the Banda Sea, (correctly) saw it as a collapsed structure. Abendanon (1919), struck by the presence of crystalline schists in much of E Indonesia, saw it as a sunken part of a large old Paleozoic continent that he named Aequinocta.

In the 1970's it was generally recognized that the North and South Banda Seas were underlain by oceanic crust (e.g. Curray et al. 1977), but age of this crust was unknown. A theory popular in the 1980's was that the Banda Sea represented a trapped piece of Indian Ocean plate, of Early Cretaceous age (Bowin et al. 1980, Lee and McCabe 1986, Hartono 1990). This idea was mostly driven by water depths down to 5000m in the South Banda basin, which is deeper than 'normal' Tertiary oceanic crust.

Hamilton (1978) was the first to suggest formation of the Banda Sea by Neogene oceanic backarc spreading behind the Sunda- Banda Arc. This concept was accepted by Norvick (1979), Nishimura and Suparka (1990), Milsom (2000) and others (Figure VII.1.2).

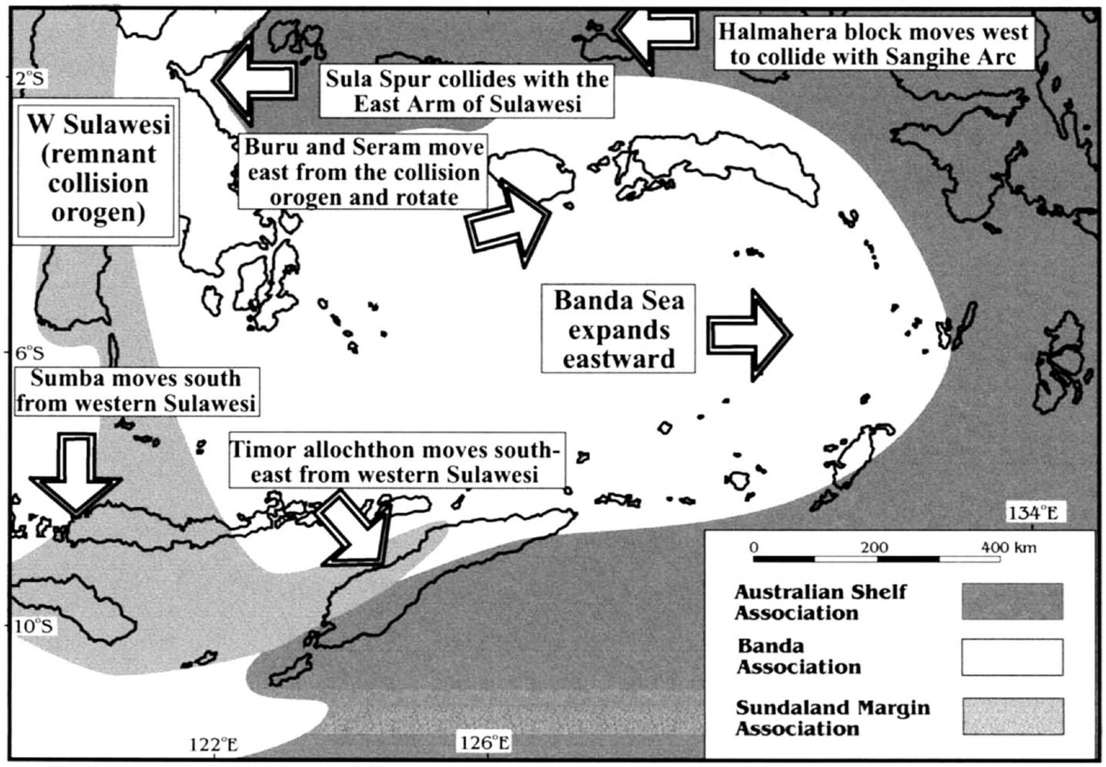

Figure VII.1.2. Milsom (2000) model of opening of Banda Sea, based on observation that tectonostratigraphies of Sumba, allochthonous Banda Terrane of Timor and Buru-Seram all suggested they were part of the Sulawesi collisional belt before Neogene.

The age of the Banda Sea basins seafloor is now generally viewed as Late Miocene- Early Pliocene, as documented by seafloor dredging and magnetic survey programs by French groups in the 1990's- early 2000's (Rehault et al. 1994, Hinschberger et al. 1998-2005, etc.). (Figure VII.1.3.). The driving force of the extension is rollback of old, N-ward subducting Indian Ocean slab (Milsom 1999, 2000, 2001, Hinschberger et al. 2003, 2005, Harris 2006, Spakman and Hall 2010, Pownall et al. 2016).

The crust below the Banda Sea seafloor is probably a mix of newly created Neogene oceanic crust, but with isolated remnants of extended older crust: (1) upper crustal blocks of continental and volcanic arc material (Banda Ridges) and (2) metamorphic core complexes of hyperextended lower crust.

Part of the North Banda Sea basin may have been partly consumed already under the Tolo Thrust off East Sulawesi.

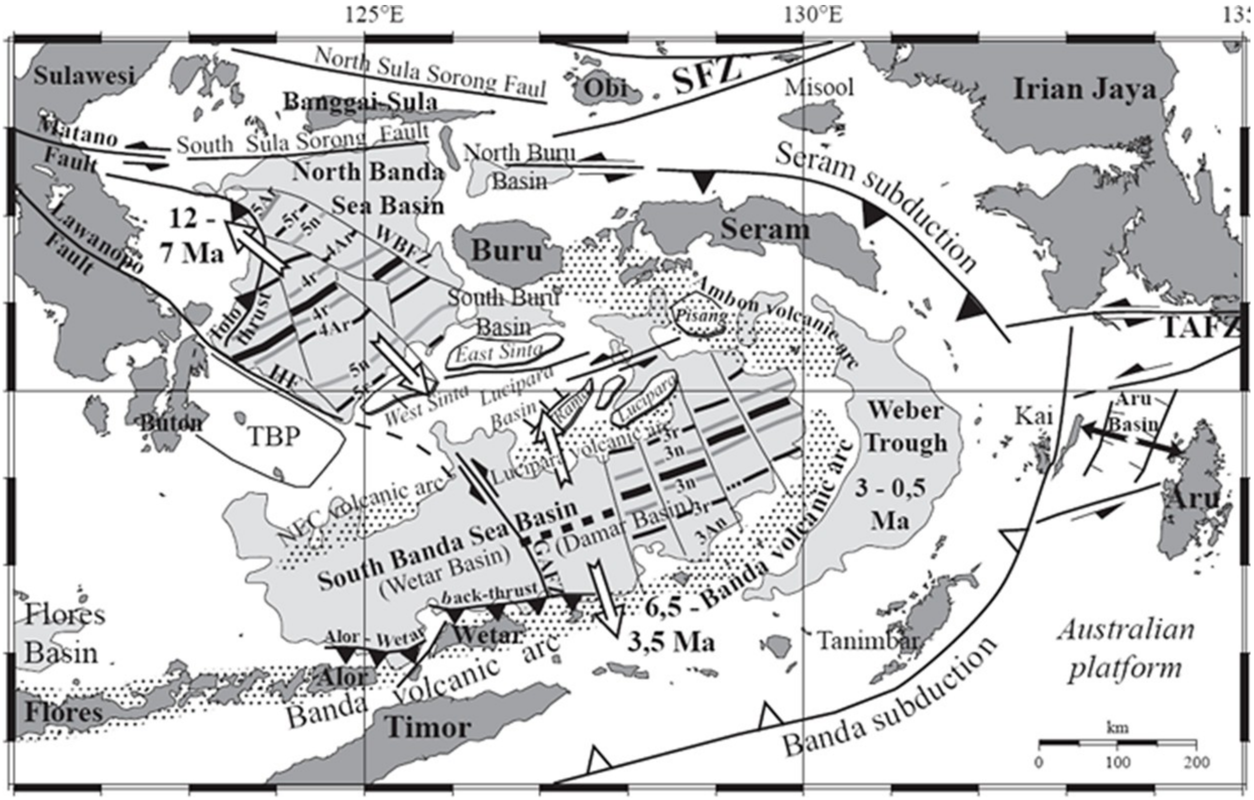

Figure VII.1.3. Banda Sea area (Hinschberger et al. 2005). Showing (1) Banda-Ambon volcanic arc(s), (2) back-arc North and South Banda basins with ocean floor magnetic lineations and interpreted Late Miocene-Early Pliocene (12- 3.5 Ma) ages, (3) very young and very deep Weber Trough.

Banda Ridges

The North and South Banda Seas are sepaprated by a goup of submarine highs, known as the 'Banda Ridges'. They include the Lucipara, Sinta, Rama and Pisang Ridges (e.g. Hinschberger et al. 2003, 2005).

Dredge samples yielded a variety of rocks, including metamorphic rocks, arc volcanics, Triassic and Oligocene limestones, etc., suggesting the Banda Ridges are:

1. Remnants of small blocks of thinned continental crust rifted off East Sulawesi (Silver et al. 1985, Villeneuve et al. 1994, Cornee et al. 2002). Sinta, Rama, Pisang Ridges); some with Late Triassic limestones);
2. Relict Late Miocene- Early Pliocene-age volcanic arc (NEC- Lucipara volcanic arc), with K-Ar age around 6-7 Ma (Silver et al. 1985) (Figure VII.1.1).

Upper Triassic reefal limestones were dredged from the Sinta Ridge (Villeneuve et al. 1994), mid-Oligocene reefal limestones from the Pisang Ridge (Cornee et al. 2002).

Metamorphic rocks dredged from the ridges include phyllites and ampholites with K-Ar ages of 22 and 11 Ma (Silver et al. 1985).

Banda Arc

The active Banda Volcanic Arc is the inner of two rows ('arcs') of islands surrounding the Banda Sea; the 'outer arc' mainly represent uplifted parts of the accretionary prism (.Figure VII.1.4). The present cycle of arc volcanism probably started in Late Miocene time, around 10-12 Ma (Abbot and Chamalaun 1981, Scotney et al. 2005, etc), but perhaps most active since ~4 Ma. The oldest dated volcanic rocks on Wetar are ~12 Ma old (Abbott and Chamalaun,1981).

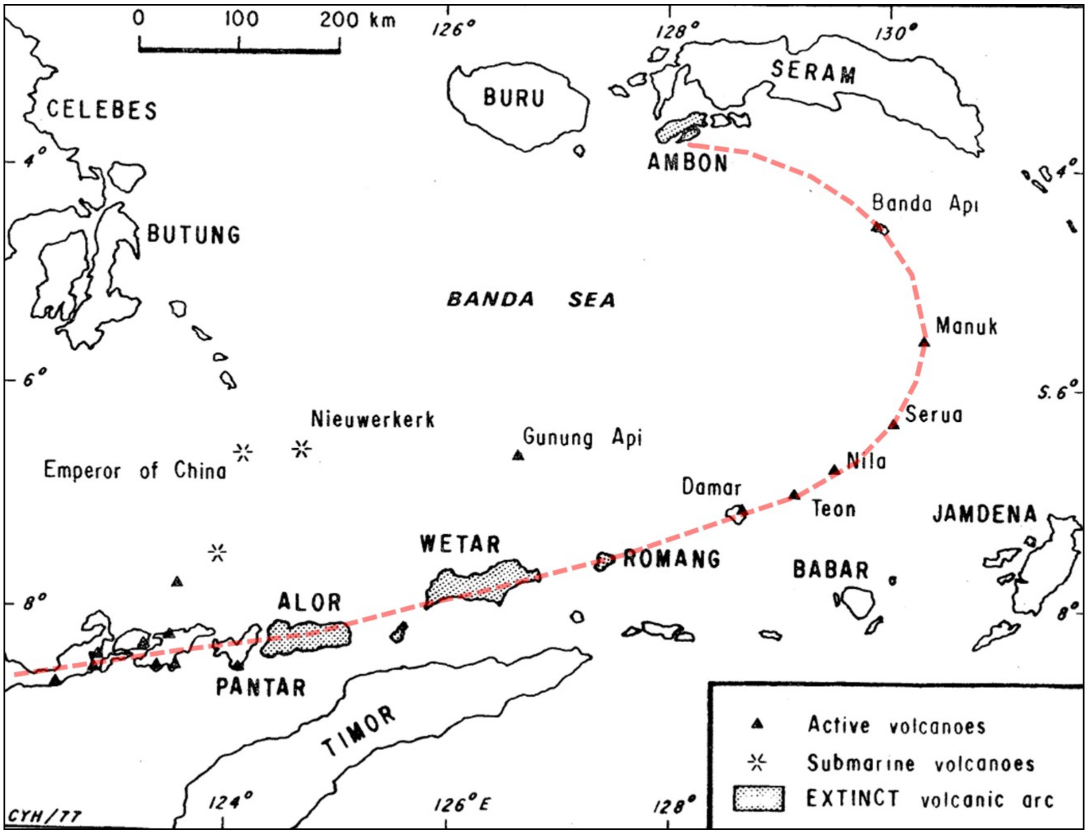

Figure VII.1.4. Active volcanoes (triangles) and extinct segment of Banda volcanic arc (Hutchison (1977).

The Banda Arc is built mainly on oceanic crust, although the western Banda Arc- East Sunda Arc also have remnants of the latest Oligocene- Early Miocene 'Old Andesites' volcanic arc (south sides of islands of Sumbawa- Flores and islands further West). Seismic refraction work suggests Flores was probably built on 5-10 km thick oceanic crust (Curray et al. 1977, Muraoka et al. 2002).

Numerous papers have been published on geochemistry of its volcanic rocks (see table and listing below). Helium isotopes suggest contamination of Australian continental crustal material in Quaternary arc volcanics as far West as Central Flores (Hilton et al. 1992).

The size of the Banda arc volcanic islands appears to gradually diminish in an easterly direction, from the >3000m high volcanoes on Bali and Lombok to low-lying edifices in the eastern Banda Sea (e.g. Figure VII.1.4 and front cover figure). Howevever, the volcanoes in the western part of the East Sunda- West Banda Arc are probably built on older mid-Tertiary arc crust, while volcanoes in the easternmost sector are built on >3000-4000m deep ocean floor, so the volume and vertical relief of these 'small' volcanic edifices is actually similar to that of much taller volcanoes in the West. (e.g. Figure VII.1.5).

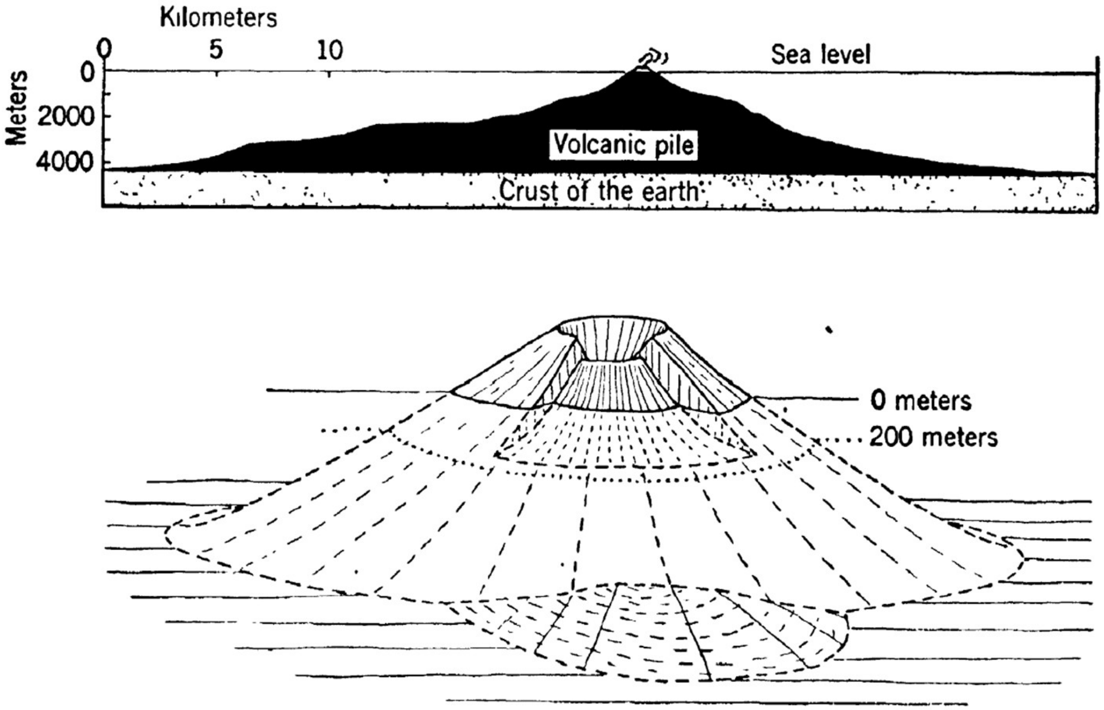

Figure VII.1.5. True-scale section (top) and schematic block diagram (bottom) of the active Gunung Api volcano in the Banda Sea, North of Wetar. The top of Gunung Api is only 282m above sea level, but measured from the surrounding ocean floor, the height of the volcano is >4000m (from Kuenen 1950).

Weber Deep

The Weber Deep or Weber Trough is a highly unusual feature. It is an anomalously deep oceanic through, deeper than anything in the Indonesian region (down to ~7400m; Figure VII.1.6.). Unlike the Banda Sea basins, it is located in a forearc position, between the eastern Banda Arc (where Serua- Manuk- Banda volcanoes rise from 3000m deep seafloor), and the Tanimbar- Kai - Seram outer arc islands.

Pownall et al. (2016) recently proposed a new model for the Weber Deep, suggesting it is a young hyperextensional basin, related to SE-ward rollback of the Australian- Indian Ocean subduction zone, leaving the 450km long low-angle detachment fault plane exposed on parts of the Weber Deep floor, showing a grooved surfaces like seen on the top of metamorphic core complexes. Slip along the fault must have been >120km. This model suggests the Weber Deep may not be floored by newly formed oceanic crust, but by hyperextended lower crust metamorphic rocks or even by exhumed upper mantle ultramafic rocks.

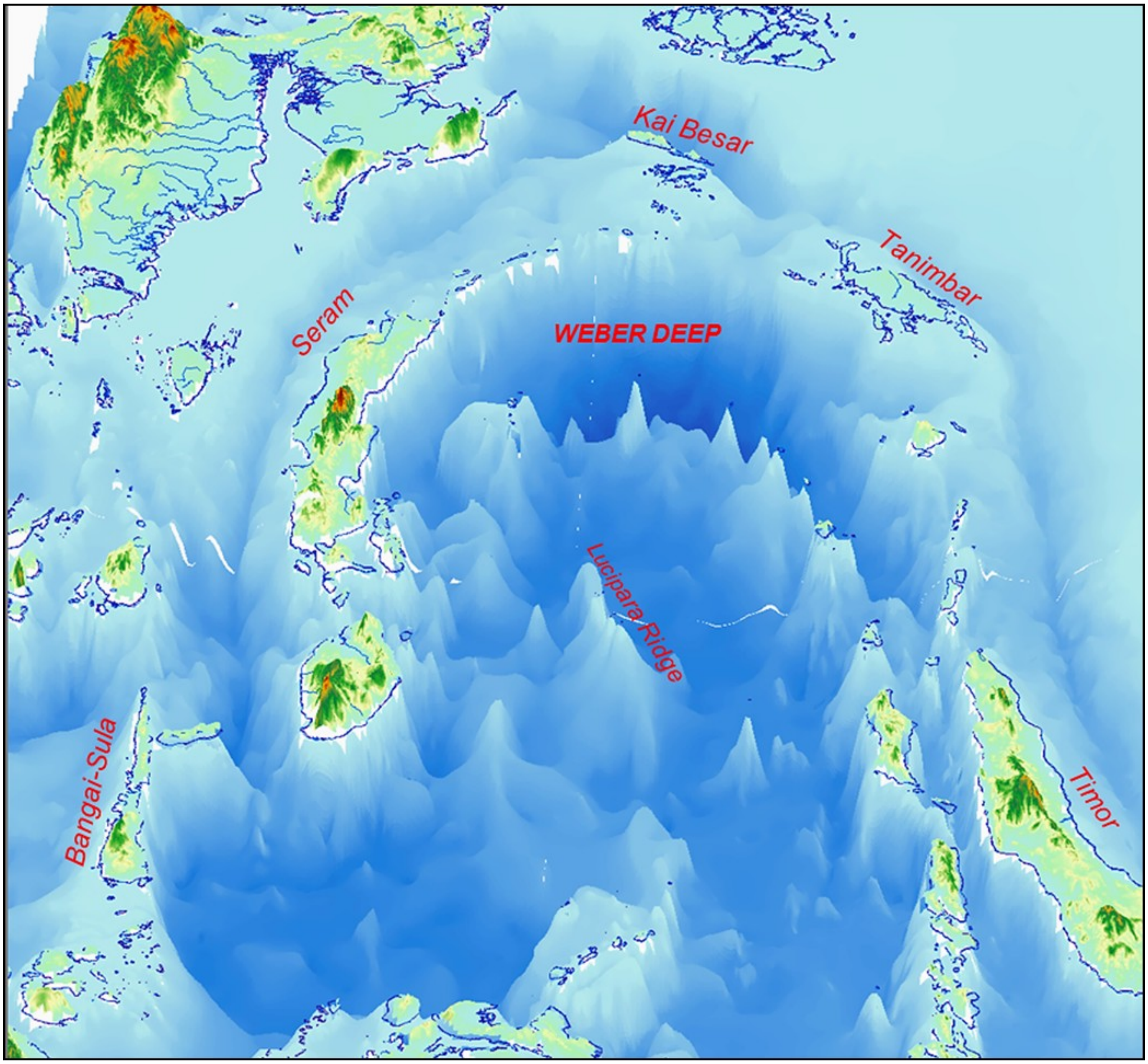

Figure VII.1.6. Topography and bathymetry of Banda Sea region, looking East

Outer Arc (Tanimbar- Kai islands)

The 'non-volcanic outer arc' also includes the small islands of Babar, Dai and the Tanimbar and Kai groups. These are relatively little studied. They are mainly a continuation of the forearc-accretionary system of Timor, with Triassic-Jurassic and younger sediments, folded and thrusted towards the Australian craton. On the islands closest to the Banda Sea metamorphic and ultrabasic rocks are common, a pattern similar to that seen on the Banda Sea sides of Timor and Seram.

The Kai Archipelago appear to represent three different geological provinces (cross-section of Figure VII.1.7):

1. East (Kai Besar): rifted block off Australian continental margin (Kai Besar 1 well has >1300m of little deformed Middle- Jurassic- Cretaceous sediments characteristic of the NW Australia- West Papua margin). With large scale, young extensional faulting;
2. Central province (Kai Kecil, Kai Dulah and Tayandu islands): continuation of the Banda Outer Arc accretionary prism,
3. Western (small islands Kur, Fadol, Tibor, etc.): small islands with common allochthonous material, like ophiolites, metamorphics, Early Oligocene arc volcanics, etc..('Banda Terrane?; similar to Leti and North Timor further West)

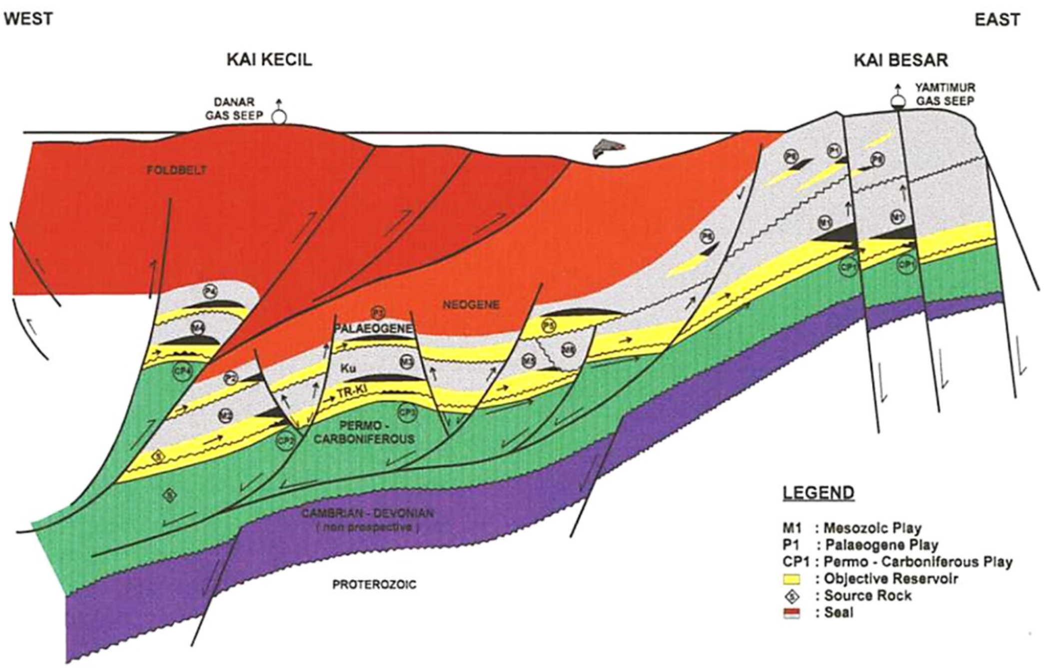

Figure VII.1.7. Schematic cross-section across Kai islands: Kai Kecil is part of the Outer Banda Arc foldbelt/ accretionary prism, Kai Besar is part of a partly subducted continental block that rifted from the NW Australian margin (Union Texas 1997).

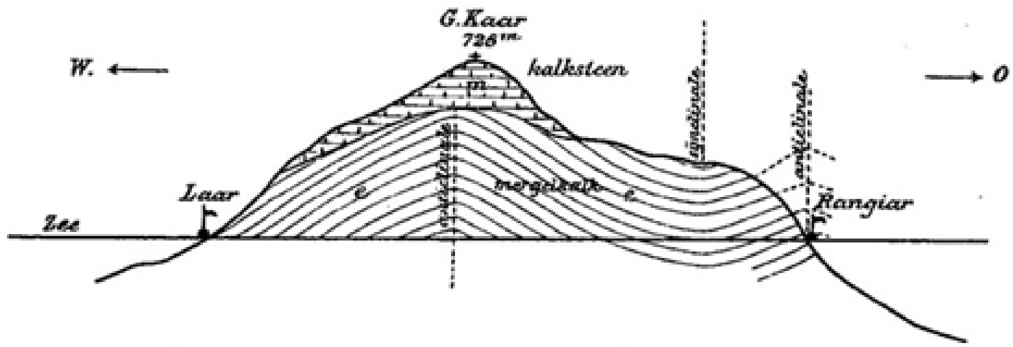

Figure VII.1.8. Historic W-E cross-section through Kai Besar, showing weakly folded, mainly 10° W-dipping, Eocene marly limestone, overlain by Miocene and younger reefal limestone terraces (Verbeek 1908).

The eastern zone of the Kai islands (Kai Besar) was not involved in thrusting. Instead, it appears to be a fragment of the Australian continental margin that experienced extensional faulting and underwent 2km of uplift in the last 10 My (Van Marle and De Smet, 1990). It looks like a rift shoulder at the W side of the Aru Trough, which is a very young and deep extensional basin.

Kur Island is located West of the Kai Islands but East of the Weber Deep. It has a small core of foliated Mesozoic gneiss and schists, covered by Early-Middle Miocene sandy limestone and surrounded by six uplifted Quaternary reef terraces (Figure VII.1.9) (Weber in Umbgrove 1934). The metamorphic core gave Early Miocene cooling ages of 24-17 Ma (Honthaas et al. 1997).

Possibly comparable situations suggesting a Late Oligocene- earliest Miocene exhumation event, and possible affiliation with the 'Banda Terrane' of Timor were observed in:

1. dredge sampling site Dr 201 (4250-3663m), SSW of Kur, where micaschists/ gneiss is overlain by polymict conglomeratic sands with Early Miocene (Te4-Te5; with larger forams *Spiroclypeus, Miogypsinoides dehaarti*) (Honthaas et al. 1997).

2. Leti island NE of Timor, where Brouwer and Molengraaff (1915) reported ultramafic and metamorphic rocks apparently overlain by latest Oligocene- earliest Miocene (Te4-Te5) limestones with *Miogypsinoides* and *Spiroclypeus* (see also Van Gorsel 2012).

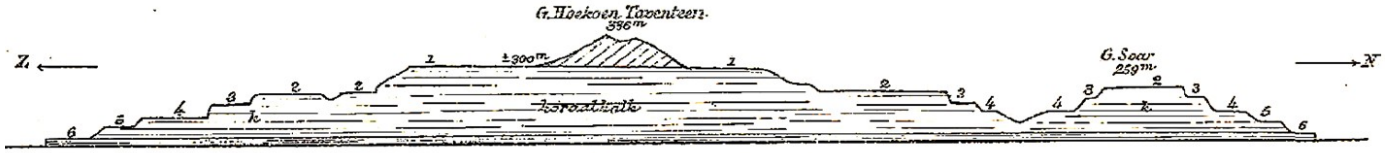

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Figure VII.1.9. Historic S-N cross-section through Kur Island (West of Kai islands), showing six Quaternary reef terraces up to 300m elevation, and core of dipping mica schist and ?Miocene micaceous sandstones (Verbeek 1908).

VII.2. Lesser Sunda- West Banda Volcanic Arc (Bali-Lombok- Flores- Sumbawa- Wetar)

Sub-chapter VII.2 of Bibliography 8.0 contains 42 pages with 284 references on the geology of the volcanic arc islands East of Java and South of the Banda Sea.

The islands of the East Sunda- West Banda 'inner arc' East of Bali represent a young, active volcanic arc system, mainly of latest Miocene- Recent ages (Figure VII.2.1). The western part of this system is underlain by crust of continental thickness, but is thinning to the East; and most or all of the volcanic islands the Banda Arc East of Flores formed on oceanic crust (Curray et al. 1977).

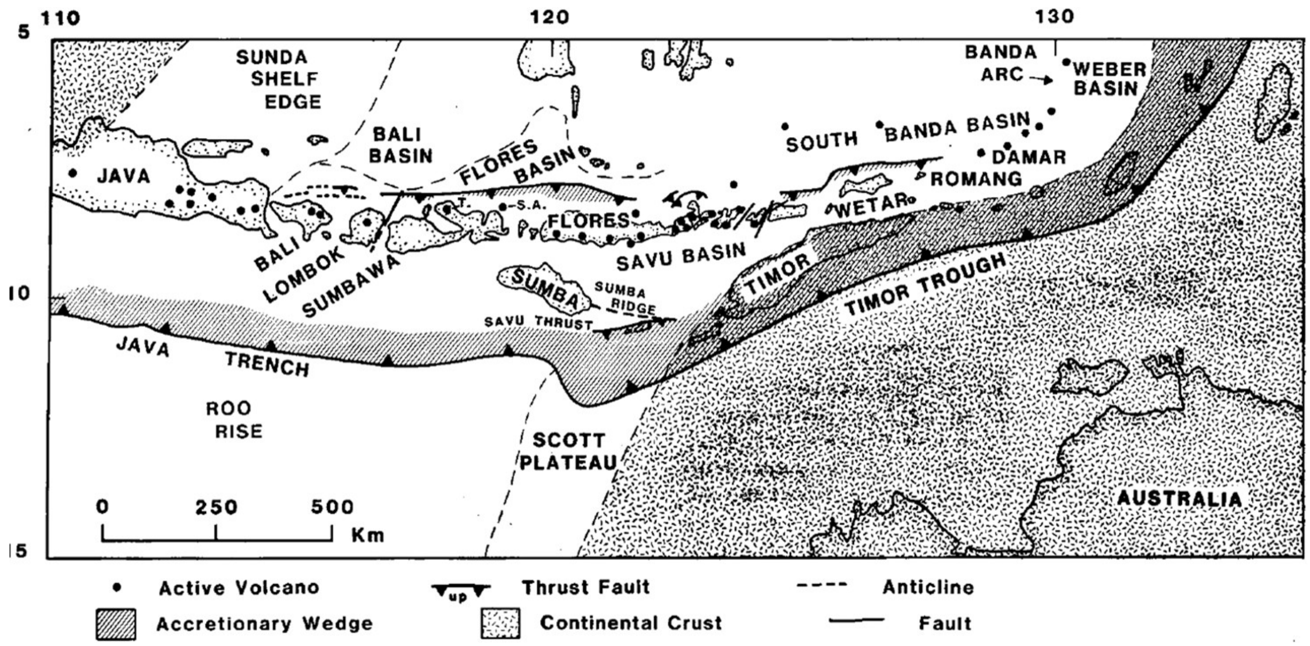


Figure VII.2.1. Regional setting of East Sunda- West Banda volcanic arc showing active and inactive segments of the Banda Arc (Silver 1983).

The southern parts of Bali, Lombok, Sumbawa and Flores have outcrops with remnants of a Late Oligocene-Early Miocene volcanic arc (Nishimura et al. 1981, Barbieri et al. 1987, Sudijono 1997, Ratman and Agustin 2005, Franchino et al. 2010, etc.). This arc probably formed on oceanic crust (e.g. Imai and Nagai 2009) and is the eastward continuation of the 'Old Andesites' arc of the Southern Mountains of Java and from here continues to West Sulawesi.

The geochemistry of the Banda Arc Pliocene-Quaternary volcanics shows typical intra-oceanic arc volcanic products, but the volcanics locally contain apparent contamination from a subducted continental source. This either reflects subduction of Australian-margin derived sediments, or is evidence that extended Australian continental margin crust was subducted to ~100km below the Banda Arc (Poorter et al. 1991, Elburg et al. 2004, 2005, Fichtner et al. 2010, Herrington et al. 2011, Nebel et al. 2011).

Alor- Wetar gap in active volcanism

There is a gap in active volcanism in the Alor- Atauro- Wetar segment of the Banda Arc North of Timor, although large extinct volcanoes are present (Brouwer 1919, De Jong 1941; Figure VII.2.2). This lack of volcanism since ~3 Ma coincides with an absence of shallow earthquakes shallower than ~350 km in this segment (Figure VII.2.3).

The most likely explanation is that the subduction zone was locked here after collision of the Australian continental margin and the Banda Arc, with possible slab breakoff (Ely et al. 2011). This locking of the subduction zone probably is probably the reason for the formation of a belt of North-directed 'back-thrusting' immediately North of Alor-Wetar (see below).

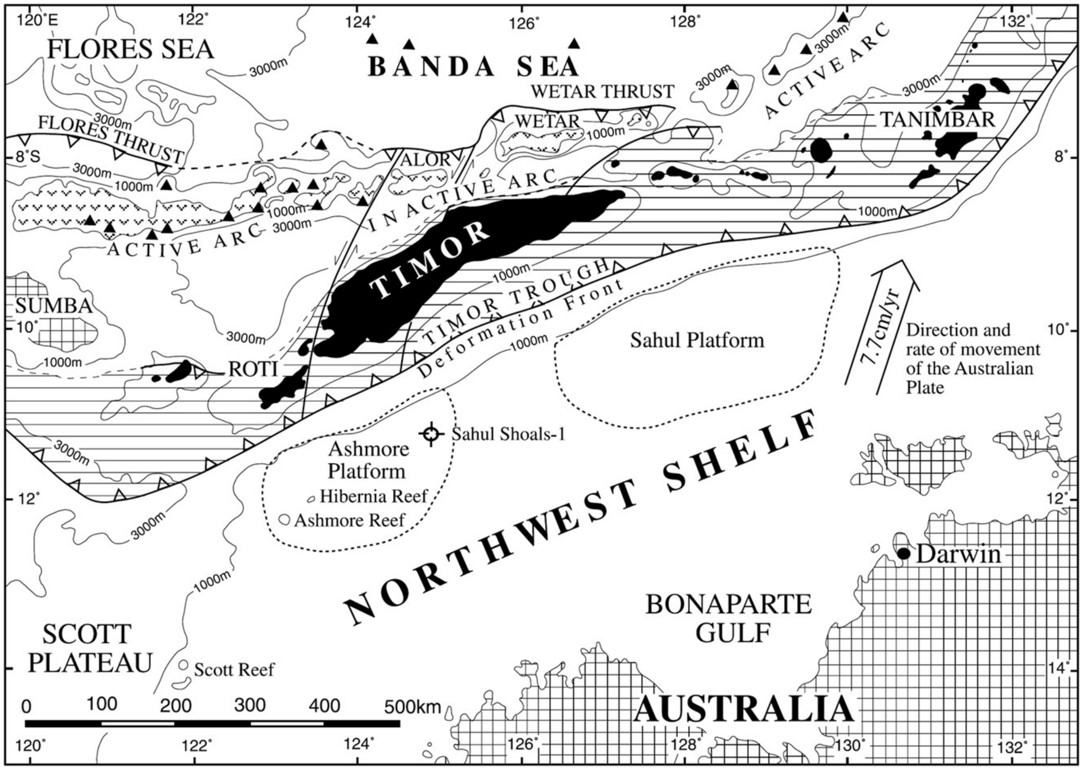


Figure VII.2.2. Regional map showing active and inactive segments of the Banda Arc. The Alor-Wetar sector has been inactive for ~3 My after locking of the subduction zone at the Timor Trough. Active backarc thrusting North of the arc now accommodates part of the N-ward movement of the Australian plate.

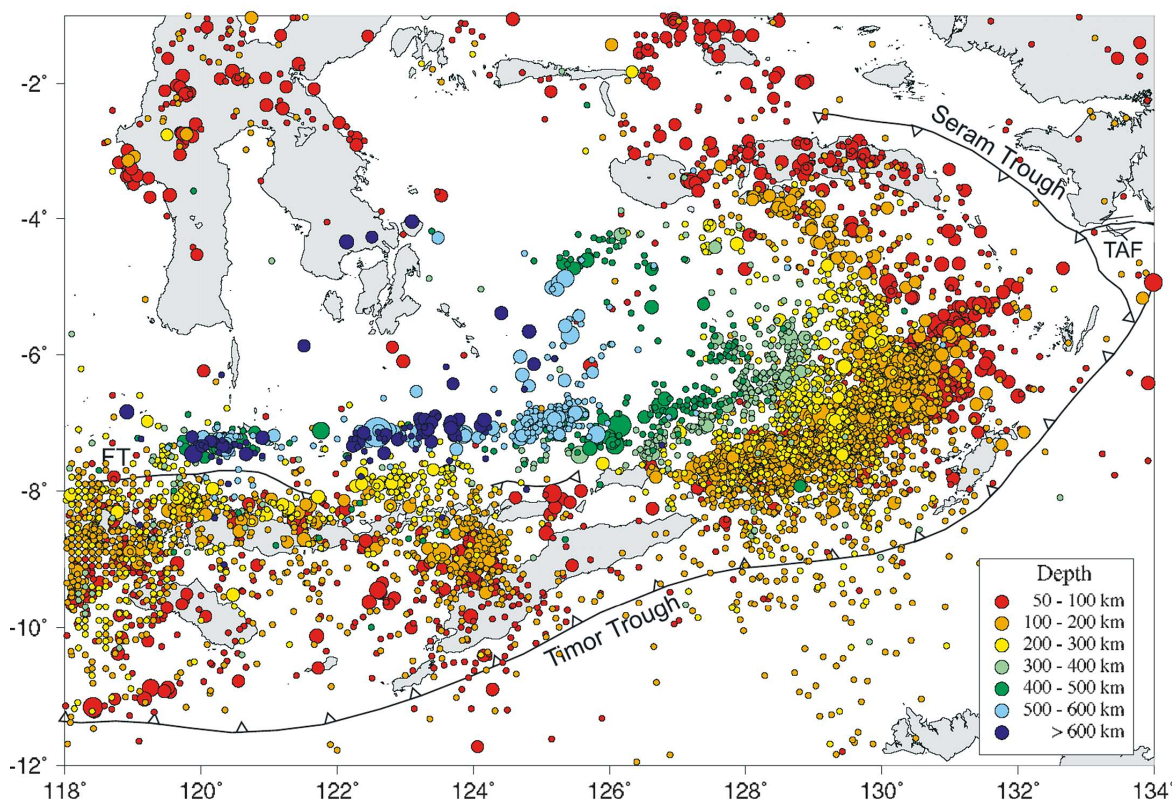


Figure VII.2.3. Earthquake distribution along the Banda Arc (Das 2004). A north-ward deepening, continuous plane of earthquake hypocenters, from ~50km North of the Timor Trough to >600km under the South Banda Sea, reflects movement of the subducting Indian Ocean- Australian plate. Note virtual absence of slab earthquakes <300km in Timor/ Alor-Weter segment, suggesting slab breakoff.

Pliocene and younger uplift of Alor- Wetar sector islands

The Alor, Atauro and Wetar islands have undergone significant young uplift, with Pleistocene reef terraces up to 700- 800m (De Jong 1941, Hantoro et al. 1994, Ely et al 2006, 2011). Hantoro et al. (1994) calcaulated 580m of uplift of Alor in the last 500 kyrs.

Pliocene stratiform sulfide-barite-gold deposits now in outcrop on Wetar island (Lerokis, Kali Kuning). These are interpreted to have formed on the flanks of a submarine volcano at ~2 km depth at around 4.8 Ma, suggesting several kilometers of late uplift (Sewell and Wheatley 1994, Scotney et al. 2005).

Backarc thrusting North of the eastern Sunda Arc

Active belts of north-directed thrusting have been identified from reflection seismic profiles and earthquakes in the backarc regions immediately North of Flores, Alor-Wetar, Flores, etc. (Figures VII.2.1, VII.2.2, VII.2.4) (Silver et al. 1983, McCaffrey and Nabelek 1984, 1986, 1987, Breen et al. 1989, Charlton 1997).

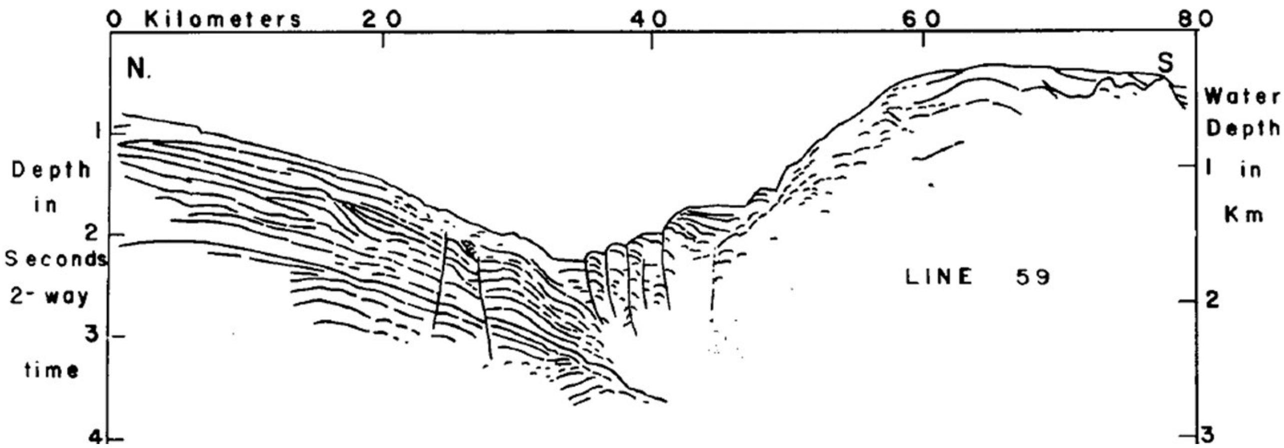


Figure VII.2.4. Interpreted N-S seismic profile 59 in South Banda Sea, crossing the Flores Thrust in the backarc at west end of Sumbawa Island (Silver al. 1983).

This thrusting has been explained as an early stage of subduction polarity reversal, after collision between the Banda Arc and the Australian continental margin locked the subduction zone at the Timor Trough (Silver et al. 1983). Remarkably, however, this belt of backarc thrusting may extends for ~2000km, as it can also be traced from Alor-Wetar west to North of Flores, Bali (McCaffrey and Nabelek 1987), then into southern Madura Straits and the Kendeng thrust zone of East Java, areas, where Indian Ocean subduction has not locked up yet by continent collision (e.g. Koulali et al. 2016).

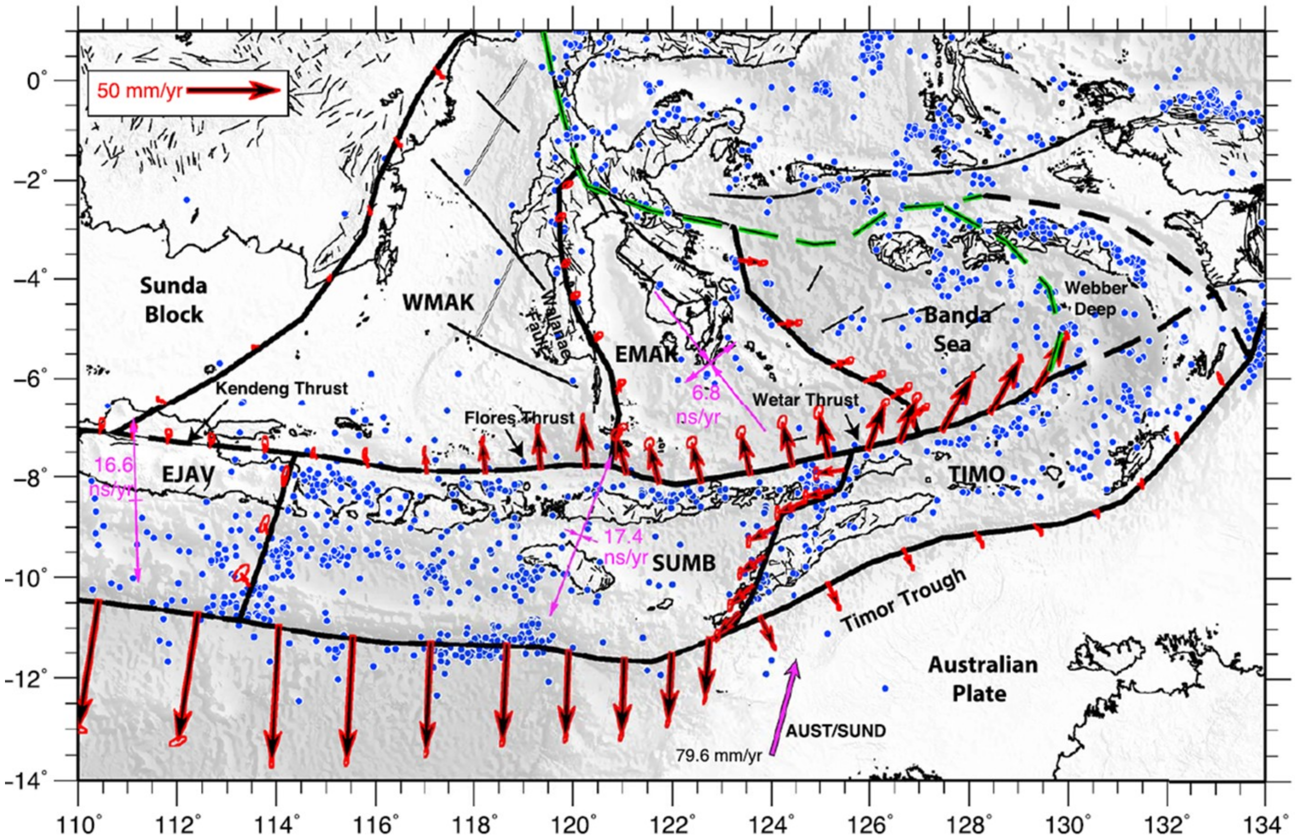


Figure VII.2.4. Model of present relative slip at block boundaries south and north of the Sunda- Banda Arc, based on GPS data (Koulakov et al. 2016). Red arrows show motion of upper block/ hanging wall. Movement rates at Java Trench gradually diminish eastward into the now-locked subduction trench of the Timor Trough. The Kendeng- Flores- Wetar backarc thrust zone(s) are shown as a single, continuous block boundary, with slip motion increasing eastward from East Java to NE of Timor.

Sumbawa - Porphyry Cu-Au deposits

Sumbawa island is part of the East Sunda- West Banda Arc system and is home to one of the largest volcanic eruptions in historic times (Tambora 1815). It is probably underlain by remnants of the Late Oligocene Early Miocene 'Old Andesites' volcanic arc and its overlying limestones (Barbieri et al. 1987, Idrus et al. 2007).

The island is also home to several large, young porphyry copper-gold deposits, at Batu Hijau (1990 discovery) and Elang (Garwin 2000, 2012). These deposits are part of a porphyry metallogenic belt that extends from SE Java (Tumpangpitu/ Tujuh Bukit) to Sumbawa), a sector where the Roo Rise is subducting beneath the island arc, which may or may not be related (Maryono et al. 2018).

Reported ages of mineralization include ~7- 3.7 Ma (Garwin 2002), 6-3.7 Ma (Arif and Baker 2004), 3.7 Ma (Idrus et al. 2007), between 2-2.5 Ma (Maryono et al. 2018).

Mineralization probably formed at ~5 km depth,These are now exploited in open surface mines, attesting to the large amount of young uplift.

VII.3. Sumba, Savu, Savu Sea basin

Sub-chapter VII.3 of Bibliography 8.0 contains 17 pages with 108 references on the geology of Sumba and nearby islands in the Banda forearc West of Timor.

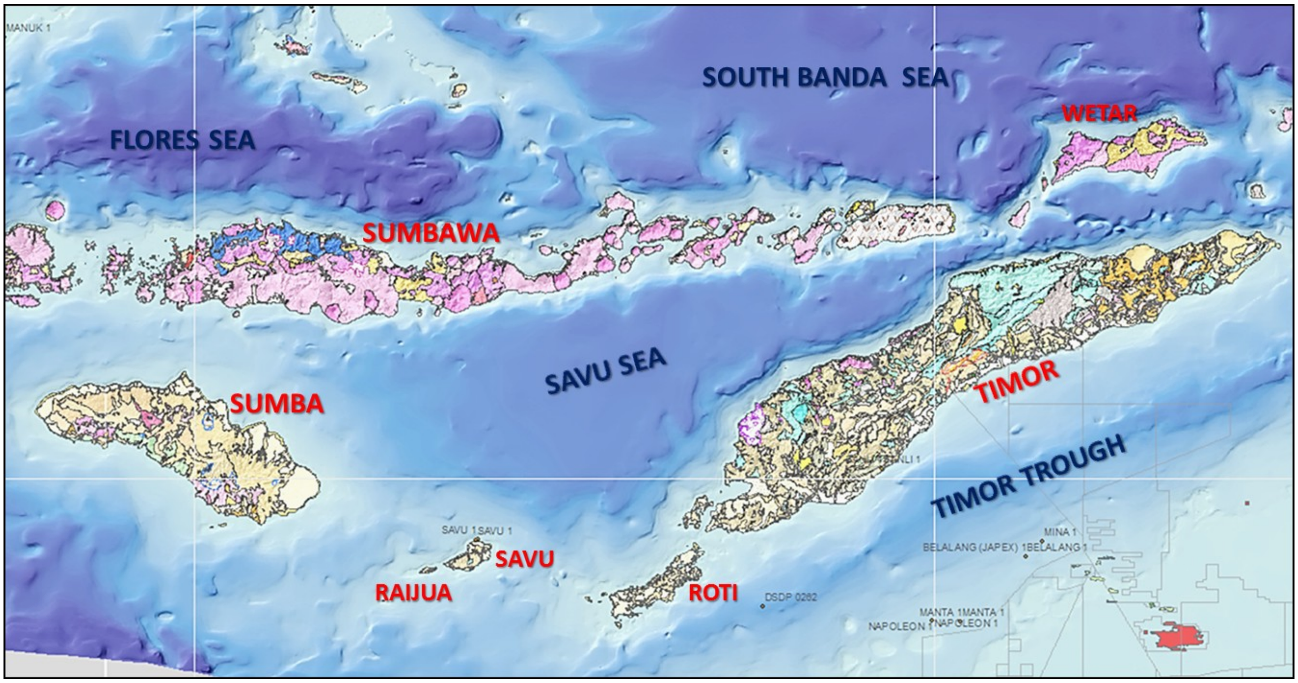


Figure VII.3. Index map of areas discussed in Chapters VII.3 and VII.4.

Sumba

Sumba island is part of a continental terrane located in the Banda forearc, between the Sumbawa- Flores sector of the Banda volcanic arc in the North, and the Java- Timor Trench/ accretionary prism in the South. No pre- Upper Cretaceous basement is known from Sumba, but gravity and seismic refraction data suggests Sumba is underlain by >24km thick, presumably continental crust (Chamalaun et al. 1981).

The Sumba terrane is flanked by the deep Lombok and Savu basins in the West and East, both very young and underlain by basement with oceanic crust thickness and seismic velocities (Curray et al. 1977; Karig et al.1987).

As first suggested by Hamilton (1977) Sumba is generally viewed as a micro-continental fragment that was detached from the SE Sundaland margin in Miocene time by the opening of the South Banda Sea, and moved South before the development of the present-day Banda volcanic arc (Hamilton 1979, Burollet and Salle 1982, Von der Borch et al. 1983, Audley Charles 1985, Djumhana and Rumlan 1992, Simandjuntak 1993, Wensink 1994, 1997, Van der Werff et al. 1994, Lee and Lawver 1995, Abdullah et al. 1996, 2000, Soeria-Atmadja et al. 1998, Satyana 2003, Prasetyadi et al. 2006, Satyana and Purwaningsih 2011, 2012, etc.). The most likely place of origin was the Java Sea shelf near the present Flores Basin, where it was a southern continuation of the West Sulawesi Late Cretaceous- Paleogene volcanic arc (Hamilton 1979).

However, not all authors viewed Sumba as a piece of Sundaland margin:

- Audley-Charles (1975) and Chamalaun et al. tended to favor an origin from the NW Australian margin, although there are no similarities whatsoever between the stratigraphy and magmatic events of Sumba and NW Australia;
- Rutherford et al. (2001) and Lytwyn et al. (2001) favored an origin of Sumba as part of the Late Cretaceous- Early Oligocene 'Great Indonesian Volcanic Arc' (which includes West Sulawesi), from which it separated at ~16 Ma and ended up in present position at ~7 Ma.

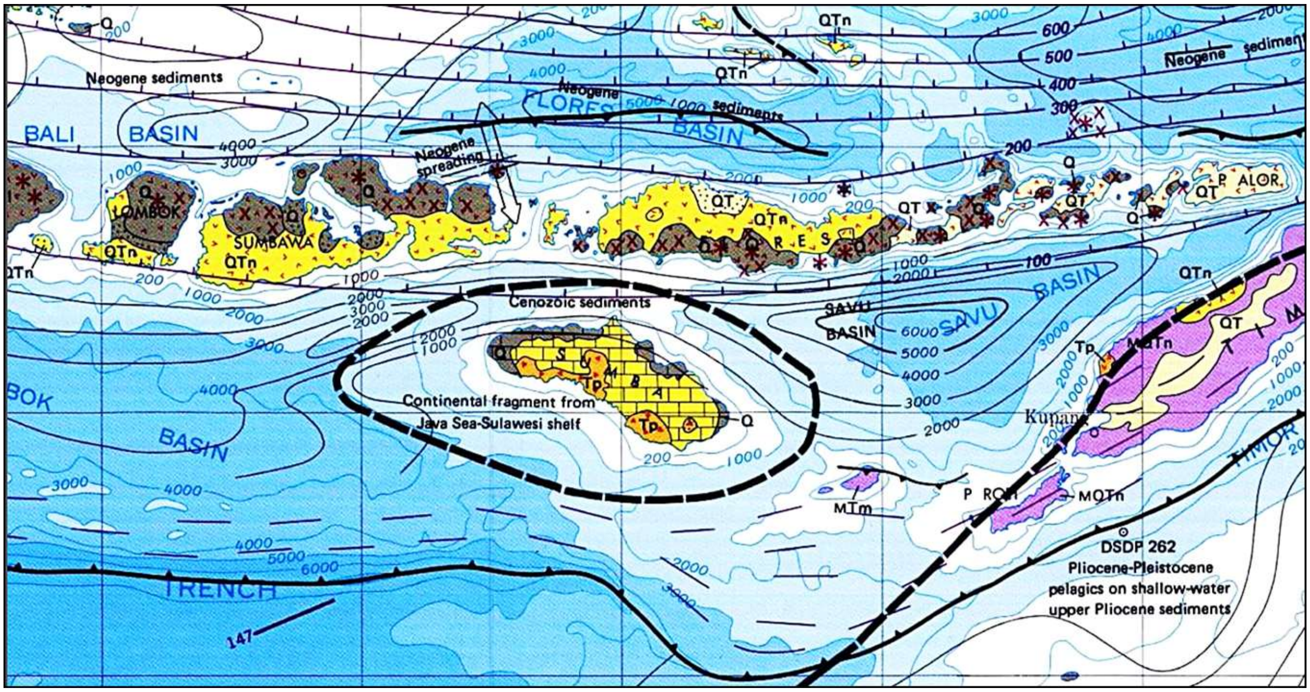


Figure VII.3.1. Position of Sumba continental block in forearc between the Banda volcanic arc in North and the accretionary prism North of the Java Trench- Timor Trough in South (purple colors to SE) (Hamilton 1978).

The Cretaceous- Neogene stratigraphic succession of Sumba is remarkably similar to that of SW Sulawesi (Late Cretaceous flysch, Paleo-Eocene island arc volcanics, Paleogene? granodiorites, mid-Oligocene unconformity within Middle Eocene- Early Miocene shallow marine carbonate-dominated section, etc.). There are also many similarities with the 'Banda Terrane' of Timor (Audley-Charles 1985), which was probably also derived from the Sundaland margin.

Volcanic history

The Cretaceous-Paleogene igneous-volcanic history of Sumba is comparable to that of the Sundaland, and totally unlike NW Australia. Three episodes of arc volcanism were identified: Late Cretaceous (86-77 Ma), Maastrichtian- Thanetian (71-56 Ma) and Middle Eocene- Early Oligocene (42-31 Ma) (Abdullah 1994, Abdullah et al. 1996, 2000). The episodes led to andesitic volcanics and associated granodiorite intrusions.

According to Abdullah et al. (op.cit) there is no evidence for Neogene volcanic activity, and all volcanic material in Miocene sediments may be reworked from older deposits. Burollet and Salle (1981) and Wensink and Van Bergen (1995) reported thick Early Miocene andesitic tuffs (Jawila Fm) in West Sumba , but rmore recent radiometric dating suggested a Late Eocene (37 Ma) age (Fortuin et al. 1997).

Structure

Unlike nearby Timor, Sumba island is relatively undeformed, with broadly N-dipping, faulted but not folded Cretaceous beds, unconformably overlain by less deformed Tertiary-Quaternary deposits (Figure VII.3.2; Von der Borch et al. 1983). An earlier report by Laufer and Kraeff (1957) reported more intense folding of Cretaceous deposits, with NNW strike direction (.Figure VII.3.3).

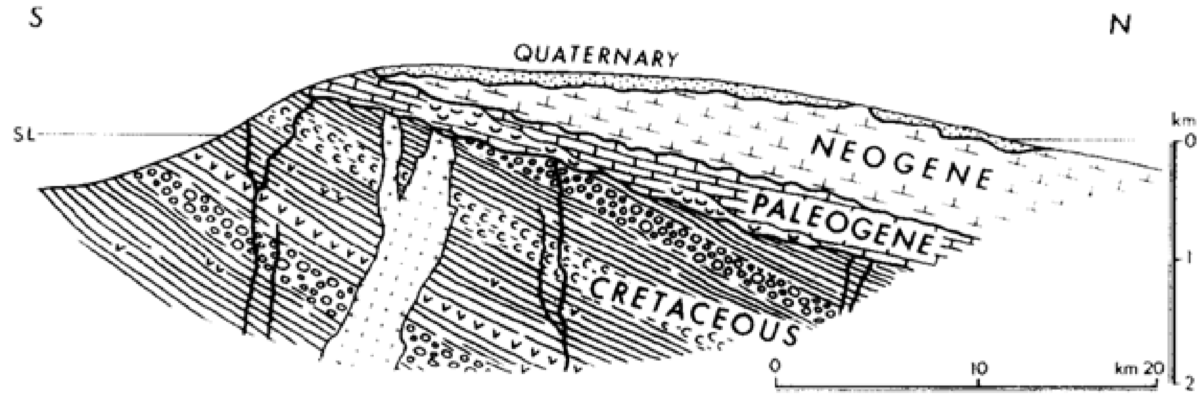
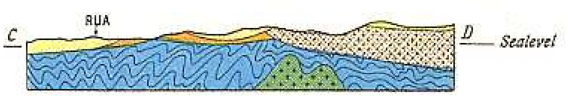


Figure VII.3.2. S-N cross section of central E Sumba, showing broadly N-dipping Cretaceous, unconformably overlain by Tertiary sediments (Audley-Charles 1985, after Von der Borch et al. 1983).



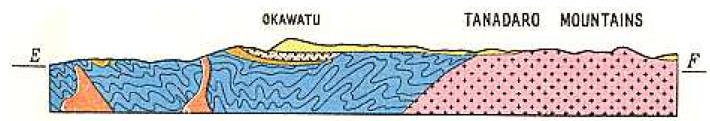


Figure VII.3.3. S-N cross sections of S Sumba island, showing more intensely folded Cretaceous, unconformably overlain by relatively undeformed Eocene-Miocene sediments, and intruded by granite (Laufer and Kraeff, 1957).

Paleomagnetic work suggests a ~60° clockwise rotation of Sumba between Jurassic (should be Cretaceous) and Miocene (Otofuji et al. 1979, 1981, Nishimura et al. 1981).

Wensink (1997), partly revising 1994 conclusions, suggested: (1) 53° CW rotation of the Sumba microcontinent between 78 and 65 Ma; (2) further CW rotation of 39° between 65 and 37 Ma (late Eocene Jawila volcanics); (3) 9° CW rotation between late Eocene and late Miocene, and (4) 4° CCW rotation since late Miocene- Early Pliocene. This suggests the >90° CW rotation of Sumba since Late Cretaceous was essentially completed by Late Eocene.

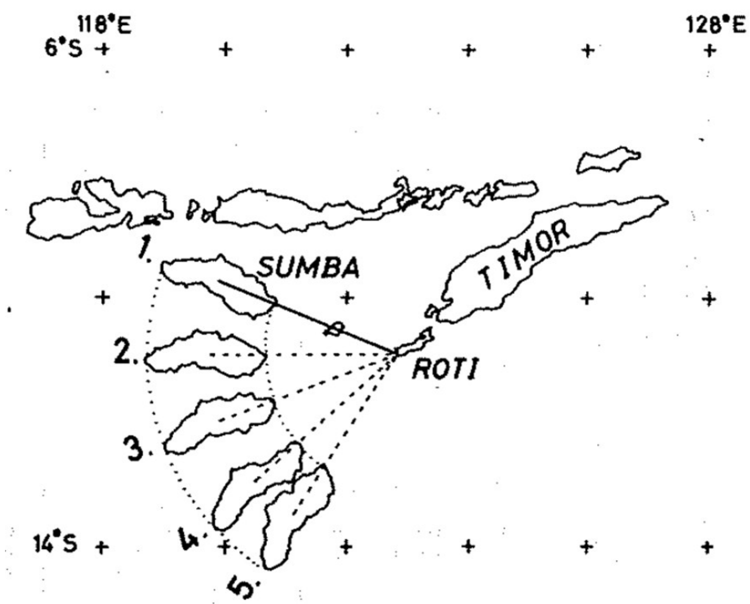


Figure VII.3.4. Example of paleomagnetic study suggesting ~60° clockwise rotation since Jurassic- Cretaceous (Otofuji et al. 1979) (see also slightly different scenario of Wensink ,1997).

Cretaceous- Paleogene Stratigraphy

A commonly quoted occurrence of Jurassic sediments on Sumba has never been substantiated. It was based on a report of a presumably Jurassic Aegoceratid ammonite fragment and *Inoceramus* from West Sumba by Roggeveen (1928). However, the original identification and age of the ammonite are questionable, and no other Jurassic fossils have ever been found since then. These are more likely to be Upper Cretaceous fossils (Van Gorsel, 2012).

Late Cretaceous flysch-type sediments of the Lasipu Fm are reportedly >1000m thick, rich in quartz and andesitic arc volcanic detritus and contain *Globotruncana* foraminifera and bivalve *Inoceramus*. Basal beds contain tropical Tethyan mollusc fauna *(Exogyra, Nerinea*, etc.). Turbidite flow directions suggest a paleoslope to the SW (Von der Borch et al. 1983), which if restored this for the ~60-90° post-Cretaceous clockwise rotation suggested by paleomafnetic data (Wensink 1994, 1997), would become a paleo slope dipping to the SE. These observations suggest deposition in a low-latitude setting, probably in the fore-arc of an active continental margin, on a slope dipping SE. Most likely this implies a Cretaceous paleo-position of Sumba at the SE margin of Sundaland, similar to shown in the reconstruction of Rangin et al. (1990).

Cretaceous flysch deposits are overlain unconformably by Middle- Late Eocene *Nummulites* limestones with the 'Asian' low latitude foram genus *Pellatispira* (Caudri 1934).

A mid-Oligocene(?) angular unconformity separates Late Eocene- earliest Oligocene (zone Tb-Tc) limestones with dips of ~30° from more horizontal earliest Miocene (Te5) and younger sediments (Caudri 1934). This is also observed in the 'Banda Terrane' of Timor, and in the mid-Oligocene faulting-erosional event in the Tonasa Limestone of SW Sulawesi (Wilson et al. 2000, etc.).

Middle Miocene deepening (= Sumba breakaway?)

A dramatic early Middle Miocene deepening of depositional facies takes place from Early Miocene carbonate platform facies (with *Miogypsina/ Miogypsinoides*) to Middle Miocene- Early Pliocene e Waikabubak Fm deep marine marls, suggesting >4km of subsidence, probably between ~15-13 Ma (Fortuin et al. 1997). Some of the Middle- Late Miocene pelagic muds have undergone extensive carbonate dissolution, suggesting deposition below the Carbonate Compensation Depth (Fortuin et al. 1992, Roosmawat and Harris 2009).

This Middle Miocene deepening is associated with extensional faulting (rifting), and a Serravallian- Early Tortonian peak in volcanoclastic supply (Fortuin et al. 1997).

Common large-scale slumping in the Late Miocene pelagic- turbiditic series of East Sumba suggests deposition on a (tectonically induced?) steep slope (mainly in Tortonian section; Fortuin et al. 1992, 1994). The rapid deepening and oversteepening of slope deposits may reflect the rifting and detachment of Sumba from SE Sundaland in Middle-Late Miocene time (Simandjuntak 1993, Fortuin et al. 1994, 1997).

Post-Miocene uplift of Sumba island

Post-Miocene uplift (possibly starting in Messinian/ latest Miocene), with N-NE tilting of Sumba island is suggested by:

1. Late Miocene deep marine pelagic marls, deposited below 3500-4500m water depths, are now up to 1000m above sea level (Fortuin et al. 1991, 1997). The most rapid rate of uplift was probably after 2 Ma (2.3 mm/yr; Roosmawati and Harris 2009);
2. Quaternary coral reef terraces of <1 My in age were raised up to ~600m above sea level, mainly along the north side of the island, suggesting recent uplift rates of 0.3-0.8 m/ 1000 years (Figures VII.3.5, VII.3.6) (Verbeek 1908, Jouannic et al. 1988, Hantoro 1993, Pirazzoli et al. 1993, Siregar and Setyagraha 1995, Bard et al. 1996, Nexer et al. 2015).

The highest parts of the Sumba block probably did not emerge above sea level before ~3 Ma (Fortuin et al. (1997). Keep et al (2003) and Roosmawati and Harris (2009) suggested the uplift of the Sumba block was caused by the subduction of a relatively buoyant promontory of the NW Australian NW margin (Scott Plateau) after initial collision at ~6-8 Ma.

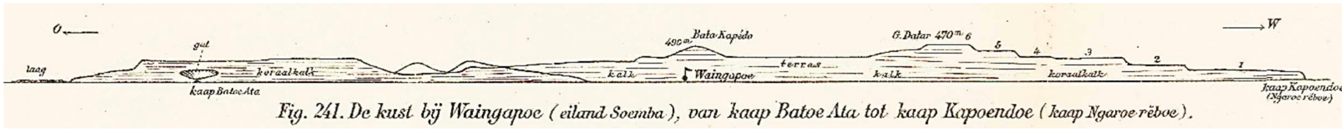


Figure VII.3.5. Sketch of East part of Sumba island from Verbeek (1908) who already observed the prominent uplifted coral reef terraces 1-6 up to 470m elevation.

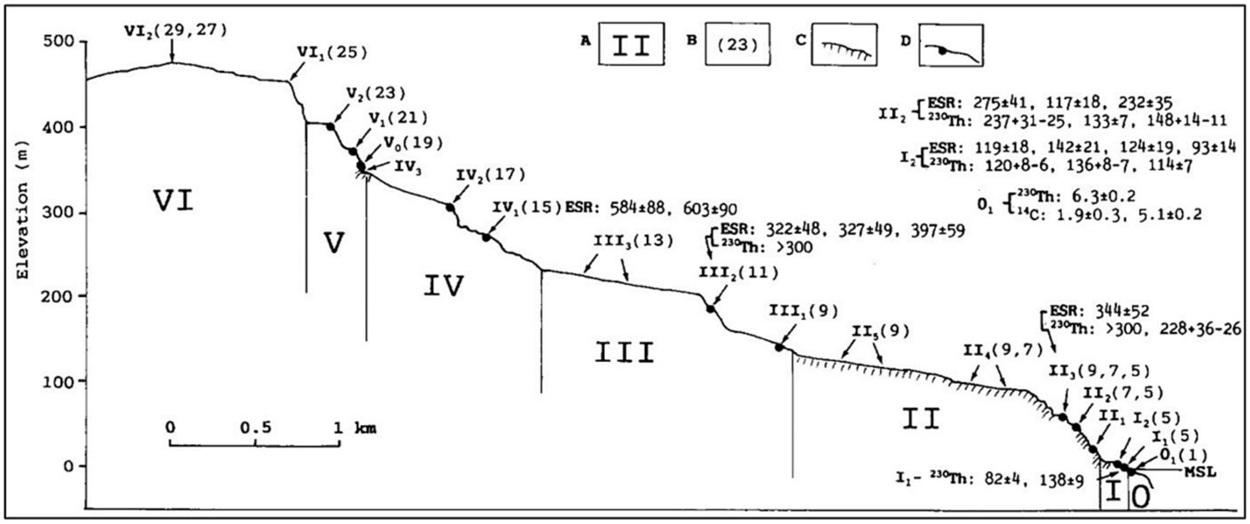


Figure VII.3.6.. Profile at Cape Laundi, East Sumba, with six main Pleistocene coral reef terraces I-VI up to 475m elevation. With radiometric ages and correlations to Oxygen isotope stages (29-1). Progressively younging towards coastline (Hantoro 1993).

Savu

Relatively small Savu island is an uplifted part of the Savu- Roti Ridge, which is the continuation of the Outer Banda Arc accretionary prism WSW of Timor. In the Bibliography Savu references are grouped with Sumba, although there are no similarities with the geology of Sumba.

Savu is composed mainly of thrust sheets of Late Triassic- Jurassic deep marine sediments (Reed 1985, Vorkink 2004, Harris et al. 2009), presumably distal NW Australian continental margin sediments. Remarkably, Cretaceous- Early Miocene sediments appear to be missing (Harris et al. 2009).

The directions of trusting in the accretionary wedge are opposite along the North and South coasts of Savu: South-directed thrusting is domiant in most of island (as expected in accretionary prism above a north-dipping subduction zone); in the North of the island thrusting is mainly North-directed backthrusting, over the Savu forearc basin (Figures VII.3.7, VII.3.8).

An up to 25m thick unit of pillow basalts is present in outcrops of the Jurassic Wai Luli Formation (Harris et al. 2009).

Relatively undeformed Pliocene- Early Pleistocene marls, comparable to the Batu Putih marls of Timor (in facies, not necessarily geologic setting), overlie the Upper Miocene scaly clay of the deformed section of Savu and have been uplifted probably ~3km in the last 2 million years (Reed 1985, Roosmawati and Harris 2009).

The unsuccessful Savu 1 well drilled on North Savu in 1975 is the only oil exploration well in the region, and penetrated repeated thrust slices and melanges The well TD at 1227m is in Cretaceous clastics similar to those of Sumba, not NW Australia (Harris et al., 2009).

Verbeek (1908) reported Permian coral limestones, presumably from mud volcanoes/ melange. Fragments of the Banda Terrane may be present on Savu and Rote (mentioned in Harris 2006)

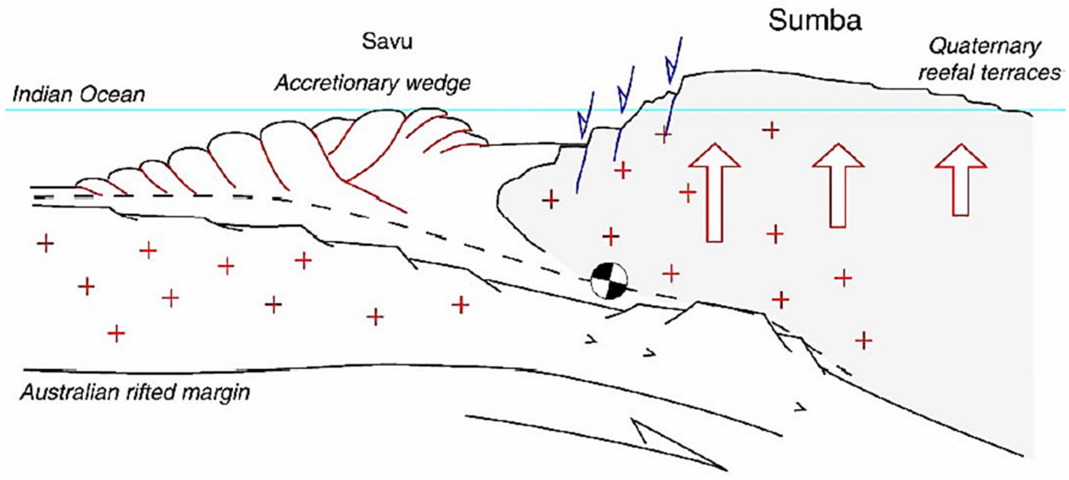


Figure VII.3.7. Diagrammatic S-N regional cross-section, showing Savu as outcropping accretionary wedge above subducting Australian rifted margin, in front of Sumba continental block in Banda Arc forearc region (Fleury et al. 2009).

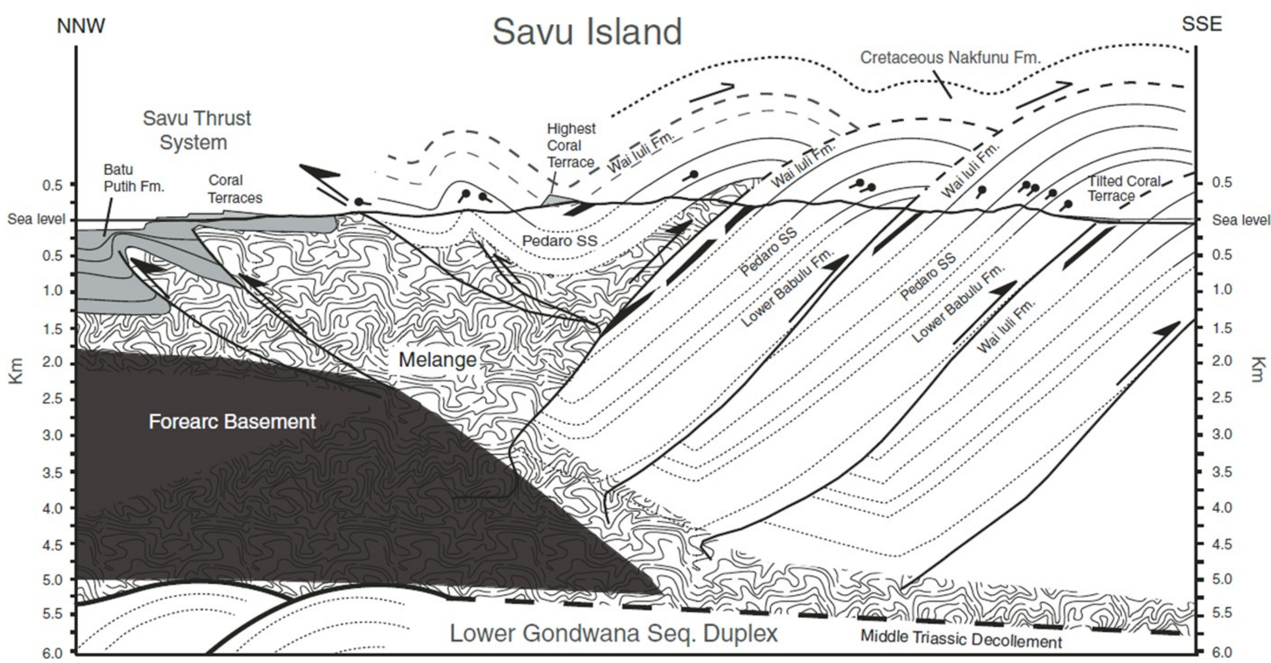


Figure VII.3.8. Composite NNW-SSE section across Savu (Harris et al., 2009).

Young uplift Savu Island

As for many islands in the Banda region, there is strong evidence for recent uplift of Savu island:

- Quaternary reeal limestone terraces up to 300m above sea level;
- foraminifera in the young marls of Savu suggest water depths over 3000m at ~4 Ma, 1-1.5 km at 1.8 Ma, and are now at several 100's of m above sea level (Vorkink 2004, Roosmawati and Harris 2009).

Savu Sea Basin

The Savu Basin NW of Timor is a deep (>3km) and probably young basin in the forearc area North of Timor. It is underlain by by thin (12-14km) crust, possibly oceanic (Beiersdorf and Hinz, 1980, Reed 1985, Harris 2006, Fleury et al. 2009). Harris (2006) suggested it was probably part of the South Banda Sea Late Neogene extensional system.

No wells were drilled in the basin, so all all studies of sedimentation are based on uncalibrated seismic lines, extrapolated to comparable units in the onshore stratigraphies of Sumba, Savu etc..

Basin fill is generally thin (up to 4.8 km in thickest part) and relatively undeformed, unconformably on block-faulted pre-Late Miocene basement (Van der Werff ?, Van Weering ?, Toothill, and Lamb 2009, Rigg and Hall 2012).

The Savu basin may be subdivided into a Miocene? South Savu Basin and a deeper Pliocene-Recent active North Savu Basin (Van der Werff 1995).

VII.4. Timor, Roti, Leti, Kisar

Timor is a key area for unraveling and constraining the geodynamic history of Eastern Indonesia. Its complex geology and unique rock associations, as well as some unusually diverse Late Paleozoic- Mesozoic fossil assemblages have attracted numerous researchers since the early 1900's.

This chapter of the bibliography Edition 8.0 contains 109 pages with 776 papers for the combined territories of Indonesian West Timor, Timor Leste, and the adjacent smaller islands like Roti, Kisar and Leti. This does not include all papers that discuss Timor in a larger regional context.

Timor and surrounding islands are part of the Sunda-Banda 'non-volcanic outer arc', which contains both relatively undeformed parts of the Banda forearc (e.g. Sumba) and the intensely folded-thrusted collisional belt between the Banda Arc forearc and the subducting NW Australian continental margin (Figure VII.4.1).

The fold-and-thrust belt can be traced all around the Banda Arc from the Java Trench accretionary prism in the West to Timor and futher East and NE to the islands of Babar, Tanimbar, Kai, and eventually Seram-Buru.

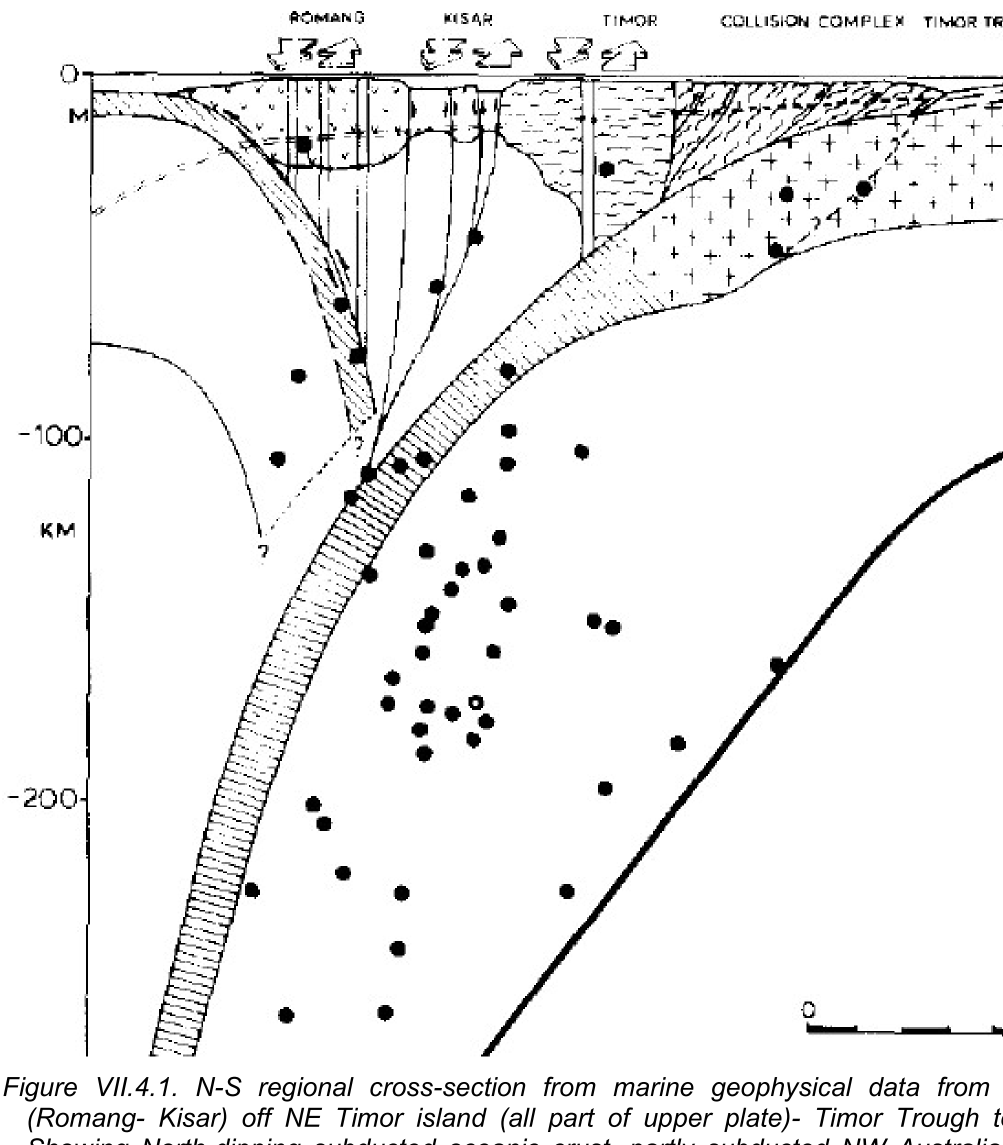


Figure VII.4.1. N-S regional cross-section from marine geophysical data from Banda Sea- Banda Arc (Romang- Kisar) off NE Timor island (all part of upper plate)- Timor Trough to NW Australian margin. Showing North-dipping subducted oceanic crust, partly subducted NW Australian continental margin, the South Timor accretionary wedge and the newly forming Wetar backarc thrust zone (Jongsma et al. 1989).

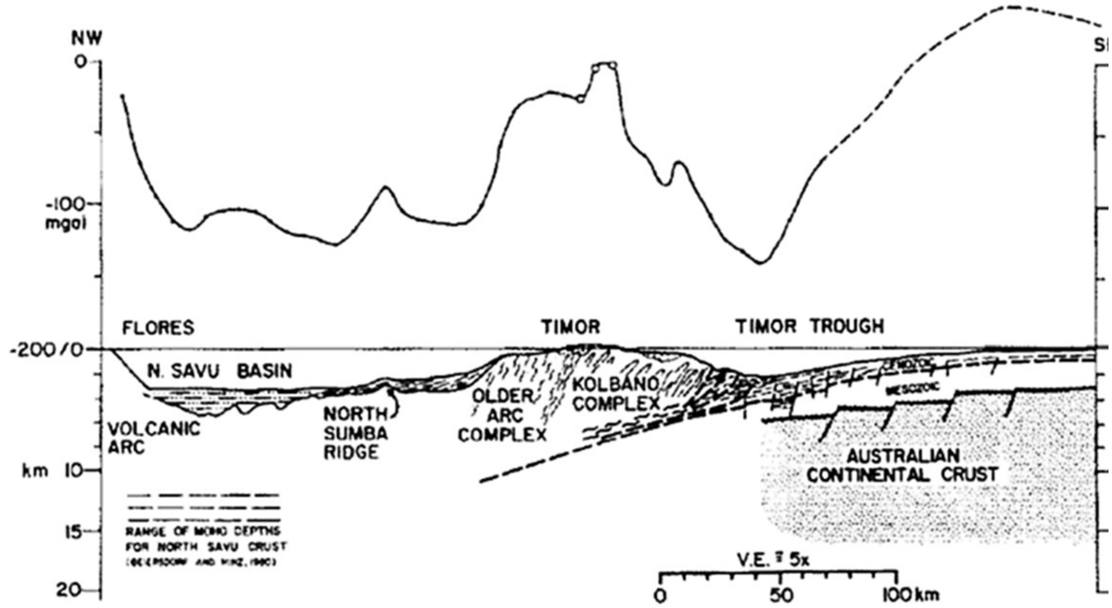


Figure VII.4.2. 'Traditional' NW-SE regional cross-section from Savu Sea (oceanic)- Timor island- NW Australian continental margin, with observed free-air gravity profile (McBride and Karig 1987).

Much of the pioneering work on West Timor island was by Dutch and German workers between 1912-1941 (Molengraaff, Brouwer (1913-1942), Wanner (1909-1942), Tappenbeck (1940), De Roever (1940-1942). and later by De Waard (1954-1959). Notable subsequent work was by Barber (1976-1986), Charlton (1987-2017) and Harris and co-workers and others (1989-2011).

The geology of Timor Leste became known mainly since the 1950's through the works of Grunau (1953, 1956, 1957), Wanner (1956), Brunnschweiler (1978) and Audley-Charles (1965-2011).

Tectonics

Timor island was first recognized as an Alpine style fold-and-thrust belt by Wanner (1913) and Molengraaff (1913, 1915). Although on an Indonesia-scale map the Timor 'foldbelt' may look small, the length of the island is ~500km, which makes it of similar size as the French and Swiss Alps combined.

Two major issues surround the tectonics of Timor, both of which have been debated for about 100 years, and both are still not settled:

1. how much of the Timor rock record represents the thrusted sedimentary cover of the northern Australian continental margin ('para-autochthonous') and how much represents nappes of Asian/ Banda forearc origin ('allochthonous')?
2. what was the main age of folding and thrusting on Timor: it is all young (Late Miocene- Present Banda Arc collision) or were there older deformational phases (Eocene or Oligocene)?

Most of the authors that did the pioneering fieldwork in the 1910's- 1950's recognized that Timor island is an alpine-style thrust belt, with superposed units of different character, and that the timing of the main thrusting (including overthrusting of Banda Terrane) was pre-Miocene (Molengraaff 1912, 1913, Wanner 1913, Tappenbeck 1939, Brouwer 1942, Gageonnet and Lemoine 1957) or even as old as Middle-Late Eocene (Sopaheluwakan 1990, Reed et al.1996, Villeneuve et al. 2010, 2012) or 'Laramide' (end-Cretaceous) (Sartono 1992).

These inferred deformational events are all well before the assumed (latest Miocene?-) Pliocene time of arrival of Australian continental margin at the Banda Arc trench, and, if correct, this shows these could not have taken place along the NW Australian passive margin.

Miocene and younger structuring on Timor is primary normal and local strike-slip faulting, and major uplift, perhaps more in line with the forearc setting postulated by authors, rather than a collision zone.

Timor island includes outcrops of tectonostratigraphic units that are of different origins:
1. unquestionable distal deep marine Mesozoic- Cenozoic deep marine deposits, that formed the cover of the subducted crust of the Australian plate margin (Kolbano Complex accretionary prism along South coast);
2. unquestionable Sundaland margin-derived units of the overriding Banda forearc (the structurally highest overthrust units of the 'Banda Terrane').
3. in-between units of more controversial tectonic position, whether part of the Banda forearc or derived from the subducted distal Australian margin (Maubisse terrane, 'Gondwana Sequence').

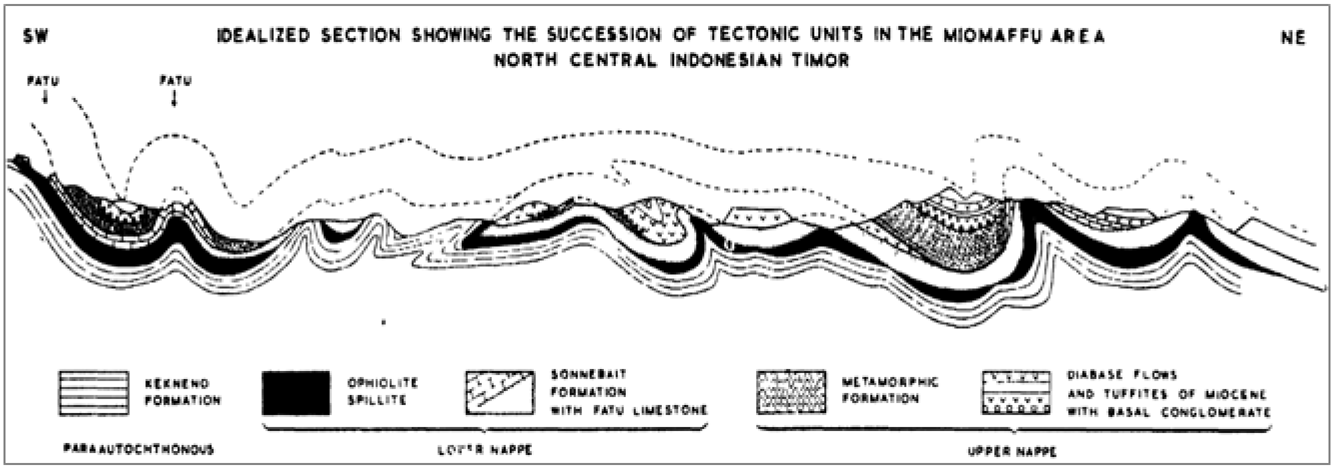


Figure VII.4.3. SW-NE cross-section, showing widespread folding-thrusting in part of northern Central Timor (Marks, 1961). 'Upper Nappe' = Banda Terrane, Lower Nappe = Maubisse/ Sonnebait Terrane.

Four to six major tectonostratigraphic units may be distinguished, from base to top (Figure VII.4.3):
1. 'Para-autochthonous' so-called 'Gondwana sequence', mainly composed of folded-thrusted Permian and Triassic flysch-type clastics (Atahoc-Cribas, Kekneno, etc, formations), overlain by more calcareous Late Triassic and Jurassic pelagic deposits (Aitutu and Wai Luli formations). Most of the current authors view these beds as folded and uplifted 'pre-breakup' section of the NW Australian margin, although sediment provenance studies, etc., do not appear support this. (see below)
2. 'Allochthonous?' Maubisse/ Sonnebait Formation nappe (looks like remnants of an oceanic terrane with thick Permian pillow basalts and reddish pelagic deposits with well-preserved, relatively low-latitude Permian crinoid/fusulinid limestones and Triassic ammonoid limestones).
3. 'Allochthonous' Banda Terrane nappe: a Sundaland-derived nappe with pre-mid-Cretaceous metamorphics, Upper Cretaceous and Eocene arc volcanics, etc. (see below);
4. ?Middle- Late Miocene(?) melange: In many cases large blocks of this 'Maubisse' facies are in chaotic deposits of the widespread Bobonaro melange. Probably a mix of fault zone material and mud diapir deposits;
5. 'Autochthonous' latest Miocene- Early Pleistocene 'Batu Putih/ Viqueque Formation deep marine pelagic marls of the Central Basin, overlying Bobonaro melange. These are deposits are the only deposits on Timor that are undisputably not tectonically displaced and clearly post-date the main deformational event on Timor.
6. Kolbano Sequence of imbricated Jurassic- Cretaceous-Paleogene? deep marine pelagic deposits, forming fold-thrust belt along the south coast from Kolbano in West Timor to the Betano area in Timor Leste (accretionary prism of Australian continental margin material).

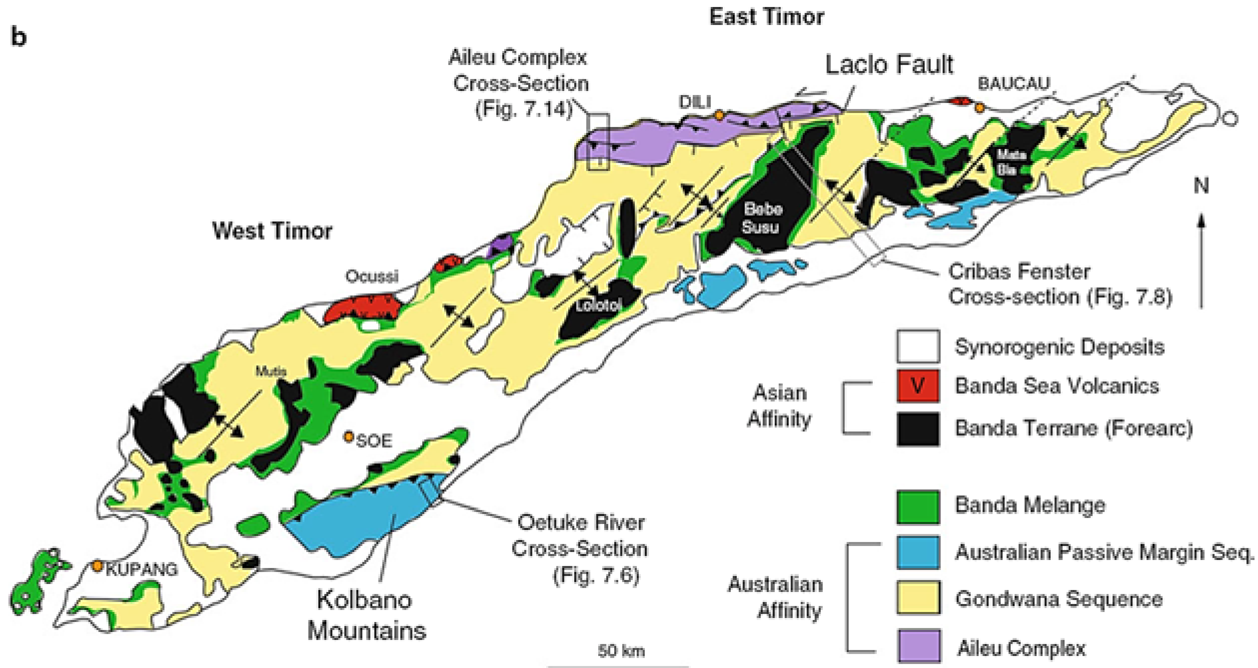


Figure VII.4.4. Simplified geologic map of Timor, showing distribution of alleged Australian-affinity tectonostratigraphic units, overthrust from North by Asian-affinity nappes ('Banda Terrane'), and separated by 'Banda Melange' (= part of Bobonaro melange) (Harris (2011).

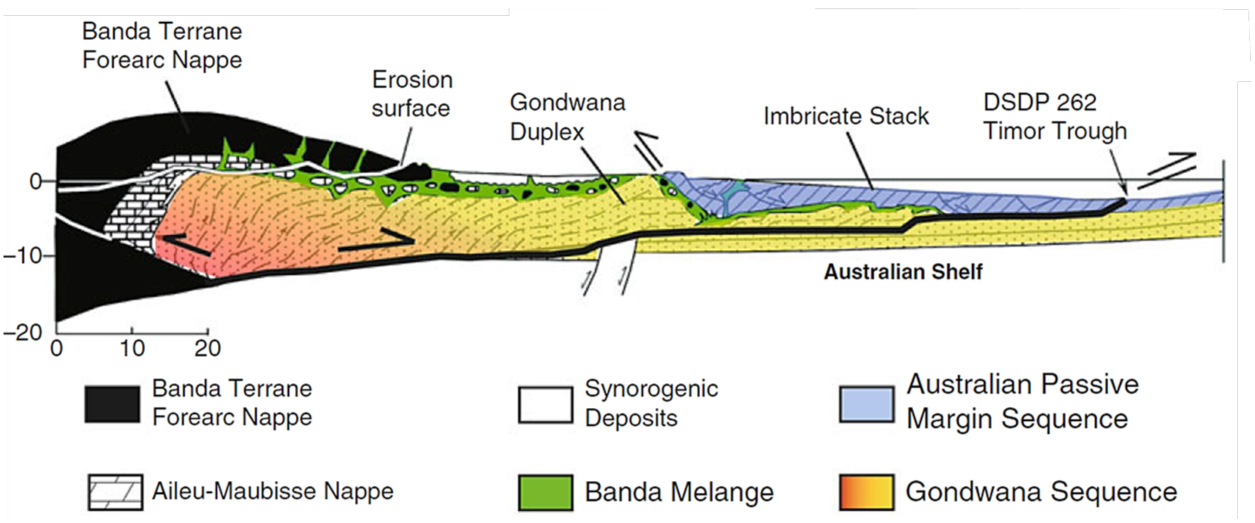


Figure VII.4.5. Interpreted NW-SE cross-section of Timor, showing most of Timor as imbricated Australian margin material (Harris 2011).

Tectonic model(s) of the Timor region

Several different models have been proposed for Timor island. Two end-members

1. Timor= mainly recently deformed Australian margin material (e.g. Figure VII.4.5). Many of the current authors appear to accept this relatively in-place formation model for Timor, and view units like the 'Gondwana Sequence and Maubisse complex as the imbricated (duplexed) and uplifted external parts of the NW Australian margin sediment cover (Hamilton 1979, Charlton, Harris and Haig, op.div., Sawyer et al. 1993, Audley-Charles 2011, Tate et al, 2014). This model works better if the subduction zone of the Banda Arc was located North of the island, and if the Timor Trough/trench is viewed as 'merely a thrust front'.

2. Timor = mainly forearc of the Banda Arc.This more dynamic view is that most of Timor island (not including the Kolbano Range accretionary prism along the South coast) represents part of the Banda forearc that was relatively undeformed during the collision with the Australian continental margin in mid-Pliocene. The most

intense thrusting and emplacement of Banda Terrane and other allochthonous units took place during pre-Miocene collision(s), probably at the Sundaland margin (Barber 1979, 1981, Bowen et al. 1981, Johnston and Bowin 1981, Jacobson et al. 1981, Harsolumakso and Villeneuve 1993, Villeneuve et al. 2005, 2013, Van Gorsel 2014)

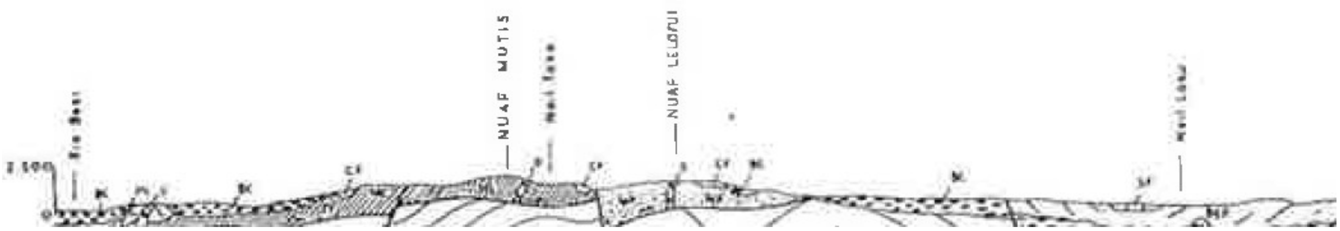


Figure VII.4.6. N-S cross-section of West Timor (Hartono 1978)

1. 'Para-autochthonous' Gondwana Sequence

This sequence is the tectonically lowest unit on Timor, and is mainly composed of folded-thrusted Permian-Early Triassic flysch-type clastics (Cribas, Kekneno series, etc, formations), overlain by more calcareous and argillaceous Late Triassic- Jurassic pelagic beds (Babulu, Wai Luli, formations) and possibly younger pelagic deposits. are uplifted to elevations of almost 3000m.

Views on the paleotectonic setting of this unit still vary widely, from:
(1) imbricated NW Australian margin sediments (majority of current workers, incl. Charlton, Harris, Haig, Tate, implicitly also R. Hall by not showing any Timor allochthonous units in his classic reconstructions);
(2) part of a terrane that rifted in Permian and broke off the Australia or New Guinea margin in Triassic time, went through a long pelagic drift stage from Late Triassic to Paleogene (?) and collided with an intra-oceanic arc ('Banda Terrane') around Late Eocene- Early Oligocene time (Villeneuve et al. 2010, etc.).

The composition and provenance indicators of the Permian-Triassic 'Gondwana Sequence' sandstones of Timor do not look like distal equivalents of same-age sediments on the Australian margin:
1. they are relatively immature, lithics-rich sandstones much less mature than the age-equivalent quartz-rich sediments on the Australian NW Shelf (Brouwer 1942).
2. Lithics are mainly metamorphic and volcanic rocks, not what would be expected for NW Australian 'old continent' provenance (unless somehow drainage from the East Australian active margin can be demonstrated);
3. paleocurrent directions of Permian sandstones on Timor are predominantly to the WSW, suggesting a source area to the North or East (Bird 1987, Cook et al. 1989, Bird and Cook 1991);
4. detrital zircon age distributions show greater similarities with rocks on the New Guinea-derived Birds Head and Sula Spur than with rocks in the NW Australia drainage system (Zobell 2007, Ely et al. 2014, Zimmermann and Hall 2014, 2016, Spencer et al. 2016).

Structural interpretions also become a lot more simple if the central and northern parts of Timor island are viewed as parts of the colliding 'upper plate' Banda forearc:
1. it makes the Kolbano thrust belt a classic accretionary prism of imbricated distal margin sediments, of which it shows all the usual characteristics, and
2. it does not require the rather unrealistic stacking of 10 or 10's of kilometers thick imbricate stacks of margin sediments to fill the space between outcrop and the top of the subducting plate (as shown in Figs. VII.4.5).

2. Maubisse/ Sonnebait 'nappe'?

Another possible 'suspect terrane' is the Maubisse/ Sonnebait series of authors. Like the Banda terrane it was viewed one of the higher 'nappes' and contains Permian- Cretaceous rocks and faunas that are very different from the Australian NW Shelf. De Waard et al. (1954, 1955, 1957) viewed the 'Sonnebait nappe' as the highest structural unit on Timor, Harris interprets it as a unit that is structurally below the Banda Terrane.

The Permian in Maubisse terrane or facies is composed of marls and reddish limestones interbedded with pillow basalts. Limestones are very rich in crinoids, blastoids and solitary corals of much higher diversity and more tropical aspect than nearby NW Shelf Permian. Fusulinid foraminifera are present as well, which are unknown from Australia. This already led Gerth ( ), Audley-Charles (1968), Brown et al. 1968 to assume these rocks originated thousands of kilometers North of Northern Australia which was peri-glacial in Early Permian time.

Permian limestones are presumably overlain by thin, condensed, Triassic cephalopod limestones of 'Tethyan' affinity (generally found as loose blocks) and by Jurassic- Cretaceous deep sea clays and pelagic marls. It may be viewed as an oceanic seamount assemblage that formed during a Permian breakup event, then drifted in oceanic setting until Cretaceous or Eocene collision with a subduction complex.

Some authors claim stratigraphic transitions between 'Maubisse' limestones and Permian Atahoc shales of the 'Gondwana sequence' and view the limestones and clastics as interfingering and lateral facies (e.g. Reed et al. 1996, Charlton et al. 2002).

3. Banda Terrane

Scattered across the central zone of W Timor and E Timor are 15 complexes of the so-called 'Banda Terrane', name coined by Audley-Charles and Harris 1990, Harris 2006, etc.. These metamorphic- volcanic-sedimentary complexes are remnants of an apparently 'allochthonous' thrust complex, that often overlies intensely deformed Permian- Triassic siliciclastics (Figure VII.4.7).

Older names for Banda Terrane units include ‘Schist-Palelo complex’ (Tappenbeck 1939, De Roever 1940, Brouwer 1942, etc.), ‘Mutis Unit’ (De Waard 1957, Marks 1961) and Lolotoi Complex (Audley Charles, 1965).

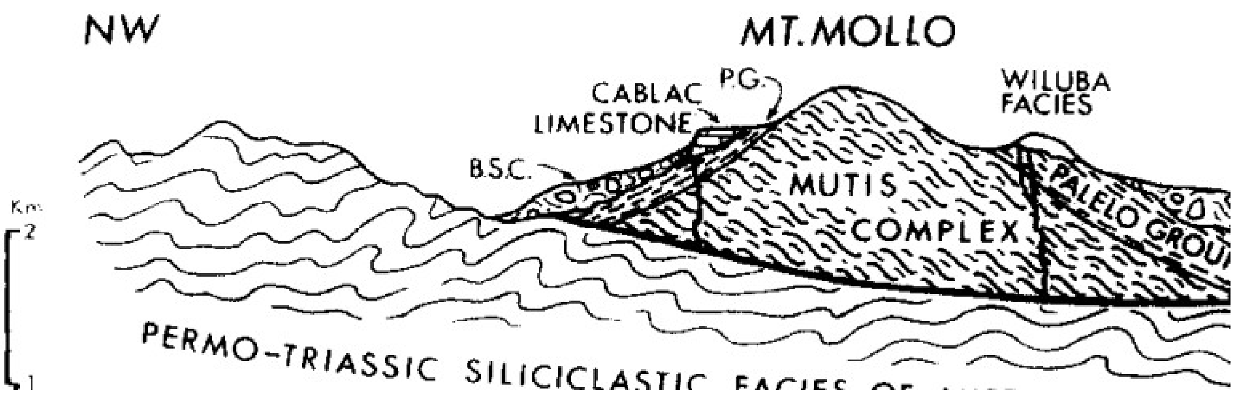


Figure VII.4.7. Diagrammatic N-S cross-section across Banda Terrane thrusted unit at the Mollo complex of West Timor. Thick Mutis Complex metamorphics overlain by Palelo Group Upper Cretaceous-Paleogene flysch and arc volcanics (Audley-Charles 1985; after ??).

Banda Terrane tectonostratigraphy reflects a Late Cretaceous- Paleogene 'active margin' setting and can not be correlated to any rocks or events on the NW Australian margin. There are, however, many similarities to the stratigraphy of SW Sulawesi and SE Kalimantan (Meratus) and also Sumba Island. These complexes have therefore been recognized as 'allochtonous nappes' of Sundaland origin since before the 1930's. (see also Earle 1981, Barber 1981, Audley Charles and Harris 1990,

These are outcrops of metamorphic rocks (Mutis, Boi, Mollo, Lolotoi, etc. complexes) often associated with ultramafic ophiolitic rocks, and stratigraphically overlain by 'Palelo Group' Upper Cretaceous and Eocene arc volcanics and 'flysch-type' sediments. There are also Eocene shallow water carbonates with SE Asian *Pellatispira* forams, unconformably overlain by latest Oligocene- Early Miocene shallow water Cablac Limestone.

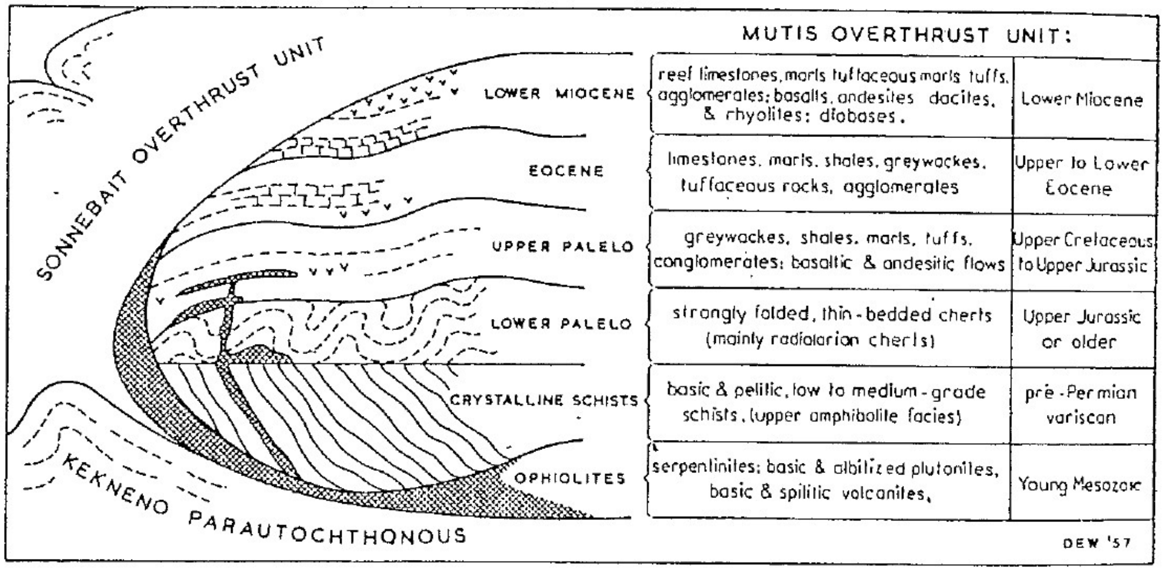


Figure VII.4.8. Diagrammatic stratigraphy of 'Mutis Overthrust Unit (= Banda terrane) of West Timor from Marks (1961) (Palelo units now known to be of Cretaceous age))

Banda terrane stratigraphy suggests the oldest rocks were affected by mid-Cretaceous metamorphism in a subduction zone (Sopaheluwakan 1990), presumably at the SE Sundaland margin, followed by mid-Cretaceous exhumation in a deep marine environment (Lower Palelo mid-Cretaceous radiolarian cherts), followed by Late Cretaceous marine turbiditic sedimentation.

The Banda Terrane blocks of Timor probably formed part of the active Sundaland margin, with Late Cretaceous and Eocene arc volcanics of the 'Great Indonesian volcanic arc' of Harris (2006). It was affected by an Oligocene folding-uplift event during a period of carbonate deposition (also seen on Sumba and SW Sulawesi), and must have broken away from the Sundaland margin in Miocene-Pliocene time, to end up in the Banda forearc after opening of the S Banda Sea (see also Barber 1979, 1981, Earle 1979, 1983, etc.).

Eocene metamorphic cooling age

It may be noted that radiometric ages of the Banda Terrane metamorphics vary widely. Some are Early Cretaceous, which is in line with the stratigraphic position below Late Cretaceous sediments, and the 87 Ma age for the youngest detrital zircon age in Lolotoi complex metasediments (Standley and Harris 2009).

Reported Middle- Late Eocene ages (~35-45 Ma) and some even younger, radiometric ages are clearly too young to be the original metamorphic cooling age, and may reflect a Late Eocene heating/cooling event from associated arc volcanism, or, as suggested by Sopaheluwakan et al. (1989) may reflect the timing of thrust emplacement of the Banda Terrane over a (detached?) part of the Australian continental margin.

Whichever of these ages age is favored, this metamorphism and younger thermal overprint are all much older than the Pliocene- Recent Australia- Banda Arc collision and could not have taken place along the NW Shelf passive margin.

Banda Terrane uplift- Oligocene unconformity

In the Banda Terrane of Timor Late Eocene limestones with *Pellatispira* are unconformably overlain by relatively undeformed latest Oligocene - Early Miocene Cablac Limestone. The basal conglomerate contains clasts of schists and Cretaceous sediments, suggesting a significant Oligocene folding-uplift event (Tappenbeck?).

Tappenbeck (1939) interpreted this stratigraphic unconformity to represent the age of major thrusting on Timor. The oldest age of the post-thrust Cablac Limestone is well constrained by the presence of latest Oligocene larger foraminifera *Miogypsinoides complanata* and *Spiroclypeus* (Te4) in the basal conglomeratic beds of the Cablac-equivalent limestone (Marks 1954).

Remarkably, a similar unconformity at the base of earliest Miocene limestone is also known Sumba (Caudri 1934) and from SE Sulawesi, where *Miogypsina*-bearing limestones contain also reworked clasts of Upper Cretaceous *Globobotruncana* pelagic limestone and serpentine (Van der Vlerk and Dozy 1934).

5. 'Autochthonous' deep marine Pliocene Batu Putih/ Viqueque Formation, Central Basin

The 'autochthonous' latest Miocene- Early Pleistocene deep marine pelagic marls ('*Globigerina* Limestone') of the Batu Putih/ Viqueque Formation are exposed mainly in the Central Basin of both West and East Timor. This formation is the only deposit on Timor that is undisputably not tectonically displaced. Total thickness is probably up to ~800m (Hartono et al. 1978).

The deposition of the relatively undeformed deep water Batu Putih/ Viqueque pelagic marls above the Bobonaro melange/olistostrome and older intensely deformed older rocks shows:

1. the main folding-thrusting event(s) and melange formation on Timor happened before Late Miocene time;
2. paleobathymetry of ~1000- 1500m of the lower units suggests a major Late Miocene or slightly older subsidence event (De Smet et al. 1990) This possibly reflects the rifting/ breakup of North and Central Timor from the SW Sundaland margin druring the opening of the South Banda Sea.

The age of the Batu Putih/ Viqueque Formation is primarily Pliocene, but a late Middle Miocene- Early Pleistocene (N15-N22) range was suggested by Kenyon (1974) and Hartono et al (1978). Several more recent studies did not identify any beds older than latest Miocene (zone ~N18; Roosmawati and Harris 2009, Tate et al. 2014).

Paleogeography interpretations by Kenyon (1974) show an uplifted area North of the Central Basin, and deep marine sediment transport to the South for the later parts of the Viqueque Formation. The first recorded influx of turbiditic clastic sediments in the Pliocene pelagic deposits ranges from ~2.2 Ma in West Timor (De Smet et al. 1990), ~3-4 Ma (Harris)
This is thought to reflect the first uplift above sealevel and erosion in northern Timor.

Another key observation to be explained is the basement lithologies in Suai explaration wells in the SW part of Timor Leste. These wells show ~ xxx m of Viqueque Formation marls above relatively thick Bobanaro olistostrome/ melange, above Eocene *Pellatispira* Limestone and/or Lolotoi metamorphics (Cockroft et al. 2005). These rocks only occur in the 'Banda Terrane'. If correctly described and described this 'kills' the interpretation of Figure VII.4.4, and the notion of Gondwana Sequence' as imbricated sediments of the current Australian margin.

The Batu Putih pelagic marls grade upward into turbiditic sediments and record the rapid Late Pliocene-Pleistocene uplift and emergence of Timor island above sea level:

- uplift from ~1000- 1400m water depth to present elevations of >500m above sea level after 0.2 Ma (Late Pleistocene; De Smet et al. 1990, Van Marle 1991);
- .

6. Kolbano Sequence Australian Margin sequence/ Ofu series '

A belt of imbricated, north-dipping thrust slices along the South coast of Timor can be followed from the Kolbano area in West Timor to Betano area in Timor Leste. It also continues southward offshore as an imbricated package all the way to the Timor Sea trench (e.g. Poynter et al. 2013, Keep ?)). Thrust slices are composed mainly of deep water Triassic- Early Tertiary sediments. These were named Ofu series by Dutch workers in the 1930's- 1950's.

Unlike the tectonostratigraphic units of more questionable origin discussed above, these may safely be interpreted as distal slope sediments scraped off the N-ward subducting Australian continental margin, as an accretionary prism system. Stratigraphy has been described in detail by Charlton ( )

Structural restorations by Sani et al. (1995) suggest shortening of ~45 km in the onshore Kolbano thrust belt, mainly between 2.2- and 1.6 Ma, after which the main deformation migrated South (offshore) to the present-day Timor Trough. Total shortening, excluding shortening under Timor Trough, probably >200 km. The onset of collision was probably at ~3.7 Ma; subduction at the Timor Trough locked up at ~1.6 Ma.

The Cretaceous in this unit with its reddish claystones and radiolarian cherts and locally common manganese nodules and laminae and partly dissolved shark teeth, was already recognized by Molengraaff (1915?).as very deep-sea clays, deposited in several 1000's of meters of water, below the Carbonate Compensation Depth.

Mesozoic radiolaria were studied by Tan Sin Hok (), Munasri, Recently there has been a sharp increase in small-scale mining of Cretaceous manganese deposits by local villagers in the Niki-Niki area (Idrus et al. 2012, 2013).

The Triassic- Cretaceous deep marine deposits of Rote island are probably equivalent of Kolbano complex of Timor.

7. North Timor to Tanimbar Ophiolite- Aileu metamorphics belt

Along the North coast of Timor Island are large bodies of a relatively young ophiolite complex (Atapupu-Manatato peridotites). These ultramafic rocks are underlain by a metamorphic sole of Aileu Complex schists, composed of amphibolites, quartzite, etc. A gradual increase in metamorphic grade from Permo-Triassic clastics towards schists at the ophiolite body was described in NE West Timor by Barber et al. (1977).

The Aileu metamorphic complex appears to be mainly from metamorphosed 'Maubisse complex' Permian sediments and basic volcanics (Molengraaf and Brouwer 1915, Barber and Audley Charles 1977).

Similar Aileu-type ophiolite-metamorphic rocks are found farther East on many islands of the innermost parts of the Outer Banda Arc, from Kisar to Leti, Moa, Sermata, West Tanimbar, and probably all the way to Seram (Figure VII.4.9).

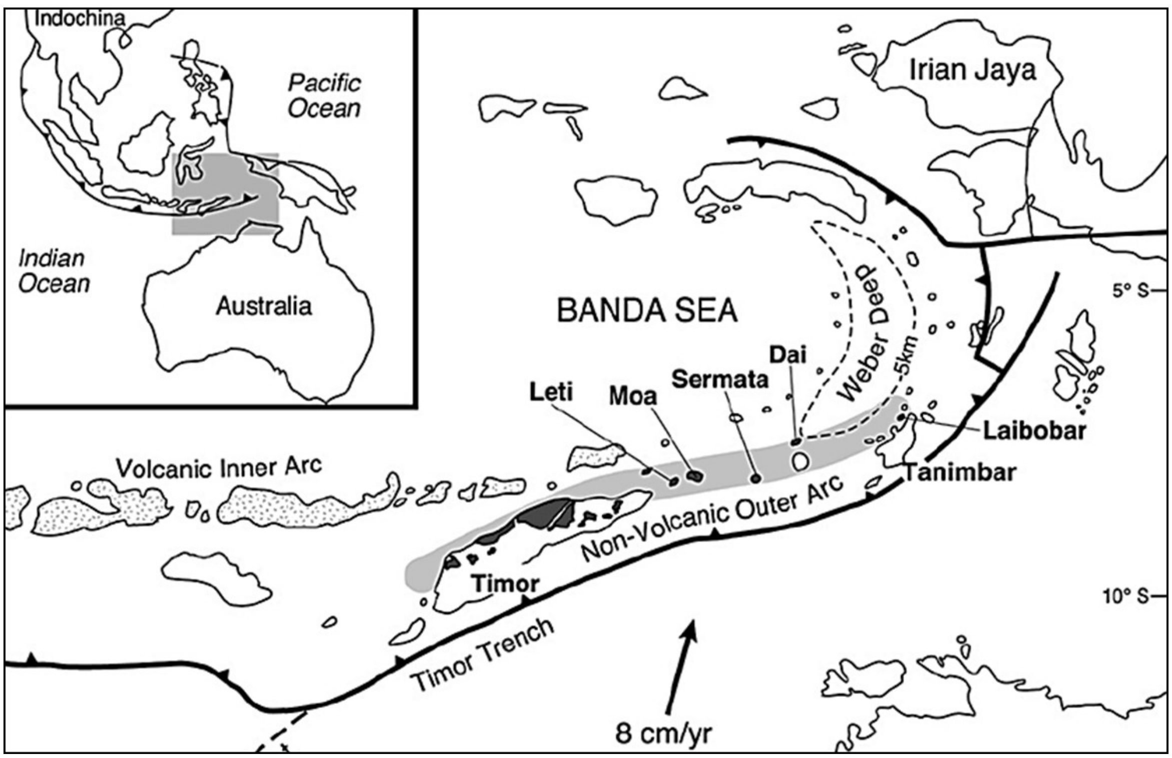


Figure VII.4.9. Distribution of young ophiolite-metamorphic rocks from North Timor to East (in black) (Kaneko et al. 2007)

The ultrabasic complex was described by a.o. Molengraaf and Brouwer (1915; Leti), Berry and Grady (1981), Berry and McDougall (1986) (Late Miocene cooling ages ~8-6 Ma), Harris (1991) and Kaneko et al. (2007).

Middle-Late Miocene radiometric ages (cooling/uplift ages?) suggest the North Timor Aileu metamorphic-ophiolite complex is considerably younger than similar Cretaceous rocks of the Banda terrane of the central zone, but appear to predate the collision between the Timor- Tanimbar sector of the Banda fore-arc and the NW Australian continental margin.

Reported radiometric cooling ages of metamorphics vary from:
- 12- 18 Ma (AFT data from Kisar; Standley and Harris 2009);
- 10-11 Ma (K-Ar ages from Leti; Kaneko et al, 2007);

- ~8 Ma (Ar/Ar of hornblende from North Timor; Berry and McDougall, 1986);

The young 'Aileu ophiolite- High-P metamorphic complex' can be traced East through the innermost Banda Outer Arc islands Leti, Moa, Sermata, etc. to Laibobar West of Tanimbar (Figure VII.4.9; Molengraaff and Brouwer 1915, Brouwer 1921, Kaye 1989, Kaneko et al. 2007), etc.. From there it continues north via the islands of Tidor, Kasiui, Watubela and Manawoko, where serpentinites, amphibolites and schists were reported by Verbeek (1908) and Wichmann (1925), all the way around to the ophiolite-metamorphic complexes of Seram.

The surface geology of Leti island was described in remarkable detail by Molengraaff and Brouwer (1915; reviewed in Van Gorsel 2012; Figure VII.4.10). They describe what appears to be a metamorphic sole under a serpentinite thrust, formed from increasingly higher-grade metamorphic Permian clastics, very similar to the Aileu Formation described from NE West Timor by Barber et al. (1997).

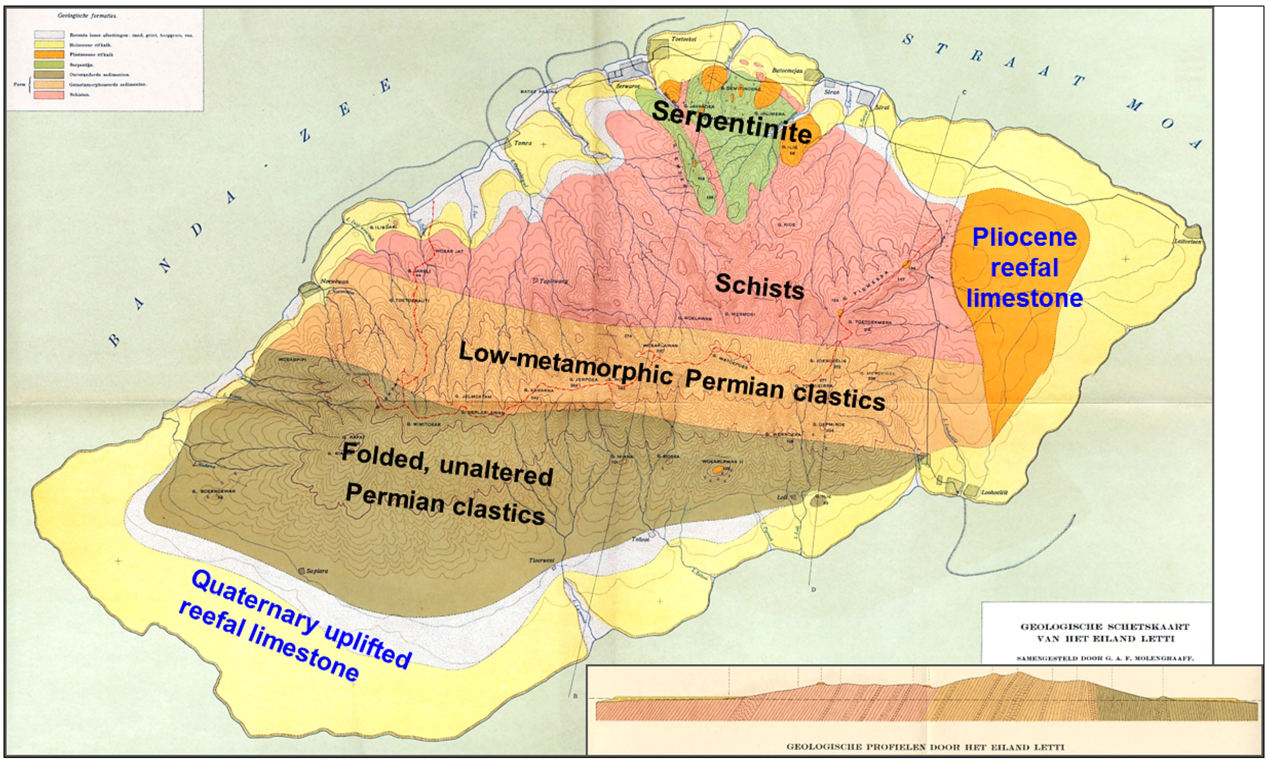


Figure VII.4.10. Geologic map of Leti Island (Molengraaf and Brouwer 1915), describing a 'metamorphic sole' under and ophiolite body. Map shows N-dipping non-metamorphic Permian sediments in South (brown), gradually grading into high-metamorphic schists in N direction, where it abuts a serpentinite body (light green). Entire island surrounded by >300m thick uplifted Pleistocene coral terraces (yellow)

Subduction at the Timor Trough

By 1975, in the early days of plate tectonics interpretation in the Indonesian region, geologists interpreted the Timor Trough as the eastern extension of the Java-Sunda Trench subduction zone, where the axis of the Trough marks the surface trace of a subduction zone, but here with downwarping of continental crust into the subduction zone instead of oceanic crust (e.g. Figure VII.4.1). This is still presumeably a correct interpretation, but in the mid-1970's this was a topic of heated debate between Mike Audley Charles (Imperial College, London) and Warren Hamilton (US Geological Survey).

Audley-Charles and Milsom (1974) argued that the Timor Trough is 'merely a downbuckle in continental crust' and that the actual trace of the subduction zone is north of Timor island. This view was disputed by Fitch and Hamilton (1974), Katili (1975), Hamilton (1979), Jacobson et al. (1979), Bowin et al. (1980), etc, but it still appears to persist today among some workers (Audley-Charles 2011, Baillie et al. 2013, 2014).

The traditional interpretation of the Timor Trough as subduction trench (e.g. Hamilton 1978) still makes the most sense. The obvious uninterrupted bathymetric deep that continues East from the Java Trench into the Timor Trough and father East is closely parallel to the axis of negative gravity anomalies, that had been known since the marine geophysical surveys of Vening Meinesz (1930). The location of the Java Trench and Timor Trough immediately south of a belt of imbricated sediments became even clearer after early seismic reflection surveys by Shell in the early 1970's (e.g. Beck and Lehner 1974). This thus became the 'text-book' trench-accretionary prism complex of the Banda subduction zone.

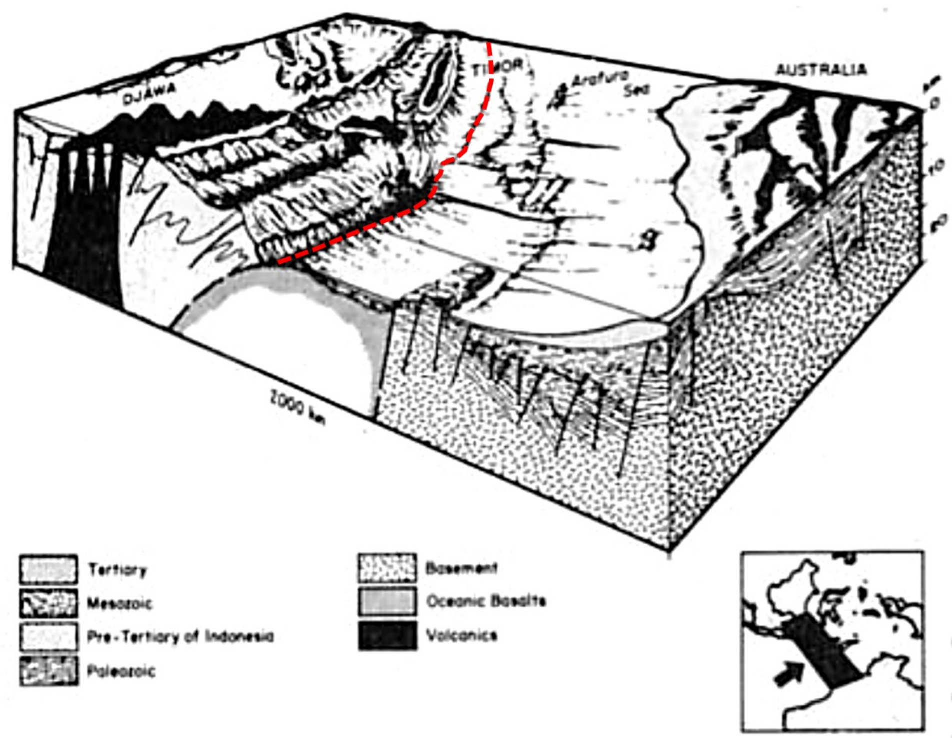


Figure VII.4.11. Block diagram showing 'traditional' view of Timor Trench as the continuation of the Java subduction trench (Beck and Lehner 1974) (a continuous bathymetric deep in front of imbricated accretionary wedge)

The Timor Trough/ Trench has all the characteristics of a subduction trench, although it is now mostly inactive:

1. a wide belt of imbricated distal Australian margin sediments runs along the south coast of Timor, both onshore and offshore. This accretionary prism represents 100's, if not 1000's, of kilometers of shortening in ocean floor and distal continental margin sediment cover, and this magnitude of shortening can only be accounted for by subduction;
2. downward buckling of the Australian continental shelf towards the Timor Trough: the present-day slope of the Australian margin at the Timor Trough is not a depositional slope, but the result of post Middle Pliocene (2.4 Ma) downward flexing of Australian crust that was formerly at shelfal depths (DSDP Site 262; Veevers et al. 1978);
3. There is clear bathymetric link between the Timor Trough and the Javan Trench, which is the 'holotype' of subduction trenches.
4. Seismic tomography images of the downgoing plate shows the cool subducting plate below Timor surfacing at the Timor Trough. Seismic activity and GPS measurement suggests there is little or no active subduction at the Timor Trench today (Kreemer et al. 2000), as the arrival of Australian continental blocks terminated subduction at this sector.

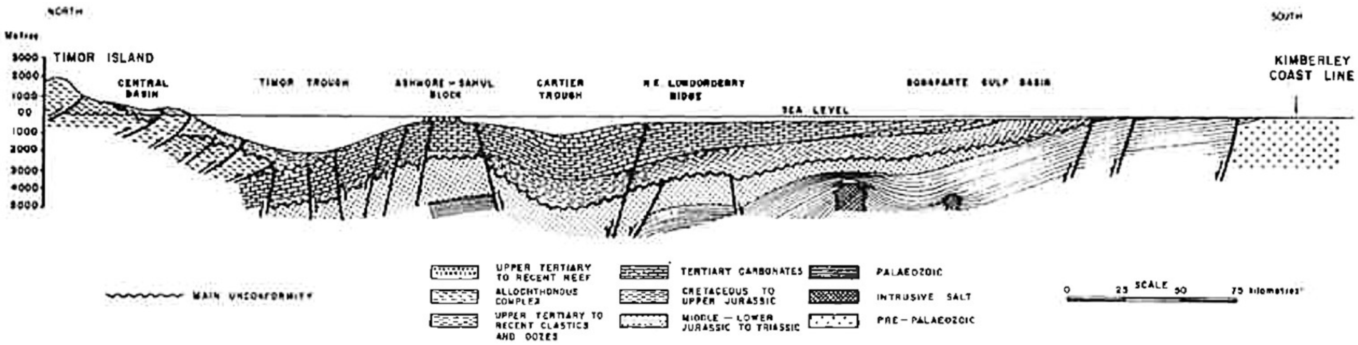


Figure VII.4.12. Cross-section from Australian NW Shelf (Bonaparte Basin) to Timor (Powell and Mills 1978).

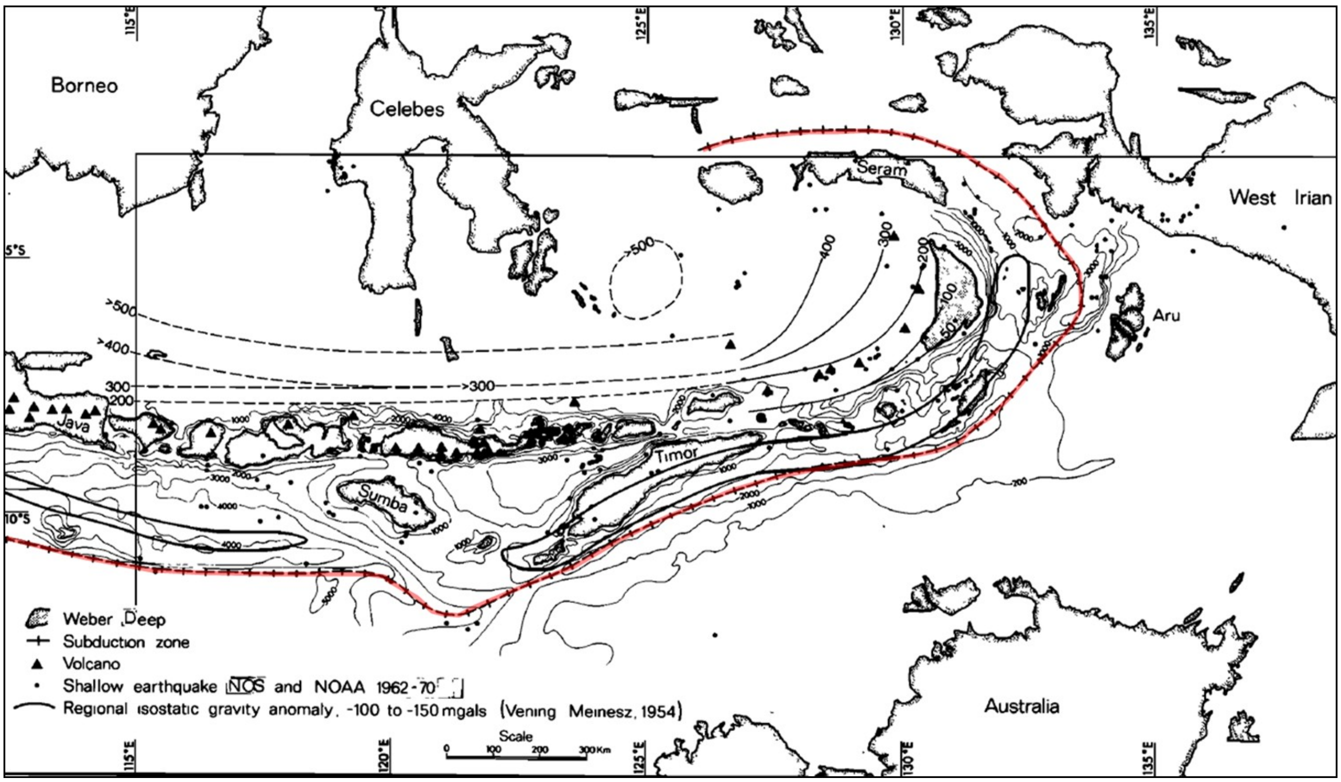


Figure VII.4.13. The Banda arc subduction zone trench can be followed from the Java Trench, through the axis of the Timor and Tanimbar Troughs to Seram- Buru (Fitch and Hamilton, 1974).

Paleomagnetic studies

Several paleomagnetic studies provide interesting constraints on the paleoposition of the various tectonostratigraphic terranes of Timor.

Permian Maubisse- Cribas Formation

1. Wensink and Hartosukohardjo (1990a) placed the Permian Maubisse limestones at paleolatitude of ~39° with 55° clockwise rotation since then;
2.. Panjaitan and Hutubessy (1997, 2004) placed the Permian Maubisse and Cribas Formations at ~25-48° in the northern Hemisphere, along the southern margin of Eurasia, questioning the prevalent 'Gondwana Sequence' interpretation.

Mid-Cretaceous Nakfunu Formation oceanic sediments

Wensink et al. (1987) placed the mid-Cretaceous Nakfunu Fm bathyal red clays in the Kolbano accretionary prism at paleolatitude of ~20°, probably in Southern Hemisphere, which was probably well North of the NW Australian margin at that time (presumably at 30-40° S). Today it is at 10°S. If correct, this suggests (a) sediments moved ~1200 km North since deposition in an oceanic environment, and (b) the Kolbano fold-thrust belt/ accretionary prism may contain the off-scraped sedimentary cover of several 1000's of kilometers of subducted oceanic and distal continental margin crust!

Eocene Metan Formation arc volcanics of Banda Terrane

Wensink and Hartosukohardjo (1990b) placed the Eocene Metan volcanics from the Mutis Massif of West Timor (= allochthonous Banda Terrane) at ~17°N. These volcanics were presumably part of the SE Asia Eocene magmatic arc system that continued East from the Sundaland margin.

Young uplift of Timor and surrounding islands

Late Miocene and younger tectonics on Timor include normal faulting, strike slip faulting and significant Late Pliocene- Recent uplift. Except for the Kolbano/ accretionary wedge on-an offshore of the South coast of Timor there are no compressional/ collisional folding ot thrusting.

Timor and most of the surrounding islands show evidence of up to several kilometers young uplift, in the form of uplifted Pleistocene coral terraces, uplifted Late Miocene- Pleistocene deep marine deposits and thermochronologic data suggesting several kilometers of uplift.

Pleistocene reef terraces (Soe Formation) form belts of limestone around the coasts, that are unconformable over all older rocks.

Elevations of Pleistocene reefs on Timor and nearby islands include (see also Figure VII.4.15):
- 1280m or more (Molengraaff 1912)
- Kisar (185m; Kuenen 1933, Standley and Harris 2009),
- Aitaro (700m; Ely et al. 2011),
- Dai (650m; Kaneko et al. 2007),
- Sermata (400m; Brouwer 1921, Kaneko et al 2007),
- Babar (650m; Verbeek 1908),
- Kai Besar (340m; Verbeek 1908),
- Sumba (475m; Jouannic et al. 1988, Pirazzoli et al. 1993), etc.

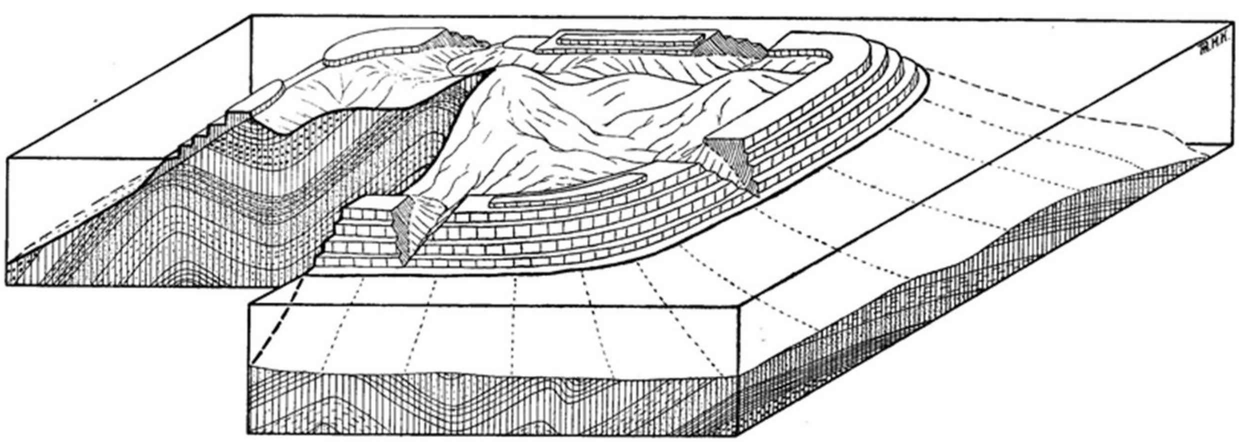


Figure VII.4.14. Kisar Island, N of Timor, showing core of metamorphic rocks, surrounded by four or more well-developed uplifted Pleistocene coral terraces (Kuenen 1933)

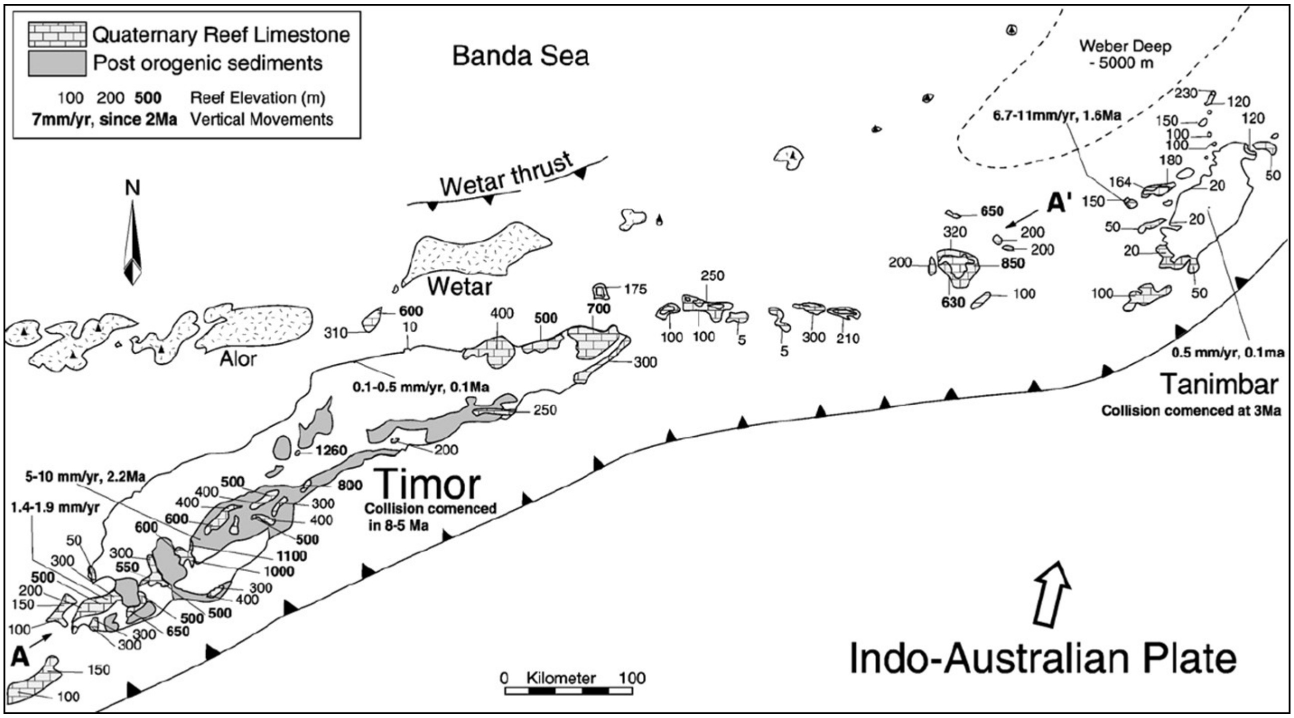


Figure VII.4.15. Compilation of elevations of uplifted Pleistocene reefal limestones in the Outer Banda Arc (Kaneko et al. 2007). Young uplift here is generally tied to isostatic rebound after slab breakoff.

Thermochronologcal analyses by suggest an increase in amount of Late Pliocene- Recent uplift and erosion in Timor Leste (~1-2 km in the Kolbano foldbelt in South Timor to 3-5 km in the Aileu slate belt in the North since ~1.8 Ma; Tate et al. (2014).

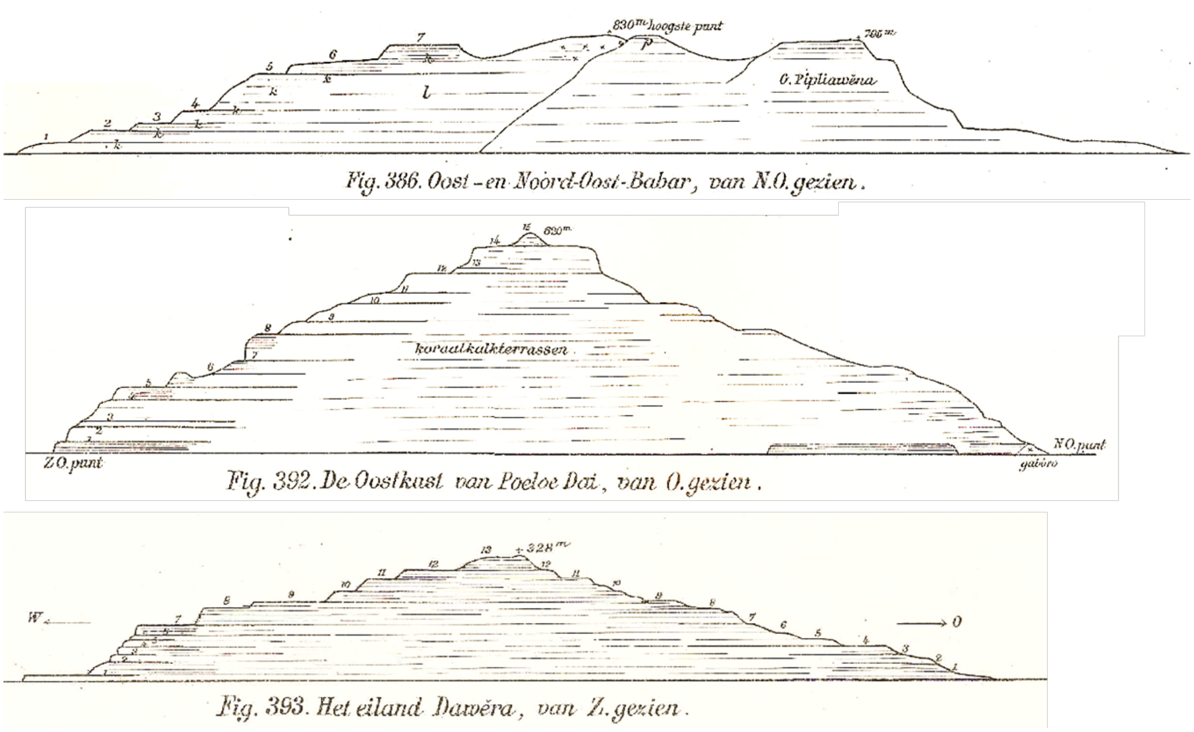


Figure VII.4.16. Many of the smaller outer arc islands East of Timor are largely covered by Pleistocene coral reef terraces, Examples from Babar (from E-NE), Dai (from East) and Dawera (from South) with up to 16 terraces up to 830m elevation (Verbeek, 1908).

This young and probably still ongoing uplift of Timor and surrounding islands is probably best explained as isostatic rebound after slab breakoff (Figure VII.4.17; Kaneko et al. 2007).

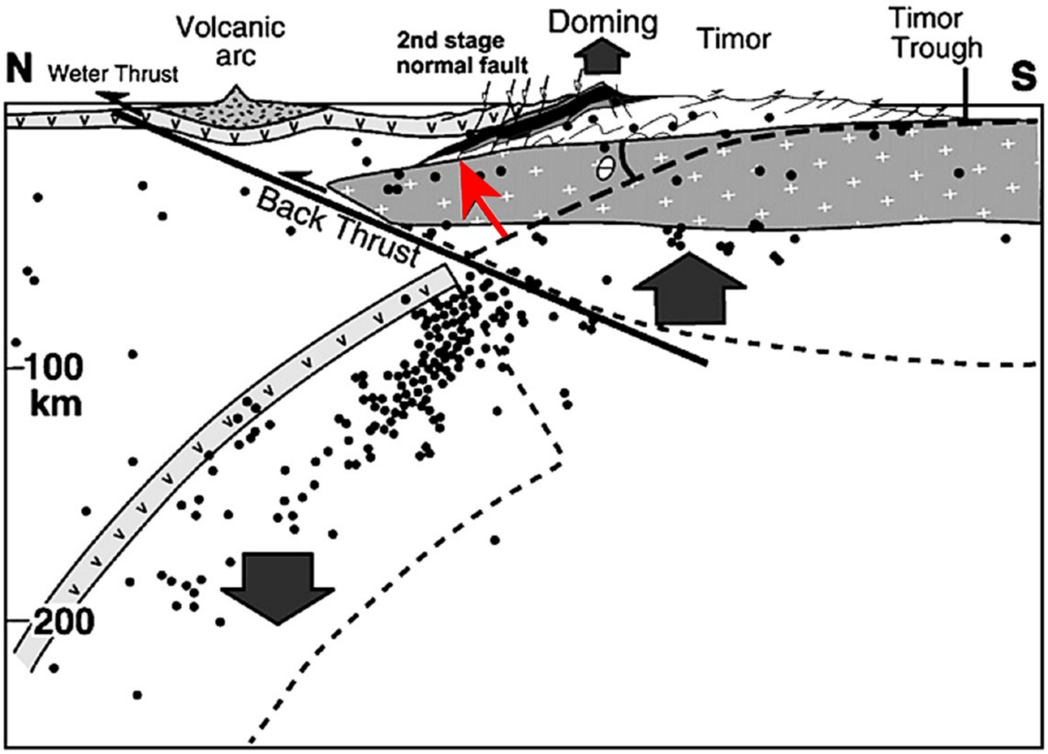


Figure VII.4.17. The most likely explanation for late uplift of Timor (especially in North) and adjacent Banda outer arc islands is isostatic rebound of buoyant subducted Australian continental crust after slab breakoff, as depicted in this cross-section of Kaneko et al. (2007).

Paleontology of Timor

Timor has been famous for over 100 years for its rich Permian- Triassic marine macrofossils. The West Timor expeditions of Wanner (1909, 1910-1911), Molengraaff (1910-1912) and Jonker (1915) were largely aimed at fossil collecting. Most of these collections are now in Naturalis Museum in Leiden, The Netherlands.

Early classic paleontological studies were mostly carried out or commisioned by German paleontologist Johannes Wanner between 1907 and 1942.

Many beautifully illustrated paleontological monographs were produced in 16 volumes of the Wanner-edited series 'Palaontologie von Timor', published in Stuttgart, Germany. These include those on ammonites (Welter 1922, Diener 1922), corals (Gerth 1921), crinoids and blastoids (Wanner 1916-1949), brachiopods (Broili 1916), molluscs (Krumbeck 1921), etc.. Much of this work on Paleozoic and Mesozoic paleontology of Timor was summarized in Van Gorsel (2014a,b).

Unfortunately, most of this classic fossil material was not collected in stratigraphic context, but came from displaced blocks in 'Bobonaro melange' or was obtained from local villagers.

Oil and gas seeps and exploration

Oil and gas seeps are relatively common on Timor island, but no commercial hydrocarbon fields have been discovered here, despite:

- five phases of oil-gas exploration in Timor Leste since 1893 (Cockroft et al. 2005, Charlton and Gandara 2014, Charlton et al. 2017)
- >20 onshore wells drilled in Timor Leste by Timor Oil between 1914 and 1975 found small non-commercial oil and gas accumulations only.
- onshore exploration in West Timor by Amoseas in early 1990's (Banli 1 well; Sawyer et al. 1993, Sani et al. 1995))
- nearby offshore wells by BOCAL/Woodside in the 1970's (e.g. Mola 1, Savu 1 wells).

Large offshore oil-gas fields South of the Timor Trough are not in 'Timor geology', but are in the Jurassic 'Plover sandstone play' of the Australian NW continental margin (Bayu Undan and Sunset-Troubadour fields in the Timor Leste Joint Operating Zone; Abadi field in Indonesian waters

Over 30 oil and gas seeps have been documented on Timor, mainly along the south coast of Timor Leste (Figure VII.4.18; Charlton 2002). These seeps have been tied to Upper Triassic bituminous marine limestones of the Aitutu Formation, which may contain up to 23% TOC.

More recently thin, organic-rich 'paper shales' from West Timor, presumably Permian lacustrine deposits, were described as potential hydrocarbon source rocks by Lelono et al. (2016, 2017).

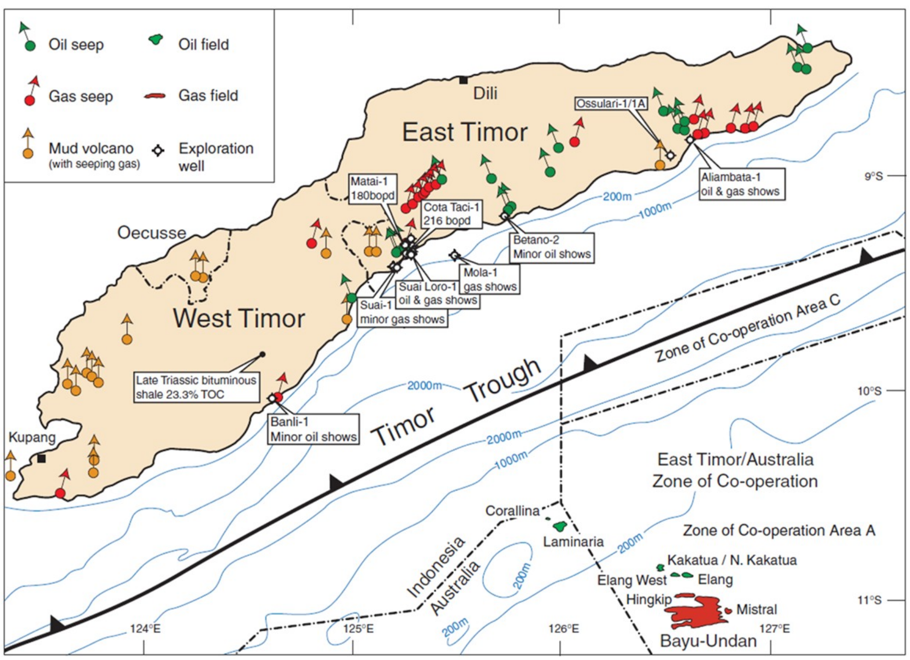


Figure VII.4.18. Oil and gas seeps on Timor. (Charlton 2002)

Due to the structural complexity of Mesozoic rocks in the imbricated thrust belt of South Timor island accumulation of significant commercial hydrocarbon deposits is perhaps unlikely, and exploration would be extremely challenging. However, the presence of deeper, more simple inversion structures in both West Timor and Timor Leste has been suggested by Charlton (2002, 2004 and others).

Mud volcanoes and Bobonaro melange

Mud volcanoes/ diapirs are common across Timor island, with more than 15 fields mapped in West Timor by Tjokosapoetro (1978), mainly associated with the young Central Basin or with the Kolbano Complex accretionary prism (Figure VII.4.19). Some are associated with older beds, probably in wrench fault zones (Barber et al. 1986).

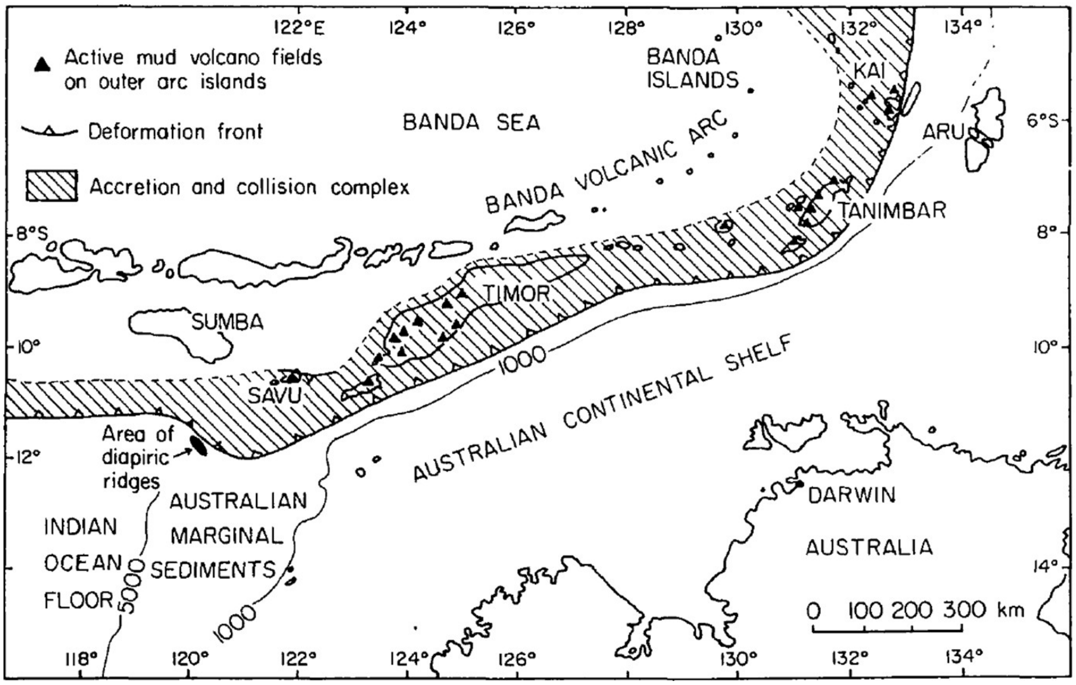


Figure VII.4.19. Mud volcanoes (black triangles) are present on most islands of the Outer Banda Arc accretion/ collision complex (Barber and Brown 1988).

Mud diapirism is triggered by overpressured shales, and forms chaotic surface deposits with large blocks in a clay matrix. Some mud volcanoes produce saline water, others have flammable gas.

SLIJKVULKANEN VAN POELOE KAMBING. IN DE STRAAT SAMAUW.

Figure VII.4.20. Crater of 'mud volcano' on Pulau Kambing island, off SW Timor (from S. Muller, 1857).

Most of the 'Bobonaro scaly clay' melange with large blocks on Timor may actually have been generated by mud diapirs, sourced from the underlying Late Triassic- Jurassic marine shale-dominated section, rather than as sedimentary olistostromes or tectonic overthrusting (Barber et al. 1986, Barber and Brown 1988, Barber 2013).

Seismic profiles and outcrops of islands like Savu, Roti, show that mud diapirism is particularly common in the frontal parts of accretionary overthrust complexes. (e.g. Ware and Ichram 1997, Harris et al. 2009).

Roti (Rote) Island

Roti (Rotti, Rote) is a relatively small island SW of Timor, and an exposed part of the 'Savu-Roti Ridge'. Its geology was first observed by Wichmann (1892), who, in 1889 discovered the first Jurassic fossils in Eastern Indonesia (described by Rothpletz (1891, 1892). Significant later work was done by Verbeek (1908), Brouwer (1914, 1921), Hasibuan (2007) and Roosmawati and Harris (2009).

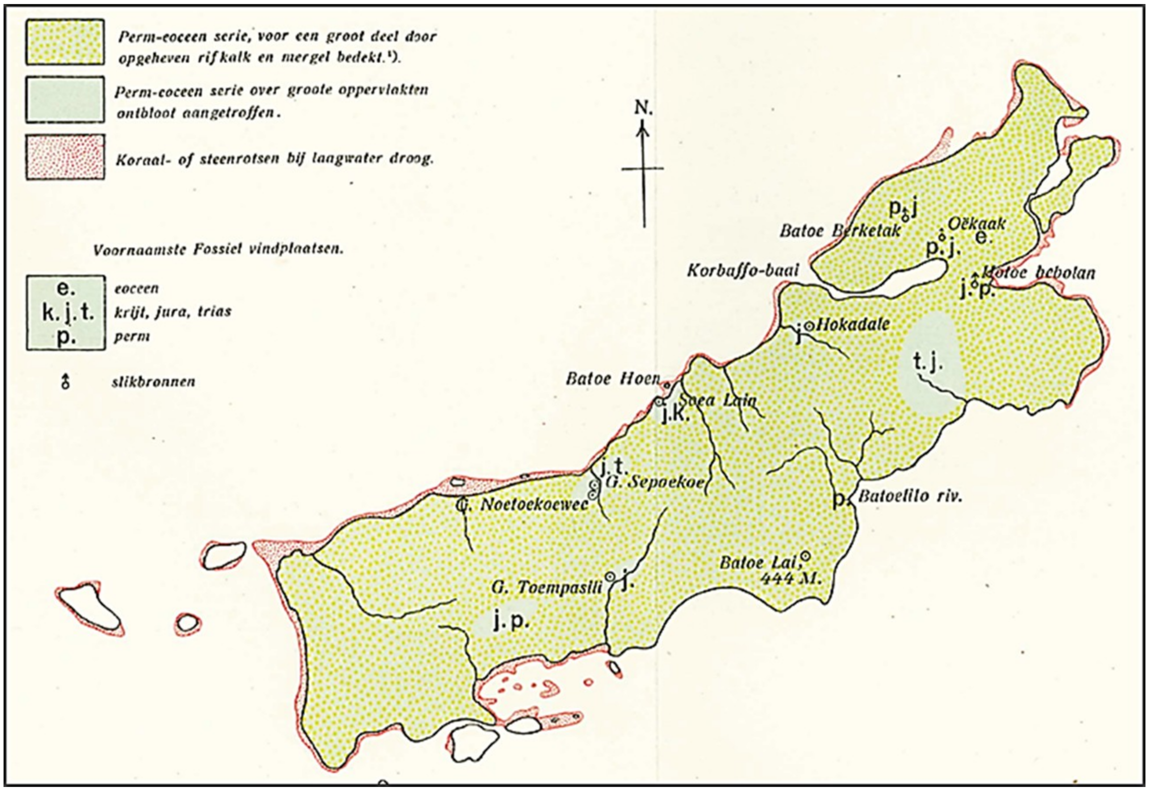


Figure VII.4.21. Early geologic map of Roti by Brouwer (1921). Most of island is folded Permian- Eocene successions, largely covered by young marls and Quaternary reef limestones. Varous 'windows' in young cover yielded Permian (p), Triassic (t), Jurassic (j), Cretaceous (k) and Eocene (e) fossils

The geology of Roti appears to be a continuation of the Kolbano thrust-belt/ accretionary prism of South Timor. It is composed mainly of folded and commonly steeply dipping Mesozoic- Tertiary deep marine sediments, with some mud volcanoes and associated 'melange' deposits, unconconformably overlain by thin Neogene marls (equivalent of Batuputih Formation of Timor?) and widespread uplifted Quaternary coral reef terraces. The Geological Survey map of Rosidi et al. (1979, 1996) shows Roti island as Tertiary melange overlain by Quaternary limestone, which does not adequately characterize the nature and geologic complexity of Roti.

The stratigraphic succession can be summarized as:

1. Triassic sandstones ('Babulu-equivalent'?), overlain by Late Triassic limestones ('Aitutu-equivalent'?) with molluscs *Daonella, Halobia* and *Monotis salinaria* (recognized to be virtually identical to Norian facies in the European Alps by Rothpletz (1892);
2. Jurassic is known from two settings (a) folded Wai Luli Fm-equivalent very deep marine reddish marly limestones and calcareous shale with radiolaria, chert and manganese nodules (Brouwer 1921), and (b) Jurassic ammonites from mud volcano deposits (see below);
3. relatively thin Cretaceous pelagic shales, limestones and chert with *Globotruncana*, etc. (equivalent of Nakfunu and Borolalo Formations of Timor;
4. Tertiary Ofu Formation-equivalent pelagic limestones;;
5. Pliocene- Early Pleistocene deep marine marls ('synorogenic' Batu Putih facies), 37-237m thick, in discontinuous patches along the South coast. Roosmawati and Harris 2009).

Mud volcanoes

Several mud volcanoes and assumed mud volcano deposits were described by Wichmann (1892), Verbeek (1908), Brouwer (1921) and others. Roosmawati and Harris (2009) interpreted these deposits as equivalent of the Bobonaro melange of Timor.

Blocks and clasts in the mud volcano/ melange include:

(1) Early and Middle Jurassic ammonites and belemnites. Ammonites and rock similar to mud volcano ammonites from Yamdena (Wanner and Jaworski 1931);

(2) blocks of reddish fossiliferous Permian limestones, shales and porphyric rock, with *Timorites* ammonite (= 'Maubisse facies' of Timor)

(3) rare crystalline schists.

Young uplift

As for Timor, young upift of Roti island is demonstrated by:

1. the extensive Pleistocene coral limestone terraces that are now uplifted up to 210m above sea level (Brouwer 1921). Merrits et al. (1998) suggst Roti island uplifted 170m in the last ~125,000 years.
2. Pliocene- Early Pleistocene deep marine marls deposited in ~3000m water depth are now exposed in outcrop, suggesting ~3km of uplift in the last 2 million years (= ~1.5mm/year; Roosmawati 2005, Roosmawati and Harris 2009)

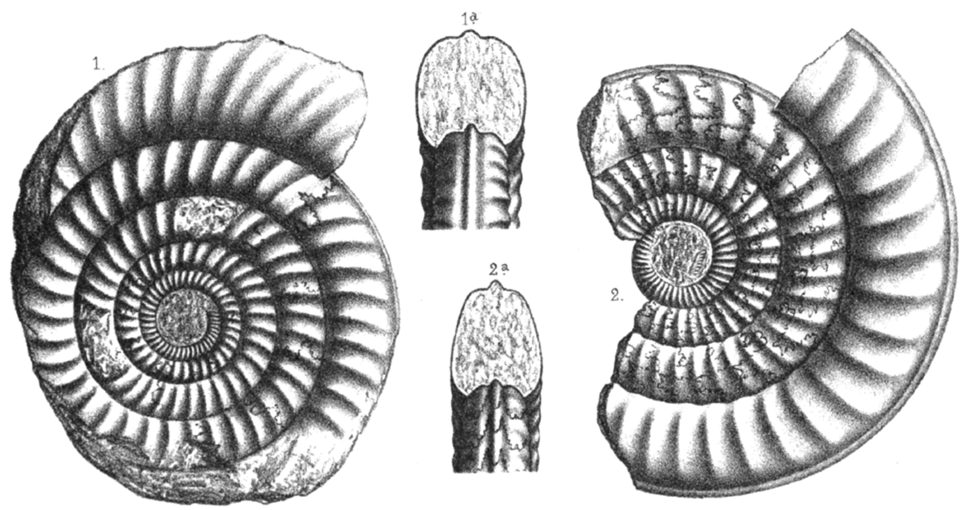


Figure VII.4.22. The first Jurassic ammonites from East Indonesia were found on Roti island by Wichmann in 1899. The species figured above are Early Jurassic Arietites were described as A longicellus and A. rotticus n.sp. by Rothpletz (1892).

Paleontology

A bit like 'big sister' Timor, the island of Roti has been a source of much paleontologic interest:

- Permian brachiopods were described by Broili (1922), corals by ?
- Late Triassic macrofaunas were described by Rothpletz (1892), Wanner (1907), Renz (1909) and Krumbeck (1921), including 'Tethyan' bivalve molluscs *Monotis salinaria, Daonella*. Late Triassic ammonites by Wanner (1911), Triassic belemnites by Von Bulow (1915).
- Early and Middle Jurassic ammonites by Rothpletz (1892), Boehm (1908), Krumbeck (1922) and Jaworski (1933). Mainly Early Jurassic (*Dactylioceras* spp., *Arietites* spp., *Arnioceras,* etc.) also some Middle Jurassic (*Macrocephalites*). Of North Tethyan affinities? (Meister 2007).
- Jurassic belemnites by Stolley (1929), Stevens (1964?)
- Middle Jurassic 'low-latitude' radiolaria by Sashida et al (1999);
- Late Jurassic calcisphere limestones described by Brouwer (1921) and Wanner (1940);
- Cretaceous radiolaria in the pioneering study of Tan Sin Hok (1927), using samples collected by Molengraaff and Brouwer. Tan's assumption that his radiolarian-rich samples from Roti were of Neogene age was proven to be wrong by Riedel and Sanfilippo (1974; Albian-Turonian ages) and others.
- Late Miocene and younger calcareous nannofossils first studied by Tan Sin Hok (1927) and re-studied by Kamptner (1955) and Jafar (1975). A chalk sample from Bebelain belongs to Late Miocene zone upper NN9

(*Discoaster hamatus* zone; early Tortonian, ~10 Ma), but also contains common reworked Early Cretaceous-Early Miocene nannoplankton (Jafar 1975).)

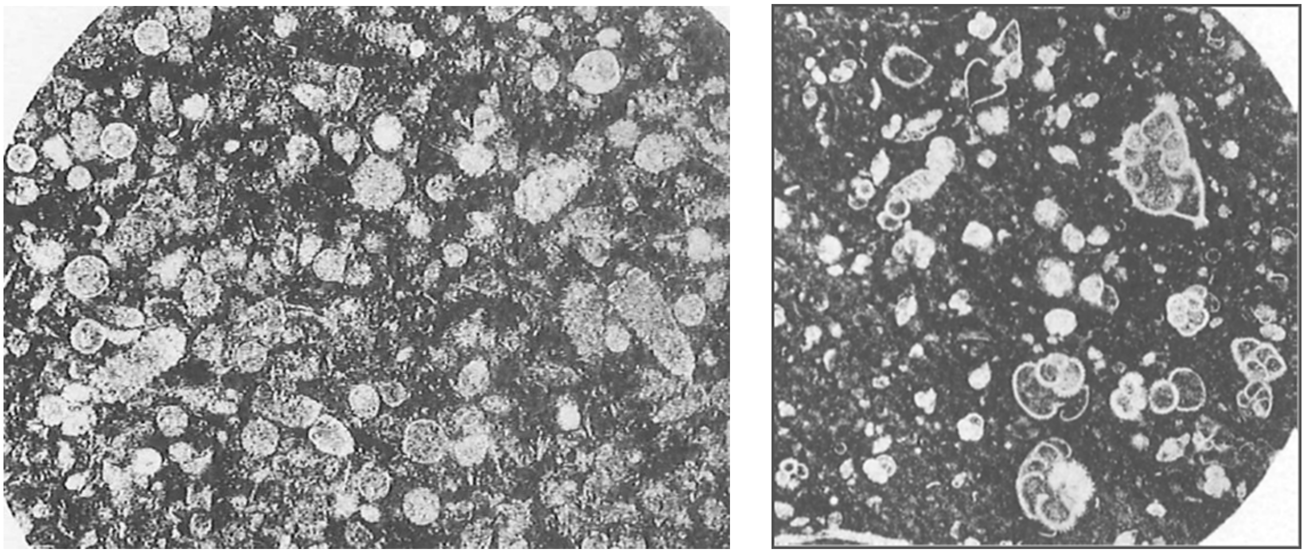


Figure VII.4.23. Thin sections of pelagic sediments from Sua Lain area, N coast Roti. Left: Upper Jurassic marl rich in radiolaria and calcispheres; Right: Upper Cretaceous deep marine limestone with keeled Globotruncana and other planktonics (Brouwer, 1921).

A final 'oddity' on Roti island, given the deep water nature of the Jurassic- Paleogene section, is the presence of thin (Middle?) Eocene limestone on the Landu Peninsula of NE Roti. It reportedly is folded in with the Mesozoic sediment series and contains common with common *Nummulites* and other shallow marine larger foraminifera (*Discocyclina, Asterocyclina*; Brouwer 1921, Douville 1923). This is most likely a calciturbidite in deeper marine facies.

A similar-age Eocene shallow marine limestone with *Nummulites javanus, Discocyclina* and *Alveolina* was reported from the island Raijuwa (Renjuwa) SW of Savu by Verbeek (1908). Here it is unconformably overlain by Early Miocene *Lepidoocyclina* Limestone, which suggests it exhibits more Sumba-like geology.

Timor area plate reconstructions

The presence of both clearly allochthonous (Banda Terrane) and clearly autochthonous Australian margin units (Kolbano thrust belt) of Timor is well established, but, as discussed above, there are still different opinions on some of the intermediate units.

Plate reconstructions are a useful tool to visualize the various possible scenarios suggested by interpretations of tectonostratigraphies and structural styles. Somwhat remarkable are Hall reconstructions ??...

One reconstruction scenario that probably best honors the different tectonostratigraphies is shown in Figure VII.4.24 (Villeneuve et al. 2010). It shows:

1. in Eocene- Early Oligocene time the Timor Banda Terrane (Tm) was part of a magmatic arc system, together with Sumba and West and North Sulawesi.
2. This magmatic arc was built on a continental sliver that had just separated from the East Kalimantan/ SE Sundaland margin by Middle-Late Eocene opening of the Makassar Straits- Celebes Sea marginal backarc basin. This changed the Sumba- Banda Terrane- West/North Sulawesi arc from a Late Cretaceous-Paleogene continental margin arc to an intra-oceanic arc;
3. Collision of microcontinental plates(s) around Early or Middle Oligocene time with one or more microplates: Kolonodale Block (5 on Figure VII.4.24) with the West Sulawesi part of the arc, and (2) 'Timor-para-autochthonous'/'Gondwana Sequence' (4 on Figure VII.4.24) with the Timor Banda Terrane. Comparable Mesozoic stratigraphies of the colliding plates suggest (a) these two colliding microcontinental blocks may actually have been a single block; (b) the onset of pelagic sedimentation suggests they separated from the Gondwana margin in Triassic time, and (c) Permian- Early Triassic sandstone provenance suggests these

plates morely likely originated from near the Tasmanide active margin of New Guinea than from the NW Australia margin.
4. Plates that will collide with East Sulawesi in Miocene time (Banggai-Sula, etc.) are shown as still 'on hold' in the Indian Ocean Realm, but not necessarily in the position shown in Figure VII.4.24.
5. Late Miocene- Pliocene opening of the South Banda Sea separates Sumba and Timor from the area South of its former neighbour Sulawesi.

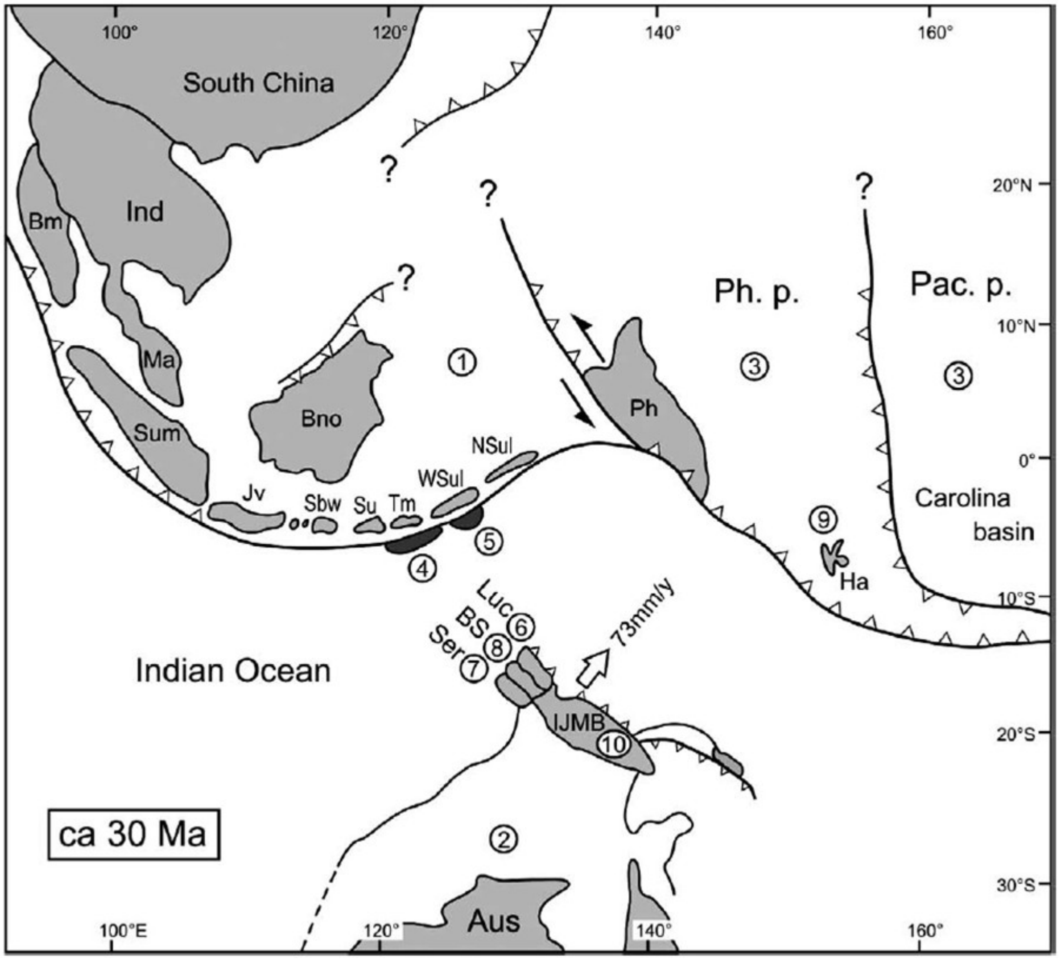


Figure VII.4.24. Schematic plate reconstruction Early Oligocene, showing Banda Terrane of Timor (Tm) as part of the same Eocene arc system as Sumba (Su) and West and North Sulawesi (WSul, NSul) (Villeneuve et al. 2010). For more explanation see text.

VII.5. Indonesian- Timor Leste parts of the Timor Sea, Sahul Platform

This sub-chapter VII.5 of Edition 8.0 contains 13 pages with 103 references to the geology of the Timor Trough/ Timor Sea, which is all within the domain of the NW Australian continental margin, south of the Timor-Tanimbar islands. It comprises the offshore South Timor accretionary prism (the onshore part is the Kolbano fold-thrust bust of South Timor), the Timor Trench and the distal NW Australian continental margin.

Parts of the Australian continental margin are within the Indonesian Economic Zone and in the Timor Leste-Australia ZOCA joint operating zone. Significant gas fields are present in Middle- Late Jurassic and basal Cretaceous reservoir sands (Abadi, Bayu-Undan, Sunrise, Troubadour fields), similar to the 'Plover play' elsewhere in the Bonaparte Basin of the Australian NW Shelf.

The downwards flexing of the downgoing Australian plate caused widespread Late Miocene- Pliocene) normal faulting (Harrowfield et al. 2003, Keep et al. 2007).

VII. REFERENCES BANDA SEA- LESSER SUNDA ISLANDS

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(Yamdena mostly folded Miocene slope sediments, with large amounts of reworked Late Cretaceous, Paleogene and Early Miocene fauna. Angular unconformity between Late Miocene and Pleistocene records Pliocene folding and uplift event. Mud volcanoes along Yamdena Strait common ferro-manganese nodules, ?Triassic sst, ?Cretaceous calcilutite, serpentinite, metabasites)

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('On the Lepidocyclinas from a limestone from Kai Besar island'. Description of 'Aquitanian' Lepidocyclina (Eulepidina) from Tamangil, Kai Besar, collected by Verbeek in 1899(?))

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Fakhruddin, R. (2019)- Facies associations of Early Cretaceous Arumit Formation and Early to Late Cretaceous Ungar Formation in Vulmali and Ungar Islands, Tanimbar (Indonesia). Indonesian J. on Geoscience (IJOG) 6, 2, p. 185-208.
(online at: http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/527/286)
(Cretaceous sediments in Tanimbar area. E Cretaceous Arumit Fm progradational open-coast tidal flat depositional environment. Mid- to Late Cretaceous Ungar Fm in open-coast wave dominated environment)

Fakhruddin, R. (2020)- Pre-Tertiary stratigraphy of the Tanimbar Islands, Indonesia.Proc. 2nd Int. Conf. Earth Science Mineral and Energy, Yogyakarta (ICEMINE 2019), AIP Conference Proceedings 2245, 070008, p. 1-11.
(Outcrops of Pretertiary in Tanimbar islands rel. rare and mainly on small outer islands W of Yamdena: (1) Wotar Fm Late Triassic (Carnian-Norian) limestone, sandstone, claystone; (2) Selu Fm E-M Jurassic (Hettangian-Bajocian) marine sandstone and claystone; (3) Arumit Fm E Cretaceous (Berriasian-Barremian) tidal red and brown claystone and siltstone, and (4) Ungar Fm Cretaceous (Aptian-Santonian) coastal sandstone. M-U Jurassic not found in outcrop, but in mud volcanoes (Babar, Mitak islands) with clay matrix rich in M-U Jurassic palynomorphs)

Fisher, T.M.L. (2014)- The 1852 Banda Arc mega-thrust earthquake and tsunami in Indonesia M.Sc. Thesis, Brigham Young University, Utah, p. 1-41.
(online at: https://scholarsarchive.byu.edu/etd/5674)
(1852 Banda Arc Mega Thrust earthquake and tsunami hit Banda Arc region, causing uplift of new islands and sent tsunami across Banda Sea that reached height of 8 m at Banda Neira. Earthquake most likely mega-thrust event along Tanimbar Trough)

Fisher, T.M.L. & R.A. Harris (2016)- Reconstruction of 1852 Banda Arc megathrust earthquake and tsunami. Natural Hazards 83, p. 667-689 . *(online at: https://geology.byu.edu/0000017e-60a5-da2e-ad7f-77e74d350001/2016-fisher-and-harris-1852-eq-and-tsunami-pdf)*
(Summary of 2014 thesis, above))

Fitriannur, M.R. (2015)- New insights into the development of the Timor- Tanimbar Trough based on 3D seismic data. Proc. SE Asia Petroleum Exploration Society (SEAPEX) Conference, Singapore 2015, 4.3, p. 1-6. *(Extended Abstract)*
(Seismic interpretation of BP West Aru I-II PSC blocks, NE of Tanimbar. Australia- Indonesia collision in Miocene heralded onset of Neogene transpressions, local uplift and flexural extension. Sedimentary cover forming accretionary wedge uplifted and exposed in Timor during collision and fore-deep known as Timor-Tanimbar Trough developed)

Fitriannur, M.R. (2017)- A future play in a frontier area: deltaic systems of the Late Cretaceous play in the West Aru area at the Indonesia-Australia continental margin. Proc. 41st Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA17-106-G, p. 1-15.
(Late Cretaceous (Campanian-Maastrichtian) progradational package in Barakan-Tanimbar (W Aru) margin. Late Cretaceous ('Ekmai') delta top sands without hydrocarbons penetrated by Barakan-1 and Koba-1 wells. Potential new hydrocarbon play)

Granath, J.W., J.M. Christ, P.A. Emmet & M.G. Dinkelman (2010)- Insights into the tectonics of Eastern Indonesia from ArafuraSPAN, a long-offset long-record 2D seismic reflection dataset. Proc. 34th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA10-G-063, p. 1-9. *(online at: https://www.researchgate.net/publication/299548808_INSIGHTS_INTO_THE_TECTONICS_OF_EASTERN_INDONESIA_FROM_ARAFURASPAN_A_LONG-OFFSET_LONG-RECORD_2D_SEISMIC_RE Etc.))*
(Examples of deep seismic images in Seram- Aru Trough- Arafura shelf- Bonaparte Basin. Seram thrust believed to initiate with obduction of ophiolites in hinterland at ~9 Ma and frontal deformation continues today with interaction of thrust front with young Tarera-Aiduna left-lateral fault system. Seram thrust wedge detached above Cretaceous. Timing of extension in Aru Trough Late Pliocene-Quaternary. Weber Deep large normal offset on edge of shelf cross-cutting Banda accretionary prism, with young oceanic crust in deepest parts)

Gregory, J.W. (1923)- The Banda Arc: its structure and geographical relations. The Geographical Journal 62, p. 20-30.
(Early overview of geology of Banda island, including description of Kai Besar, Aru Islands)

Gregory, J.W., L.R. Cox & E.D. Currie (1924)- The geology of the Aru Islands. Geological Magazine 61, p. 52-72.
(Aru Archipelago group of some eighty low islands, probably extension of SW New Guinea. According to Verbeek (1908) consist of almost horizontal limestone plateau, broken by uplift into more than 80 pieces. Probably with core of Mio-Pliocene? limestone with quartz sand)

Hadiwisastra, S. (1995)- Revisi umur Formasi Batilembuti, Tanimbar, Maluku: implikasi umur dan biostratigrafi nannoplangton. J. RISET Geologi dan Pertambangan (LIPI) 1, 1, p. 12-19.
(online at: http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.1-No.1-1995-.pdf)
('Revision of the age of the Batilembuti Formation, Tanimbar, Moluccas: implications for age and nannoplankton biostratigraphy'. Upper Tertiary calcarenites-shales of Batilembuti Fm of Yamdena Island with E Pliocene NN14-NN15 nannofossils)

Hantoro, W.S., E. Sibowo, M.S. Hadiwisastra and S. Shofiyah (1993)- Upper Pleistocene vertical tectonic activity of Tanimbar Island, South East Maluku: coral reef study. Proc. Seminar Role and Quaternary geology development in Indonesia, Institut Teknologi Bandung (ITB), p.

Harris, R.A. (1992)- Peri-collisional extension and the formation of Oman-type ophiolites in the Banda Arc and Brooks range. In: L.M. Parsons et al. (eds.) Ophiolites and their modern oceanic analogues, Geological Society, London, Special Publ. 60, p. 301-325.
(Banda orogen ophiolites internal structure shows extensional strains. High-T metamorphic sole with continental protoliths locally preserved. Savu and Weber basins provided modern analogues of peri-collional extension processes, which open small ocean basins that may be obducted shortly after they form)

Hartono, H.M.S. (1990)- Terbentuknya busur volkanik Banda. Geologi Indonesia 13, 2, p. 105-112.
('Formation of the Banda volcanic arc')

Hartono, H.M.S. (1996)- Initial development of the Banda volcanic arc. In: G.P. & A.C. Salisbury (eds.) Trans. 5th Circum-Pacific Energy and Mineral Resources Conference, Honolulu 1990, Gulf Publishing, Houston, p. 155-161.
(Oldest age of E Sunda magmatic arc is 19 ± 2 Ma, (E Miocene) from Flores (FT dating of zircons of andesites by Nishimura et al. 1979). Minimum age for initiation of Banda Arc volcanism is age of Metan Volcanics of

Timor, Eocene, 39-56 Ma (but questionable if these are part of Banda Arc?; most other ages latest Miocene and younger; JTvG))

Hartono, H.M.S., C.S. Hutchison, S. Tjokrosapoetro & B. Dwiyanto (1991)- Studies in East Asian Tectonics and Resources (SEATAR) Crustal Transect 4- Banda Sea. Committee for Co-ordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (CCOP) and IOC, p. 1-30.

Hartono, H.M.S. & M. Istidjab (1976)- Preliminary report: geochemical analyses of volcanic rocks of the Banda island arc volcanos and its regional implications. Proc. 13th Session Session Committee Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Kuala Lumpur, p. 345-364.

Hasanah, M.U., P. Supendi, A.D. Nugraha, S. Widiyantoro & F. Syaifuddin (2024)- The new insight of tectonic setting in Sunda–Banda transition zone using tomography seismic. Case study: 7.1 M deep earthquake 29 August 2023. Open Geosciences 16, 1, 20220710, p. 1-11.
(online at: https://www.degruyterbrill.com/document/doi/10.1515/geo-2022-0710/pdf)
(Analysis of earthquakes in and around Banda Sea. August 29, 2023, M7+ earthquake in S Banda Sea at 512 km depth, linked to high-velocity anomaly, possibly due to ancient subduction processes)

Heim, A. (1939)- Geological reconnaissance report on the Tanimbar, Kai and Aroe islands, N.E.I.. Geological Survey Indonesia (GSI/GRDC), Bandung, Open File Report H39-01, p. 1-75. *(Unpublished)*
(Unpublished, but commonly used oil company field survey report by Swiss geologist Arnold Heim Jr, under contract with the Nederlandse Koloniale Petroleum Maatschappij (NKPM/Stanvac). Apparently a follow-up of the F. Weber BPM survey, to which Heim apparently had access (Heim, 1942). Most of the Cenozoic formation names that are currently in use for the Kai, etc., islands were first defined here by Heim)

Heim, A. (1942)- Lebende Diapire in den sudostlichen Molukken. Eclogae Geologicae Helvetiae 35, 2, p. 225-234.
(online at: http://retro.seals.ch/cntmng?type=pdf&rid=egh-001:1942:35::400&subp=hires)
('Active diapirs (mud volcanoes) in the SE Moluccas'. Tanimbar and Kei islands contain active diapirs/mud volcanoes, which Arnold Heim visited in 1939 during his NKPM field survey. About 30 young diapirs identified on Tanimbar islands. With brief descriptions of geologic setting)

Hinschberger, F., J.A. Malod, J. Dyment, C. Honthaas, J.P. Rehault & S. Burhanuddin (2001)- Magnetic lineations constraints for the back-arc opening of the Late Neogene South Banda Basin (Eastern Indonesia). Tectonophysics 333, p. 47-59.
(online at: https://www.ipgp.fr/~jdy/Publis/Hinsberger_TcPhys_01_Banda.pdf)
(New analysis of magnetic lineations E part of S Banda (Damar) Basin infers opening in Late Miocene- E Pliocene, 6.5- 3.5 Ma. Cessation of spreading probably arc-continent collision at ~3 Ma. Damar basin began as intra-arc basin, separating Banda arc in S from incipient Lucipara arc to N)

Hinschberger, F., J.A. Malod, J.P. Rehault, J. Dyment, C. Honthaas, M. Villeneuve & S. Burhanudin (2000)- Origine et evolution du bassin Nord-Banda (Indonesie): apport des donnees magnetiques. Comptes Rendus Academie Sciences, Paris, Earth Planetary Science 331, 7, p. 507-514.
(online at: http://www.ipgp.fr/~jdy/Publis/Hinsberger_CRAS_00.pdf)
(N Banda Sea Basin opened in Late Miocene in back arc setting. Magnetic, bathymetric data and radiometric dates from seafloor dredges used to reconstruct basin evolution. Sea floor spreading occurred from 12.5- 7.15 Ma directed by three large NW-SE transform faults, West Buru, Tampomas and Hamilton fracture zones)

Hinschberger, F., J.A. Malod, J.P. Rehault & S. Burhanuddin (2003)- Apport de la bathymetrie et de la geomorphologie a la geodynamique des mers de l'Est-Indonesien. Bull. Societe Geologique France 174, 6, p. 545-560.
(online at: http://documents.irevues.inist.fr/bitstream/handle/2042/283/019-034.pdf?sequence=1)
(N and S Banda Seas and Weber Trough formed in Neogene by back-arc spreading and slab roll-back. Magnetic anomalies define ages of 12.5- 7.1 Ma for N Banda Basin and 6.5- 3.5 Ma for S Banda Basin. Weber

Trough >7300m deep, remains enigmatic. N Banda Basin SE rifted margin morphology preserved along Sinta Ridges. Basin presently in compression and crust subducted W under E Sulawesi. N border N Banda Basin reactivated into sinistral transcurrent motion in S Sula Fracture Zone. S Banda Sea two parts (Wetar, Damar), separated by NNW-SSE volcanic Gunung Api Ridge, interpreted as sinistral strike-slip zone. Dredging of Triassic limestones and metamorphic basement suggests Sinta and Rama Ridges are continental block fragments. Banda Ridges fringed to S by Nieuwerkerk- Emperor of China- Lucipara volcanic chains with andesites and basalts of 8- 3.5 Ma. New volcanic seamount SE of Buru and volcano on Pisang Ridge with sub-aerial volcanic morphology and subsidence evidenced by reefal limestones on flank, now at ~3000m depth. Basement depths ~1000m below age-depth curve for back-arc basins and ~2000m below curve for oceanic crust. Except for one M Eocene (46-Ma) N-MORB type basalt (from ophiolitic complex?), Basalts-andesites dredged from Banda Sea ridges of Neogene ages (Tukang Besi ~10 Ma, Nieuwerkerk- Emperor of China 8-7 Ma, Lucipara 7-3 Ma). Lucipara- Nieuwerkerk- Emperor of China and Wetar segment of Banda Arc were part of single volcanic arc at 8-7 Ma, with subduction of Indian Ocean continental crust below continental blocks of Australian origin, followed by back-arc rifting/ spreading. End of magmatic activity at 3 Ma result of collision of Timor with Wetar segment of Sunda arc)

Honthaas, C., J.P. Rehault, R.C. Maury, H. Bellon, C. Hemond, J.A. Malod, J.J. Cornee, M. Villeneuve et al. (1998)- A Neogene back-arc origin for the Banda Sea basins: geochemical and geochronological constraints from the Banda ridges (East Indonesia). Tectonophysics 298, p. 297-317. *(online at: https://www.academia.edu/9537131/A_Neogene_back_arc_origin_for_the_Banda_Sea_basins_geochemical_and_geochronological_constraints_from_the_Banda_ridges_East_Indonesia)*
(Except for one M Eocene (46-Ma) N-MORB type basalt (thought to belong to ophiolitic complex), volcanics dredged from Banda Sea ridges all of Neogene age: ~10 Ma for Tukang Besi back-arc basalts, 8-7 Ma for Nieuwerkerk–Emperor of China calc-alkaline andesites and 7-3 Ma for Lucipara OIB-type transitional basalts and cordierite-bearing andesites. Isotope signatures suggest assimilation of continental crust. Lucipara-Nieuwerkerk- Emperor of China Ridges and Wetar segment of Banda Arc parts of single volcanic arc at 8-7 Ma, with subduction of Indian Ocean continental crust below continental blocks of Australian origin, followed by back-arc rifting/ spreading. End of magmatic activity on both volcanic segments at 3 Ma thought to result from collision of Timor with Wetar segment of Sunda arc)

Honthaas, C., M. Villeneuve, J.P. Rehault, H. Bellon, J.J. Cornee et al. (1997)- Kur island: geology of the Eastern flank of the Weber Trough (Eastern Indonesia). Comptes Rendus Academie Sciences, Paris 325, 11, p. 883-890. *(online at: https://www.researchgate.net/publication/263681223_Kur_island_Geology_of_the_Eastern_flank_of_the_Weber_trough_Eastern_Indonesia)*
(Data from Kur Island and nearby dredgings show unknown events on E margin of Weber basin: (1) E Oligocene magmatic arc; (2) E Miocene metamorphism event between 24-17 Ma; and (3) E Pliocene deformation, related to Australian plate- Banda arc collision. Weber Basin was created in Pleistocene with uplift of E margin)

Huang, Y.S., T.Q. Lee, S.K. Hsu & T.N. Yang (2009)- Paleomagnetic field variation with strong negative inclination during the Brunhes chron at the Banda Sea, equatorial southwestern Pacific. Physics Earth Planetary Interiors 173, p. 162-170.
(Analysis of paleomagnetic variation of last 820 kyr in core from Banda Sea)

Hukubun, C., Abdurrokhim, Y.A. Sendjaja & W.G. Hukubun (2022)- Litofacies and depositional environment in the Elat Formation, Kei Besar District, Southeast Maluku Regency, Maluku. J. Geologi Kelautan (JGK), 20, 1, p. 42-55
(online at: http://ejournal.mgi.esdm.go.id/index.php/jgk/article/download/759/552) ('could not be reached')
('Lithofacies and depositional environment in the Elat Formation, Kei Besar District, Southeast Maluku Regency'. Based on Padjadjaran University students S2 thesis work? Eocene Elat Fm on Kai Besar composed of interbedded turbiditic fining-upward calcarenites and shales, with slump deposits, etc.)

Hutchison, C.S. (1977)- Banda Sea volcanic arc: some comments on the Rb, Sr and cordierite contents. Warta Geologi (Newsletter Geological Society Malaysia) 3, 2, p. 27-35.
(online at: https://gsmpubl.files.wordpress.com/2014/09/ngsm1977002.pdf)
(Unusually high Rb/Sr ratios in volcanic rocks and cordierite in rhyolite at Tanjong Illipoi (Wetar) indicate strong continental crustal influence in source of volcanic rocks. Romang also with higher Rb/Sr ratios than active volcanic arc. Wetar different from other islands of Banda Arc because of abundant light grey rhyolite and dacite. This extinct, eroded and uplifted portion of Banda volcanic arc N of Timor affected by subducted Australian continental Plate. Cordierite in rocks of Ambon also imply continental crustal basement in N part of Banda Arc)

Hutchison, C.S. & P.A. Jezek (1978)- Banda Arc of eastern Indonesia: petrography, mineralogy and chemistry of the volcanic rocks. In: P. Nutalya (ed.) Proc. 3rd Regional Conference Geology and Mineral Resources of SE Asia (GEOSEA III), Bangkok, Asian Institute of Technology, p. 607-619.
(Four distinct volcanic rock series in Neogene Banda arc: High-K alkaline andesites (Gunung Api, Damar, etc.), calcalkaline andesites (Serua, Manuk), tholeitic basalts (Ambon, Banda Neira, Kelang), cordierite-bearing dacites and rhyolites (Ambon))

Irwansyah & Panuju (2012)- Integrated microfossil analysis of Pre-Tertiary sediments in the Bubuan Island, Tanimbar, Maluku. Proc. 41st Annual Conv. Indonesian Association Geologists (IAGI), Yogyakarta, 2012-SS-26, 1p. *(Abstract only)*
(In Indonesian. Biostratigraphy analysis of outcrop samples of Pre-Tertiary sediments from mud volcano deposits on Bubuan island, Tanimbar group, shows Late Triassic (with early nannofossils Obliquipithonella prasina and Cassianospica), Jurassic and Late Cretaceous ages)

Jacobson, R.S., L.A. Lawver, K. Becker & G.G. Shor (1977)- Anomalously uniform heat flow in the Banda Sea. EOS, Transactions American Geophysical Union (AGU) 58, p. 515. *(Abstract)*

Jacobson, R.S., G.G. Shor, R.M. Kieckhefer & G.M. Purdy (1979)- Seismic refraction and reflection studies in the Timor-Aru Trough system and Australian continental shelf. In: J.S. Watkins et al. (eds.) Geological and geophysical investigations of continental margins, American Assoc. Petroleum Geol. (AAPG), Memoir 29, p. 209-222.
(Timor-Tanimbar-Aru Trough system of Banda Sea not deeper than 3.6 km, and is E extension of Java Trench. Seismic profiles strongly suggest it is surface trace of subduction zone, with downwarping of continental crust into subduction zone)

Jasin, Basir & N. Haile (1996)- Uppermost Jurassic- Lower Cretaceous radiolarian chert from the Tanimbar Islands (Banda Arc), Indonesia. J. Southeast Asian Earth Sciences 14, p. 91-100.
(Two radiolarian assemblages from deep marine cherts on Ungar Island: (1) Upper Tithonian- Berriasian Archaeodictyomitra apiara Assemblage, with mixture of Tethyan and non-Tethyan species (incl. Archaeodictyomitra brouweri A Tan, Pantanellium lanceola, Cyrtocapsa, etc.)) and (2) Late Valanginian-Barremian (Cerops septemporatus assemblage) (= similar to Argo Abyssal Plain assemblages decribed by Baumgartner 1993?; JTvG))

Jiang, C., P. Zhang, M.C.A. White, R. Pickle & M.S. Miller (2022)- A detailed earthquake catalog for Banda Arc-Australian plate collision zone using machine learning phase picker and an automated workflow. The Seismic Record 2, 1, p. 1-10. *(online at: https://pubs.geoscienceworld.org/ssa/tsr/article/2/1/1/610661/A-Detailed-Earthquake-Catalog-for-Banda-Arc)*
(New catalog of earthquake hypocenters and magnitudes from 5 years of seismic data monitoring (in Timor Leste?) with detection and location of ~19,000 events during 2014-2018. Reveals complex pattern of crustal events across collision zone and into back-arc, as well as abundant deep slab seismicity)

Jongsma, D., T. Sumantri, A.J. Barber, W. Huson, J.M. Woodside & S. Suparka (1989)- Bathymetry and geophysics of the Snellius-II triple junction and tentative seismic stratigraphy and neotectonics of the northern Aru Trough. Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 231-250.

Jongsma, D., J.M. Woodside, W. Huson, S. Suparka & D. Kadarisman (1989)- Geophysics and tentative late Cenozoic seismic stratigraphy of the Banda Arc-Australian continent collision zone along three transects. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 205-229.
(Three marine geophysical regional transects across Banda Arc- Australian continent collision zone, East of Timor, North of Tanimbar and SE of Seram)

Karta, K. (1985)- Etude geodynamique de la mer de Banda (Indonesie) par interpretation des donnees magnetiques et gravimetriques. These Docteur-Ingenieur, Universite Bretagne Occidentale, p. *(Unpublished)*
('Study of geodynamics of Banda Sea by interpretation of magnetic and gravity data')

Karta, K. (1986)- Penentuan umur kerak samudera di Laut Banda dengan metode kontaminasi anomali magnetik pada kecepatan ekspansi yang rendah. Proc. 14th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta 1985, p. 35-47.
('Determination of the age of oceanic crust in the Banda Sea from magnetic anomaly contamination at low expansion speeds'. Age of Banda Sea oceanic crust Lower- Upper Cretaceous, 140-100 Ma (age no longer accepted; should be Late Neogene; JTvG)))

Koesoemadinata, R.P., Humbarsono & B. Riyanto (1983)- Sekitar munculnya pulau baru di Kepulauan Kai, busur kepulauan Banda. Proc. 12th Annual Conv. Indonesian Association Geologists (IAGI), Yogyakarta, p. 53-59.
(online at: https://www.iagi.or.id/web/digital/37/PIT-1983-Paper-7.pdf)
('The emergence of a new island in the Kai islands', Banda arc'. On 19 November 1983, a new island appeared near Tayundu island, W of Kai Besar Island, Banda Sea, proved to be mud volcano/ diapyr with blocks of bedrock. Deposits resemble olistostrome deposit. Similar features known from other parts of the Banda Arc)

Kuncoro, D., Y. Asnawi, Y. Halauwet, A. Simanjuntak & A. Susilo (2024)- Seismotectonic analysis of Mw 7.6 2023 South Molucca intermediate depth earthquake. Int. J. of Geomate (Japan) 27, 120, p. 9-16.
(online at: https://geomatejournal.com/geomate/article/view/4117/3452)
(Analysis of 10 Jan. 2023 intermediate depth earthquake of Banda Arc subduction zone. Main shock resolved with NW-SE thrust fault, steeply dipping to SW, with magnitude of ~Mw 7.6, at depth of ~34-37 km)

Kurniasih, A., N. Qadaryati & R. Setyawan (2019)- Surface geological investigation as the initial stage of hydrocarbon exploration in Kei Besar Island, Southern Maluku. Proc. Int. Conference on Geoscience, Makassar 2018, IOP Conference Series: Earth and Environmental Science, 279, 012018, p. 1-8.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/279/1/012018/pdf)
(Summary of UNDIP student fieldwork on Kai island)

Kurnio, H., T. Naibaho & C. Purwanto (2019)- Review of submarine landslides in the Eastern Indonesia region. Bulletin of the Marine Geology 34, 2, p. 63-76. *(online at: https://media.neliti.com/media/publications/381622-review-of-submarine-landslides-in-the-ea-1582f56f.pdf)*
(Blocky slide and slump deposits were observed around Kei islands and in Seram Sea, S of Birds Head, Papua. Blocky slides may trigger giant landslides that may affect seafloor infrastructure and trigger tsunamis)

Lapouille, A., H. Haryono, M. La Rue, S. Pramumijoyo & M. Lardy (1985)- Age and origin of the seafloor of the Banda Sea (eastern Indonesia). Oceanologica Acta 8, 4, p. 379-389.
(online at: https://archimer.ifremer.fr/doc/00112/22285/19960.pdf)
(Magnetic anomalies of Banda Sea oceanic crust tied to Cretaceous, suggesting plate is piece of trapped Indian Ocean floor crust. (More recent work suggests Miocene age of Banda Sea hyperextended oceanic crust; JTvG))

Lee, C.S. & R. McCabe (1986)- The Banda-Celebes-Sulu Basin: a trapped piece of Cretaceous-Eocene oceanic crust? Nature 322, 6074, p. 51-54.

(Banda, Celebes and Sulu basins poorly understood marginal seas. Banda basin possibly trapped oceanic basin once continuous with Late Jurassic Argo abyssal plain. Celebes and Sulu basins also underlain by oceanic crust. Celebes and Sulu Seas may have been continuous with Banda basin. (NB: most of suggested Cretaceous ages proven wrong by subsequent ODP wells, dredge results, etc.; Hutchison 1992, etc.))

Leybourne, B.A. & N.B. Adams (1999)- Modeling mantle dynamics in the Banda Sea triple junction:exploring a possible link to El Nino Southern Oscillation. OCEANS 99 MTS/IEEE. Riding the Crest into the 21st Century 2, 2, p. 955-966.
(online at: https://www.iiisci.org/journal/pdv/sci/pdfs/IP093LL20.pdf)
(Evaluation of mantle depths from gravity and seismic studies indicates upwelling of mantle from ~30-40 km under continental shelf of Australia to 21 km in Banda Arc. From here mantle rises to 14 km in Weber Deep and reaches depth of 7 km in N Banda Sea. Seismic epicenter data delineate spatial boundaries of flow regimes and define magmatic migration routes. Epicenter magnitudes are visualized in 3 dimensions by color-coding. Animation portrays upwelling and divergence of mantle flow structures (geostreams) underlying tectonic trends of region and resulting counterflow in volcanic arcs based on 'surge tectonic' hypothesis)

Linthout, K., H. Helmers & J. Sopaheluwakan (1997)- Late Miocene obduction and microplate migration around the southern Banda Sea and the closure of the Indonesian Seaway. Tectonophysics 281, 1-2, p. 17-30.
(online at: https://www.academia.edu/7322502/Late_Miocene_obduction_and_microplate_migration_around_the_southern_Banda_Sea_and_the_closure_of_the_Indonesian_Seaway)
(Ultramafites on Timor N coast, on smaller islands in S Outer Banda Arc and on SW Seram are fragments of M Miocene oceanic lithosphere, obducted in Late Miocene. Cool sole rock metamorphosed by overriding oceanic lithosphere. Kaibobo lherzolitic complex (SW Seram) obduction started ~9.5 Ma, emplacement completed at ~8 Ma and fast vertical movements continued until ~7 Ma. Obduction of lherzolite on N Timor also at 8 Ma and cooling to 300° C at 5.5 Ma. Oceanic lithosphere formed in E Miocene (~6 Ma prior to start of obduction). Obducted ultramafites formed close to passive margin by slow spreading in short-lived interarc Timor Plate (16-9.5 Ma). Model good agreement with 9.9-7.5 Ma history of shallowing and closure of Indonesian Seaway, as inferred from biogeographic patterns and thermal evolution of Miocene equatorial Pacific waters)

Martin, K. (1890)- Die Kei-Inseln und ihr Verhaltnis zur Australisch-asiatischen Grenzlinie, zugleich ein Beitrag zur Geologie von Timor und Celebes. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2), 7, p. 241-274.
(online at: https://www.delpher.nl/nl/tijdschriften/view?identifier=MMUBA13:001604001:00265)
('The Kai islands and their position relative to the Australian- Asian border line, with a contribution to the geology of Timor and Celebes'. No sharp faunal boundary can be determined between Asia and Australia. Includes descriptions of samples collected by C.J.M. Wertheim during the KNAG expedition to the Kai islands in late 1888-early 1889. These are all gently dipping Tertiary limestones, younger pure limestones with large Miocene orbitoids and older, more sandy grey-brown, chert-bearing Alveolina limestones of possible Eocene age (Alveolina re-determined as Lacazina by Verbeek (1908) and later re-named Lacazinella by Crespin, 1962). Also mentions mica- and quartz-schists from Kur Island to the E. No figures)

McCaffrey, R. (1989)- Seismological constraints and speculations on Banda Arc tectonics. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 141-152.
(Australian continent- Banda Arc collision shortens overriding Indonesian plate in N-S direction and elongates it in E-W direction by combination strike-slip and thrust faulting. Two plates subduct beneath Banda Arc: (1) Australia-Indian Ocean plate N-ward beneath Java Trench-Timor Trough-Aru Trough, and (2) Birds Head SW-ward beneath Seram Trough. Slab of Indian Ocean plate forms W-ward plunging synform beneath Banda Basin. Birds Head lithosphere subducted under Seram Trough down to 300 km depth. At surface decoupling between Australian and Birds Head by left-lateral strike slip at Tarera-Aiduna fault zone and convergence in New Guinea foldbelt. Seismic quiescence 50-380 km beneath Timor and inactive volcanic arc, but S-wave propagation suggests continuous lithospheric slab)

McCaffrey, R. & G.A. Abers (1991)- Orogeny in arc-continent collision: the Banda arc and western New Guinea. Geology (GSA) 19, p. 563-566.

(online at: https://www.researchgate.net/publication/240669545_Orogeny_in_arc-continent_collision_The_Banda_arc_and_western_New_Guinea)
(Shallow earthquakes show crustal deformation in Banda Arc and W New Guinea dominated by thrust and strike-slip faulting. Tarera- Aiduna left-lateral strike slip zone (~20mm/year) and New Guinea thrust belt accommodate WSW motion of Birds Head with respect to Australia. Left-lateral Sorong- Yapen fault zone accommodates main part of Australia -Pacific relative motion (~80mm/year). Possible E-ward extrusion of Banda Arc may be 40mm/yr. Seismic zone of Seram subduction zone beneath Seram at least 600km long)

Merton, H. (1910)- Forschungsreise in den sudostlichen Molukken (Aru- und Kei-Inseln) im Auftrage der Senckenbergischen Naturforschenden Gesellschaft. Abhandlungen Senckenberg Naturforschenden Gesellschaft, Frankfurt, 33, 1-2, p. 1-208.
(online at: https://ia800608.us.archive.org/30/items/abhandlungenders33senc/abhandlungenders33senc.pdf)
('Expedition to the SE Moluccas (Aru and Kai islands) on behalf of the Senckenberg Natural History Society'. On natural history, geography and geology of Aru- Kai islands from 1907-1908 expedition, mainly focused on zoogeographic questions. With brief notes on sedimentary rock samples by R.D.M. Verbeek (p. 206-207))

Michael-Leiba, M.O. (1984)- The Banda Sea earthquake of 24 November 1983: evidence for intermediate depth thrust faulting in the Benioff zone. Physics Earth Planetary Interiors 36, 2, p. 95-98.
(24 November 1983, major earthquake at 180 km depth beneath Banda Sea. Shear failure took place within NNW dipping Benioff zone by thrust faulting along S-dipping plane. Focal mechanism solution does not conform to usual pattern and not caused by down-dip tension or compression within sinking slab)

Milsom, J. (1999)- The Banda Sea: continental collision at the eastern end of Tethys. In: G.H. Teh (ed.) Proc. 9th Regional Congress Geology Mineral Energy Resources of SE Asia (GEOSEA ’98), Kuala Lumpur 1998, Bull. Geological Society Malaysia 43, p. 41-47.
(online at: https://gsm.org.my/articles/702001-100836/)
(Banda Sea is Late Neogene post-collisional collapse basin, similar to Tyrrhenean and Alboran Seas in Mediterranean (arcuate orogenic belts with outward-directed thrusts enclosing rapidly expanding extensional regimes). New oceanic basins produced by rollback have depths typical of much older crust. Timor and Seram may have been part of M Miocene Sulawesi orogen prior to Banda Sea extensional collapse (This and Milsom 2000, 2001 papers are first to propose Banda Sea creation by Late Neogene slab rollback extension, before similar models were proposed in Hinschberger et al. (2003, 2005) and Spakman and Hall (2010))

Milsom, J. (2005)- The Vrancea seismic zone and its analogue in the Banda Arc, Eastern Indonesia. Tectonophysics 410, p. 325-336.
(online at: https://www.academia.edu/52286567/The_Vrancea_seismic_zone_and_its_analogue_in_the_Banda_Arc_eastern_Indonesia)
(Comparison of Carpathian orogenic belt with Banda Arc. Intermediate depth earthquakes define subducted slab that dips N, S and W beneath Banda Sea, a configuration explained as consequence of rapid expansion of Banda Sea during roll-back subduction)

Milsom, J., M.G. Audley-Charles, A.J. Barber & D.J. Carter (1983)- Geological-geophysical paradoxes of the Eastern Indonesian collision zone. In: T.W.C. Hilde & S. Uyeda (eds.) Geodynamics of the Western Pacific-Indonesian region, American Geophysical Union (AGU) and Geological Society of America (GSA) Geodynamic Series 11, p. 401-412.

Milsom, J., S. Kaye & Sardjono (1996)- Extension, collision and curvature in the eastern Banda arc. In: R. Hall & D. Blundell (eds.) Tectonic Evolution of Southeast Asia, Geological Society, London, Special Publ. 106, p. 85-94.
(Discussion of compressional deformation front between Kai Besar- Kai Kecil islands. Eocene- Pleistocene sediments on Kai Besar never deeply buried or imbricated but experienced large-scale extensional faulting. Associated gravity high requires upfaulting of accretionary complex, attenuated Australian continental crust on which it rests and underlying mantle at W side of Aru Trough. Deformation front in Aru Trough is SE of Kai Islands but entirely to W further N. Instead of continuing NNE to offset near New Guinea coast, collision trace

passes through strait between Kai Besar and other islands, and mimics smooth curve of gravity contours, rather than discontinuities of bathymetric troughs. Continuity in deep and shallow structures is evidence for existence of outer arc as single geological unit prior to present phase of arc-continent collision)

Milsom, J., Sardjono & A. Susilo (2001)- Short-wavelength, high-amplitude gravity anomalies around the Banda Sea, and the collapse of the Sulawesi Orogen. Tectonophysics 333, p. 61-74.
(Ophiolitic rocks around Banda Sea commonly associated with strong gravity anomalies and steep gradients, but relationships not always straightforward. Bouguer gravity levels and gradients over E Sulawesi ophiolite generally low. In Banda Arc, most positive ophiolite anomalies on steep regional gradient but in W Seram distinct spatial separation. On Buru >10 mGal/km gradient suggests dense rocks near surface, despite absence of ophiolites in outcrop. Gravity variations and ophiolite distribution around Banda Sea compatible with extension in Sulawesi following Oligo-Miocene collision with Australian-derived microcontinent. Association of ultramafic rocks and local strong regional gravity gradient is largely coincidental)

Mutaqin, B.W., F. Lavigne, P. Wassmer, M. Trautmann, P. Joyontono, C. Gomez, B. Septiangga et al. (2021)- Evidence of unknown paleo-tsunami events along the Alas Strait, West Sumbawa, Indonesia. Geosciences (MDPI) 11, 2, 46, p. 1-20.
(online at: https://www.mdpi.com/2076-3263/11/2/46)
(Tsunami deposits of marine sands with coral rubble, etc., along W coast al area of Sumbawa, some up to 1.5m thick. No clear ties to 1257 CE eruption of Samalas (Rinjani), Lombok, or eruption of Tambora in 1815)

Nasution, A., I. Takashima, H. Takahashi, K. Matsuda, H. Akasako, H. Muraoka, D. Kusnadi, F. Nanlohi & M. Futagoishi (2000)- The geology and geochemistry of Mataloko-Nage-Bobo geothermal areas, Central Flores, Indonesia. Proc. World Geothermal Congress, Kyushu- Tohoku 2000, p. 2165-2170.
(online at: www.geothermal-energy.org/pdf/IGAstandard/WGC/2000/R0766.PDF)
(Geothermal features of Bajawa prospect on Flores associated with NW-SE, SW-NE and N-S trending fracture systems in Quaternary andesitic-basaltic volcanics)

Norvick, M.S. (1979)- The tectonic history of the Banda Arcs, eastern Indonesia: a review. J. Geological Society, London, 136, p. 519-527.
(Banda Sea is small marginal oceanic plate, formed in early Tertiary. Complexity result of Late Miocene- E Pliocene collision and obduction of Banda island arc over leading edge of Australian-lrian continental plate. Transcurrent faulting on N limb of collision zone may have accentuated curvature of arc. Subduction and volcanism ceased after collision in Timor and Seram sectors, but still active at E extremity of arc)

Noya, Y., O. Effendhy, H.Z. Abidin & Y. Pakaya (2009)- Geological background and economic prospect of the Soripesa deposit, eastern Sumbawa. Proc. 38th IAGI Annual Conv. Exh. Indonesian Association Geologists (IAGI), Semarang, PIT IAGI 2009-002, p. 1-9.
(online at: https://www.iagi.or.id/web/digital/26/2009_IAGI_Semarang_Geological-Background.pdf)
(Sumbawa island part of Late Cenozoic Banda Arc. Regional fault structures trend NW-SE and NE-SW. E Sumbawa underlain by Lower Miocene andesitic- basaltic lavas with intercalations of tuff and limestone. Soripesa epithermal-porphyry type gold-copper prospect hosted in Miocene volcanic sequences)

Ogierman, J. (2016)- Discovery, geology and origin of the Lakuwahi volcanogenic Au-Ag-Pb-Zn deposit, Romang Island, eastern Indonesia. Proc. 8th Annual Conv. Indonesian Soc. Economic Geologists (MGEI), Bandung, p. 76-79.
(Lakuwahu cluster of mineral deposits hosted by andesitic Lakuwahi Volcanics on S Romang near Wetar. Formed in shallow submarine caldera, subsequently covered by reefal limestones. Dominant Pb-Zn mineralization. Uplift in past 1-2Myr caused emergence of Romang Island)

Okal, E.A. & D. Reymond (2003)- The mechanism of great Banda Sea earthquake of 1 February 1938: applying the method of preliminary determination of focal mechanism to a historical event. Earth Planetary Science Letters 216, p. 1-15.

(Large 1938 Banda Sea earthquake ranks among 10 largest moments ever published. Resulted from mostly thrust-faulting mechanism (strike 276°; dip 63°; slip 70°). Took place in region of sparse seismicity, away from presumed block boundaries. The 1938 event shares compressional axis with smaller and deeper 1963 shock to SW, showing coherence in regional contortion of subducting Australian plate lithosphere)

Osada, M. & K. Abe (1981)- Mechanism and tectonic implications of the Great Banda Sea earthquake of November 4, 1963. Physics Earth Planetary Interiors 25, 2, p. 129-139.
(Banda Sea earthquake of 1963 (h = 100 km, mB = 7.8) large intermediate-depth shock within subducting plate of Banda Arc. Estimated fault area of 90×70 km^2, average dislocation of 7m. Represents oblique thrust movement on plane with dip direction N170°E, dip 48° and rake 52°. Faulting took place within subducted plate and offset it. Further repetition of such faulting might eventually break subducted plate)

Papp, Z. (1980)- A three-dimensional model of the seismicity in the Banda Sea region. Tectonophysics 69, p. 63-83.
(Tectonic earthquake data from 1918-1965, between 120°. -134°E and 0- 10'S, used to build 3-D model of hypocenters in Banda Sea)

Papp, Z. (1981)- Temporal variation of elastic strain release in the Banda Sea region. Bull. Geological Research Development Centre (GRDC), Bandung, 4, p. 13-17.

Patria, A., H. Tsutsumi & D.H. Natawidjaja (2021)- Active fault mapping in the onshore northern Banda Arc, Indonesia: Implications for active tectonics and seismic potential. J. Asian Earth Sciences 218, 104881, p. 1-13.
(Fault mapping in Buru-Seram area. N Banda Arc accommodates some of left-lateral slip due to Pacific plate W-ward movement relative to Australian plate. Discussion of active tectonics of N Banda Arc. Identified 11 active onshore faults in N Banda Arc, capable of generating earthquakes with magnitude of 6.4-7.6)

Pertamina/BPPKA (1996)- Petroleum geology of Indonesian basins, vols. VI-IX Eastern Indonesian Basins, IX-Tanimbar, Jakarta, p. 1-32.

Pigram, C.J. & H. Panggabean (1983)- Age of the Banda Sea, eastern Indonesia. Nature 301, 5897, p. 231-234.
(Banda Sea floor probably trapped Jurassic Indian Oceanc crust more (recent work favors hyperextension in Late Miocene-Pliocene for creation of Banda Sea; JTvG))

Porritt, R.W., M.S. Miller, L.J. O'Driscoll, C.W. Harris, N. Roosmawati & L.T. da Costa (2016)- Continent-arc collision in the Banda Arc imaged by ambient noise tomography. Earth Planetary Science Letters 449, p. 246-258.
(Interpretation of structure of Australia- Banda Arc collision zone from broadband seismic noise)

Pownall, J.M., R. Hall & G.S. Lister (2016)- Rolling open Earth's deepest forearc basin. Geology (GSA) 44, 11, p. 947-950.
(online at: https://pdfs.semanticscholar.org/6c23/ea0ef8e9d8782aec89c3b8640502cd595c6c.pdf)
(Weber Deep 7.2-km-deep forearc basin in Banda Sea is deepest point of Earth's oceans not within trench. Formed by forearc extension driven by E-ward subduction rollback. Lithospheric extension in upper plate accommodated by major low-angle normal fault system named 'Banda detachment' ("biggest exposed fault on Earth"). Bathymetry data reveal Banda detachment fault is450km long, and exposed on Weber Deep floor. Slip along detachment fault >120 km)

Pownall, J.M., R. Hall & G.S. Lister & A. Trihatmojo (2018)- Geological aspects of Banda Sea ecosystems and how they shape the oceanographical profile. Proc. International Symposium on Banda Sea Ecosystem (ISBSE), Jakarta 2017, IOP Conference Series: Earth and Environmental Science, 184, 012005, p. 1-9.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/184/1/012005)
(Banda Sea collage of young oceanic basins and fragmented Australian continental terranes in Australia- SE Asia collision zone. Formed by SE-ward rollback of Banda Slab since ~16 Ma, which opened new oceanic

basins and extended and fragmented Australian crust (now as 'Banda Ridges' and thrust-sheets on NW Australian shelf). Deepest part of Banda Sea is 7.2 km Weber Deep, formed by extreme lithospheric extension during late stages of Banda Slab rollback, accommodated by low-angle 'Banda Detachment')

Prasetyo, H. (1984)- Contribution on the marine geology and geophysics of the Banda Sea and adjacent regions. Marine Geology Institute (MGI), Bandung, Atlas, p. 1-41.

Prasetyo, H. (1988)- Marine geology and tectonic development of the Banda Sea region, Eastern Indonesia: a model of an 'Indo-Borderland' marginal basin. Ph.D. Thesis, University of California Santa Cruz, p. 1-475. *(Unpublished)*
(Study of origin of Banda Sea using single channel seismic profiles, bathymetry, SeaMARC II sonographs, marine gravity data, dredge and piston core samples and geologic investigations of surrounding islands of Misool, Sumba. Buton and Sawu. Banda Sea region neither young spreading basin or trapped piece of oceanic crust, but collage of oceanic and continental fragments displaced from N Australian continental margin and trapped within Banda basin, prior to 7 Ma, similar to S California 'Borderland')

Prasetyo, H. (1989)- Marine geology and tectonic development of the Banda Sea region, Eastern Indonesia: a model of an 'Indonesian-borderland' marginal basin. Marine Geology Institute of Indonesia, Special Publ. 1, p. 1-427.
(Same as Prasetyo (1988) UC Santa Cruz Thesis)

Prasetyo, H. (1991)- From California borderland to Eastern Indonesia collision zone. Proc. 16th Annual Conv. Indonesian Association Geophysicists (HAGI), p.

Prasetyo, H. (1994)- Marine geoscientific survey of the West-East Indonesia back arc transition zone, Southeast Sulawesi margin. In: J.L. Rau (ed.) Proc. 29th Session Committee Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Hanoi 1992, Bangkok, 2, p. 127-146.
(Overview of backarc region between SE Sunda Shelf- SW Sulawesi- N Bali- N Flores (E Java Sea). Four main tectonic phases: (1) Paleocene rifting; (2) Miocene inversion of rifts to create 'Sunda folds', tied to collision of Buton with Sulawesi Arc; (3) flexure of SE Sunda shield to S, under volcanic ridge and (4) post-Neogene formation of back-arc fold and thrust zone, associated with Australia- Banda Arc collision)

Prasetyo, H., Y.R. Sumantri, B. Situmorang & S. Wirasantosa (1995)- The 'Doang Borderland System' in Southwest Sulawesi margin: implications for hydrocarbon prospect in the Eastern Indonesian frontier region. In: A. Noor & A. Tahir (eds.) Proc. International Seminar on the Sea and its environment, Ujung Pandang 1995, p.

Prasetyo, H. (1998)- Peningkatan pemahaman terhadap tatanan geologi kelautan kawasan Indonesia. Marine Geology Inst., Bandung, p.
('Increase of understanding of the marine geology of the Indonesian region')

Prasetyo, H. (1999)- Marine geology and tectonic development of the Banda Ridges system, eastern Indonesia; implication for Banda marginal basin formation. Proc. 35th Session Committee Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Subic Bay 1998, 2, Technical Reports, p. 11-38.
(Banda Sea neither young spreading basin nor trapped piece of oceanic crust, although N (Sula) and S (Banda) basins appear to be trapped Pre-Tertiary oceanic crust. Banda Ridges in central part composed of continental borderland formed in Irian Jaya and emplaced in present position by Late Miocene. Basement rock dredged from Banda Ridge can be correlated with similar lithologies on Irian Jaya, Misool, Buru and PNG. Banda Ridge Terrane overlain by Upper Miocene- younger sediments that consist of pelagic limestones and Miocene volcanic rocks in the Lucipara Islands)

Purdy, G.M. & R.S. Detrick (1978)- A seismic refraction experiment in the Central Banda Sea. J. of Geophysical Research: Solid Earth 83, B5, p. 2247-2257.
(online at: https://www.academia.edu/8706614/A_Seismic_Refraction_Experiment_in_the_Central_Banda_Sea)

(Seismic refraction experiment in C Banda Sea suggests oceanic crustal structure, with velocities typical of oceanic layers 2, 3A, and 3B and mantle. Layer 3B unusually thick (2.5-4.6 km); greater than normal depths to Moho of 9-10 km below sea floor. These and earlier results from S Banda basin indicate that entire Banda Sea is underlain by oceanic type crust)

Rahmadani, S., I. Meilano, D. Sarsito & Susilo (2021)- Crustal deformation of Eastern Indonesia regions derived from 2010-2018 GNSS Data. Proc. 3rd Southeast Asian Conference on Geophysics (SEACG), Bandung 2020, IOP Conference Series: Earth and Environmental Science 873, 012089, p. 1-6.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/873/1/012089)
(GPS velocity observations fron 49 permanent and 61 campaign stations from 2010 to 2018. Not much detail)

Rahmadani, S., I. Meilano, S. Susilo, D.A. Sarsito, H.Z. Abidin & P. Supendi (2022)- Geodetic observation of strain accumulation in the Banda Arc region. Geomatics Natural Hazards and Risk 13, 1, p. 2579-2596.
(online at: https://www.tandfonline.com/doi/full/10.1080/19475705.2022.2126799)
(Data from 110 GPS stations across E Indonesia over ~10 years indicates deformation in greater Banda Arc region characterized mainly by crustal shortening, caused by interaction of Australian, Pacific and Philippine Sea plates (except around Papuan Bird's Head))

Ratumanan, R.C.F., V. Isnaniawardhani & B. Muljana (2023)- Nannofossil biostratigraphy of Elat Formation, Kei Besar Island, Southeast Maluku. Proc. 2nd Maritime Continental Fulcrum Int. Conference, Tanjungpinang 2022, IOP Conference Series: Earth and Environmental Science 1148, 012027, p. 1-7.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/1148/1/012027/pdf)
(Nannofossils from Elat Fm pelagic-hemipelagic calcarenite-calcareous claystone on Kai Besar island indicate three M- L Eocene nannofossil zones: Reticulofenestra umbilica zone (NP16; 43- 38.7 Ma), Helicosphaera compacta zone (NP17; 38.7-37.9 Ma) and Helicosphaera euphratis zone (NP18-NP19; 37.9-36.8 Ma)).

Ratumanan, R.C.F., V. Isnaniawardhani & B. Muljana (2023)- Middle Eocene nannofossil assemblages responding to depositional dynamics of the Elat Formation, Maluku. Jurnal Geocelebes 7, 2, p. 138-153.
(online at: https://journal.unhas.ac.id/index.php/geocelebes/article/view/25371/10409)
(Elat Fm interbedded limestones and calcareous claystones of Kai Besar Island, S Moluccas, contain (late) M Eocene (zones NP16-N17) nannofossil assemblages. Larger foraminifera (not described here) include Baculogypsina (?), Cycloclypeus, Heterostegina, Lacazinella, Nummulites, Planorbulinella. Pellatispira, etc. Deposition in foreef slope conditions. Reworked fossils suggest turbiditic deposition (N.B. Pellatispira unlikely in this province?; not illustrated here and not described in classic Kai Besar Eocene-Miocene larger foram study of Bursch (1947); JTvG))

Rehault, J.P., J.A. Malod, M. Larue, S. Burhanuddin & L. Sarmili (1991)- A new sketch of the central North Banda Sea, eastern Indonesia. J. Southeast Asian Earth Sciences 6, p. 329-334.
(New bathymetric map of oceanic North Banda Basin. NW-SE structural pattern appears to be result of orientation of large NW-SE strike-slip faults and present direction of NE-SW convergence. Faulting and underthrusting of N Banda Sea crust beneath E Sulawesi along active Tolo accretionary prism)

Rehault, J.P., R. Maury, H. Bellon, L. Sarmili, S. Burhanuddin, J.L. Joron, J. Cotten & J.A. Malod (1994)- La mer de Banda Nord (Indonesie): un bassin arriere-arc du Miocene superieur. Comptes Rendus Academie Sciences, Paris 318, p. 969-976.
(Pillow-lavas dredged from basement of N Banda Sea are transitional basalts and trachyandesites with negative Nb-Ta anomalies similar to lavas from back-arc basins. K-Ar ages 9 and 6.9 Ma. Oceanic basement now subducting beneath E Sulawesi not trapped piece of Indian Ocean, but Late Miocene back-arc basin floor. (one of first papers after Hamilton (1979) to suggest Late Miocene back arc basin interpretation)

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(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1993008.pdf)

(Reconstruction of Australian continental subducting slab from earthquake data. Vertical and lateral discontinuities, some reflecting slab separation during previous microcontinental collision event at ~10-7 Ma)

Richardson, A.N. (1994)- Lithospheric structure and dynamics of the Banda Arc, Eastern Indonesia. Ph.D. Thesis, University of London, p. 1-348. *(Unpublished)*

Richardson, A.N. & D.J. Blundell (1996)- Continental collision in the Banda arc. In: R. Hall & D. Blundell (eds.) Tectonic evolution of Southeast Asia, Geological Society, London, Special Publ. 106, p. 47-60.
(Two deep seismic profiles E of Timor show Australian continental crust bent down to N. Overriding upper plate too much volume to be only sediments accreted from Australian Plate: must include continental crustal material, like microcontinent or outer margin high. Micro-continental fragment collided with subduction zone at ~8 Ma (age of Aileu Fm metamorphism) and caused Late Miocene Banda allochton uplift)

Ritsema, A.R. (1953)- New seismicity maps of the Banda Sea. J. Scientific Research Indonesia 2, p. 48-54.

Ritsema, A.R. (1986)- Subduction in the Banda Arc. Gerlands Beitrage Geophysik 95, 5, p. 414-417.

Ritsema, A.R., R.P. Sudarmo & I. Putu Pudja (1989)- The generation of the Banda Arc on the basis of its seismicity. Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 165-172.
(Seismicity of Banda Sea region suggests Banda Arc originated as Pacific Ocean subduction zone, Banda basin originally started as backarc spreading center. Deformation of Banda Arc with strong curvature caused by adoption of northern slivers of N-moving Australian plate by W-moving Pacific plate. S-N stress influence up to region of N Banda Arc, etc.)

Roberts, G., C. Ramsden, T. Christoffersen, N. Wagimin & Y. Muzaffar (2011)- East Indonesia: plays and prospectivity of the West Aru, Kai Besar and Tanimbar Area- identified from new long offset seismic data. AAPG Annual Convention, Houston 2011, Search and Discovery Article 10348, p. 1-15. *(Expanded abstract)*
(online at: https://www.searchanddiscovery.com/documents/2011/10348roberts/ndx_roberts.pdf)
(Observations from recent seismic survey of SE Arafura Platform/Basin, Tanimbar and Aru Troughs and E part of Banda Arc collision zone)

Rutten, L.M.R. (1927)- De eilanden tussen Timor en Ceram. In: L.M.R. Rutten (1927) Voordrachten over de geologie van Nederlandsch Indie, Wolters, Groningen, p. 705-716.
(online at: https://resolver.kb.nl/resolve?urn=MMKB02:000119126:pdf)
('The islands between Timor and Seram'. Brief reviews of geology of Leti, Moa, Babar, Kai islands, etc.)

Rynn, J.M.W. & I.D. Reid (1983)- Crustal structure of the western Arafura Sea from ocean bottom seismograph data. J. Geological Society of Australia, 30, 1-2, p. 59-74.
(Refraction data taken from ocean bottom seismograph recordings in W Arafura Sea indicate continental-type structure: ~2 km of sediments, with velocities of 2-4 k/s, over two layer crust. Moho is at depth of 34 km)

Sandiford, M. (2008)- Seismic moment release during slab rupture beneath the Banda Sea. Geophysical J. International 174, 2, p. 659-671.
(Differential vertical stretching of downgoing slab along Damar Zone (largely submerged segment of Banda arc E of Roma) consistent with slab rupture front ~100-200 km under Roma propagating E at ~100 km/ Myr. Detached lower slab sinking at ~60-70 km/Myr. Anomalous trends beneath Damar, where subhorizontal constriction suggests extreme stress ~100 km ahead of slab rupture front. Stress concentrations may explain anomalously deep ocean gateways in region)

Saputra, A. & M. Ohara (2016)- Basin and petroleum system modeling of offshore Tanimbar Region: implications of structural development history. Proc. 40th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA16-546-G, p. 1-17.
(Petroleum system modeling of offshore SW Tanimbar and N Bonaparte Basin. Abadi gas field sourced from Masela Deep and Malita Graben. Offshore Tanimbar region mostly charged by potential northern kitchen)

Sarmili, L. (1993)- A new tectonic framework in the North Banda basin. Bull. Marine Geological Institute 8, 3, p. 1-19.

Sarmili, L., N. Sukmana & A. Saripudin (2000)- Indication of a manganese crust on volcanic rocks within the North Banda Sea (East Indonesia). Proc. 29th Annual Conv. Indonesian Association Geologists (IAGI), Bandung, 2, p. 79-86.
(N Banda Sea up to 6000m deep. Dredge samples of U Miocene volcanics, representing young oceanic crust. Rocks from 3500-4000m water depth have iron-manganese coating)

Schluter, H.U. (1983)- Geology and tectonics along the convergent Australian and Banda Sea margins from the Tanimbar Trench to the Aru Trough: results of geophysical investigations with the R/V Sonne Cruise SO-116 in 1981. BGR Report 94605, Hannover, p. 1-37.

Schluter, H.U. & J. Fritsch (1985)- Geology and tectonics of the Banda Arc between Tanimbar Island and Aru Island (Indonesia). Results of R/V Sonne Cruise SO-16, Geologisches Jahrbuch E30, p. 3-41.
(BGR 1981 seismic and gravity-magnetics program between Australian continental shelf and Tanimbar and Kai Island groups, with examples of Tanimbar-Kai trench-accretionary prisms, young normal faulting on shelf and slope, etc.)

Sentani, E.A. & A. Nugraha (2009)- Opportunities (III), Kai- Tanimbar. Inameta J. 7, p. 28-31.
(online at: www.patranusa.com)
(Brief overview of Kai- Tanimbar foldbelt area, W of Arafura Sea, in conjunction with tender round offering. Note similarities to Timor- Seram foldbelts)

Setiadi, I. & A.R. Riyanda (2016)- Delineasi cekungan sedimen dan interpretasi geologi bawah permukaan cekungan Tanimbar berdasarkan analisis data gayaberat. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 17, 3, p. 153-169.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/14)
('Delineation of sedimentary basin and subsurface geological interpretation of the Tanimbar basin based on analysis of gravity data'. Gravity survey on and around Yamdena Island suggest six sub-basins. NE-SW trending basement high)

Setyanta, B. (2010)- Medan gaya berat dan model geodinamika di sekitar Kepulauan Kai dan Kepulauan Aru, Maluku. Jurnal Sumber Daya Geologi (JSDG) 20, 6, p. 305-316.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/181/177)
('Gravity field and geodynamic models around the Kai and Aru Islands, Moluccas'. Kai- Aru area underlain by continental crust. Kai islands formed by thrusting, Aru islands by rifting)

Shah, A.A., M.G. Rachman & A.M. Lubis (2024)- The discovery of the Banda Bend, a >2000 km-wide tectonically formed extensional bend in Eastern Indonesia, Southeast Asia. Acta Geologica Sinica (English Edition) 98, S1, p. 53-57.
(online at: https://onlinelibrary.wiley.com/doi/pdf/10.1111/1755-6724.15238)
(Mainly based on modern earthquake data, authors argue that slab rollback model is inadequate in explaining crustal extension in Aru Trough and Birds Neck regions. Prefer crustal extension associated with oblique convergence of Australian and Sunda plates (not clear if and how Banda Arc was discovered here?- JTvG))

Silver, E.A., J.B. Gill, D. Schwartz, H. Prasetyo & R.A. Duncan (1985)- Evidence for a submerged and displaced continental borderland, North Banda Sea, Indonesia. Geology (GSA) 13, p. 687-691.
(Banda Sea two oceanic fragments (S and N Banda basins), separated by Banda Ridges submerged and displaced continental borderland. Dredged andesitic volcanics from Banda Ridges mainly Late Miocene, 7-9 Ma. Suggest origin from Birds Head between 5-10 Ma (?))

Situmorang, M. (1989)- Lithofacies and depositional pattern of sea floor sediments in the North Banda Sea, Indonesia. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 4, p. 405-413.
(On N Banda Sea Quaternary terrigenous and volcanogenic deposits)

Situmorang, M. (1992)- Sedimentology and marine geology of the Banda Arc, Eastern Indonesia. Ph.D. Thesis University of Utrecht, Geologica Ultraiectina 84, p. 1-191.
(online at: https://dspace.library.uu.nl/bitstream/handle/1874/315946/Situmorang_Mangatas_84_1992.pdf)
(Collection of papers on Quaternary sediments and heavy minerals of E Indonesia Seas, followed by synthesis)

Situmorang, M. (1993)- The forms and characteristics of detrital heavy minerals in Banda Sea and the adjacent areas. Bull. Marine Geological Institute (MGI) 8, 1, p. 9-31.
(Detrital heavy minerals in Banda Sea seafloor sediments predominantly mafic volcanic and sedimentary minerals with some metamorphic minerals)

Situmorang, M. & L. Sarmili (1997)- Composition, morphometry, dispersal patterns of gravel clasts and basement rocks in the Banda Arc sea floor, eastern Indonesia. Bulletin of the Marine Geology, Bandung, 12, 1, p. 1-26.
(Gravel on Banda Arc seafloor includes clasts of sediments (limestone, sandstone, coral, claystone, marl), volcanics (pyroxene andesite, pumice) and minor metamorphics. Seram, Timor, and Gorong Islands supplied majority of clasts. Volcanic clasts on Bandaneira and Serua volcanic arcs, and in Weber Deep likely derived from Banda volcanic arc and Manuk, Serua, Nila and Teon volcanoes. Part of metamorphic clasts derived from basement cropping out at sea floor)

Snyder, D.B. & A.J. Barber (1997)- Australia- Banda Arc collision as an analogue for early stages in Iapetus closure. J. Geological Society, London, 154, p. 589-592.
(Comparison of structures formed across Banda Arc since Pliocene during Australia- Arc collision with structures in central British Isles)

Snyder, D. & R. Hobbs (1999)- BIRPS Atlas II: a second decade of deep seismic reflection profiling. Geological Society, London, MPB 42, 3 CD's.
(Deep seismic sections from different parts of world, including across Banda Arc. Data quality rel. poor)

Snyder, D.B., J. Milsom & H. Prasetyo (1996)- Geophysical evidence for local indentor tectonics in the Banda arc east of Timor. In: R. Hall & D. Blundell (eds.) Tectonic evolution of Southeast Asia, Geological Society, London, Special Publ. 106, p. 61-73.
(Seismic reflection profiles and gravity across Banda arc E of Timor. Reflectors beneath Sahul Platform indicative of extensional rift structures overprinted by recent shortening. Negative Bouguer gravity associated with S parts of accretionary complex unusually broad and deep. Further N, forearc basin narrow near E Timor and little sediments, mostly undeformed. Backarc region to N has N-S trending line of seamounts culminating in active Gunung Api volcano, 400 km above Benioff zone. Anomalously thick, bouyant crust beneath Banda Arc E of Timor either local promontory in irregular boundary of Australian craton was underthrust 50-70 km beneath volcanic arc and forearc, or Paleozoic basin similar to nearby Bonaparte underthrust and former crustal structure inverted and thickened to form buoyant crust)

Snyder, D.B., H. Prasetyo, D.J. Blundell, C.J. Pigram, A.J. Barber, A. Richardson & S. Tjokosaproetro (1996)- A dual doubly vergent orogen in the Banda arc continent-arc collision zone as observed on deep seismic reflection profiles. Tectonics 15, 1, p. 34-53.
(Interpretation of deep seismic lines across Banda Arc E of Timor (BIRPS 1992). Crustal thicknesses inferred from seismic velocities, reflectors, and gravity anomalies are consistent with merging of thinned continental shelf margin with oceanic lithosphere to form orogenic belt near Timor. W of Timor oceanic lithosphere subducts beneath oceanic crust south of the arc islands from Flores to Bali)

Soetrisno, S. (1983)- Hydrogeological map of Indonesia, 1:250,000, Sheet Flores (Barat & Timur/ West & East). Directorate of Environmental Geology, 2 map sheets.

Spicak, A., V. Kuna & J. Vanek (2013)- Earthquake occurrence reveals magma ascent beneath volcanoes and seamounts in the Banda region. Bulletin of Volcanology 75, 12, p.
(Seismicity patterns beneath volcanic arcs of Banda region suggest magma ascent beneath submarine portions of arcs, forming yet-unrecognised submarine volcanoes. Most pronounced earthquake series in Manipa submarine basin, ESE of Buru (with morphology resembling huge caldera (60 km wide) with distinct cone seamount in center, reaching almost 3000m above seafloor. Also in area between Banda Api and Manuk)

Stevens, G.R. (1964)- A new belemnite from the Upper Jurassic of Indonesia. Palaeontology 7, 4, p. 621-629.
(online at: www.palass-pubs.org/palaeontology/pdf/Vol7/Pages%20621-629.pdf)
(Belemnopsis stolleyi n.sp. for Belemnopsis aucklandica specimens collected by Weber in variegated Upper Oxfordian marls of the 'Belemnitenbach' (belemnite creek), 6 km from W coast of North Yamdena, Tanimbar. First described by Stolley (1929))

Sukardi, T. & Sutrisno (1990)- Geologic map of the Tanimbar Islands Quadrangle, Maluku, scale 1: 250,000. Geological Research Development Centre (GRDC), Bandung.
(Tanimbar Islands SW-directed thrust faults. NE edge of Yamdena and offshore islands tectonically complex melange and/or mud volcanoes ('Molu Complex') with Triassic and Jurassic sandstones and limestones, also metamorphic and volcanic rock types

Suparka & D. Jongsma (1987)- Snellius-II. triple junction. Proc. 16th Annual Conv. Indonesian Association Geologists (IAGI), p.

Taib, M.I.T., M.T. Zen, M. Untung & F. Hehuwat (1997)- Dilema Banda. Proc. 26th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, p. 354-370.
(online at: https://www.iagi.or.id/web/digital/64/28.pdf)
('The Banda dilemma'. Discussion of nature and age of crust below Banda Sea (at that time still debated whether Banda Sea was underlain by Cretaceous oceanic crust or by Late Miocene-Pliocene crust; Cretaceous option has since been discarded; JTvG))

Tissot van Patot, J.W. (1908)- Een viertal tochten door het eiland Terangan (Aroe Eilanden) in Maart en April 1907. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2) 25, p. 77-93.
('Four trips through Terangan island (Aru Islands) in March and April 1907')

Tjia, H.D. (1977)- Fracture systems near Dobo, Aru Islands, Indonesia. Sains Malaysiana 6, 2, p. 185-193.

Tjokosapoetro, S. & T. Budhitrisna (1982)- Geology and tectonics of the Northern Banda Arc. Bull. Geological Research Development Centre Bandung (GRDC) 6, p. 1-17.

Untung, M. (1985)- Subsidence of the Aru Trough and the Aru Island, Irian Jaya, Indonesia. Tectonophysics 112, 1-4, p. 411-422.
(Aru Trough isostatic anomalies show region is in subsidence. Crustal extension may be active in zone E of Aru Trough, resulting in graben formation. Root of Aru Island pulled downward to E. Crustal extension indicates separation of block of Australian continental crust from Australian platform)

Usna, I., S. Tjokrosapoetro & S. Wiryosujono (1977)- Geological interpretation of a seismic reflection profile across the Banda Sea between Wetar and Buru Islands. Bull. Geological Research Development Centre (GRDC) 1, p. 7-15.

Van Bemmelen, R.W. (1979)- Crustal convergence or divergence in the Banda Sea region of Indonesia? In: W.J.M. van der Linden (ed.) Fixism, mobilism or relativism: Van Bemmelen's search for harmony, Geologie en Mijnbouw 58, 2, p. 101-106.

(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0YW80b3Q5MEhSUUU/view)
(Supposed to be a review of manuscript of Bowin et al. (1980) paper 'Arc-continent collision in the Banda Sea region', but mainly vanB's hard-to-understand alternative interpretation of dynamics of Banda Sea region, in terms of undations, etc. (vanBemmelen was not a supporter of plate tectonics; HvG) No figures)

Van der Vlerk, I.M. (1966)- *Miogypsinoides*, *Miogypsina*, *Lepidocyclina* et *Cycloclypeus* de Larat, Moluccas. Eclogae Geologicae Helvetiae 59, 1, p. 421-429.
(online at: https://www.e-periodica.ch/digbib/view?pid=egh-001:1966:59#571
(Three limestone samples from central part of Larat Island (commonly assumed to be from Larat, Kai Besar, but according to Bursch (1947), samples were collected by De Haart from Larat island in the Tanimbar archipelago). Larat miogypsinids already described by Drooger (1953). Type locality of Miogypsinoides dehaartii Van der Vlerk 1924. No locality map or local stratigraphy. Miogypsinoides dehaartii and Miogypsina borneensis suggest Aquitanian age. No locality descriptions or local stratigraphy)

Van Gool, M., W.J. Huson, R. Prawirasasra & T.R. Owen (1987)- Heat flow and seismic observations in the northwestern Banda arc. Proc. 23rd Session Committee Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Madang, PNG, 1986, 2, p. 1-15.
(Heat flow measurements in deep N Buru and Lucipara basins, N Banda Sea, during Snellius II expedition in 1985 all show high values, interpreted to be result of recent E-W strike-slip movement in NW Banda Arc)

Van Gool, M., W.J. Huson, R. Prawirasasra & T.R. Owen (1987)- Heat flow and seismic observations in the northwestern Banda Arc. J. of Geophysical Research 92, B3, p. 2581-2586.
(High heat flow values in centers of three basins in NW Banda Arc. Average in N Buru basin 161 mW/m2. Two small, N-S to NW-SE elongated subbasins in Lucipara basin 175 and 134, mW/m2, respectively. High heat flow in N Buru and Lucipara basins interpreted to be result of recent E-W strike-slip movement in NW Banda Arc)

Van Marle, L.J. & M.E.M. de Smet (1990)- Notes on the Late Cenozoic history of the Kai Islands, Eastern Indonesia. Geologie en Mijnbouw 69, p. 93-103.
(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0QmlrdXZacGpTZ0E/view)
(Kai Besar large anticlinorium with Eocene rocks in center. M Eocene- M. Miocene in bathyal calcilutite facies, recording deep water passive margin deposis (with common displaced shallow water carbonate debris). Kai Islands emerged in Late Miocene- Pliocene, with ~2 km of uplift in last 10 My. Kai Besar no elevated coral reefs, suggesting it is subsiding; Kai Kecil 4-5 elevated reefs unconformable over Pleistocene core)

Vening Meinesz, F.A. (1951)- A third arc in many island arc areas. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, B54, 5, p. 432-442.
(In several island arcs a third arc seems to be present: Antilles, Marianas and Lucipara Islands Ridge in Banda Sea, which possibly continues into Tukang Besi islands and Kangean. See also Westerveld 1954)

Verbeek, R.D.M. (1901)- Geologische beschrijving van de Banda-eilanden. Jaarboek Mijnwezen Nederlandsch Oost-Indie 29 (1900), p. 1-29.
('Geological description of the Banda islands'. Banda Neira/ Gunung Api and Run composed of young volcanics and coral limestones. With 1:20,000 scale map of Banda Neira and Gunung Api)

Verbeek, R.D.M. (1908)- Residentie Amboina. In: Molukkenverslag, Geologische verkenningstochten in het oostelijke gedeelte van den Nederlandsch OostindischeArchipel. Jaarboek Mijnwezen Nederlandsch Oost-Indie 37 (1908), Wetenschappelijk Gedeelte, p. 428-655.
(Early descriptions of islands of Banda arc, from E of Timor to Seram-Buru. Includes descriptions and cross-sections of Kai Besar and illustrations of Eocene Discocyclina- Asterocyclina from Kai Besar. First author to recognize unconformity between Late Eocene and Early Miocene in Kai Besar. Oldest beds on Kai Besar weakly folded Late Eocene marly limestones, dipping 10° W. Unconformably overlain by horizontal limestone terraces, oldest with large 'Aquitanian' (basal Miocene) Lepidocyclina dilatata; younger limestones post-Miocene. Overlain by uplifted Quaternary coral reef terraces)

Villeneuve, M., J.J. Cornee, R. Martini, L. Zaninetti, J.P. Rehault, S. Burhanudin & J. Malod (1992)- Upper Triassic shallow-water limestones in the Sinta Ridge (Banda Sea, Indonesia). Geo-Marine Letters 14, p. 29-35.
(online at: https://archive-ouverte.unige.ch/unige:26438)
(10 dredge samples from N slope Sinta Ridge (separates N and S Banda basins). Some are shallow marine limestones with Upper Norian- Rhaetian? benthic foraminifera, (incl. Aulatortus, Triasina oberhauseri, Duostominidae). Similarities with E Sulawesi, Buru and Seram consistent with independent Upper Triassic block. Origin of Banda Sea microcontinents questionable)

Villeneuve, M., J.P. Rehault, J.J. Cornee, J.A. Malod, J. Clermonte, J.M. Auzende, L. Sarmili, S. Burhanuddin, G. Glacon, G. Tronchetti, L. Zaninetti & R. Martini (1993)- Plio-Quaternary evolution of the North Banda Sea and East Sulawesi margin. In: M.T. Zen (ed.) 10th anniversary of the French-Indonesian cooperation in oceanography; ocean research, technology and maritime industry, Jakarta 1993, Adiwarna Citra, Bandung, p. 109-118.
(online at: https://archive-ouverte.unige.ch/unige:26392)
(Cruise of vessel Baruna Jaya III provided new seismic data and dredge samples from W part of Sinta Ridge (incl. Triassic limestones). Late Miocene age of opening of North Banda Sea (6-9 Ma basalts). Continental Sinta Ridge went down from surface to 3000m during creation of N Banda Sea oceanic crust. General compressive regime in whole N Banda Sea)

Von Der Borch, C.C. (1979)- Continent-island arc collision in the Banda Arc. Tectonophysics 54, p. 169-193.
(Timor-Tanimbar-Ceram troughs and adjacent outer Banda Arc very similar to arcs subducting oceanic lithosphere and sediments, despite fact that outer Banda Arc is underlain by continental crust(??). Alignment with oceanic Indonesian Arc, gravity anomalies, and persistence of morphological and structural entities around arc favour subduction in Timor-Tanimbar-Ceram Troughs rather than gravity sliding towards troughs. Outer Banda Arc is accretionary prism of subduction zone which was formerly in ocean-crust setting but since Pliocene has been interacting with continental lithosphere. This model for Banda Arc differs from other structural interpretations of Timor island, which is emergent outer arc)

Wandel, G. (1936)- Beitrage zur Kenntnis der Jurassischen Molluskenfauna von Misol, Ost Celebes, Buton, Seran und Jamdena. In: J. Wanner (ed.) Beitrage zur Palaeontologie des Ostindischen Archipels 13, Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 75B, p. 447-526.
(‘Contributions to the knowledge of Jurassic molluscs from Misool, East Sulawesi, Buton, Seram and Yamdena’. Description of Mollusca, mainly collected by F. Weber. Misool faunas include upper Liassic Harpoceraten beds, lower Dogger Hammoceraten beds, Oxfordian Aucella malayomaorica marls (also in E Sulawesi), etc.)

Wanner, J. & E. Jaworski (1931)- Liasammoniten von Jamdena und Celebes. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 66, B, p. 199-210.
('Liassic ammonites from Yamdena and Sulawesi'. Sulawesi ammonites from poorly known central part of East arm, collected by BPM geologist Weber, are first records of Early Jurassic ammonites from E Sulawesi (Arnioceras cf. seilaeve from dark grey sandy limestone as float in upper Balingara River, 20km SE of river mouth). Yamdena ammonites from Tasik Selwasa and Botenjahu mud volcano deposits include Echioceras wichmanni, Asteroceras sparsicostatum n.sp. and Arnioceras cf. arnouldi. Fauna and lithology very similar to Krumbeck (1922)'s 'grey cephalopod nodule marl' of Roti and Timor)

Wahab, A., Susanto & R. Nyak Baik (1991)- Seismic expression across Tanimbar trough, Eastern Indonesia. Proc. 16th Annual Conv. Indonesian Association Geophysicists (HAGI), Bandung, p.

Wallace, A.R. (1857)- On the natural history of the Aru Islands. Annals and Magazine Natural History, ser. 2, 20, p. 473-485.

Weber, F. (1923)- Rapport omtrent het geologisch onderzoek van Klein Kei. Unpublished BPM Report, 23p.
(‘Report of geological investigation of Kai Kecil island’. Unpublished BPM report at GRDC library No. H 23-2/(H5) 55)

Weber, F. (1924)- Rapport omtrent het geologisch onderzoek van het eiland Groot Kei of Noehoe Tjoet. BPM Report, p. *(Unpublished)*
('Report of geological investigation of Kai Besar (Nuhu Cut) island'. Unpublished BPM-Shell report on 1923-1924 fieldwork by Swiss geologist Friedrich (Fritz) Weber. Samples and larger foraminifera collected by Weber described by Bursch (1947), and stored at the Naturhistorisches Museum of Basel, Switzerland. Open File Report at GRDC library No. H 24-2/(H5) 55)

Weber, F. (1925)- Verslag omtrent het geologisch onderzoek der eilandgroep van Koer en Tajando (Westelijke Kei eilanden). BPM Report, 40p. *(Unpublished)*
('Report of geological investigation of island group of Kur and Tajando'. Unpublished BPM report; Open File Report at GRDC library No. H 25-3/(H4) 55)

Weber, F. (1925)- Verslag omtrent het geologisch onderzoek der Z.W. Tanimber eilanden. BPM Report, p. *(Unpublished)*
('Report of geological investigation of the SW Tanimbar islands'. Commonly quoted BPM oil company survey report, a copy of which is Pone File Report at Geological Survey, Bandung. Weber's macrofossil collections described by Wanner, Stolley, Wandel, etc.)

Welc, J.L. & T. Lay (1987)- The source rupture process of the Great Banda Sea earthquake of November 4, 1963. Physics Earth Planetary Interiors 45, p. 242-254.
(1963 Banda Sea earthquake one of largest (Mw=8.3) intraplate events. Involved oblique thrusting at intermediate depth within subducted lithosphere near abrupt bend in SE Banda arc (6.86° S, 129.58° E). Rupture initiated at 120 km depth and expanded over vertical extent of ~50 km. Along-strike rupture length only ~100 km. Tied to slab rupture at edge of subducting Australian continental lithosphere?)

Wertheim, C.J.M. (1892)- Verslag van mijne reis naar de Kei-Eilanden. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2) 9, p. 757-821 and p. 921-973.
(online at: https://www.delpher.nl/nl/tijdschriften/ Etc.)
('Report of my journey to the Kai islands'. Earliest geographic-geological exploration of the Kai Islands (South Moluccas, Banda Sea), carried out by Royal Dutch Geographic Society expedition in 1888-1889. Mainly travels description, of historic interest only. No maps. Collected many limestone samples, from which foraminifera were studied by K. Martin in Leiden(1890))

Westerveld, J. (1955)- The Lucipara Islands Ridge and a third arc in the Banda Sea. Geologie en Mijnbouw 17, 3, p. 84-88.
(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0dkduRDNOejUyT2s/view)
(Existence of third volcanic arc in Banda Sea N of modern active volcanic arc at Lucipara Islands, as suggested by Vening Meinesz (1951), not supported by geological and bathymetric evidence)

Widhiyatmoko, M., V. Isnaniawardhani & M.H.H. Zajuli (2023)- Distribusi nannofosil dan foraminifera pada batas Pliosen-Plistosen Formasi Batilembuti di Pulau Yamdena, Provinsi Maluku dan relevansinya dengan tektonik regional. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 24, 1, p. 39-50.
(online at: https://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/737/524)
('Nannofossil and foraminifera distribution at the Pliocene-Pleistocene boundary of Batilembu Fm of Yamdena Island, Maluku Province and their relevance to regional tectonics'. Nannofossils in Batilembuti Fm suggest zones NN18-NN19 (~Pliocene-Pleistocene boundary, as marked by Top Discoaster brouweri and FA Gephyrocapsa caribbeanica). Planktonic foraminifera show zones N21-N22 (Top Globigerinoides fistulosus, Gs. obliquus extremus and FA Globorotalia truncatulinoides). Benthic foraminifera indicate upper bathyal deposition (incl. Laticarinina, Eggerella, Gyroidina, etc.), suggesting young uplift of Yamdena since ~1-2 Ma. Batilembuti Fm unconformably overlain by shallow marine limestone of Saumlaki Fm)

Wiryosujono, S. (1976)- Melange assemblage in Babar Islands. Berita Direktorat Geologi (Geological Survey Indonesia Newsletter), Bandung, 9, 6, p. 71-75.

(Wiryosujono & Tjokrosapoetro 1978: large blocks of pillow basalt and diabase in valley of main river on surface of Triassic and Jurassic flysch deposits)

Woodside, J.M., D. Jongsma, M. Thommeret, G. Strang van Hees & Puntodewo (1989)- Gravity and magnetic field measurements in the eastern Banda Sea. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 185-203.
(Magnetic anomalies may indicate volcanic material associated with topographic features in Aru and Weber Troughs. Discontinuity along W extension of Tarera-Aiduna Fault between Seram subduction zone and Aru Trough/ Kuenen Bank (larger variations of gravity to S and change in magnetic trends) although both gravity and magnetic anomalies exhibit NE-SW trend obliquely across SE section of Seram Trough. Seram Trench accretionary complex over dynamically-depressed crust of subducting plate. Weber Basin crust excessively depressed and thinned. Positive gravity anomalies suggest outer part of Timor-Tanimbar accretionary complex either above rising or shallower subducting plate, or contains substantial denser material. Major strike-slip feature may be present NE of Tanimbar, cutting accretionary complex obliquely)

Zaim, Y., B. Ernawan & Fachrizal (2012)- Mud volcanoes in SE Maluku: evidence for neotectonics in East Indonesia. Berita Sedimentologi 24, p. 18-23.
(online at: www.iagi.or.id/fosi/berita-sedimentologi-no-24-timor-and-arafura-sea.html)
(On active mud volcanoes on Babar, Tanimbar and Kai islands, generally associated with accretionary complexes)

Zhang, Z., X. Yang, W.D. Mooney, R.E. Bell, S. Zhao, J. Lin, T. Zheng & H. Xu (2024)- An integrated study of age and formation of the Aru Trough, Eastern Banda Arc, Indonesia: implications for seismic hazards. Tectonics 43, 9, e2024TC008449, p. 1-17. *(online at: https://www.researchgate.net/profile/Xiaodong-Yang-7/publication/384225681_An_Integrated_Study_of_Age_and_Formation_of_the_Aru_Trough_Eastern_Banda_Arc_Indonesia_Implications_for_Seismic_Hazards)*
(Banda Arc in E Indonesia complex tectonic history. Subduction rollback began at 16 Ma, causing notable upper plate extension evidenced by Banda Sea and Weber Deep. Aru Trough initiated by slab rollback at 3 Ma. Effects of rollback on lower plate less understood. Aru Trough, shaped like inverted triangle narrowing from 160 to 40 km S-ward. Fast 54 mm/yr extensional rate today, suggesting age of 3 Ma. High-angle faults (>60°) at margins and interior, and high seismicity. Lower plate deformation profoundly influenced by subduction rollback, oblique arc-continent collision and regional strike-slip faulting)

Zwierzycki, J. (1927)- Geologische overzichtskaart van den Nederlandsch-Indischen Archipel. Toelichting bij blad XX (Aroe-, Kei- en Tenimbereilanden). Jaarboek Mijnwezen Nederlandsch-Indie 56 (1927), Verhandelingen 1, p. 309-336.
(text online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:041767000:00012)
(map online at: https://digitalcollections.universiteitleiden.nl/view/item/814661)
('Geological overview map of the Netherlands Indie. Explanatory notes of sheets XX (Aru, Kai and Tanimbar islands'. Compilation of geology of three rel. little-known island groups in E Indonesia. Most extensive earlier work by BPM geologists in 1922-1925, but remains unpublished. On Kai Besar, Verbeek (1908) distinguished gently folded (mainly W-dipping) Eocene Lacazina limestones, unconformably overlain by massive Miocene limestones and younger coral reef terraces. Etc. No figures).

VII.2. Lesser Sunda- West Banda Volcanic Arc (Bali- Lombok- Flores- Sumbawa- Wetar)

Abbott, M.J. & F.H. Chamalaun (1981)- Geochronology of some Banda Arc volcanics. In: A.J. Barber & S. Wiryosujono (eds.) The geology and tectonics of Eastern Indonesia, Geological Research Development Centre (GRDC), Proc. CCOP-IOC SEATAR Working Group Meeting, Bandung 1979, Bandung, Special Publ. 2, p. 253-268.
(E Indonesia K/Ar geochronology program at Flinders University. Banda Arc volcanism ceased in Alor-Wetar sector and on Ambon at ~3 Ma, reflecting minimum age of Timor/ Seram collisions. Inactive parts of arc characterized by rapid uplift. Wetar volcanism may have started 12 Ma. N Timor Oecusse pillow basalts island-arc tholeite with wide radiometric age range, but ~6-4 Ma most likely)

Abdul-Jabbar, G., H. Rachmat & M. Nakagawa (2019)- Temporal change of Barujari Volcano magmatic process: inferred from petrological study of erupted products since AD 1944. The 1st Workshop on Environmental Science Society Technology, Medan 2018, Journal of Physics: Conference Series 1363, p. 1-6.
(online at: https://iopscience.iop.org/article/10.1088/1742-6596/1363/1/012030)
(Active Barujari volcano part of post-caldera stage of Rinjani volcano, Lombok. Eerupted several times during past 70 years. Magma mixing with repeated injection of more mafic magma play important role in producing most of basaltic-andesitic lava)

Al Habib, J., L.D. Setijadji, A. Maryono & I. Rompo (2024)- Identification of paleovolcanic centers in the Bima District, East Sumbawa Island (Indonesia) as guidance for future exploration of Cu-Au deposits. J. Applied Geology (UGM) 9, 1, p. 64-75.
(online at: https://journal.ugm.ac.id/jag/article/viewFile/98713/40279)
(Identification of ancient volcanoes in Bima District, E Sumbawa Island, from literature, remote sensing, field survey, petrographic analysis, etc. At least ten paleo-volcano remnants identified in Oligo-Miocene arc of Southern Mountains:('Old Andesites'): Doro Mbangga, D. Baku, D. Donggo Masa, D. Rompo, D. Sape, D. Kowo, Doro Jia, D. Sambori, D.Mangge and D. Lambu, each with one or more eruption centers, often with hydrothermal alteration. May help discover potential Cu-Au mineralizations)

Ali, E. (1997)- Batu Hijau porphyry copper-gold deposit, exploration and evaluation. Proc. 26th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, p. 193-205.
(online at: https://www.iagi.or.id/web/digital/64/16.pdf)
(Batu Hijau porphyry copper-gold deposit, discovered by Newmont in 1990 in SW Sumbawa, in Banda volcanic arc. Geometry of deposits resembles upright cylinder with high grade ore in multiple tonalite porphyries, intruded into E Tertiary diorite and andesite wall rocks. Chalcopyrite and bornite main Cu minerals)

Alzwar, M. (1981)- A structural discontinuity with associated potassic volcanism in Indonesian island arc: first results of the CNR-CNRS-VSI mission to the island of Sumbawa. Societa Geologica Italiana Rendicanti 4, p. 275-288.
(About discontinuity in Indonesian Arc (Sunda Arc), where arc volcanism changes from continental nature in W (Sumatra- Java) to more oceanic character in E (Flores) (see also Barberi et al. 1986)

Arif, J. & T. Baker (2004)- Gold paragenesis and chemistry at Batu Hijau, Indonesia: implications for gold-rich porphyry copper deposits. Mineralium Deposita 39, p. 523-535.
(Sumbawa Batu Hijau world-class porphyry copper-gold deposit. Neogene volcanism progressive change from calc-alkaline to shoshinitic affinities with time. E- M Miocene andesitic volcaniclastic rock succession dips gently in W direction, cut by several phases of M- Late Miocene intrusions (5.9-3.7 Ma; hypabyssal andesites, equigranular quartz diorite plutons, late-stage tonalite- granodiorite dikes))

Arif, J., D. Setyandhaka & J. Proffett (2008)- Characteristic of the root of Cu-Au porphyry system: results of study from Batu Hijau Cu-Au porphyry deposit. Proc. PACRIM 2008 Conference, Australasian Institute of Mining and Metallurgy (AusIMM), Melbourne, p. *(Extended Abstract)*

(Copper and gold mineralisation at Batu Hijau related to quartz veining and wall rock alteration associated with multiple tonalite porphyry intrusions. Batu Hijau comparatively minor late alteration and mineralisation overprints. This paper summarises results of cores from deeper sections of Batu Hijau)

Arifin, L. (1998)- Stratigrafi seismik perairan Lombok Barat. Jurnal Sumber Daya Geologi (JSDG) 8, 80, p. 17-26.
('Seismic stratigraphy of the waters of West Lombok')

Armstrong, J.T. (2012)- Deciphering the evolution of ore fluids at the Batu Hijau copper- gold porphyry deposit, Sumbawa, Indonesia. M.Sc. Thesis, University of Nevada, Las Vegas, p. 1-165.
(online at: http://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=2533&context=thesesdissertations)
(Four types of fluid inclusions recognized at Batu Hijau Cu-Au deposit, SW Sumbawa, suggesting ore fluids at Batu Hijau formed in two stages:(1) initial high T fluid precipitating only minor Cu and (2) cooler, denser, but compositionally similar fluid that contributed significantly to mineral precipitation)

Aryanto, N.C.D. & H. Kurnio (2020)- Tectonics of volcanogenic massive sulphide (VMS) deposits at Flores back arc basin: a review. Bulletin of the Marine Geology 35, 2, p. 91-102.
(online at: http://ejournal.mgi.esdm.go.id/index.php/bomg/article/view/679/513)
(NW-SE trending submarine ridges in Flores back-arc basin with volcanism-related hydrothermal activity. Submarine hydrothermal alteration in Komba Ridge associated with volcanogenic sulphide deposit)

Aswan, Y. Zaim, Y. Rizal, I.N. Sukanta, S.D. Anugrah, A.T. Hascaryo, I. Gunawan, T. Yatimantoro et al. (2017)- Age determination of paleotsunami sediments around Lombok Island, Indonesia and identification of their possible tsunamigenic earthquakes. Earthquake Science 30, 2, p. 107-113.
(online at: https://link.springer.com/content/pdf/10.1007%2Fs11589-017-0179-2.pdf)
(210Pb age dating method of young paleotsunami sediments of W and SW Lombok. Gawah Pudak sediments deposited 37 and 22 years ago (1977 and 1992). Three paleotsunami sediments from Gili Trawangan deposited 149, 117 and 42 years ago. Tied 1857 Bali Sea earthquake, 1897 Flores Sea or Sulu Sea earthquake, 1975 Nusa Tenggara earthquake, 1977 Sumba earthquake and 1992 Flores earthquake)

Audley-Charles, M.G. (1974)- Banda Arcs. In: A.M.Spencer (ed.) Mesozoic-Cenozoic orogenic belts, Geological Society, London, Special Publ. 4, p. 349-363.
(Review of structural zones in Banda Arcs, E Indonesia)

Audley-Charles, M.G. (2004)- Ocean trench blocked and obliterated by Banda forearc collision with Australian proximal continental slope. Tectonophysics 389, 1-2, p. 65-79.
(online at: http://searg.rhul.ac.uk/pubs/audley-charles_2004.pdf)
(E end of Java Trench now blocked SE of Sumba by Australian continental margin forming Roti-Savu Ridge. Present position of defunct Banda Trench buried below foothills of S Timor. Large part of Banda forearc carried over Australian margin during subduction between ~12- 3.5 Ma. Collision deformed forearc with part of unsubducted Australian lower plate cover, now forming exposed Banda orogen with parts of forearc basement. Forearc overrode Australian continental slope. Parts of proximal forearc prism and proximal continental slope cover detached and thrust N over Java-Banda Trench and forearc up to 80 km along S-dipping Savu Thrust and Wetar Suture. Reinterpretations explain absence of discernible subduction ocean trench in S Banda Arc and narrow forearc (30 km at Atauro, N of E Timor))

Aye, M.T., A. Imai, N. Araki, S. Pramumijoyo, A. Idrus, L.D. Setijadji & J. Arif (2010)- Copper-gold bearing skarn mineralization at the Batu Hijau deposit, Sumbawa Island, Indonesia. Proc. 39th Annual Conv. Indonesian Association Geologists (IAGI), Lombok, PIT-IAGI-2010-057, p. 1-6.
(online at: https://www.iagi.or.id/web/digital/12/2010_IAGI_Lombok_Copper-Gold-Bearing-Skarn.pdf)
(Batu Hijau copper-gold skarn in SW Sumbawa Island resulted from interaction of hydrothermal fluids associated with E-M Pliocene tonalite porphyry intrusion into E-M Miocene andesitic volcaniclastic rocks and limestones)

Aye, M.T., A. Imai, N. Araki, S. Pramumijoyo, A. Idrus, L.D. Setijadji & J. Arif (2011)- Mineralisasi skarn pembawa tembaga dan emas pada cebakan Batu Hijau, Pulau Sumbawa, Indonesia. Majalah Geologi Indonesia (IAGI) 26, 3, p. 191-198.
(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/762)
('Copper and gold bearing skarn mineralization at the Batu Hijau deposit, Sumbawa Island, Indonesia'. Same as Aye et al. 2010)

Aye, M.T., S. Pramumijoyo, A. Idrus, L.D. Setijadji, A. Imai, N. Araki & J. Arif (2011)- The mineralogy of gold-copper skarn related porphyry at the Batu Hijau deposit, Sumbawa, Indonesia. J. Southeast Asian Applied Geology (UGM) 3, 1, p. 12-22.
(online at: http://geologic-risk.ft.ugm.ac.id/fresh/jsaag/vol-3/no-1/jsaag-v3n1p012.pdf)
(Gold-copper bearing skarn mineralizations found during 2003 drilling program at deep level of deposit (-450m to -1050m) in Batu Hijau porphyry deposit, W Sumbawa Island)

Aye, M.T., Subagijo, A. Idrus, L.D. Setijadji & A. Imai (2010)- Ore mineral sssemblages of skarn at the Batu Hijau porphyry Cu-Au deposit, Sumbawa Island, Indonesia. Proc. 3rd Regional Conference Geological Engineering Research in ASEAN 'Sustainable Geological Education', Siem Reap 2010, p. 71-75.

Aziz, F., M.J. Morwood & G.D. van den Bergh (eds.) (2009)- Pleistocene geology, palaeontology and archaeology of the Soa Basin, Central Flores, Indonesia. Geological Survey, Bandung, Special Publ. 36, p. 1-146.
(Geology and vertebrate paleontology of Soa Basin, Flores. Surrounded by volcanics. Late Pliocene andesitic volcanics, Pleistocene pumice tuff and lacustrine tuffaceous sediments with 'island' mammal faunas like giant tortoise, komodo dragon and pygmy Stegodon)

Barbieri, F., B. Bigioggero, A. Boriani, M. Cattaneo, A. Cavallin et al. (1987)- The island of Sumbawa: a major structural discontinuity in the Indonesian Arc. Boll. Societa Geologica Italiana 106, p. 547-620.
(Multidisciplinary paper. Scarce sediments: thin E-M Miocene carbonates/clastics on older volcanics, overlain by Pliocene-Recent volcanics; 4 volcanic phases: pre-Early Burdigalian, Pliocene 4.9- 3.1 Ma, Pleistocene 1.8-1.1 Ma and Holocene (large Tambora caldera 43 ka))

Bastian, A., N.I. Basuki & Y. Rizal R (2024)- The geochemical signature of the Elang porphyry Cu-Au deposit, Sumbawa, Nusa Tenggara Barat, Indonesia. Bulletin of Geology (ITB) 8, 2, p. 1322-1333.
(online at: https://buletingeologi.com/index.php/buletin-geologi/article/view/406/104)
(Cu-Au mineralization at Elang porphyry system in S Sumbawa mainly within and around multiple tonalite intrusions. Copper, zinc, lead, and molybdenum clearly point to central part of porphyry system, while broad zones of high gold anomalies are associated with epithermal high-sulfidation systems)

Bastian, A., S. Kepli, H. Sulistyo & D. Hendri (2015)- Exploration significance of Elang porphyry Cu-Au deposit, Sumbawa Indonesia. Proc. MGEI 7th Annual Convention, Balikpapan 2015, NNT presentation, p.

Breen, N.A., E.A. Silver & S. Roof (1989)- The Wetar backthrust belt, eastern Indonesia: the effects of accretion against an irregularly shaped arc. Tectonics 8, 1, p. 85-98.
(350-km-long, E-W trending, N-vergent thrust belt N of Wetar is result of Australia-Indonesian arc collision. Four main thrust segments: Wetar, Liran Atauro and Alor faults, probably controlled by presence of small rigid blocks in collision zone)

Brouwer, H.A. (1919)- On the non-existence of active volcanoes between Pantar and Dammer (East Indian archipelago) in connection with the tectonic movements in this region. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 21, 2, p. 795-802.
(Online at: https://dwc.knaw.nl/DL/publications/PU00012047.pdf)
(Early paper describing absence of active volcanism in part of Banda Arc N of Timor, between Alor-Wetar Roma, in area where non-volcanic outer arc is closest to volcanic inner arc (in plate tectonic terms it can now be understood as locking of subduction zone after collision of Australian Plate and Banda Arc at Timor; JTvG)

Brouwer, H.A. (1938)- The tectonic evolution of the Lesser Sunda Islands near Australia. Quarterly J. Geological Society of London, 1349, p. 3-6. *(bad reference?)*

Brouwer, H.A. (1940)- Geological and petrological investigations on alkali and calc-alkali rocks of the islands Adonara, Lomblen and Batoe Tara. In: H.A. Brouwer (ed.) Geological expedition of the University of Amsterdam to the Lesser Sunda Islands, II, Noord Hollandsche Uitgevers Mij, Amsterdam, p. 1-94.
(online at: https://resolver.kb.nl/resolve?urn=MMKB31:046047000:pdf)
(On three volcanic islands of Banda Arc, East of Flores. All rocks are relatively young volcanics, dominated by andesites and basalts, overlain by uplifted coral reef terraces (up to ~250m elevation on Lomblen). Batu Tara volcano in Flores Sea North of main line of volcanoes and has potassic, leucite-bearing basanitic lavas)

Brouwer, H.A. (1942)- Granodioritic intrusions and their metamorphic aureoles in the Young-Tertiary of Central Flores. In: H.A. Brouwer (ed.) Geological expedition of the University of Amsterdam to the Lesser Sunda Islands 4, Noord Hollandsche Publ. Co., Amsterdam, p. 291-317.
(online at: (online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046050000:00009)
(Granodioritic intrusions outcropping across Flores have distinct metamorphic contact aureoles in what looks like Neogene globigerinid-bearing sediments, and are therefore young intrusions)

Brouwer, H.A. (1943)- Leuciethoudende en leucietvrije gesteenten van den Soromandi op het eiland Soembawa. Verslagen Koninklijke Akademie van Wetenschappen, Amsterdam 52, p. 303-307.
('Leucite-bearing and leucite-free rocks of Soromandi volcano on Sumbawa island'. Descriptions and chemical compositions of young volcanic rocks of Soromandi volcano near N coast of Sumbawa)

Brouwer, H.A. (1944)- Over vulkanische gesteenten van Oost-Flores. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie 14 (Tesch memorial volume), p. 95-103.
(On young volcanic rocks from East Flores'. Mainly young pyroxene andesites (Quaternary))

Brouwer, H.A. (1954)- Evolution magmatique et tectonique des Petites Iles de la Sonde. Comptes Rendus 19th Session Congres Geologique Int. (International Geological Congress), Algeria 1952, XV, XVII, p. 63-70.
('Magmatic and tectonic evolution of the Lesser Sunda Islands'. Mainly on Timor, where Permian shallow marine sediments are associated with trachybasaltic volcanic series. During Mesozoic geosynclinal phase abundant ophiolites and spilites and associated andesites and more acid volcanics: all are parts of major thrust sheet complex that formed in Tertiary. Etc.)

Burrows, D.R., M. Rennison, D. Burt & R. Davies (2020)- The Onto Cu-Au discovery, Eastern Sumbawa, Indonesia: A large, Middle Pleistocene lithocap-hosted high-sulfidation covellite-pyrite porphyry deposit. Economic Geology 115, 7, p. 1385-1412.
(online at: https://www.segweb.org/pdf/brian-j-skinner-award/2021-burrows-p1385.pdf)
(Large and blind Onto copper-gold deposit discovered in E Sumbawa in 2013. Copper occurs as disseminated covellite with pyrite, and as pyrite-covellite veinlets. Spatially related with coalesced porphyry stocks that intrude polymictic diatreme breccia, capped by intramaar laminated siltstones, volcaniclastic and pyroclastic rocks, and overlain by andesite flows. Porphyry intrusions emplaced at ≤1.3 km. System exceptionally young (~0.7-0.8 Ma; M Pleistocene) and not significantly eroded)

Charlton, T.R. (1997)- Backthrusting on the BIRPS deep seismic reflection profiles, Banda Arc, Indonesia, a response to changing slab inclination? J. Geological Society, London, 154, p. 169-172.
(BIRPS deep seismic profiles across Banda arc-continent collision complex indicate backthrusting in volcanic arc and between arc- forearc ridge. This differs from W Timor-Savu Sea and Tanimbar sectors of arc where backarc thrusting is absent and interarc region is extensional. Structural styles controlled by whether subducted slab is steepening or straightening through time. Straightening through buoyant post-collisional rebound induces extension normal to arc, steepening of slab is associated with arc-normal compression)

Clode, C., J. Proffett, P. Mitchell & I. Munajat (1999)- Relationships of intrusion, wall-rock alteration and mineralisation in the Batu Hijau copper-gold porphyry deposit. In: G. Weber (ed.) Proc. PACRIM '99 Congress, Bali 1999, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, 4-99, p. 485-498.
(Batu Hijau world-class island arc porphyry copper-gold deposit in SW corner of Sumbawa, related to quartz veining and wall rock alteration associated with multiple tonalite porphyry intrusions. Island underlain by Early Tertiary low-K calc-alkaline volcanics and intrusives)

Crostella, A. (1977)- Geosynclines and plate tectonics in Banda Arcs, Eastern Indonesia. American Assoc. Petroleum Geol. (AAPG) Bull. 61, 12, p. 2063-2061.
(Obsolete 'expanding earth/ geosynclinal' tectonic model for Timor, Banda Arc. See also discussion by Audley-Charles et al. (1979))

Curray, J.R., G.G. Shor, R.W. Raitt & M. Henry (1977)- Seismic refraction and reflection studies of crustal structure of the eastern Sunda and western Banda Arcs. J. of Geophysical Research 82, 17, p. 2497-2489.
(Seismic refraction profiles S of C Java and Bali, Flores, Banda and Arafura Seas and in Timor Trough. Outer ridge, along gravity minimum, consists primarily of sedimentary rocks, in N-dipping imbricate thrust sheets. Layer 2 jumps upward ~5 km under crest of ridge. From here to islands crust is probably oceanic but intermediate in thickness, probably thickened old oceanic crust and mantle trapped here by seaward jump in subduction zone in E Tertiary. N and E of Bali, behind volcanic arc, crustal structure intermediate between oceanic and continental. Farther E in Flores Basin thickness decreases, suggesting this is transitional edge of cratonization of Sunda Shelf, and typical thin oceanic crust is farther E in S Banda Sea)

Darman, H. (2012)- Seismic expression of tectonic features in the Lesser Sunda Islands, Indonesia. Berita Sedimentologi 25, p. 16-25.
(online at: www.iagi.or.id/fosi/files/2012/12/BS25-Lesser_Sunda_Final_small.pdf)

Das, S. (2004)- Seismicity gaps and the shape of the seismic zone in the Banda Sea region from relocated hypocenters. J. of Geophysical Research 109, B12303, p. 1-18.
(online at: http://onlinelibrary.wiley.com/doi/10.1029/2004JB003192/epdf)
(>800 relocated earthquakes >50 km deep along Banda arc. Distribution non-uniform, with gaps in hypocenters along depth in most places. Seismic zone between 129-131°E and 100-200 km deep is widest along arc both in strike and downdip. This region, near highest arc curvature, has highest seismic activity and is only part of arc with continuous earthquakes down to >600 km. Very deep earthquakes under Sulawesi part of W-SW dipping Seram slab. In W-most part of Banda arc slab under downdip tension between 50-250 km, with deepest portion of slab under compression. From 128-131°E slab between 100-200 km under horizontal compression. Study supports 'two-slab' model for Banda arc. Depth of Wadati-Benioff zone below volcanoes 60-100 km for five volcanoes between 128- 130°E and 150 km for 23 volcanoes between 118- 124°E)

De Azeredo Leme, J.de & J. Bailim Pisarra (1962)- Notas sobre a geologia e a petrografia da ilha de Atauro (Timor portugues). In: Prof. Carrington da Costa Festschrift, p. 325-348.
(Notes on the geology and petrography of Atauro island Portuguese Timor)'. Atauro N of Timor Leste, composed of volcanic rocks and terraces of emergent coral reefs)

De Jong, J.D. (1941)- Geological investigations in West Wetar, Lirang and Solor (Eastern Lesser Soenda Islands). Thesis University of Amsterdam, p. 1-136.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:038266000:00009)
(See also in H.A. Brouwer (ed.) Geological expedition of the University of Amsterdam to the Lesser Sunda Islands, III, p. 241-380. Reconnaissance of currently inactive volcanic islands of Banda arc N of Timor. Wetar composed of lavas, breccias and tuffs with interbedded Globigerina marls, probably submarine formations of Neogene age. Facies, raised coral reefs and terrace at 820m suggests at least this amount of late uplift. Lirang Island different, with granodiorite and dacite, probably also Young Tertiary and possibly uplifted even more than Wetar. Solor multiple eroded volcanic complexes with pyroxene andesites and basalts, with raised coral reefs up to 180m)

De Jong, J.D. (1942)- Hydrothermal metamorphism in the Lowo-Ria region, Central Flores. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1937, 4, Noord Hollandsche Publ. Co., Amsterdam, p. 319-343.

Dekov, V., A. van Put, D. Eisma & R. van Grieken (1999)- Single particle analysis of suspended matter in the Makasar Strait and Flores Sea with particular reference to tin-bearing particles. J. of Sea Research 41, p. 35-53.
(online at: https://www.vliz.be/imisdocs/publications/273784.pdf
(Suspended matter samples filtered from surface waters and two depth profiles from Flores Sea and Makasar Strait contained high levels of tin-bearing particles:(1) tin oxide/hydroxides (cassiterite, etc.); (2) iron-oxyhydroxides with adsorbed tin; and (3) mixed oxidation state tin hydroxysulphates. Dissolved and suspended tin originate from local sources as well as from remote sources in Indonesian Archipelago)

De Neve, G.A. (1950)- Subsurface geology of Ampenan (West Lombok) and the Bay of Bima (East Sumbawa). De Ingenieur in Indonesie 5, 2, p. IV.17- IV.23.
(online at: https://colonialarchitecture.eu/islandora/object/uuid%3A6cdd1184-7f8c-4d56-8823-3cc86d06abef/datastream/PDF/view)
(Mainly on young sediments in water wells; nothing on older rocks)

Dewi, L.M., R. Damayanti, Y.I. Mandang, S. Rulliaty & Suprihatna (2024)- A new fossil wood of *Shoreoxylon* from Flores Island, Indonesia. Proc. Second International Conference of Lignocellulose (ICONLIG 2), Bogor 2022, AIP Conference Proceedings 2973, 070009, p. 1-
(Silicified wood from M Miocene volcanic rocks in Komodo quadrangle on Flores Island. Provisionally considered to be a new taxon, Shoreoxylon floresiensis)

Dirk, M.H.J. (1994)- Petrologi dan geokimia unsur utama intrusi Wolowaru, Ende, Flores. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 4, 38, p. 26-36.
('Petrology and major element geochemistry of the Wolowaru intrusion, Ende, Flores'. Wolowaru intrusion quartz diorite at exterior, granodiorite and granite in interior. High Al content and size ~15 x 10 km. Classified as subalkaline tholeiite of volcanic arc (with Late Miocene fission track ages; Saefudin 1995))

Dirk, M.H.J. (1996)- Mekanisme penzonaan dan petrogenesis intrusi Wolowaru, Ende, Flores. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 6, 54, p. 12-16.
('Mechanism of zoning and petrogenesis of the Wolowaru intrusion, Ende, Flores')

Drescher, F. (1921)- Eruptivgesteine der Insel Flores. Dissertation Universitat Basel, Stein (Argau), p. 1-49.
('Volcanic rocks from the island Flores'. Short thesis under guidance of Prof. C. Schmidt, on petrographic descriptions of dacites, andesites and basalts. Samples collected by J. Pannekoek van Rheden in 1910-1911, who donated samples to the 'Indies Collection' of the Basel Museum)

Edwards, C.M.H. (1990)- Petrogenesis of tholeiitic, calc alkaline and alkaline volcanic rocks, Sunda Arc, Indonesia. Ph.D. Thesis, Royal Holloway and Bedford New College, University of London, p. 1-373. *(Unpublished) (Review of Java volcanism*

Ehrat, H. (1925)- Tin(?) op Flores. De Mijningenieur 6, p. 123-128.
(On the question of presence of tin on Flores)

Ehrat, H. (1928)- Geologische mijnbouwkundige onderzoekingen op Flores. Jaarboek Mijnwezen Nederlandsch-Indie 54 (1925), Verhandelingen 2, p. 221-315.
(Reconnaissance geological and mining investigations of Flores with 1:250k scale geological map of island based om 1923-1924 field work. Mainly young andesitic volcanics, but also multiple Neogene? granite-granodiorite outcrops (Musper (1928) suggests possibility of Pretertiary ages). Oldest sediments exposed on NW Flores folded Miocene sediments, possibly 2000m thick, with locally thick Lepidocyclina limestone with interbedded volcanics and Globigerina marls. One of the goals of this surveywas to locate tin deposits (after

failed Van Schelle 1890-1891 tin expeditions and Pannekoek van Rheden 1910-1911 mapping work), but none could be found)

Ehrat, H. (1928)- Die Tiefengesteine der kleinen Sunda Inseln. Neues Jahrbuch Mineralogie Geologie Palaontologie, Abhandlungen, Beilage Band 58, A, 3, p. 433-452.
('The plutonic rocks of the Lesser Sunda islands'. Descriptions of granites, granodiorites, diorites, etc. collected by Ehrat during his 1927 private journey in the Lesser Sunda islands, incl. Flores, Sumba, Sumbawa. Most of them as inclusions in Recent lavas, and mainly hornblende-biotite-granodiorite, but granite, diorite and gabbro also in outcrop on Flores)

Elbert, J. (1911)- Meteorologische und geologische Untersuchungen auf der Insel Lombok. In: Die Sunda-Expedition des Vereins fur Geographie und Statistik zu Frankfurt am Main 1, p. 78-87 and 112-120.
('Meteorological and geological investigations on Lombok Island'. On weather and Rinjani and Sembalun volcanic massifs. Lombok formations and mountain ranges similar to Java zones)

Elbert, J. (1912)- Die geologisch-morphologischen Verhaltnisse der Insel Sumbawa. In: Die Sunda-Expedition des Vereins fur Geographie und Statistik zu Frankfurt am Main, Frankfurt, 2, p. 132-174.
('The geological- morphological relationships of Sumbawa island'. Mainly description of young volcanoes (incl. Tambora; 2935m since 1815 eruption, Satona, Sangeang Island) and common volcano ruins. Oldest volcanics E Miocene in age. Along coast marine terraces up to 800 above sea level)

Elburg, M.A., J.D. Foden, M.J. van Bergen & I. Zulkarnain (2005)- Australia and Indonesia in collision: geochemical sources of magmatism. J. Volcanology Geothermal Research 140, p. 25-47. *(online at: /www.academia.edu/3247358/Australia_and_Indonesia_in_collision_geochemical_sources_of_magmatism)*
Alor, Lirang, Wetar and Romang in extinct section of Sunda-Banda arc, where collision with Australia brought subduction to halt. Pb isotopes reflect mixing from subducting Australian crust)

Elburg, M.A., V.S. Kamenetsky, J.D. Foden & A. Sobolev (2007)- The origin of medium-K ankaramitic arc magmas from Lombok (Sunda arc, Indonesia): mineral and melt inclusion evidence. Chemical Geology 240, p. 260-279. *(online at: www.academia.edu/3247289/The_origin_of_medium_K_ankaramitic_arc_magmas_from_Lombok Etc.)*
(Quaternary high-Ca, nepheline-normative ankaramitic basaltic lavas from Rinjani volcano, Lombok, with phenocrysts of clinopyroxene and olivine with inclusions of spinel. Melts probably formed from water-poor, clinopyroxene-rich mantle source)

Elburg, M.A., M.J. van Bergen & J.D. Foden (2004)- Subducted upper and lower continental crust contributes to magmatism in the collision sector of the Sunda-Banda arc, Indonesia. Geology (GSA) 32, 1, p. 41-44.
(Pb isotopes in igneous rocks from Banda-Sunda arc show increase in 206Pb/204Pb ratios toward zone of collision with Australian continent, reflecting input of subducted upper-crustal material. Maximum values coincide with anomalously radiogenic 3He/4He ratios, earlier attributed to involvement of continental margin. New interpretation does not call for involvement of ocean-island basalt (OIB) -type mantle or Australian subcontinental lithospheric mantle, as suggested previously)

Elburg, M.A., M. van Bergen, J. Hoogewerff, J. Foden et al. (2002)- Geochemical trends across an arc-continent collision zone: magma sources and slab-wedge transfer processes below the Pantar Strait volcanoes, Indonesia. Geochimica Cosmochimica Acta 66, 15, p. 2771-2789.
(online at: https://www.academia.edu/6887812/Geochemical_trends_across_an_arc_continent_collision_zone_magma_sources_and_slab_wedge_transfer_processes_below_the_Pantar_Strait_volcanoes_Indonesia)
(Volcanoes in Pantar Strait (W part of extinct sector of E Sunda arc) across-arc variation in isotopic and trace element ratios best explained by modification of MORB-type source by subducted continental material (SCM). Frontal volcano highest proportion of fluid component. Source of rear-arc volcano influenced by partial melt of SCM that underwent previous dehydration event. Unique Pantar Strait volcanoes properties reflect magma generation where edge of Australian continent, rather than subducted sediment, contributes to magma source)

Ely, K.S. (2006)- The rise of Atauro Island, Banda Arc, East Timor. AESC 2006, Melbourne, Abstract, 2p.
(Quaternary coral uplifted to ~700m above sea level on Atauro. Brecciated dacite lavas dominate most of island; SW part of island contemporaneous basaltic andesite lavas. Volcanism ceased at ~3 Ma, linked to collision and end of subduction)

Ely, K.S., M. Sandiford, M.L. Hawke, D. Phillips, M. Quigley & J.E. dos Reis (2011)- Evolution of Atauro Island: temporal constraints on subduction processes beneath the Wetar zone, Banda Arc. J. Asian Earth Sciences 41, 6, p. 477-493.
(Atauro island in Banda Arc N of Timor. Bi-modal subaqueous volcanism with basaltic andesite and dacite-rhyolite continued until 3.3 Ma, followed by uplift of coral reef terraces to 700m elevation. Continuity of terraces at constant elevations reflects regional-scale uplift, most likely linked to slab detachment. Subduction of Australian lithosphere until near 3.3 Ma consistent with extent of Wetar seismic gap to depth of 350 km, suggesting slab breakoff started at 4 Ma)

Esenwein, P. (1930)- Petrographische Untersuchungen an Gesteinen von Paloeweh. Vulkanologische en Seismologische Mededeelingen, Dienst Mijnbouw Nederlandsch-Indie, Bandung, 11, p. 94-141.
('Petrographic investigations of rocks from Paluweh', Paluweh Island 10 km N of Flores, with active Rokatenda volcano.60 rock samples, mainly collected by Neumann van Padang. Young and older lava rocks. Not a single biotite crystal)

Esenwein, P. (1931)- Verdere onderzoekingen van eruptiefgesteenten van Paloeweh. De Mijningenieur 7, p. 116-118.
('Additional studies on volcanic rocks from Paloeweh'. Young volcanics from Paluweh island' (N of Flores))

Eva, C., M. Cattaneo & F. Merlanti (1988)- Seismotectonics of the central segment of the Indonesian Arc. Tectonophysics 146, 1-4, p. 241-259.
(On seismicity between 110° and 126° (E Java- W Timor). The Sumbawa-Flores-Wetar sector different from adjacent sectors)

Fadlin (2023)- Geology, geochronology and zircon geochemistry study of the Humpa Leu East porphyry copper-gold prospect in Hu'u District, Sumbawa Island, Indonesia. Doctoral Thesis, Graduate School of International Resource Studies, Akita University, p. 1-145.
(online at: https://air.repo.nii.ac.jp/record/6123/files/shihakukou1441.pdf)
(Humpa Leu East porphyry Cu-Au prospect in SE Sumbawa, in E end of Sunda metallogenic belt, with several world class porphyry Cu-Au deposits of Miocene-Quaternary age (Elang, Batu Hijau, etc.). U-Pb zircon dating of porphyry intrusions show age of 1.2-1.0 Ma (M Pleistocene). Zircon geochemistry suggests HLE porphyry intrusion is product of subduction in Sunda plate continental crust, not island arc in oceanic crust (not sure why; would expect older recycled zircons, not just Quaternary age zircons?; JTvG))

Fadlin, H.V. Nhatinombe, W.N. Hamzah, A. Farisan, R.M. Asfaro & M.R. Aditama (2024)- Excess alumina of plagioclase related to copper-gold enrichment: study case at the Humpa Leu East (HLE) porphyry Cu-Au prospect in HU'U District, Sumbawa Island, Indonesia. Iraqi Geological J. 57, 2B, p. 188-204.
(online at: https://igj-iraq.org/igj/index.php/igj/article/download/2282/2039/27819)
(Chemical signatures of plagioclase in intrusive rocks may be indicator of magma fertility forming porphyry copper-gold deposits)

Fadlin, R.I.H. Sulistyawan, A. Idrus, R.M. Asfaro, H.V. Nhatinombe & W.N. Hamzah (2024)- Magma petrogenesis study based on morphology and texture of zircon minerals: case study at the causative intrusive in the HLE porphyry copper-gold prospect, Sumbawa Island, Indonesia. J. Geoscience Engineering Environment Technology (JGEET) 9, 2, p. 82-89.
(online at: https://journal.uir.ac.id/index.php/JGEET/article/view/13248/6597)
(Crystal types and zoning textures of zircons from diorite near (Pliocene?) Humpa Leu East porphyry Cu-Au prospect, SW Sumbawa)

Fadlin, R. Takahashi, A. Agangi, H. Sato, A. Idrus, B. Sutopo, & R. Pratiwinda (2023)- Geology, mineralization and calcite-rich potassic alteration at the Humpa Leu East (HLE) porphyry Cu-Au prospect, Hu'u district, Sumbawa Island, Indonesia. Resource Geology 73, 1, e12309, p. 1-23.
(Humpa Leu East newly discovered porphyry Cu-Au prospects in Hu'u district, Sumbawa Island. Related to multiphase diorite and quartz diorite porphyry intrusions, hosted by andesitic crystalline tuff, volcanic breccia, and andesite lava)

Faesal, A., M.I.K.A. Aminuddin, A.S. Ubaidillah (2022)- Host rock petrology, hydrothermal alteration characteristics and ore mineralogy of porphyry copper-gold deposit, Brambang, Lombok, West Nusa Tenggara Indonesia. Proc. Materials Today, 14th AUN/SEED-Net Regional Conference on Materials, 66, p. 3071-3076.
(Brambang porphyry copper deposit in SW tip of Lombok island. Hosted in dacitic volcanic rock, diatreme breccia, and diorite intrusion)

Farmer, F. (2011)- Wetar copper project: a bugs life- 5 million years and counting? Proc. Joint 36th HAGI and 40th Annual Conv. Indonesian Association Geologists (IAGI) Conference Exhib., Makassar, p. 1-14.
(online at: https://www.iagi.or.id/web/digital/10/2011_IAGI_Makassar_Wetar-Copper-Project.pdf)
(Wetar Island comprises Miocene-Pliocene lavas (incl. pillow basalts), overlain by Pliocene deep marine Globigerina limestone and Quaternary dacitic-andesitic volcanics. Hydrothermally altered andesite lavas and basalts are host to economic mineralization. Precious metal-bearing barite sand caps were mined between 1989 and 1997. Deposits at Kali Kuning, Lerokis and Meron characterized by Au-Ag bearing unconsolidated barite sands onlapping pyritic massive sulphide mounds with Cu-Zn-Pb)

Felix, R.P., J.A. Hubbard, K.E. Bradley, K.H. Lythgoe, L. Li & A. D. Switzer (2022)- Tsunami hazard in Lombok and Bali, Indonesia, due to the Flores back-arc thrust. Natural Hazards Earth Systems Science 22, p. 1665-1682.
(online at: https://nhess.copernicus.org/articles/22/1665/2022/nhess-22-1665-2022.pdf)
(Flores backarc thrust fault system in Lombok and Bali region generated at least six ≥Ms 6.5 tsunamigenic earthquakes since 1800 CE)

Ferneyhough, A.B. & I.A. Qarana (1999)- Case history study over the Batu Hijau copper-gold porphyry in SW Sumbawa, Indonesia. SEG Technical Program, 1999, 15, 1, p. 1159-1162. *(Extended Abstract)*
(History of large 1990 Batu Hijau copper-gold porphyry discovery on SW Sumbawa by Newmont in 1990. Typical island arc porphyry deposit, hosted within tonalite intrusive complex in diorite and andesitic metavolcanics wallrock)

Fichtner, A., M. de Wit & M. van Bergen (2010)- Subduction of continental lithosphere in the Banda Sea region: combining evidence from full waveform tomography and isotope ratios. Earth Planetary Science Letters 297, p. 405-412
(Subduction of old continental lithosphere to >100 km under Banda arc suggested by tomographic images and isotope signatures in arc volcanics. Late Jurassic ocean lithosphere N of N Australian craton was capable of entraining large volumes of continental lithosphere. Timor tomographic images indicate island not directly above N margin of N Australian craton. Possible explanation involves delamination within continental crust, separating upper from lower crustal units, consistent with massive accretionary complex on Timor island, with evidence from Pb isotopes for lower-crust involvement in arc volcanism)

Fiorentini, M.L. & S.L. Garwin (2010)- Evidence of a mantle contribution in the genesis of magmatic rocks from the Neogene Batu Hijau district in the Sunda Arc, South Western Sumbawa, Indonesia. Contributions to Mineralogy and Petrology 159, p. 819-837.
(Sumbawa island is E Miocene- Holocene volcanic arc built on oceanic crust. Low-K calc-alkaline magmatic suite of Sunda arc in Batu Hijau district with juvenile signature and minimal involvement of sediment component in arc petrogenesis. Arc-transverse fault system facilitated rise of mantle-derived melts above kink or tear in subducting Indian Ocean Plate under Sunda arc. De-hydrogenation of tonalite plutons may have been crucial to genesis of Cu-Au porphyry mineralization and development of Pliocene Batu Hijau deposit)

Franchino, A., E. Bellini & A. Brizio (1988)- Geological notes on the age of the limestones of the Island of Lombok. Indonesia. Memorie di Scienze Geologiche, Padova, 40, p. 335-368.
(Lombok mainly composed of Tertiary volcanics, in S part associated with limestones and marls. At Sekotong Barang on SW coast isolated hills of Late Oligocene limestone (Te1-4; with Spiroclypeus, Eulepidina, etc.). Central southern hills limestones with Late Oligocene- E Miocene (Te4-Te5; Miogypsinoides) and M Miocene ages (Tf1; Lepidocyclina, Miogypsina) (limestone ages on Lombok partly older than Wonosari Limestone of S Java and Nusa Dua/ S Bali?; JTvG))

Garwin, S.L. (2000)- The setting, geometry and timing of intrusion-related hydrothermal systems in the vicinity of the Batu Hijau porphyry copper-gold deposit, Sumbawa, Indonesia. Ph.D. Thesis, University of Western Australia, Nedlands, p. 1-320. *(Unpublished)*
(~1500m thick E-M Miocene low-K calc-alkaline andesitic volcanoclastics of Sunda-Banda arc, with thin limestone interbeds, and cut by several phases of Mio-Pliocene intrusions. Sumbawa segment of arc overlies oceanic crust. Felsic magmatism and related hydrothermal systems between ~7.1- 3.7 Ma probably related to collision with microcontinent or leading edge of Australian Shelf and Banda Arc near Timor. Subduction of buoyant Roo Rise oceanic plateau, S of Sumbawa, inferred to have caused kink or tear in downgoing slab, which enhanced delivery of mantle-derived melts to overlying arc)

Garwin, S. (2002)- The geologic setting of intrusion-related hydrothermal systems near the Batu Hijau porphyry copper-gold deposit, Sumbawa, Indonesia. In: R.J. Goldfarb & R.L. Nielsen (eds.) Global Exploration in the 21st Century, Colorado, Soc. Economic Geologists (SEG), Special Publ. 9, p. 333-366.

Garwin, S. (2012)- District-scale expression of intrusion-related hydrothermal systems near the Batu Hijau porphyry copper-gold deposit, Sumbawa, Indonesia. In: N.I. Basuki (ed.) Proc. Annual Conv. Indonesian Soc. Economic Geologists (MGEI). Malang 2012, Banda and Eastern Sunda arcs, p. 133-158.

Garwin, S.L. & Herryansyah (1992)- Geological setting, style and exploration of gold-silver mineralisation on Romang Island, Moluccas province, East Indonesia. In: M. Simatupang & N. Wahju Beni (eds.) Indonesian mineral development 1992, Indonesian Mining Association (IMA), p. 258-274.

Gerteisen, C.N. (1998)- Volcanic stratigraphy of the Batu Hijau porphyry copper-gold deposit, southwest Sumbawa, Indonesia. M.Sc. Thesis, Curtin University, Western Australia School of Mining, Kalgoorlie, p. 1-58. *(Unpublished)*
(Batu Hijau porphyry copper-gold deposit in SW Sumbawa in Sunda-Banda volcanic arc, but also affected by S-dipping subduction N of Sumbawa (more recent arc polarity reversal), a configuration conducive to porphyry type mineralization. Copper-gold mineralization associated with tonalite intrusive, which intruded older quartz diorite and low K, calc-alkaline andesites. Volcanic rocks generally SW dipping, with 4 major units, formed on flanks of stratovolcano: (1) volcaniclastic sandstone and breccia/conglomerate; (2) volcaniclastic breccia; (3) volcaniclastic mudstone, sandstone, breccia; (4) basal hypabyssal andesite)

Griffin, J., Ngoc Nguyen; P. Cummins & A. Cipta (2018)- Historical earthquakes of the Eastern Sunda Arc: source mechanisms and intensity-based testing of Indonesia's National Seismic Hazard Assessment. Bull. Seismological Society of America 109, 1, p.

Guzman-Speziale, M. & J.F. Ni (1996)- Seismicity and active tectonics of the Western Sunda Arc. In: A. Yin & M. Harrison (eds.) The tectonic evolution of Asia, Cambridge University Press, p. 63-84.

Halbach, P., L. Sarmili, M. Karg, B. Procejus, B. Melchert, J. Post, E. Rahders & Y. Haryadi (2003)- The break-up of a submarine volcano in the Flores-Wetar Basin (Indonesia); implications for hydrothermal mineral deposition. InterRidge News 12, 1, p. 18-22.
(online at: https://www.interridge.org/files/interridge/IR_news_12a.pdf)
(BANDAMIN I cruise in 2001 examined SE trending submarine ridge in tectonically active Flores-Wetar Basin, extending to Komba (Batu Tara) volcano. Seamount cross-cut by left-lateral NW-SE faults, with intervening z-

shaped plain (pull-apart structure). Rock samples K-rich porphyritic volcanics (trachyandesites, trachydacites), locally impregnated with sulphides (epithermal low-sulphidation metal deposits))

Halbach, P., L. Sarmili, B. Procejus, M. Karg, B. Melchert, J. Post et al. (2003)- Tectonics of the “Komba-ridge” area in the Flores-Wetar Basin (Indonesia) and associated hydrothermal mineralization of volcanic rocks. Bulletin of the Marine Geology (MGI, Bandung) 18, 3, p. 1-27.
(In Flores-Wetar basin N of Lomblen NW-SE trending submarine hills extending to Komba Island (Batu Tara). Hills cut by several NW-SE faults. Samples mainly porphyritic K-rich basaltic trachyandesite and trachydacite. With epithermal-type mineralization halo)

Hantoro, W.S., P.A. Pirazzoli, C. Jouannic, H. Faure, C.T. Hoang, U. Radtke, C. Causse, M. Borel Best, R. Lafont, S. Bieda & K. Lambeck (1994)- Quaternary uplifted coral reef terraces on Alor Island, East Indonesia. Coral Reefs 13, 4, p. 215-223.
(Alor Island in Banda Arc N of Timor has six major coral reef terraces, up to 580m in altitude, up to 500 ka old. Radiometric dates of terraces correspond to Holocene oxygen-isotope stages 5c, 5e and 7. Mean rate of uplift 1.0-1.2 mm/y. Extrapolation to whole sequence of terraces reveals good correlation between major terraces and interglacial stages corresponding to up to oxygen isotope stage 13)

Harahap, B.H., H.Z. Abidin, H. Utoyo, D. Djumhana & R. Yuniarni (2014)- Prospect of mineral deposits in the Central Flores Island, Eastern Indonesia. Proc. 43rd Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, PIT IAGI 2014-068, p. 1-22.
(online at: https://www.iagi.or.id/web/digital/6/2014_IAGI_Jakarta_Prospect-Of-Mineral.pdf)
(Sikka and Ende Regencies of C Flores with unexploited gold, base metal, iron ore and manganese deposits. With potential for commercial mineral deposits in Miocene and younger volcanics, including epithermal, porphyry, skarn and volcanogenic massive sulfide of Kuroko type)

Harahap, B.H., H.Z. Abidin, H. Utoyo, D. Djumhana & R. Yuniarni (2015)- Prospect of mineral deposits in the Central Flores Island, Eastern Indonesia. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 16, 1, p. 1-13.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/46/48)
(Same paper as Harahap et al. 2014, above)

Harris, C.W. & S. Miller (2022)- Mantle flow deflected by arc-continent collision and continental subduction in Eastern Indonesia. Seismological Research Letters 93, 3, p. 1812-1834.
(Indo-Australian plate subduction beneath Sunda-Banda arc shows along-strike transition from oceanic subduction to continental subduction and collision (near C Flores). Teleseismic SKS and SKKS waves reveal shift in sub-slab fast axes from trench-parallel to trench-perpendicular near ocean-continent boundary in lower plate, related to regional subslab mantle flow being deflected around subducted continental lithosphere)

Harris, C.W., S. Miller, P. Supendi & S. Widiyantoro (2020)- Subducted lithospheric boundary tomographically imaged beneath arc-continent collision in eastern Indonesia: J. of Geophysical Research: Solid Earth 125, 8, e2019JB018854, p. 1-16.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2019JB018854)
(P-wave tomographic model of upper mantle beneath E Indonesia, where subduction of Indo-Australian plate under Banda Arc transitions to arc-continent collision, due to change from oceanic to continental lithosphere in lower plate. Subducted Indo-Australian slab with difference in dip angle between oceanic and continental sections, but without tearing across continent-ocean boundary. Deformation in tectonic collisions can be localized along continent-ocean boundary, even at depth. Future slab tearing may develop)

Hartono, H.M.S. (1961)- Geological investigation at Olabula. Djawatan Geologi (Bandung), p. 1-42.
(Unpublished? report on geology of area that became well-known for its Pleistocene faunas, including hominid stone tools, etc. (see a.o. Maringer & Verhoeven 1971 and later Dutch and Australian expeditions)

Heering, J. (1942)- Geological investigations in East Wetar, Alor and Poera Besar. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 4, Noord Hollandsche Publ. Co., Amsterdam, p. 1-129. *(also as Proefschrift (Doct. Thesis) University of Amsterdam, June 1941)*
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:038262000:00011)
(Results of 1937 geological survey of three (currently inactive) Banda Arc volcanic islands North of Timor (E Wetar, C Alor and Poera Besar). E Wetar mainly Late Teriary andesitic-dacitic submarine lavas (some with cordierite), associated with Globigerina marls. C Alor mainly pyroxene andesite, also with submarine characteristics with Globigerina marl intercalations. Poera Besar between Pantar and Alor is 1015m high currently inactive volcano island. Uplifted terraces succest recent uplift. Etc.)

Hendaryono (1998)- Contribution a l'etude geologique de l'ile de Flores. Doct. Thesis Universite de Savoie, Chambery, p. 1-200. *(Unpublished)*
(Abstract at http://edytem.univ-savoie.fr/archives/lgham/hendaryono-r-eng.html)
('Contribution to the geological study of Flores island'. Flores has 13 active volcanoes. Two cycles of volcanism: oldest exposed lavas Late Oligocene (radiometric ages 25.7-27.7 Ma), 17 other lavas M-L Miocene ages (16-8.4 Ma). Latest Miocene- Quaternary calc-alkaline andesites-dacites (6.7-1.2 Ma) in S coastal areas. Associated sediments with reworked microfaunas: turbiditic tuffaceous M Miocene Nangapanda Fm, M-U Miocene Bari Fm reef limestone, U Miocene Laka Fm chalky tuffaceous beds with pumice)

Hendaryono, J.P. Rampnoux, H. Bellon, R.C. Maury, C.I. Abdullah & R. Soeria-Atmadja (2001)- New data on the geology and geodynamics of Flores Island. Eastern Indonesia. Proc. 30th IAGI and 10th GEOSEA Regional Congress, Yogyakarta, p. 195-199. *(Extended Abstract)*

Herman, D.Z. (2008)- Mineralisasi pada batuan induk batugamping di daerah Lepadi, Dompu, Nusa Tenggara Barat. Jurnal Geologi Indonesia 3, 3, p. 175-182.
(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/230)
('Mineralization in limestone rocks near Lepadi, Dompu' (Sumbawa). Limestones (supposedly Miocene age and looking like pelagic biomicrite and associated with Miocene volcanics) with hydrothermal quartz veins with galena and other metallic minerals)

Herrington, R.J., P.M. Scotney, S. Roberts, A.J. Boyce & D. Harrison (2011)- Temporal association of arc-continent collision, progressive magma contamination in arc volcanism and formation of gold-rich massive sulphide deposits on Wetar Island (Banda arc). Gondwana Research 19, 3, p. 583-593.
(Sr, O and He analyses of volcanic rocks and sulphides- sulphates from mineralized rocks on Wetar indicate increased continental contamination in Pliocene during distinct magmatic events between 5-4 Ma, and at 2.4 Ma when 87Sr/86Sr ratios in unaltered lavas increase from 0.707484 to extreme radiogenic values of 0.711656. (highest crustal assimilation in region). Magmatic events of 5- 4 Ma with volcanogenic massive sulphide/ gold-barite deposits near N coast of Wetar. Event at 2.4 Ma (coincident with arrival of Australian continental margin at subduction zone along Banda arc))

Hoschke, T. (2012)- Geophysics of the Elang Cu-Au porphyry deposit, Indonesia, and comparison with other Cu-Au porphyry systems. In: 22nd ASEG Int. Geophysical Conf. Exhib., Brisbane 2012, p. 1-3. *(Extended Abstract)*
(online at: www.publish.csiro.au/ex/pdf/ASEG2012ab178)
(Elang large porphyry Cu-Au deposit ~70 km E of Batu Hijau on SE Sumbawa. Associated with tonalite porphyry intrusions hosted by andesitic volcanics. Elang typical of number of Cu-Au porphyry systems where magnetite associated with mineralisation produces strong magnetic anomaly)

Hunerwadel, F.M. (1921)- Die Eruptivgesteine von Nord-Mittel Soembawa (Niederlandisch-Indien). Inaugural Dissertation Universitat Basel, p. 1-28.
('The volcanic rocks of North-Central Sumbawa'. Petrographic descriptions of andesites, dacites and basalts, collected by Pannekoek van Rheden in 1910-1912)

Hutabarat, J., A.D. Haryanto & L. Sarmili (2006)- Petrografi batuan beku volkanik bawah laut kompleks Gunung Komba, Laut Flores, Indonesia. Bull. Scientific Contribution (UNPAD) 4, 1, p. 62-67.
(online at: http://jurnal.unpad.ac.id/bsc/article/viewFile/8115/3691)
('Petrography of submarine volcanic rocks of the Mount Komba complex, Flores Sea, Indonesia'. Dredge samples from water depths 130-900m of Gunung Komba submarine volcano complex, NE of Flores, composed of andesite-basaltic lava flows. Varying degrees of propylitic or sericitic alteration)

Idrus, A. (2006)- Petrology, geochemistry, and compositional changes of diagnostic hydrothermal minerals within the Batu Hijau porphyry copper-gold deposit, Sumbawa Island, Indonesia: Ph.D. Thesis RWTH Aachen University, p. 1-351. *(Unpublished)*

Idrus, A. (2006)- P-T conditions and oxygen fugacity of the intrusion emplacement at the Batu Hijau porphyry copper gold deposit, Sumbawa Island: a constraint from geothermobarometric data. Media Teknik (UGM) 28, 2, p. 11-18.
(Large Batu Hijau porphyry copper-gold deposit in SW Sumbawa. Tonalite porphyries emplaced at ~5.5 km depth (764°C, 1.5 kbar). Hornblende and plagioclase crystallized at 540°C. Uplift rate since 3.7 Ma 1.2 mm/yr)

Idrus, A. (2008)- Transport and deposition of copper and gold in porphyry deposit: a constraint from microthermometry and hydrothermal biotite chemistry. Media Teknik (UGM) 30, 3, p. 276-283.
(On deposition of copper and gold in Batu Hijau porphyry deposit, SW Sumbawa)
(online at: http://isjd.pdii.lipi.go.id/admin/jurnal/3308276283.pdf)

Idrus, A. (2018)- Petrography and mineral chemistry of magmatic and hydrothermal biotite in porphyry copper-gold deposits: a tool for understanding mineralizing fluid compositional changes during alteration processes. Indonesian J. on Geoscience (IJOG) 5, 1, p. 47-64.
(online at: https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/402/254)
(On magmatic and hydrothermal biotite in Batu Hijau porphyry copper-gold deposit, Sumbawa)

Idrus, A. (2018)- Halogen chemistry of hydrothermal micas: a possible geochemical tool in vectoring to ore for porphyry copper-gold deposit. J. Geoscience Engineering Environment Technology (JGEET) 3, 1, p. 30-38.
(online at: journal.uir.ac.id/index.php/JGEET/article/download/1022/797/)
(On hydrothermal micas in alteration zone of Batu Hijau porphyry copper-gold deposit, Sumbawa)

Idrus, A., J. Kolb & F.M. Meyer (2006)- Physicochemistry and evolution of ore-related hydrothermal fluids at the Batu Hijau porphyry copper-gold deposit: a constraint from mineral composition and microthermometry. Proc. 35th Annual Conv. Indonesian Association Geologists (IAGI), Pekanbaru, p. 1-15.
(Changes in mineral chemistry in Batu Hijau porhyry copper deposit document progressive chemical fluid evolution, with predominance of magma-derived fluids in central deposit and increasing degree of mixing with less saline, cool meteoric water from towards the distal deposits)

Idrus, A., J. Kolb & F.M. Meyer (2007)- Chemical composition of rock-forming minerals in copper-gold-bearing tonalite porphyry intrusions at the Batu Hijau deposit, Sumbawa Island, Indonesia: implications for crystallisation conditions and fluorine-chlorine fugacity. Resource Geology 57, 2, p. 102-113.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1751-3928.2007.00010.x/epdf)
(Batu Hijau copper-gold porphyry deposit on Sumbawa related to emplacement of multiple stages of Pliocene (~3.7 Ma) tonalite porphyries into Late Oligocene- M Miocene andesitic volcanics. Tonalites emplaced at ~764°C and hornblende and plagioclase phenocrysts crystallized at depths of ~5.5 km)

Idrus, A., J. Kolb, F.M. Meyer, J. Arif, D. Setyandhaka & S. Kepli (2009)- A preliminary study on skarn-related calcsilicate rocks associated with the Batu Hijau porphyry copper-gold deposit, Sumbawa Island, Indonesia. Resource Geology 59, 3, p. 295-306.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1751-3928.2009.00097.x/epdf)

(Deep drilling at Batu Hijau porphyry Cu-Au deposit on Sumbawa indicates several intervals of calcic-exoskarn near contact with copper-gold-bearing tonalite porphyries. Massive magnetite-chalcopyrite-pyrite assemblages formed by contact metasomatism of andesitic volcaniclastic rocks)

Idrus, A., F.M. Meyer & J. Kolb (2009)- Mineralogy, lithogeochemistry and elemental mass balance of the hydrothermal alteration associated with the gold-rich Batu Hijau porphyry copper deposit, Sumbawa Island, Indonesia. Resource Geology 59, 3, p. 215-230.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1751-3928.2009.00092.x/epdf)
(Hydrothermal alteration and mineralisation at Batu Hijau porphyry copper-gold deposit developed in four stages. Early central biotite alteration associated with highest copper-gold grades and originated by magmatic hydrothermal fluid. Emplacement of tonalite porphyry intrusions at ~3.7 Ma)

Idrus, A. & E.B. Pramutadi (2008)- Mineralisasi bijih dan geokimia batuan samping vulkanoklastik andesitik yang berasosiasi dengan endapan tembaga- emas porfiri Elang, Pulau Sumbawa, Nusa Tenggara Barat. Seminar Nasional Aplikasi Sains dan Teknologi 2008, IST AKPRIND, Yogyakarta, p. 29-37.
(online at: http://repository.akprind.ac.id/sites/files/conference-paper/2008/idrus_21165.pdf)
('Ore mineralization and geochemistry of volcanoclastic andesitic rocks associated with the deposition of copper-gold porphyry of Elang, Sumbawa, West Nusa Tenggara'. Elang porphyry copper-gold deposit in Late Oligocene-M Miocene andesitic volcaniclastic rocks with multiple Miocene-Pleistocene (mainly at ~3.7 Ma) tonalite intrusions)

Iksan Bin Matrais, D. Pfeiffer, R. Soekardi & L.W. Stach (1972)- Hydrogeology of the island of Lombok. Beihefte Geologisches Jahrbuch, 123, p. 1-23.
(Summary of 1969-1970 hydrogeological survey of Lombok. S Lombok mainly E Miocene ('Old Andesite') andesite-dacite volcanics, overlain by 150m of S-dipping U Miocene limestones. Mainly Quaternary volcanics in northern mountains. With 1:400k scale hydrogeologic map)

Imai, A. & Y. Nagai (2009)- Fluid inclusion study and opaque mineral assemblage at the deep and shallow part of the Batu Hijau porphyry Cu-Au deposit, Sumbawa, Indonesia. Resource Geology 59, 3, p. 231-243.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1751-3928.2009.00093.x/epdf)
(Batu Hijau mine on SW Sumbawa is only porphyry type deposit in production in Sunda-Banda arc, Indonesia. Sumbawa island formed by E Miocene- Recent volcanism on ~14-23 km thick oceanic crust. Four types of quartz veins. Bornite and chalcopyrite inclusions in coarse magnetite grains in quartz veins indicates hydrothermal activity initially deposited magnetite and copper sulfides at depth)

Imai, A. & S. Ohno (2005)- Primary ore mineral assemblage and fluid inclusion study of the Batu Hijau porphyry Cu-Au deposit, Sumbawa, Indonesia. Resource Geology 55, 3, p. 239-248.
(online at: http://onlinelibrary.wiley.com/doi/10.1111/j.1751-3928.2005.tb00245.x/epdf)
(Batu Hijau porphyry Cu-Au deposit associated with tonalitic intrusive complex. Bornite and chalcopyrite are major copper ore minerals associated with quartz veins. Temperature and pressure during hydrothermal activity at Batu Hijau deposit ~300 °C and 50 bars)

Irianto (1990)- Geologi gunungapi Sangeanapi, Bima- Nusatenggara Barat. Proc. 19th Annual Conv. Indonesian Association Geologists (IAGI), Bandung, 2, p. 214-219.
(online at: https://www.iagi.or.id/web/digital/48/19th-(11-13-Des-1990)-Book-II-202-207.pdf)
('Geology of the Sangeanapi volcano, Bima, West Nusatenggara'. Sangeang Api Quaternary active volcano off NE tip of Sumbawa island)

Irianto, B. & G.H. Clark (1995)- The Batu Hijau porphyry copper-gold deposit, Sumbawa Island, Indonesia. In: J.L. Mauk & J.D. St. George (eds.) Proc. Pacific Rim Congress 95, Auckland 1995, Australasian Institute of Mining and Metallurgy (AusIMM), Melbourne, Publ. Ser. 9-95, p. 299-304.

Johnstone, R.D. (2005)- Contrasting geothermal fields along the magmatic Banda Arc, Nusa Tenggara, Indonesia. Proc. World Geothermal Congress, Antalya, Turkey, 2005, p. 1-8.

(online at: http://iga.igg.cnr.it/geoworld/pdf/WGC/2005/0627.pdf)

Kadar, D. (1972)- Upper Miocene planktonic foraminifera from Bali. Jahrbuch Geologischen Bundesanstalt, Vienna, Sonderband 19, p. 58-70.
(online at: https://www.zobodat.at/pdf/JahrbGBA-SB_19_0058-0072.pdf)
(Well-illustrated descriptions of planktonic foraminifera from outcrops of open marine marls in SW Bali and calcareous sandstone from SE Bali, interpreted as latest Miocene in age (may include E Pliocene?; JTvG)

Kadar, D. (1973)- Notes on the age of the limestones in the southern peninsula, Bali Island. Direktorat Geologi Indonesia, Bandung, Publikasi Teknik- Seri Paleontologi, p. 13-15.
(Samples from 500-600m thick, S-dipping Selatan Fm limestones of southern peninsula of Bali, with Lepidocyclina (looks like rel. young radiate type; JTvG), Cycloclypeus and some planktonic foraminifera including Orbulina. Good evidence for Middle-Late Miocene age)

Kadar, D. (1978)- Upper Pliocene and Pleistocene planktonic foraminiferal zonation of Ambengan drill hole, southern part of Bali island. Proc. 2nd Working Group Meeting, Biostratigraphic datum-planes of the Pacific Neogene IGCP Project 114, Geological Research Development Centre (GRDC), Bandung, Special Publ. 1, p. 137-158.
(Planktonic foraminifera zones N21-N23 in 201 m deep Ambengan core hole)

Kazmer, M., R. Nahar & K. Gaidzik (2024)- Late Holocene seismic uplift events depicted by coastal karst formations in Bali, Indonesia. Quaternary International 712, 109577, p. 1-9.
(online at: https://www.sciencedirect.com/science/article/pii/S1040618224003641)
(Set of four marine limestone terraces at Suluban Beach, up to 2 m above level, linked to earthquakes)

Kepli, S., A. Bastian, H. Sulistyo & D. Hendri (2015)- Exploration significance of Elang porphyry Cu-Au deposit, Sumbawa, Indonesia. In: N.I. Basuki (ed.) Proc. Indonesian Soc. Economic Geologists (MGEI) 7th Annual Conv., Balikpapan, p. 35-46.
(Elang deposit is large Cu-Au orebody 60 km E of Batu Hijau mine on S Sumbawa. Discovered in 1991. Multiple diorite-tonalite intrusive complexes in andesitic volcanic unit. Resources 1476 Mt at 0.34% copper, 0.35 g/t gold and 1.0 g/t silver. Mineralization mainly chalcopyrite and minor bornite, related to multiple tonalite porphyry intrusions in andesitic volcanics)

Kant, W., I.W. Warmada, A. Idrus, L.D. Setijadji & K. Watanabe (2012)- Ore mineralogy and mineral chemistry of pyrite, galena, and sphalerite at Soripesa prospect area, Sumbawa Island, Indonesia. J. of Applied Geology (UGM) 4, 1, p. 1-14.
(online at: http://geologic-risk.ft.ugm.ac.id/fresh/jsaag/vol-4/no-1/jsaag04-art01-WinKant.pdf)
(Soripesa prospect area in E Sumbawa in lithic-crystal tuff of andesitic and dacitic composition and bedded limestone. Polymetallic epithermal quartz veins hosted by (Lower Miocene?) andesitic volcaniclastic rocks)

Kant, W., I.W. Warmada, A. Idrus, L.D. Setijadji & K. Watanabe (2012)- Fluid inclusion study of the polymetallic epithermal quartz veins at Soripesa prospect area, Sumbawa Island, Indonesia. J. Southeast Asian Applied Geology (UGM) 4, 2, p. 77-89.
(online at: https://jurnal.ugm.ac.id/jag/article/view/7199)
(Soripesa prospect at Maria village, Bima region in E Sumbawa Island in Cenozoic calc-alkaline volcanic inner Banda-Sunda Arc. Five main polymetallic epithermal quartz veins. Fluid inclusion stud suggest formation T of all veins are between 250-260◦C. Estimated paleodepths of formations are 270m for Merpati vein, 400m for Dollah vein, 480m for Rini vein, 570m for Arif vein, and 680m for Jambu Air vein. Etc..

Kemmerling, G.L.L. (1926)- De vulkaan G. Dobo op Flores. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap 43, 2, p. 257-
(‘The volcano G. Dobo on Flores’. Gunung Dobo near Maumere on Flores island commonly listed as active volcano, but it is not and needs to be reclassified. Probably confused with Gunung Egon)

Kemmerling, G.L.L. (1927)- Les volcans actifs de l'Ile de Flores. Bulletin of Volcanology (Bulletin Volcanologique) 4, 1, p. 50-68.
('The active volcanoes of Flores Island')

Kemmerling, G.L.L. (1929)- Bespreking van Ehrat, H., Die Tiefengesteine der kleinen Sunda Inseln. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (KNAG) (2), 46, p. 273-275.
('Review of Ehrat (1928) paper on plutonic rocks from Flores and other northern Lesser Sunda Islands, occurring mainly as granodiorite and gabbro inclusions in Recent lavas. In Flores granite, diotite and gabbro in outcrop. All collected during Ehrat's private expedition the Lesser Sunda Islands)

Khant, W., I.W. Warmada, A. Idrus, L.D. Setijadji & K. Watanabe (2012)- Alteration mineralogy and quartz textures of polymetallic epithermal quartz veins at Soripesa prospect area, Sumbawa Island, Indonesia. Proc. 2nd Asia Africa Mineral Resources Conferences, Bandung 2012, p. 1-6.
(online at: www.researchgate.net/publication/259990678_Alteration_Mineralogy_and_Quartz_Textures Etc.)

Khant, W., I.W. Warmada, A. Idrus, L.D. Setijadji & K. Watanabe (2013)- Geochemical characteristics of host rocks of polymetallic epithermal quartz veins at Soripesa prospect area, Sumbawa Island, Indonesia. Procedia Earth Planetary Science 6, p. 30-37.
(online at: https://www.sciencedirect.com/science/article/pii/S1878522013000052)
(Soripesa prospect area in Wawo district, Bima region, E Sumbawa, with five main polymetallic epithermal quartz veins. Host rocks mainly lithic-crystal tuff of andesitic and dacitic composition (formed in volcanic arc basalt and island arc basalt tectonic setting) and bedded limestone)

Khant, W., I.W. Warmada, A. Idrus, L.D. Setijadji & K. Watanabe (2013)- Host rocks' geochemistry and mineralization potential of polymetallic epithermal quartz veins at Soripesa prospect area, Sumbawa Island, Indonesia. J. Southeast Asian Applied Geology (UGM) 5, 1, p. 30-40.
(online at: http://geologic-risk.ft.ugm.ac.id/fresh/jsaag/vol-5/no-1/jsaag05-art04-WK.pdf)
(Soripesa prospect in Bima region, E Sumbawa, with five main polymetallic epithermal quartz veins. Dominant lithology andesitic- dacitic lithic-crystal tuff and bedded limestone. E Sumbawa underlain by Lower Miocene andesitic- basaltic lava and breccia, with intercalations of tuff and limestone, overlain by M Miocene dacitic tuff and bedded limestone. Units intruded by numerous small-medium bodies in M-U Miocene. Formation of quartz veining, alteration and mineralization at Soripesa related to N-S faulting. Host rocks of veins formed in volcanic arc basalt and island arc basalt tectonic settings)

Kirom, N., A. Idrus, L.D. Setijadji & A. Vanessa (2024)- Geology and ore mineralization characteristics of the Selodong Prospect, Lombok Island, Indonesia. Proc. Int. Conf. Geological Engineering and Geosciences, Yogyakarta 2023, IOP Conference Series: Earth and Environmental Science 1373, p. 012038, p. 1-16.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/1373/1/012038/pdf)
(Selodong gold prospect in SW Lombok in eroded portions of Miocene arc with porphyry Cu-Au mineralized complexes. Likely porphyry deposit type, transitional to overlying high sulfidation epithermal mineralization)

Koesoemadinata, S., Y. Noya & D. Kadarusman (1994)- Geological map of the Ruteng Quadrangle, Nusa Tenggara, 1: 250,000. Geological Research Development Centre (GRDC), Bandung.
(online at: https://perpustakaan.big.go.id/index.php?p=fstream-pdf&fid=2290&bid=5390)
(Western Flores island map. Among oldest formations is M Miocene Nangapanda Fm, >1000m thick, mainly pelagic clastics at base, sands and limestones towards top (~16.2-10.2 Ma; Muraoka et al. 2002). Unconformably overlain by Late Miocene- Pliocene Waihekang tuffaceous sediments and Wangka Andesite (K-Ar ages 4.13, 2.96 Ma; Muraoka et al. 2002). Common young volcanic deposits

Komazawa, M., K. Matsukubo, Z. Nasution & Sundhoro (2002)- Gravity anomalies of the central Flores Island, Indonesia. Bull. Geological Survey of Japan 53, 2/3, p. 231-238.
(online at: https://www.gsj.jp/data/bulletin/53_02_15.pdf)

Kusnida, D. (2001)- Results of a marine geophysical survey in the Bali basin, Indonesia. Proc. 37th Annual Session CCOP, Bangkok 2000, 2, United Nations ESCAP, Technical Reports, p. 122-128.
(Marine geophysical survey in deep water Bali Basin, between East Java and Flores basins. Back arc basin developed on SE Sunda shelf margin, underlain by thinned transitional to continental like crusts. Present tectonic activity governed by Late Pliocene collision of Indian-Australian and Eurasian plates. Three Late Pliocene-Recent deep-water seismostratigraphic sequences, probably indicating three stages of differential tectonic uplift of surrounding highs)

Kusnida, D., I.N. Astawa & A. Wahib (1992)- Preliminary results of marine geophysical surveys in the Bali Sea, eastern Madura Strait. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 2, 13, p. 2-7.
(Seismic and magnetic anomalies in series of profiles from N of Bali/ E Madura Straits. Late Neogene folding event shown along S flank of Madura-Kangean High. -200mgal contour on steep slope of Total Magnetic Anomaly contour map (close to 150m bathymetric contour) indicates E-W trending boundary between SE passive margin of Sunda Shelf in N and W-most tip of Flores backarc basin in S)

Kusnida, D., E. Mirnanda;,T.B. Nainggolan, Subagio & A. Albab (2023)- Interpretation and mapping of geologic structure in the Bali Basin based on integrated gravity, magnetic, and seismic data analysis. The Leading Edge 42, 12, p. 837-844.

Kusnida, D., M.E.R. Suparka & M.I.T. Taib (2000)- Basement rocks interpretation of the Bali backarc basin: deduced from marine geomagnetic data. Proc. 29th Annual Conv. Indonesian Association Geologists (IAGI), Bandung, 4, p. 227-234.
(Marine magnetic survey data from deep basin N of Bali-Lombok suggest underlain by 6-9.5km thick gabbroic-basaltic oceanic or transitional crust)

Kusnida, D., M.T. Zen, M.I.T. Taib & M. Bayuargo (2000)- A preliminary appraisal of the magnetic anomalies over the Bali backarc basin- Indonesia. Proc. 36th Session Coord. Comm. Coastal and Offshore Programmes E and SE Asia (CCOP), Hanoi 1999, p. 73-81.
(Marine geomagnetic survey data from deep water Bali backarc basin N of Bali and Madura Straits show different character. Madura Straits and Madura-Kangean high total magnetic intensity anomalies and underlain by dioritic rocks, Bali Basin low magnetic intensity and interpreted to be underlain by basaltic rocks)

Large, S.J.E., J.F. Wotzlaw, M. Guillong, A. von Quadt & C.A. Heinrich (2020)- Resolving the timescales of magmatic and hydrothermal processes associated with porphyry deposit formation using zircon U-Pb petrochronology. Geochronology 2, 2, p. 209-230.
(online at: https://www.researchgate.net/publication/343355657_Resolving_the_timescales_of_magmatic_and_hydrothermal_processes_associated_with_porphyry_deposit_formation_using_zircon_U-Pb_petro Etc.))
(High-precision Zr geochronology (CA-ID-TIMS) and spatially resolved Zr geochemistry (LA-ICP15 MS) used to constrain magmatic evolution of magma reservoir at Pliocene Batu Hijau porphyry-Cu-Au deposit. Emplacement of the oldest pre- to syn-ore tonalite ~3.74 Ma; youngest tonalite porphyry cutting economic Cu-Au mineralisation 3.65 Ma, constraining duration of metal precipitation to less than 90 ± 32 kyr)

Liang, Y., X. Sun, W. Zhai, A. Li, Li Xu, Q. Tang & J. Liang (2009)- Geochemistry of ore-forming fluids and genesis of Soripesa Cu-polymetallic deposit in Indonesia. Geology and Exploration 45, 1, p. 41-45.
(Soripesa epithermal hydrothermal Cu-polymetallic deposit on Sumbawa with three types of fluid inclusions)

Luschen, E., C. Muller, H. Kopp, M. Engels, R. Lutz, L. Planert, A. Shulgin & Y.S. Djajadihardja (2011)- Structure, evolution and tectonic activity of the eastern Sunda forearc, Indonesia, from marine seismic investigations. Tectonophysics 508, p. 6-21.
(online at: https://www.academia.edu/49178646/Structure_evolution_and_tectonic_activity_of_the_eastern_Sunda_forearc_Indonesia_from_marine_seismic_investigations)
(Study of forearc structures of E Sunda Arc. Seismic profiles show high along-strike variability of subducting oceanic plate, accretionary wedge, outer arc high, forearc basins, etc. Images of large-scale duplex formation

of oceanic crust and mud diapyrs. Wrench fault system in E Lombok forearc basin decouples subduction regime of Sunda Arc from continent-island arc collision regime of W Banda Arc)

Malawani, M.N. (2023)- Impacts of volcanic eruptions on the landscape evolution of Lombok Island, Indonesia. Geography. Universite Pantheon-Sorbonne, Paris I, p. 1-254.
(online at: https://theses.hal.science/tel-04531914v1/file/MALAWANI.pdf)
(On impacts of volcanic eruptions on Lombok Island, from field studies and ancient manuscripts, primarily about impacts of 1257 CE Samalas volcano eruption in W Lombok (ejecta volume ~40 km3 dense rock equivalent, leaving 6km-wide caldera) and the giant >500km^2, 40km wide Holocene Kalibabak debris avalanche deposit (volcanic sector collapse and resulting debris avalanche S of Samalas volcano between 5,000- 2,600 BCE) (ranking 3rd after Raung and Galunggung debris avalanch deposits). Etc.)

Malawani, M.N., D.S. Hadmoko, F. Lavigne, R.F. Agniy, D.M. Hayat, R.D. Astabella, A. Laksono, Syamsuddinn & B.W. Mutaqin (2024)- Review on the impacts of the Samalas Eruption (1257 CE) to the hydrogeological conditions of Mataram, Lombok. Indonesian J. on Geoscience (IJOG) 11, 3, p. 339-348.
(online at: https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/953/482)
(Mataram Plain alluvial layer of sand mixed woth Samalas pumice now forms unconfined freshwater aquifer)

Malawani, M.N., F. Lavigne, D.S. Hadmoko,M.A. Marfai & B.W. Mutaqin (2020)- Hummocky terrain of the Kalibabak debris avalanche deposit, Lombok Island, Indonesia. Proc. 1st Geosciences and Environmental Sciences Symposium (ICST 2020), UGM, Yogyakarta (virtual), E3S Web of Conferences 200, 02015, p. 1-6.
(online at: https://www.e3s-conferences.org/articles/e3sconf/pdf/2020/60/e3sconf_icst2020_02015.pdf)
(Kalibabak volcaniclastic debris avalanche deposit in central Lombok Island (S of Rinjani/Samalas volcanic complex). Hummock field spans ~200 km^2, with volume ~ 8.8 km^3 and >756 hills/hummocks, with av. size 2.7 ha and height 10-20m. Distance between hummocks ~150-300m. Hummocks characterized by steep slopes (25-45 %). Max. runout distance ~36km, larger than any known volcanic debris avalanche, like Mt St Helens, etc. (see also Malawani etal. 2024, below, with larger dimensions for Lombok debris avalanche))

Malawani, M.N., F. Lavigne, D.S. Hadmoko, Syamsuddin, L. Handayani, Y. Sudrajat et al. (2023)- Coastal sedimentation and topographic changes in the Mataram Plain, Lombok (Indonesia) following the 1257 CE eruption of Samalas volcano. Earth Surface Processes and Landforms 48, 10, p. 2100-2116.
(The 1257 CE eruption of Samalas volcano, buried entire island of Lombok beneath various thicknesses of pyroclastic material during VEI 7 event. Relief has not significantly changed in last 700 yrs, except for location of river mouths and degree of rivers meandering, and~1.6 km of shoreline progradation)

Malawani, M.N., F. Lavigne, K. Kelfoun, P. Lahitte, D.S. Hadmoko, C. Gomez, P. Wassmer, Syamsuddin & A. Faral (2024)- Large debris avalanche and associated eruptive event at Samalas volcano, Lombok, Indonesia. Bulletin of Volcanology 86, 3, 202486, p.
(Vast area in middle of Lombok Island dominated by hummock hills, interpreted as Kalibabak debris avalanche deposit that may have originated from sector collapse of Samalas volcano (area 535 km^2). Width 41 km, runout distance up to 39 km from source. Average thickness 28 m, max. thickness 58 m, volume ~15 km^3. Possibly tied to eruption that produced Propok pumice fall deposit at ~ 3,500 BCE)

Mangga, S.A., S. Atmawinata, B. Hermanto, B. Setyogroho & T.C. Amin (1994)- Geologic map of Lombok, Nusatenggara, sheet 1807, scale 1:250,000. Geological Research Development Centre (GRDC), Bandung.
(Lombok Island oldest rocks along S coast, composed of latest Oligocene- E Miocene Pengulung Fm volcanic breccias and lavas, overlain by Miocene Ekas Fm limestone and with Miocene dacite/basaltic intrusives (= 'Old Andesites'; continuation of Southern Mountains of Java - S Bali). N part of island mainly covered by Late Pliocene- Recent volcanics from Rinjani volcano complex)

Maryono, A. (2015)- Overview of the tectonic setting and geology of porphyry copper-gold deposits along the Eastern Sunda magmatic arc, Indonesia. In: World-class ore deposits: discovery to recovery, SEG 2015 Int. Conf., Hobart, 1p. *(Abstract only)*

(online at: www.segweb.org/SEG/_Events/Conference_Archives/2015/Conference_Proceedings/files/pdf/Oral-Presentations/Abstracts/Maryono.pdf)
(E Sunda arc major porphyry metallogenic belt (Tumpangpitu/ Tujuh Bukit Au-Ag-Cu deposit in E Java, Batu Hijau and Elang on Sumbawa). Porphyry mineralization confined to E segment (E Java to Sumbawa), where Roo Rise subducting beneath island arc. Subeconomic porphyry prospects at Selogiri, Ciemas, Cihurip with low sulfidation epithermal deposits (Pongkor, Cikotok, Cibaliung, Cikondang, Arinem) along W segment of Sunda arc, developed on thick continental crust on S Sundaland margin, associated with 'normal' Indian oceanic crust subduction. Porphyry deposits typically with large lithocaps (>20 km^2), with high sulfidation epithermal gold-silver veins within lithocaps at Elang, Selodong, Brambang and Tumpangpitu)

Maryono, A. & R. Harrison (2013)- Porphyry copper-gold mineralization styles along the Eastern Sunda magmatic arc, Indonesia. Proc. Symposium East Asia: Geology, exploration technologies and mines, Bali 2013, Bull. Australian Institute of Geoscientists (AIG) 57, p. 58-59. *(Extended Abstract)*
(online at: https://www.aig.org.au/library/publications/aig-bulletins/)
(E Sunda magmatic arc with three world class porphyry Cu-Au deposits: Batu Hijau, Elang, Tujuh Bukit. All mineral deposits tied to magmatic arc intrusions of Late Miocene- Pliocene age: 3.7 Ma at Batu Hijau, 2.7 Ma at Elang, 7.5 Ma at Selodong, 2.5 Ma at Pongkor and 3.0 Ma at Arinem)

Maryono, A., R.L. Harrison, D.R. Cooke, I. Rompo & T.G. Hoschke (2018)- Tectonics and geology of porphyry Cu-Au deposits along the eastern Sunda magmatic arc, Indonesia. Economic Geology 113, 1, p. 7-38.
(manuscript online at: https://eprints.utas.edu.au/26304/3/124588%20-%20Tectonics%20and%20geology%20of%20porphyry.pdf)
(Key paper. E Sunda arc hosts three premier porphyry Cu-Au deposits between E Java and Sumbawa: Batu Hijau, Elang, and Tumpangpitu. Built on island-arc crust where Roo Rise is being subducted. Along W Java segment of arc major epithermal deposits associated with poorly endowed porphyry prospects, on thick continental crust of S margin of Sundaland, associated with subduction of thin Indian oceanic crust. Porphyry Cu-Au deposits associated with small, nested, dioritic-tonalitic intrusive complexes, with mineralization during three main events. Large (>20 km^2) lithocaps with high-sulfidation epithermal systems. Porphyry deposits formed between 2-2.5 Ma, suggesting important change in metallogeny of arc at this time)

Maryono, A., R. Harrison, I. Rompo, E. Priowasono & M. Norris (2016)- Successful techniques in exploring the lithocap environment of the Sunda magmatic arc, Indonesia. Proc. 8th Annual Conv. Indonesian Soc. Economic Geologists (MGEI), Bandung, p. 7-13.
(On exploration techniques of large Cu-Au porphyry deposits under barren or mineralized lithocaps. Five major discoveries in last 15 years in E Java and Sumbawa)

Maryono, A., H. Lubis, A. Perdanakusumah & W. Hermawan (2005)- The Elang porphyry copper and gold mineralization style Sumbawa. In: S. Prihatmoko et al. (eds.) Indonesian mineral and coal discoveries, Indonesian Association Geologists (IAGI), Jakarta, Special Issue, p. 1-17.
(Elang porhyry copper-gold mineralization of SW Sumbawa, 60km E of similar Batu Hijau Cu-Au deposit. First discovered in 1991. Wall rocks Late Oligocene- M Miocene andesitic volcanics, with numerous M Miocene-Pliocene intrusions. Mineralization associated with Pliocene (2.7Ma) tonalite intrusions. Central Cu-Au+Mo zone, proximal As-Ag zone, distal Pb-Zn zone)

Maryono, A., L.D. Setijadji, J. Arif, R. Harrison & E. Soeriaatmadja (2012)- Gold, silver and copper metallogeny of the eastern Sunda magmatic arc, Indonesia. In: N.I. Basuki (ed.) Proc. Banda and Eastern Sunda arcs (BESA), Indonesian Soc. Economic Geologists (MGEI) Annual Convention, Malang 2012, p. 23-38.
(Same as Maryono et al. 2014, below)

Maryono, A., L.D. Setijadji, J. Arif, R. Harrison & E. Soeriaatmadja (2014)- Gold, silver and copper metallogeny of the eastern Sunda magmatic arc, Indonesia. Majalah Geologi Indonesia (IAGI) 29, 2, p. 85-99.
(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_detail/847)
(Same as Maryono et al. 2012, above) (Recent discovery of large porphyry gold-silver-copper deposit at Tujuh Bukit Project in Banyuwangy Regency of E Java. E astSunda Magmatic Arc built on thin island arc crust,

bounded by margin of Sundaland to W and by Australian continental crust to E. Five different ages of Cenozoic magmatic belts. Overwhelming number of gold, silver, and copper deposits associated with Late Miocene-Pliocene intrusions. E Sunda magmatic arc dominated by gold, silver, and copper, in porphyry and epithermal deposits. Mineralization styles similar to those in typical island arc settings, e.g. the Philippines)

Masturyono (1994)- Seismicity of the Bali region from a local seismic network; constraints on Bali back arc thrusting. Masters Thesis, Rensselaer Polytechnic Institute, Troy, NY, p. 1-92. *(Unpublished)*
(Locations of 513 microearthquakes near Bali island. Deepest events at 200 km depth, associated with N-dipping Wadati-Benioff zone of subducting Indian ocean lithosphere. Two prominent belts of shallow micro earthquakes (1) S belt along boundary of Sunda- Indian ocean plates and (2) opposite-dipping zone along island arc, showing back-arc thrusting N of Bali, dipping 15 -20° S. Back arc thrusting extends to 30km depth below S coast of Bali island)

Maula, S. & B.K. Levet (1996)- Porphyry copper-gold signatures and the discovery of the Batu Hijau deposit, Sumbawa, Indonesia. Proc. Conference Porphyry-related copper and gold deposits of the Asia Pacific Region, Cairns 1996, Australian Mineral Foundation (AMF), Glenside, p. 8.1-8.13.

McBride, J.H. (1987)- Arc-continent collision in the Banda Arc: new gravity observations integrated with geological and geophysical data. In: E. Brennan (ed.) Proc. Pacific Rim Congress 1987, Gold Coast, Australasian Institute of Mining and Metallurgy (AusIMM), Parkville, p. 887-890.
(New marine gravity data and gravity models of transect across Timor- Savu Sea. Main issue is major negative anomaly over Savu Sea)

McBride, J.H. & D.E. Karig (1987)- Crustal structure of the outer Banda Arc; new free-air gravity evidence. Tectonophysics 140, p. 265-273.
(online at: https://www.sciencedirect.com/science/article/pii/0040195187902344)
(Gravity analysis of W Timor- Savu Sea-Sumba region. Mass deficit below Savu Sea may be subducted lighter continental crust, downward flexing of upper crustal plate in forearc area, or anomalous low-density upper mantle. Gravity high over N Sumba Ridge in Savu Sea may be E-M Tertiary volcanic arc between present arc and Timor. Crust under N Savu Basin appears nearly oceanic, but thickens beneath modern arc)

McCaffrey, R. (1988)- Active tectonics of the eastern Sunda and Banda arcs. J. of Geophysical Research 93, B12, p. 15163-15182. *(online at: www.researchgate.net/publication/248791200_Active_tectonics_of_the_Eastern_Sunda_and_Banda_Arcs)*
(E Sunda arc and S Banda arc and forearc respond to collision by shortening in direction of convergence, elongating normal to convergence, and thrusting over back arc basin. Shallow thrust and strike-slip earthquakes beneath Banda Basin demonstrate deformation in back arc accommodating some of N-ward motion of Australia. N-S shortening of upper plate near Timor ~20% of predicted Australia- SE Asia convergence. Strike-slip faulting in Banda Basin results in E-ward motion of Banda arc, with thrusting at Aru Trough. Weber forearc basin on subducting lithosphere, without intervening asthenosphere, so subsides in response to sinking of subducting lithosphere. Birds Head subducts beneath Seram, is decoupled from Australian plate in W New Guinea and probably moves W or SW with respect to Australia)

McCaffrey, R. (1989)- Seismological constraints and speculations on Banda Arc tectonics. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Geology and geophysics of the Banda Arc and adjacent areas, Jakarta 1987, Netherlands J. of Sea Research 24, 2/3, p. 141-152.
(Shallow earthquakes show collision of Australian continent- Banda Arc shortens overriding Indonesian plate in N-S and elongates it in E-W direction by strike-slip and thrust faulting. Two plates subduct beneath Banda Arc: Australia-Indian Ocean plate N-ward and Birds Head SW-ward. Bird's Head subducted lithosphere beneath Seram Trough now reaches 300 km depth. At surface decoupling between Australia and Bird's Head probably by left-lateral strike slip at Tarera-Aiduna fault zone and convergence in New Guinea fold-and-thrust belt. Seismic quiescence at 50-380 km beneath Timor may result from removal of part of Australian continental crust prior to subduction of lower lithosphere; crust stacked up to form Timor Island)

McCaffrey, R., P. Molnar, W. Roecker & Y.S. Joyodiwiryo (1985)- Microearthquake seismicity and fault plane solutions related to arc-continent collision in the eastern Sunda arc. J. of Geophysical Research 90, B6, p. 4511-4528.
(online at: www.researchgate.net/publication/253364305_Microearthquake_seismicity_and_fault_plane Etc.)
(Microearthquakes used to model subducting Australian continental plate under Timor. Suggest leading edge of Australian continental lithosphere now at 150 km depth (at 45° slab angle that means subducted slab length = ~300km; at ~75km/My of convergence Australian margin continental crust arrived at Timor Trench at ~4 Ma). Fault plane solutions of several events show nearly vertical nodal planes trending parallel to strike of seismic zone, with down-to-NW displacement. These suggest subducted lithosphere presently detaching in 50-100 km depth range beneath E Savu Sea)

McCaffrey, R. & J. Nabelek (1984)- The geometry of backarc thrusting along the eastern Sunda arc, Indonesia: constraints from earthquake and gravity data. J. of Geophysical Research 89, B7, p. 6171-6179.
(online at: http://web.pdx.edu/~mccaf/pubs/mccaffrey_flores_jgr_1984.pdf)
(1978 earthquake N of Flores first seismic evidence for active backarc thrusting behind E Sunda arc)

McCaffrey, R. & J. Nabelek (1986)- Seismological evidence for shallow thrusting North of the Timor Trough. Geophysical J. International 85, 2, p. 365-382.
(online at: https://academic.oup.com/gji/article/85/2/365/727679)
(In E Sunda Arc infrequent, large earthquakes near volcanic arc within upper plate rather than as interplate events under forearc. 1977 event E of Alor and N of C Timor indicates nearly pure thrust mechanism at depth of 10 km, along S- dipping plane, probably related to Wetar thrust zone at S margin of Banda Sea backarc basin. Suggest most of plates convergence accommodated by thrusting of Banda Sea marginal basin S-ward beneath Sunda arc. Present geometry represents initial stage of reversal of arc polarity)

McCaffrey, R. & J. Nabelek (1987)- Earthquakes, gravity, and the origin of the Bali Basin: an example of a nascent continental fold-and-thrust belt. J. of Geophysical Research: Solid Earth 92, B1, p. 441-459.
(online at: https://www.researchgate.net/publication/248791246_Earthquakes_gravity_and_the_origin_of_the_Bali_Basin_An_example_of_a_Nascent_Continental_Fold-and-Thrust_Belt)
(Bali Basin is downwarp in Sunda Shelf crust produced by thrusting along Flores back-arc zone. Early foreland basin flanked by Tertiary Java Basin to W and oceanic Flores Basin to E)

McKechnie, K.R., I. Saracik & D.M. Sewell (1992)- Development of the Lerokis gold-silver-barite mine in Indonesia; challenges of a unique project. In: M. Simatupang & B.N. Wahju (eds.) Indonesian mineral development 1992, Indonesian Mining Association (IMA), p. 404-414.
(On discovery and development of Wetar Island barite deposits (See also Scotney et al. 2014))

Meldrum, S.J., R.S. Aquino, R.I. Gonzales, R.J. Burke, A. Suyadi, B. Irianto & D.S. Clarke (1994)- The Batu Hijau porphyry copper-gold deposit, Sumbawa Island, Indonesia. In: T.M. van Leeuwen et al. (eds.) Mineral deposits in Indonesia, Discoveries of the past 25 years, J. Geochemical Exploration 50, p. 203-220.
(online at: https://www.academia.edu/73563666/The_Batu_Hijau_porphyry_copper_gold_deposit_Sumbawa_island_Indonesia)
(Batu Hijau porphyry in SW Sumbawa world-class porphyry Cu-Au deposit in island arc setting, discovered by PT Newmont in early 1990s. Mineralisation hosted in tonalite intrusive complex, and diorite and metavolcanic wall rocks. Not much on age or regional geology)

Militaire Memories (1914)- De eilanden Alor en Pantar, residentie Timor en onderhoorigheden. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap 31, p. 70-102
(online at: https://resolver.kb.nl/resolve?urn=MMUBA13:001660001:pdf)
('The islands of Alor and Pantar, Timor Residency and dependencies'. Geographic descriptions of two Banda Arc volcanic islands, from 1910-1911 Military Exploration reports)

Miller, M.S., P. Zhang, M.P. Dahlquist, A.J. West, T.W. Becker & C.W. Harris (2021)- Inherited lithospheric structures control arc-continent collisional heterogeneity. Geology (GSA) 49, 6, p. 652-656.
(online at: https://www-udc.ig.utexas.edu/external/becker/preprints/m20.pdf)
(From W to E along Sunda-Banda arc, convergence of Indo-Australian plate transitions from subduction of oceanic lithosphere to arc-continent collision.Geological and geophysical data along Banda Arc place constraints on geometry and history of arc-continent collision. Ambient noise tomography shows velocity anomalies along strike and across arc, attributed to inherited structure of incoming and colliding rifted continental margin of Australian plate. Uplift from river profiles from outer arc islands suggests rapid uplift at ends of islands of Timor and W Sumba, which coincide with edges of subducted volcanic-margin protrusions)

Minarwan (2012)- Tectonic models of the Lesser Sunda islands. Berita Sedimentologi 25, p. 8-15.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/view/170
(Review of tectonic setting of Lesser Sunda islands, East of Java)

Monk, K.A., Y. de Fretes & G. Reksodiharjo-Lilley (1997)- The ecology of Nusa Tenggara and Maluku. The Ecology of Indonesia 5, Periplus Editions, Singapore, p. 1-966.

Muller, C., U. Barckhausen, A. Ehrhardt, M. Engels, C. Gaedicke, H. Keppler, R. Lutz, E. Luschen & S. Neben. (2008)- From subduction to collision; the Sunda-Banda Arc transition. EOS Transactions American Geophysical Union (AGU) 89, 6, p. 49-52.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2008EO060001
(Sunda-Banda part of Indian Ocean subduction zone has received less attention from earthquake studies than Sumatra segment, but may be just as hazardous. Overriding lithosphere is continental along Sumatra and Java, but oceanic crust farther E, along Lombok and Sumbawa)

Muraoka, H. & A. Nasution (2004)- En echelon volcanic arc as a key to recognize mantle diapirs in the Lesser Sunda Arc, Eastern Indonesia. J. Geothermal Research Soc. Japan 26, 3, p. 237-249.
(online at: www.journalarchive.jst.go.jp/...) (In Japanese with English summary)
(Flores to Alor segment of Lesser Sunda arc characterized by en echelon shaped volcanic islands, reflecting NNW-SSE left-lateral shear between N-moving Australian continent in East and relatively fixed Sundaland in West. Each element of 'en echelon volcanic islands is elongated dome consisting of anticline of volcanic basement units and rows of young volcanoes. Coexistence of both structures in same area can be explained when mantle diapirs are assumed)

Muraoka, H., A. Nasution, J. Simanjuntak, S. Dwipa, M. Takahashi, H. Takahashi, K. Matsuda & Y. Sueyoshi (2005)- Geology and geothermal systems in the Bajawa volcanic rift zone, Flores, Eastern Indonesia. Proc. World Geothermal Congress 2005, Antalya, Turkey, p. 1-13.
(online at: www.geothermal-energy.org/pdf/IGAstandard/WGC/2005/0629.pdf)
(Setting of Bajawa geothermal field, Flores, characterized by NNW-SSE left-lateral shear between N-moving Australia and rel. stable Sundaland in W, creating inner Lesser Sunda volcanic arc of en echelon volcanic islands. En echelon elements are ENE-WSW trending elongated domes, ~90 x 30 km, composed of culmination of cluster of young volcanoes. Oldest exposed unit M Miocene (~16.2-10.2 Ma) Nangapanda Fm submarine clastics, chert, limestone and pumice tuff. After hiatus subaerial volcanism of Wangka Andesite and Maumbawa Basalt at 4-3 Ma. Bajawa volcanic rift zone 60 monogenetic breccia cone volcanoes)

Muraoka, H., A. Nasution, M. Urai, M. Takahashi & I. Takashima (2002)- Geochemistry of volcanic rocks in the Bajawa geothermal field, central Flores, Indonesia. Bull. Geological Survey of Japan 53, p. 147-159.
(online at: https://www.jstage.jst.go.jp/article/bullgsj/53/2-3/53_147/_pdf)
(Volcanic rocks from Bajawa geothermal field, C Flores, include common tholeiitic basalt to dacite, but Bajawa rift zone volcanics calc-alkaline andesite)

Muraoka, H., A. Nasution, M. Urai, M. Takahashi, I. Takashima, J. Simandjuntak, H. Sundhoro, D. Aswin et al. (2002)- Tectonic, volcanic and stratigraphic geology of the Bajawa geothermal field, Central Flores, Indonesia. Bull. Geological Survey of Japan 53, p. 109-138.

(online at: https://www.jstage.jst.go.jp/article/bullgsj/53/2-3/53_109/_pdf)
(Evaluation of geothermal resources around Bajawa, Flores. Since 4 Ma, volcanic activity in C Flores and S coast. 800m uplift in both terranes in past 2.5 million years. Bajawa Cinder Cone Complex more than 60 cones aligned 20 km along NNW-SSE trending Bajawa rift zone rift zone, which formed after 0.8 Ma, related to left-lateral shear between N- moving Australian accretion block in E and relatively fixed Sundaland block in W)

Musper, K.A.F.R. (1928)- Over den ouderdom der intrusie-gesteenten van Flores. De Mijningenieur 8, p. 163-165.
('On the age of the intrusive rocks of Flores'. Brief note on age relationships between granitoid outcrops and surrounding Neogene sediments. Ehrat (1927) suggested likely Neogene age of intrusives on Flores, but lack of well-documented contact-metamorphic zones allows for possibility of older, pre-Neogene age of granites)

Mutaqin, B.W., F. Lavigne, Y. Sudrajat, L. Handayani, P. Lahitte, C. Virmoux, Hiden, D.S. Hadmoko et al. (2019)- Landscape evolution on the eastern part of Lombok (Indonesia) related to the 1257 CE eruption of the Samalas Volcano. Geomorphology 327, p. 338-350.
(One of most powerful eruptions of Holocene was Samalas eruption in 1257 CE on Lombok (W of Rinjani). Thick tephra fall covered entire island, and pyroclastic density currents (PDCs) up to 50m thick buried almost half of Lombok. Estimated ~4435 × 106 m3 of pumice-rich deposits over 171 km^2 buried E Lombok. Remaining volume of pumice after erosion only14% of initial volume)

Nebel, O., P.Z. Vroon, W. van Westrenen, T. Iizuka & G.R. Davies (2011)- The effect of sediment recycling in subduction zones on the Hf isotope character of new arc crust, Banda arc, Indonesia. Earth Planetary Science Letters 303, p. 240-250.
(In Banda Arc systematic decrease in Hf-Nd isotopes, suggesting along-arc increase in involvement of subducted continental material in arc magma source from <2% in NE to >2% in SW)

Nebel, O., P.Z. Vroon, D.F. Wiggers de Vries, F.E Jenner & J.A. Mavrogenes (2010)- Tungsten isotopes as tracers of core- mantle interactions: the influence of subducted sediments. Geochimica Cosmochimica Acta 74, 2, p. 751-762.
(Includes Th, W and U abundance data for E Indonesian sediments across Banda Arc, potentially useful to determine presence of subducted sediments in arc volcanics)

Nishimura, S., Y. Otofuji, T. Ikeda, E. Abe, T. Yokoyama, Y. Kobayashi, S. Hadiwisastra, J. Sopaheluwakan & F. Hehuwat (1981)- Physical geology of the Sumba, Sumbawa and Flores islands. In: A.J. Barber & S. Wiriyusono (eds.) The geology and tectonics of Eastern Indonesia, Geological Research Development Centre (GRDC), Bandung, Special Publ. 2, p. 105-113.
(Evidence of E Miocene 'Old andesite' arc volcanics from 19 ± 2 Ma zircon fission track age in Kiro Fm andesite of E Flores. Imply presence of Jurassic mudstones on Sumba without mentioning evidence for age. Paleomag data from Sumba suggests 60° CW rotation of Sumba between Jurassic-Miocene)

Noya, Y., G. Burhan & S. Koesoemadinata (1993)- Geology of the Alor and West Wetar quadrangle, Nusa Tenggara. 1:250,000. Geological Research Development Centre (GRDC), Bandung, p.
(online at: https://perpustakaan.big.go.id/index.php?p=fstream-pdf&fid=2282&bid=5380)

Noya, Y. & S. Koesoemadinata (1990)- Geology of the Lomblen quadrangle, East Nusatenggara. 1:250,000. Geological Research Development Centre (GRDC), Bandung, p. 1-17.

Padmawidjaja, T. (2010)- Kondisi geologi daerah Ruteng ditafsir pada data gaya berat. Jurnal Sumber Daya Geologi (JSDG) 20, 5, p. 251-260.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/177/173)
('Geological condition of the Ruteng area as interpreted from gravity data'. C Flores gravity survey shows locations of basement high and intermontane basins)

Pannekoek van Rheden, J.J. (1912)- Eenige geologische gegevens omtrent het eiland Flores. Jaarboek Mijnwezen Nederlandsch Oost-Indie 39 (1910), Verhandelingen, p. 132-138.
('Some geologic data on Flores Island'. Report on brief visit to Flores, noticing volcanoes, young coral limestone terraces up to 50-80m above sea leve,l and fossiliferous marls and tuffs of unspecified age)

Pannekoek van Rheden, J.J. (1913)- Overzicht van de geographische en geologische gegevens, verkregen bij de mijnbouwkundig-geologische verkenning van het eiland Flores in 1910 en 1911. Jaarboek. Mijnwezen Nederlandsch Oost-Indie. 40 (1911), Verhandelingen, p. 208-226.
('Overview of geographic and geological data obtained from the mining-geological reconnaissance of the island of Flores in 1910-1911'. Mainly young volcanic deposits, some associated with limestones. Due to unfavorable political situation, the previously reported occurrence of tin ore in the Ngada area (Wichmann, Van Schelle) could not be further investigated)

Pannekoek van Rheden, J.J. (1915)- Voorloopige mededeelingen over de geologie van Soembawa. Jaarboek. Mijnwezen Nederlandsch Oost-Indie 42 (1913), Verhandelingen, p. 15-21.
('Preliminary notes on the geology of Sumbawa'. Mainly young volcanics. Also older volcanics with associated sandstones and limestones, suggested to be of Miocene age by Elbert (mainly Middle Miocene larger foraminifera from samples collected by PvR desribed in Basel thesis of Van der Vlerk (1922))

Pannekoek van Rheden, J.J. (1918)- Geologische Notizen uber die Halbinsel Sanggar, Insel Soembawa (Niederlandisch-Ost-Indien). Zeitschrift fur Vulkanologie 4, 2/3, p. 85-192.
(online at: google books (without maps))
('Geological notes on the Sanggar Peninsula, Sumbawa Island'. Results of 'Mijnwezen' geological survey work in 1911-1913. Main feature of Sanggar Peninsula of N Sumbawa is historically active Tambora volcano. With appendix by A. Tobler on Late Neogene foraminifera from 10 samples, incl. Baculogypsina noetetraedra n.sp.)

Pannekoek van Rheden, J.J. (1920)- Einige Notizen uber die Vulkane auf der Insel Flores. Zeitschrift fur Vulkanologie 5, p. 109-163.
('Some notes on the volcanoes of Flores island'. Probably first review of Flores volcanoes, from survey conducted for Dienst van het Mijnwezen in 1910-1911, after Flores had only just become deemed safe to travel for Europeans. Petrography of samples see Drescher, 1921)

Pannekoek van Rheden, J.J. (1941)- Een merkwaardige grintbank in den Brang Enek (Eiland Soembawa, Ned.-Indie). Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap 58, 2p.
('A remarkable gravel bank in the Brang Enek (Sumbawa island)')

Planert, L., H. Kopp, E. Lueschen, C. Mueller, E.R. Flueh, A. Shulgin, Y. Djajadihardja & A. Krabbenhoeft (2010)- Lower plate structure and upper plate deformational segmentation at the Sunda-Banda arc transition, Indonesia. J. of Geophysical Research: Solid Earth 115, B8, B08107, p. 1-25.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2009JB006713)
(On effects of lower plate variability on upper plate deformational segmentation at Sunda-Banda arc transition. Incoming plate 8.6-9.0 km thick oceanic crust, progressively faulted and altered when approaching trench. Oceanic slab can be traced over 70-100 km beneath fore arc. Shallow serpentinized mantle wedge at ~16 km depth offshore Lombok is absent offshore Sumba. Thickness of fore-arc crust below Lombok Basin generally 9-11 km suggesting oceanic-type velocity structure, which precludes possible continuation of accreted Gondwana continental fragment from NW Australia into this area)

Polhaupessy, A.A. (2001)- Vegetation and environment of the Soa Basin, Central Flores. Majalah Geologi Indonesia (IAGI) 16, 3, p. 135-145.
(Palynology of Pleistocene mammal bearing deposits on Flores island)

Poorter, R.P.E. (1989)- Geochemistry of hot springs and fumarolic gases from the Banda arc. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 323-331.

Poorter, R.P.E., R. Kreulen, J.C. Varekamp, R.J. Poreda & M.J. Van Bergen (1991)- Chemical and isotopic compositions of volcanic gases from the East Sunda and Banda arcs, Indonesia. Geochimica Cosmochimica Acta 55, 12, p. 3795-3807.
(E Sunda Arc and Banda Arc represent continent-arc collision zone, with magma genesis influenced by subducted continent-derived material. Volcanic gases provide information on sources of volatiles in arc magmas. Abundant He and high He/Ar ratios consistent with subduction of terrigenous components in local sediments (or slivers of continental crust))

Praptisih (1994)- Fasies batugamping terumbu Kuarter di daerah Wera dan sekitarnya, Bima, Sumbawa. Proc. 23rd Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, 1, p. 33-40.
(online at: https://www.iagi.or.id/web/digital/62/3.pdf)
('Quaternary reefal limestone facies in the Wera area and surroundings, Bima, Sumbawa'. One modern and 7 uplifted Pleistocene coral reef terraces up to 120m elevation along N coast of Sumbawa. Overlie Quaternary volcanics. One C14 age date ~6300 years)

Pratama, B., D. Setyandaka, A. Maryono, W. Hermawam & C.H. Clode (2002)- Application of PIMA technology in defining gold and copper exploration targets in island arc settings. A case study from Sumbawa and Lombok, Indonesia. Proc. 31st Annual Conv. Indonesian Association Geologists (IAGI), Surabaya, 2, p. 954-967.
(online at: www.iagi.or.id/web/digital/18/APPLICATION-OF-PIMA-TECHNOLOGY-IN-DEFINING-GOLD-AND-COPPER-EXPLORATION-TARGETS-IN-ISLAND-ARC-SETTINGS;-A-CASE-STUDY-FROM-SUMBA)
(PT Newmont review of methodology of porphyry gold-copper exploration associated with Miocene- Pliocene volcanics on Sumbawa and Lombok, including the use of Portable Infrared Mineral Analyser for identifying argillic lithocaps)

Pratomo, I. & H. Rachmat (2011)- 'Fosil' gunungapi bawah laut, Tanjung Aan- Kuta, Lombok Selatan, Nusa Tenggara Barat. Proc. Joint 36th HAGI and 40th IAGI Annual Conv., Makassar, JCM2011-218, p. 1-9.
('Fossil submarine volcano, Kuta, S Lombok'. Submarine volcanic edifice recognized in Late Oligocene- E Miocene 'Old andesite' Pengulung Fm, S coast of Lombok)

Prihatmoko, S. (2021)- Eastern Sunda Arc: an emerging belt for porphyry Cu-Au and epithermal Au deposits. Presentation Webinar 40, Teknik Geofisika ITS, Surabaya, p. 1-35.
(online at: https://www.its.ac.id/tgeofisika/wp-content/uploads/sites/33/2021/06/Webinar-Teknik-Geofisika-ITS_Porphyry-Sunda_arc_Sukmandaru.pdf)

Priowasono, E. & A. Maryono (2002)- Structural relationships and their impact on mining at the Batu Hijau mine, Sumbawa, Indonesia. Proc. 31st Annual Conv. Indonesian Association Geologists (IAGI), Surabaya, 2, p. 943-953.
(online at: https://www.iagi.or.id/web/digital/18/STRUCTURAL-RELATIONSHIP-AND-THEIR-IMPACT-ON-MINING-AT-THE-BATU-HIJAU-MINE,-SUMBAWA,-INDONESIA.pdf)
(Porphyry veins, fractures, faults and joints in and around Batu Hijau mine in SW Sumbawa show 5 general structural trends, from early to late:N-S, E-W, NE, Radial and NW)

Priyono, A., A.D. Nugraha, M. Muzli, Ardianto, A.N. Aulia, B.S. Prabowo, Zulfakriza, S. Rosalia et al. (2021)- Seismic attenuation tomography from 2018 Lombok earthquakes, Indonesia. Frontiers in Earth Science 9, 639692, p. 1-16.
(online at: https://www.frontiersin.org/articles/10.3389/feart.2021.639692/full)
(Tomographic model across Lombok from 2018 earthquake and aftershocks. Main earthquake activity along S-dipping Flores back-arc thrust)

Purbo-Hadiwidjoyo, M.M. (1971)- Geological map, Bali, scale 1:250,000. Geological Survey Indonesia, Bandung.
(Also 2nd Edition in 1998. Most of Bali Late Miocene- Recent volcanics. Oldest rocks are Late Oligocene- E Miocene volcanics of Ulakan Fm in SE of island (= continuation of 'Old Andesites' belt of South Java).

Overlain by Late Miocene-Pliocene? reefal limestones of Selatan Fm in S (Nusa Dua, Nusa Pendida; should be M-L Miocene; D. Kadar (1973); looks like continuation of Wonosari Lst of Southern Mountains of Java?; JTvG))

Purwandono, A.F., D. Bonte, P. Utami, S. Pramumijoyo, A. Harijoko, F. Beekman & J.D. van Wees (2019)- Tectonic and compositional variation in Flores Island, Indonesia: implication for volcanic structure and geothermal occurrences. Proc. European Geothermal Congress The Hague (EGC 2019), p. 1-4. *(online at: www.researchgate.net/publication/337331311_Tectonic_and_compositional_variation_in_Flores_Island_Indonesia_implication_for_volcanic_structure_and_geothermal_occurrences) (also as Poster at uu.nl)*
(Flores Island is now transition zone from subduction (W) to collision of Australian Continental Crust (E). Trenchward migration of volcanism in W half of island. E Flores volcanism dominated by High-K volcanism, W Flores dominated by calc-alkaline - low-K volcanism. W Flores more heat source for geothermal energy (high volcano edifice spacing, thus higher potential geothermal energy)

Purwandono, A.F., D. Bonte, P. Utami, A. Harijoko, F. Deon, F. Beekman, S. Pramumijoyo & J.D. van Wees (2019)- Evolution of the volcanic arc on Flores Island, Indonesia, and its implication to geothermal resources. EGU General Assembly 2019, Geophysical Research Abstracts 21, EGU2019-16098, p. 1. *(Abstract only)*
(online at: https://meetingorganizer.copernicus.org/EGU2019/EGU2019-16098.pdf)
(Flores Island at transition from Indian Ocean plate subduction to collision of NW Australia continental crust. Mostly built by young volcanic activity that migrated from N-S in last 7 Ma. Two main magmatic periods: Oligocene-Late Miocene and Pliocene-Recent, with short hiatus. In W Flores, Oligo- Miocene volcanism formed in extensional regime due to opening of Flores and Savu basins, with volcanism mainly in N part of Flores Island. Pliocene-Recent volcanism formed in compressional regime and distributed to S of previous area in W Flores. In E Flores volcanism has not shifted. Volcanic edifices of Flores shortest spacing (av. 21km) in Sunda-Banda arc)

Puspito, N.T. & K. Shimazaki (1995)- Mantle structure and seismotectonics of the Sunda and Banda arcs. Tectonophysics 251, p. 215-228.
(P-wave tomography and earthquake focal points show subducted slab down to ~500 km below W Sunda Arc, but no seismicity >250 km. In E Sunda arc seismic gap between 300-500 km, but slab continuous into lower mantle. Banda arc seismicity down to ~650 km, slab dips gently and does not penetrate into lower mantle. Positive gravity anomaly along E Sunda arc larger than in W Sunda and Banda arcs. Along back-arc side of Sunda and Banda arcs, heat flow decreases from W to E. W Sunda Arc characterized by normal earthquakes along trench and back-arc thrust earthquakes N of volcanic line. In W and E Sunda arcs down-dip extensional earthquakes dominant down to 200 km, down-dip compression earthquakes below 500 km. Banda arc deep earthquakes extensional to 500 km; deeper state of stress not clearly defined)

Putra, Z.A.M., A. Idrus & I.M. Warmada (2024)- Mineralogical and ore-fluid characteristics of the Onto Porphyry-HSE transition in Hu'u district, West Nusa Tenggara, Indonesia. Proc. Int. Conf. Geological Engineering and Geosciences, Yogyakarta 2023, IOP Conference Series: Earth and Environmental Science 1373, p. 012039, p. 1-14.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/1373/1/012039/pdf)
(Onto gold-copper prospect in E Sumbawa, porphyry mineralization system associated with Neogene porphyry intrusion)

Rack, G. (1912)- Petrographische Untersuchungen an Ergussgesteinen von Soembawa und Flores. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 34, p. 42-84.
('Petrographic studies on volcanic rocks of Sumbawa and Flores'. Origunally published as Inaugural Dissertation at the Friedrich Wllhelms Universitat, Berlin, in July 1912. Descriptions of rocks collected by the Elbert 1909-1910 expedition in Sumbawa and Central Flores: andesites, dacites, leucite tephrite)

Rack, G. (1913)- Beitrage zur Petrographie von Flores. Centralblatt Mineralogie Geologie Palaontologie 1913, 5, p. 134-139.
(online at: https://www.zobodat.at/pdf/Centralblatt-Mineral-Geol-Palaeont_1913_0134-0139.pdf)

('Contributions to the petrography of Flores'. Follow-up of Rack (1912) paper, with petrographic descriptions of rocks collected by the Elbert 1909-1910 expedition near Larentoeka in E Flores: augite-olivine andesite, hyperthene-augite andesite and augite-andesite)

Ratman, N. & F. Agustin (2005)- Stratigrafi daerah Sumbawa Besar dan sekitarnya, Sumbawa. Jurnal Sumber Daya Geologi (JSDG) 15, 4 (150), p. 3-16.
('Stratigraphy of the Sumbawa Besar area and surroundings'. Rocks range in age from E Miocene- Holocene. Unfossiliferous E-M Miocene Pontotanu Fm volcanics interfinger with Airbeling Fm clastics and Batutering Fm limestone (with Lepidocyclina sumatrensis, Flosculinella bontangensis, Cycloclypeus). Three formations unconformably overlain by Mio-Pliocene Parateh Fm tuffs and Plio-Pleistocene Moyo Fm coralline limestone. M Miocene andesite intrusions and basalt. All units overlain by Quarternary volcanics)

Ratman, N. & I. Pratomo (2001)- Geologi Gili Trawangan, Gili Meon dan Gili Air (Nongol) lepas pantai barat laut P. Lombok. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 12, 122, p. 2-12.
('Geology of Gili Trawangan, Gili Meno and Gili Air (Nongol) off the NW coast of Lombok Island'. Gili Trawangan with Plio-Pleistocene basaltic pillow lavas, suggesting submarine eruption and Pleistocene uplift of island)

Ratman, N. & I. Pratomo (2002)- Tinjauan kembali stratigrafi Tersier, P. Lombok bagian selatan. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 12, 127, p. 2-14.
('Review of the Tertiary stratigraphy of the southern part of Lombok island'. Late Oligocene- Holocene clastics, limestones and volcanics)

Ratman, N. & A. Yasin (1978)- Geologic map of Komodo Quadrangle, Nusatenggara, 1: 250 000. Geological Research Development Centre (GRDC), Bandung.
(Geologic map of E Sumbawa- Komodo- W Flores islands, part of modern western Banda volcanic arc. Oldest rocks 'Old Volcanics' andesites- basalts (incl. pillow lavas and red cherts), associated E Miocene limestones. Overlain by M Miocene limestone (with Flosculinella bontangensis) and younger volcanics-dominated deposits. NW-SE trending normal faults on Sumbawa (Late Miocene?). Late Miocene intrusives associated with mainly dacitic volcanics and with mineralization (Au, Ag, Pb))

Robba, E., A. Franchino, G. Piccoli, M.P. Bernasconi & D. Kadar (1986)- Notes on the limestones of Bukit southern peninsula of Bali Island (Indonesia). Memorie di Scienze Geologiche, Padova, 38, p. 79-89.
(Planktonic and larger foraminifera from ~400m thick 'Selatan Fm' limestones on Bukit Peninsula of S Bali suggest lower Rembangian age (M Miocene): N9-N10 planktonic foram zones, Lower Tf larger foram zone. Samples of cliff near Ulawatu temple with Miogypsina (Lepidosemicyclina), Katacycloclypeus annulatus, etc. (looks like equivalent of Wonosari Lst of C-E Java Southern Mountains; JTvG))

Rompo, I., A. Rowe & A. Maryono (2012)- Porphyry Cu-Au and epithermal Au-Au mineralization systems in South West Lombok. In: N.I. Basuki (ed.) Proc. Annual Conv. Indonesian Soc. Economic Geologists (MGEI). Malang 2012, Banda and Eastern Sunda arcs, p. 283-
(On Selodong, etc., porphyry and high-sulfidation prospect in Late Oligocene-E Miocene andesitic arc volcanics of SW-most Lombok)

Saefudin, I. (1995)- Pentarikhan jejak belah tajur granitik daerah Wolowaru, Ende, Flores. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 5, 50, p. 29-38.
('Fission track analyses of Wolowaru area granites, Ende, Flores'. Late Miocene FT ages of hornblende granite and granodiorite from E Flores, NE of Ende, between ~7.5-10 Ma, with granodiorite ~1-2 Myr older)

Salman, R. E. O. Lindsey, K.H. Lythgoe, K. Bradley, M. Muzli, S.H. Yun, S.T. Chin, C.W.J. Tay et al. (2020)- Cascading partial rupture of the Flores Thrust during the 2018 Lombok earthquake sequence, Indonesia. Seismological Research Letters 91, 4, p. 2141-2151.
(Four earthquakes struck N Lombok in 3 weeks July-August 2018. Thought to be associated with Flores thrust, but exact mechanism remained elusive (likely associated with imbricate thrust faults above main Flores fault))

Santy, L.D. & A.J. Widiatama (2021)- Pedaro formation, equivalent of Plover sandstone at Savu Island, Outer Banda Arc. Int. Conf. Geological Engineering and Geosciences, Yogyakarta 2021, IOP Conference Series: Earth and Environmental Science 851, 012052, p. 1-12.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/851/1/012052/pdf)
(Outcops of 27-39m thick unfossiliferous quartz-rich sandstone in S Savu Island, here named Pedaro Fm. Lower part braided fluvial conglomerates, changing upward to tidal sand flat association of shale, sand and coal. Upper part thick -bedded quartz sandstone with thin siltstones, deposited in shoreface environment. Interpreted as E Jurassic interior craton deposit, correlated to E Jurassic 'Plover' Sst in Banli well, SW Timor)

Sarjan, A.F.N., Z. Zulfakriza, A.D. Nugraha, S. Rosalia, S. Wei, S. Widiyantoro, P.R. Cummins et al. (2021)- Delineation of upper crustal structure beneath the Island of Lombok, Indonesia, using Ambient Seismic Noise Tomography. Frontiers in Earth Science 9, 560428, p. 1-12.
(online at: https://www.frontiersin.org/articles/10.3389/feart.2021.560428/full)
(First ambient noise tomography survey on Lombok, in August- September 2018. 2-D tomographic maps good resolution in Cr and E Lombok. Low shear velocity up to 4 km depth beneath Rinjani Volcano, and E Lombok.NE of Rinjani Volcano characterized by higher Vs, possibly due to igneous intrusive rock at depth)

Sarmili, L. & J. Hutabarat (2014)- Indication of hydrothermal alteration activities based on petrography of volcanic rocks in Abang Komba submarine volcano, East Flores Sea. Bulletin of the Marine Geology (MGI, Bandung) 29, 2, p. 91-100.
(online at: http://ejournal.mgi.esdm.go.id/index.php/bomg/article/download/69/70)
(Mineral alteration on Abang Komba submarine volcano, Flores Basin, caused by hydrothermal solutions)

Sarmili, L. & M.A. Suryoko (2012)- The formation of submarine Baruna Komba Ridge on Northeast Flores waters in relation to low anomaly of marine magnetism. Bulletin of the Marine Geology (MGI, Bandung) 27, 2, p. 67-75.
(online at: ejournal.mgi.esdm.go.id/index.php/bomg/article/download/46/47)
(Three submarine ridges off NE Flores waters: Baruna Komba (S of Komba/Batutara active volcano), Abang and Ibu. Magnetic data suggest Baruna Komba Ridge not volcanic, but possibly volcanic detritus. Abang and Ibu Komba ridges related to submarine magmatism)

Schirra, M., O. Laurent, T. Zwyer, T. Driesner & C.A. Heinrich (2022)- Fluid evolution at the Batu Hijau porphyry Cu-Au deposit, Indonesia: hypogene sulfide precipitation from a single-phase aqueous magmatic fluid during chlorite-white-mica alteration. Economic Geology 117, 5, p. 979-1012. *(manuscript online at: https://hal.science/hal-04246717/file/Schirra%20et%20al.%202022_EconGeol_BatuHijau.pdf)*
(New formation model for Batu Hijau porphyry Cu-Au deposit: barren quartz veins formed at high T (>400°C) in central part of system, while sulfide mineralization started to form around this zone. The economic ore shell grew inward and downward as zone of active sulfide precipitation at 300°–360°C shifted in response to progressive descrease in T, while barren quartz vein formation continued in core at higher T. Etc. Cu-Fe sulfide precipitation by low-T aqueous fluid was driven by rehomogenization of S-rich vapor with Cu-rich brine originating from same input fluid. Selective dissolution of earlier quartz veins in inward- and downward-growing ore shell explains correlation between ore grades and density of earlier quartz veining (even though copper mineralization postdates quartz vein formation))

Schirra, M., T. Zwyer, T. Driesner & C.A. Heinrich (2020)- Hydrothermal fluid evolution at the Batu Hijau Cu-Au porphyry deposit, Indonesia.Meeting Abstract, p. 1-4. *(online at: https://meetings.chelscience.ru/wp-content/uploads/sites/34/2020/11/Abstract_BatuHijau_Schirra.pdf)*
(Model of ore formation in giant Batu Hijau Cu-Au porphyry deposit in SW Sumbawa by Swiss ETH team. Associated with multiple generations of low-K tonalite porphyry intrusions emplaced at ≤ 2km into volcano-sedimentary sequences at ~3.7 Ma. Ore metal precipitation dominantly postdates formation of quartz stockwork veins and is more closely associated with quartz re-dissolution and incipient feldspar-destructive alteration)

Scotney, P.M. (2002)- The geology and genesis of massive sulphide, barite-gold deposits on Wetar Island, Indonesia. Ph.D. Thesis, University of Southampton, p. 1-220.
(online at: https://eprints.soton.ac.uk/464943/1/895100.pdf)
(Pliocene volcanic hosted massive sulphide mounds ('black smoker deposits') at Wetar Island, with flanking Au-Ag-Hg-barite ore bodies. Island composed of Oligocene-Recent volcanics and minor oceanic sediments with mineralisation centers at Kali Kuning and Lerokis, ~3 km inland at 400-500m elevation. Ore bodies adjacent to rhyodacite domes. 40Ar/39Ar age of biotite of syeno-granite intrusion 4.7 ± 0.2 Ma, from overlying dacitic flow 2.4 ± 0.3 Ma. Massive sulphides mainly pyrite with some chalcopyrite. Mining removed Au-Ag-bearing barite sands at Lerokis and Kali Kuning. Ore bodies covered by post-mineralisation Globigerina bearing limestone, submarine debris flows and pyroclastics. K-Ar illite age of altered footwall volcanics gives mineralisation age of 4.7 ± 0.16 Ma; 40Ar/ 39Ar age of same sample 4.5 ± 0.2 Ma)

Scotney, P.M., S. Roberts, R.J. Herrington, A.J. Boyce & R. Burgess (2005)- The development of volcanic hosted massive sulfide and barite-gold orebodies on Wetar Island, Indonesia. Mineralium Deposita 40, 1, p. 76-99.
(online at: www.academia.edu/10121511/The_development_of_volcanic_hosted_massive_sulfide_and_barite_gold_orebodies_on_Wetar_Island_Indonesia)
(Wetar Island, Banda Arc, composed of Neogene volcanic rocks and minor oceanic sediments. Wetar volcanic edifice formed at ~12 Ma by extensive rifting and associated volcanism within oceanic crust. Youngest dated volcanic rock dacite of ~2. 4 Ma. 'Kuroko-type' volcanogenic precious metal-rich massive sulfide (mainly pyrite) overlain by barite deposits, which produced ~17 tonnes gold. Ages of hydrothermal alteration around ore bodies ~4.7-4.9 Ma. Sr isotopes of unaltered volcanic rocks suggest contributions from subducted continental material. Mineral deposits formed on flanks of volcano at water depth of ~2 km. Ore bodies covered by post-mineralization cherts, gypsum, Globigerina limestone, subaqueous debris flows and pyroclastics)

Self, S., M.R. Rampino, M.S. Newton & J.A. Wolff (1984)- Volcanological study of the great Tambora eruption of 1815. Geology (GSA) 12, 11, p. 659-663.
(Tambora 1815 eruption one of largest explosive volcanic events of past 10,000 yr, with ~175 km^3 of nepheline-normative trachyandesitic pyroclastic material was erupted in 24 hours. Plinian and co-ignimbrite ash fall >1 cm thick covered >500,000 km^2 of Java Sea and surrounding islands)

Seran, H. & C. Farmer (2012)- Scratching at the surface: hidden mineralization at Wetar? In: N.I. Basuki (ed.) Proc. Annual Conv. Indonesian Soc. Economic Geologists (MGEI). Malang 2012, Banda and Eastern Sunda arcs, p. 217-232. *(also in Majalah Geologi Indonesia (2013),28, 1, p. 51-63)*
(online at: www.bgl.esdm.go.id/publication/index.php/dir/article_download/720)
(Ongoing exploration for deeper metal prospects on Wetar Island. High sulfidation epithermal alteration may suggest presence of deeper porphyry style deposits that are related to known massive sulfides and extensive unexplored anomalies on island)

Setyandhaka, D. & J. Arif (2006)- Characteristics of the root of Cu-Au porphyry system: results of study from Batu Hijau Cu-Au porphyry deposit. Proc. 35th Annual Conv. Indonesian Association Geologists (IAGI), Pekanbaru, p. 1-11.
(online at: https://www.iagi.or.id/web/digital/15/2006_IAGI_Pekan-Baru_-Characteristics-Of-The-Root.pdf)
(Deep portion of world class Batu Hijau porphyry copper-gold system in SW Sumbawa shows high grade Cu-Au ores within host rock intrusion body of tonalites associated igneous breccia, and wall rocks of volcanics and quartz diorite. Below -600 m elevation mineralization almost barren even though still common quartz veins)

Setyandhaka, D., J. Proffett, S. Kepli & J. Arif (2008)- Skarn mineralization in Batu Hijau Cu-Au porphyry system. Proc. 37th Annual Conv. Indonesian Association Geologists (IAGI), Bandung, 1, p. 664-671.
(online at: https://www.iagi.or.id/web/digital/14/2008_IAGI_Bandung_Skarn-Mineralization-in-Batu.pdf)
(Sumbawa Batu Hijau deposit classic Cu-Au porphyry system. Several intervals of calc-silicate rock and skarn interbedded with volcanics. Potential to find significant skarn-type mineralizations)

Sewell, D.M. & C.J.V. Wheatley (1994)- Integrated exploration success for gold at Wetar, Indonesia. In: T.M. van Leeuwen et al. (eds.) Mineral deposits of Indonesia; discoveries of the past 25 years, J. Geochemical Exploration 50, 1-3, p. 337-350.
(online at: www.academia.edu/12327894/Integrated_exploration_success_for_gold_at_Wetar_Indonesia
(Wetar island gold discovery. Most significant Au values associated with barite-rich rocks in basinal structures)

Sewell, D.M. & C.J.V. Wheatley (1994)- The Lerokis and Kali Kuning submarine exhalative gold-silver-barite deposits, Wetar Island, Maluku, Indonesia. In: T.M. van Leeuwen et al. (eds.) Mineral deposits of Indonesia; discoveries of the past 25 years, J. Geochemical Exploration 50, 1-3, p. 351-370. *(online at: www.academia.edu/12327895/The_Lerokis_and_Kali_Kuning_submarine_exhalative_gold_silver_barite_deposits_Wetar_Island_Maluku_Indonesia)*
(Wetar Island (Banda Arc, N of Timor) composed of submarine volcanics, with oldest exposed rocks dated at 12 Ma. Basaltic andesite pillow lavas and volcaniclastics overlain by felsic volcanics and sediments. Gold-silver mineralization on N coast in stratiform barite sand, clay or silt. Sediments underlain by Cu-rich pyrite in volcanic breccias and overlain by limestone dated at ~4 Ma. Formed in submarine volcanic environment at 600m water depth in sea floor caldera. Now at 400m asl, suggesting 1000m of young uplift)

Shulgin, A., H. Kopp, C. Muller, E. Lueschen, L. Planert, M. Engels, E.R.Flueh, A. Krabbenhoeft & Y. Djajadihardja (2009)- Sunda-Banda arc transition: incipient continent-island arc collision (northwest Australia). Geophysical Research Letters 36, L10304, p. 1-6.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2009GL037533)
(E Sunda arc in early stages of continent-arc collision. Australian margin colliding with Banda island arc, causes back arc thrusting. New composite structural model reveals deep geometry of collision zone. Changes in crustal structure encompass 10-12 km thick Australian basement in S and 22-24 km thick Sumba Ridge in N, where backthrusting of 130 km wide accretionary prism is documented)

Sianipar D.S.J. (2022)- Earthquake source characteristics along the Flores Thrust Fault, Indonesia. Ph.D. Thesis, National Central University, Taiwan, p. 1-207.
(online at: https://sianipar17.com/earthquake-source-characteristics-along-the-flores-thrust-fault-indonesia)
(Seismically active, S-dipping Flores Thrust fault N of Lombok, Sumbawa and W Flores, in backarc of E Sunda-Banda arc, with several M5.7+ earthquakes recorded. Study of earthquakes between 1999 and 2022. Normal faulting event of 2003 was within subducted slab below Flores Thrust fault zone)

Sianipar D.S.J., B.S. Huang, K.F. Ma, M.C. Hsieh, P.F. Chen & D. Daryono (2022)- Similarities in the rupture process and cascading asperities between neighboring fault patches and seismic implications: The 2002-2009 Sumbawa (Indonesia) earthquakes with moment magnitudes of 6.2-6.6. J. Asian Earth Sciences 229, 105167, p.
(Study of seismic activity along S-dipping Flores Thrust)

Silitonga, F. (1994)- Gravity profiles of the back arc thrust zone, north offshore Sumbawa, Indonesia. In: J.L. Rau (ed.) Proc. 30th Session Comm. Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Bali 1993, 2, p. 33-42.
(online at: https://repository.unescap.org/items/177e9366-1a15-4fc9-986f-15520603d2c3)
(Major linear gravity low N of Sumbawa modeled as backarc accretionary prism, possibly with common shale diapyrism, on oceanic crust)

Silver, E.A., N.A. Breen, H. Prasetyo & D.M. Hussong (1986)- Multibeam study of the Flores backarc thrust belt, Indonesia. J. of Geophysical Research 91, B3, p. 3489-3500.
(online at: http://bpls.go.id/bplsdownload/library/paper/Silver-Flores-MB-JGR-86.pdf)
(SeaMARC II seafloor bathymetry and seismic reflection profiles used to map segment of Flores back arc thrust zone. Mud diapirs formed throughout accretionary wedge, but concentrated at ends of thrust faults. Overall orientation of deformation front of accretionary wedge is 100°)

Silver, E.A., D. Reed, R. McCaffrey & Y. Joyodiwiryo (1983)- Back arc thrusting in the eastern Sunda Arc, Indonesia: a consequence of arc-collision. J. of Geophysical Research 88, B9, p. 7492-7448.

(online at: https://www.academia.edu/62882398/Back_arc_thrusting_in_the_Eastern_Sunda_Arc_Indonesia_A_consequence_of_arc_continent_collision)
(Eastern Sunda arc backarc (N of volcanic arc) dominated by large N-directed thrusts (Wetar and Flores thrusts), likely representing early stage subduction polarity reversal. Mechanism of backarc thrusting not clear)

Simon, A. (1913)- Beitrage zur Petrographie der kleinen Sunda-Inseln Lombok und Wetar. Inaugural Dissertation Universitat Marburg, Germany, p. 1-74.
('Contributions to the petrography of the Lesser Sunda islands Lombok and Wetar'. Petrography of mainly andesitic volcanic rocks collected during the 1909-1910 Frankfurter Sunda-expedition of J. Elbert)

Soepri, W., P.A. Pirazzoli, C. Jouannic, H. Faure et al. (1992)- Differential vertical movement along the Sunda-Banda arc, Indonesia. In: M. Flower, R. McCabe & T. Hilde (eds.) Symposium Southeast Asia structure, tectonics and magmatism, Texas A&M, College Station, p. 1-3. *(Extended abstract only)*

Soeprihantoro, W. (1992)- Etude des terrasses recifales Quaternaires soulevees entre le detroit de la Sonde et l'ile Timor, Indonesie; mouvements verticaux de la croute terrestre et variations du niveau de la mer. Doct. Thesis University Aix-Marseille II, p. 1-922. *(Unpublished)*
('Study of the uplifted Quaternary reef terraces between Sunda Strait and Timor island; vertical movements of earth crust and variations of sea level')

Soeria Atmadja, R., Y. Sunarya, Sutanto & Hendaryono (1998)- Epithermal gold-copper mineralization associated with Late Neogene-magmatism and crustal extension in the Sunda-Banda Arc. Bull. Geological Society Malaysia 42, p. 257-268.
(online at: https://gsmpubl.files.wordpress.com/2014/09/bgsm1998021.pdf)
(Majority of gold-copper mineralization along Sunda-Banda arc low-sulfidation epithermal, related to Late Neogene fine silicic pyroclastics of calc-alkaline to potassic calc-alkaline affinity)

Subarsyah, D. Kusnida & L. Arifin (2014)- Interpretasi struktur bawah permukaan berdasarkan atribut anomali magnetik perairan Wetar, NTT. J. Geologi Kelautan 12, 1, p. 5-23.
(online at: ejournal.mgi.esdm.go.id/index.php/jgk/article/download/242/232)
('Subsurface structure interpretation based on magnetic anomaly attributes of Wetar waters, East Nusa Tenggara'. Identification of back-arc frontal thrust and submarine volcano edifices from magnetic and shallow seismic data in E Flores Sea/ S Banda Sea, N of Banda Arc islands Alor- Wetar)

Subarsyah & R. Rahardiawan (2016)- Geological structures appearances and its relation to mechanism of arc-continent collision, northern Alor-Wetar Islands. Bulletin of the Marine Geology 31, 2, p. 55-66.
(online at: http://ejournal.mgi.esdm.go.id/index.php/bomg/article/view/326/274)
(Shallow seismic lines in S Banda Sea, N of Alor- Wetar, in zone of recent back-arc thrusting. Delineation of Alor Thrust and Wetar Thrust, offset by N-S left-lateral strike-slip fault. Also possible submarine volcano structures)

Sudijono (1997)- On the age of the limestone in the island of Lombok, West Nusatenggara. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 7, 72, p. 14-34.
(Limestones in S Mountains of Lombok. Limestones generally in isolated outcrops, 36m or less thick. Three separate units, formerly all grouped in Ekas Fm: (1) Sekotong Lst in SW: latest Oligocene (Te1-4), with larger forams Miogysinoides complanatus and Spiroclypeus, and associated with 'Old Andesites' volcanics (2) C-S Lombok, near Orokgendang dam and Lawang Gua, E-M Miocene (upper Te5-Tf1-2) with Katacycloclypeus, Flosculinella bontangensis, Miogypsina, etc., associated with marls with zone N8 planktonic forams (looks like equivalent of Wonosari Lst of S Java; JTvG) and (3) SE Lombok, N of Ekas and Serewe, Late Miocene (Tf3/ N16) with Lepidocyclina (Trybliolepidina) rutteni and Radiocycloclypeus (see also Franchino et al. (1988)).

Sudradjat, A., S. Andi Mangga & N. Suwarna (1998)- Geologic map of the Sumbawa Quadrangle, Nusatenggara, scale 1: 250,000. Geological Research Development Centre (GRDC), Bandung.

(Geologic map of West and C Sumbawa. Miocene- Recent volcanic rocks, with E and M Miocene limestone lenses. With Tambora volcano in N)

Sulaeman, C., S. Hidayati, A. Omang & I.C. Priambodo (2018)- Tectonic model of Bali Island inferred from GPS Data. Indonesian J. on Geoscience (IJOG) 5, 1, p. 81-91.
(online at: https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/389/257)
(GPS campaign shows horizontal displacements between 1.9 and 22.5 mm/yr, dominantly to NE. Deformation in Bali mostly controlled by subduction in S and East Flores back-arc thrust in N)

Supendi, P., A.D. Nugraha, S. Widiyantoro, C.I. Abdullah, N. Rawlinson, P.R. Cummins, C.W. Harris, N. Roosmawati & M.S. Miller (2020)- Fate of forearc lithosphere at arc-continent collision zones: evidence from local earthquake tomography of the Sunda-Banda Arc transition, Indonesia. Geophysical Research Letters 47, 6, e2019GL086472, p. 1-9.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2019GL086472)
(New seismic P wave velocity model of Sunda-Banda Arc transition from local earthquake tomography shows (1) N-ward subduction of oceanic lithosphere, as high-velocity zone extending down to ~200 km depth; (2) two distinct low-velocity zones, one immediately above slab (likely zone of partial melt) 0-40 km deep, probably magma chambers associated with active volcanoes above; (3) N- dipping high-velocity zone that bisects two low-velocity anomalies, interpreted as underthrust forearc sliver of continental origin)

Supendi, P., N. Rawlinson, A.D. Nugraha, S. Widiyantoro, C.I. Abdullah, Daryono, B.S. Prayitno, M. Sadly & D. Karnawati (2022)- Focal mechanism analysis of the earthquakes beneath the Sunda-Banda Arc transition, Indonesia, using the BMKG data. Proc. 3rd Int. Conference on Geoscience and Earth Resources Engineering, Bandung 2021, IOP Conference Series: Earth and Environmental Science 1031, 012012, p. 1-6.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/1031/1/012012/pdf)
(Focal mechanism study for 20 events in Sunda-Banda transition region from 2014-2016 for earthquakes of magnitude Mw ≥ 5.0. Earthquakes in subduction zone rupture on thrust faults for shallow- intermediate events, while deep events have normal fault mechanisms. Shallow events in collision zone on thrust faults, generally parallel to Timor trough. Also normal fault mechanisms for deep events below collision zone, consistent with remnant slab activity that persists to today. Shallow events N of Sumbawa indicate thrust fault with strike almost parallel to back-arc thrust in area. Also evidence of strike-slip motion along local-scale faults)

Sutawidjaja, I.S. & Sugalang (2007)- Multi-geohazards of Ende city area. Jurnal Geologi Indonesia 2, 4, p. 217-233.
(online at: https://ijog.geologi.esdm.go.id/index.php/IJOG/article/view/40/40)
(Geohazard assessmnet of Ende area, Flores. Flores Island is segment of Banda Arc that contains 11 active volcanoes and numerous inactive volcanic cones)

Suwarno, N. & Y. Noya (1985)- Stratigrafi regional wilayah busur bergunungapi Nusatenggara. Proc. 14th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta 1985, p. 71-79.
(online at: https://www.iagi.or.id/web/digital/40/PIT_IAGI_1985_paper8.pdf)
('Regional stratigraphy of the central part of the Lesser Sunda Islands volcanic arc'. Stratigraphy of Bali-Alor sector of Sunda- Banda volcanic arc. Oldest rocks basaltic-andesitic volcanics, interfingering with E-M Miocene sediments ('Old Andesites' or younger?; JTvG). Overlain by late M or Late Miocene- Pliocene sediments (mainly limestones) and volcanics, unconformably overlain by Pleistocene- Holocene andesitic basaltic volcanics)

Suwarno, N., S. Santosa & S. Keosoemadinata (1989)- Geological map of the Ende Quadrangle, East Nusatenggara, Quadrangle 2207, 2208, 2307, 2308, scale 1:250,000. Geological Research Development Centre (GRDC), Bandung.
(Geologic map of East Flores Island. Oldest rock E-M Miocene Kiro and M Miocene Tanahau arc volcanics, some with pillow structures intruded by M Miocene granodiorites. Overlain by Late Miocene Waihekang Fm tuffaceous limestones with Lepidocyclina, Alveolinella and tuffaceous marine Loka Fm. With 21p. report)

Syuhada, S., N.D. Hananto, C.I. Abdullah, N.T. Puspito, T. Anggono, F. Febriani & B. Soedjatmiko (2020)- Lithospheric mantle anisotropy from local events beneath the Sunda–Banda arc transition and its geodynamic implications. Acta Geophysica 68, p. 1565-1593.
(High mantle anisotropy followed by rotational pattern of fast directions in area N of Timor may be related to the induced mantle flow due to lateral tearing of the slab)

Syuhada, S., N.D. Hananto, C.I. Abdullah, N.T. Puspito, T. Anggono & T. Yudistira (2016)- Crustal structure along Sunda-Banda Arc transition zone from teleseismic receiver functions. Acta Geophysica 64, p. 2020-2049.
(online at: https://link.springer.com/article/10.1515/acgeo-2015-0098)
(Teleseismic events recorded at 12 broadband stations from Sumbawa to Timor allow estimates of crustal thickness, etc., along Sunda-Banda arc transition zone. Crustal thickness of 34-37 km below Timor Island. Thick crust (> 30 km) also under Sumba and Flores. In Timor and Sumba high Vp/Vs ratio with low velocity zone possibly associated with presence of mafic-ultramafic materials and fluid filled fracture zone. High Vp/Vs ratio at Sumbawa and Flores volcanic Islands might be indication of partial melt related to upwelling of hot asthenosphere material through subducted slab)

Syuhada, S., N.D. Hananto, C.I. Abdullah, N.T. Puspito, T. Anggono, T. Yudistira & M. Ramdhan (2017)- Crustal anisotropy along the Sunda-Banda arc transition zone from shear wave splitting measurements. J. Geodynamics 103, p. 1-11

Syuhada, S., N.D. Hananto, C.I. Abdullah, N.T. Puspito, T. Yudistira & T. Anggono (2017)- Study on 2-D crustal shear wave splitting tomography along the Sunda-Banda Arc transition zone. Proc. Southeast Asian Conference on Geophysics, Bali 2016, IOP Conference Series: Earth and Environmental Science 62, 012054, p. 1-6.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/62/1/012054)

Takashima, I., A. Nasution & H. Muraoka (2002)- Thermoluminescence dating of volcanic and altered rocks in the Bajawa geothermal area, central Flores Island, Indonesia. Bull. Geological Survey of Japan 53, 2/3, p. 139-146.
(online at: https://www.gsj.jp/data/bulletin/53_02_07.pdf)
(Ages of young basalts-andesites around Bajawa geothermal area of C Flores, determined by thermoluminescence dating, range from 32-160 ka)

Tampubolon, B.T. & Y. Saamena (2009)- Savu Basin: a case of frontier basin area in Eastern Indonesia. Proc. 33rd Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, 1, IPA09-SG-078, p. 337-347.
(Review of deepwater (3km deep) Savu forearc basin, based on gravity, seismic and bathymetry data (no wells). Basin underlain by thin (12-14km) crust, probably oceanic. Relatively undeformed forearc basin fill unconformably on block-faulted pre-Late Miocene basement)

Tobler, A. (1918)- Notiz uber einige foraminiferenfuhrende gesteine von der Halbinsel Sanggar (Soembawa). Zeitschrift fur Vulkanologie 4, p. 189-192.
('Notes on some foraminifera-bearing rocks from the Sanggar Peninsula (Sumbawa)'. Appendix in Pannekoek van Rheden (1918) paper. Incl. first description of Schlumbergerella neotetraeda from Quaternary? limestones)

Ubaidillah, A.S., A. Idrus, I Wayan Warmada & S. Maula (2021)- Geology, rock geochemistry and ore fluid characteristics of the Brambang copper-gold porphyry prospect, Lombok Island, Indonesia. J. Geoscience Engineering Environment Technology (JGEET) 6, 1, p. 67-73.
(online at: https://journal.uir.ac.id/index.php/JGEET/article/view/6145/3128)
(Brambang copper prospect on Lombok shares key features with classic porphyry copper-gold deposits)

Umbgrove, J.H.F. (1939)- Miocene corals from Flores (East-Indies). Leidsche Geologische Mededelingen 11, 1, p. 62-67.
(online at: www.repository.naturalis.nl/document/549421)

(Corals from limestone at N coast of Flores near Papang, collected by Kuenen. 9 species, probably Miocene age, incl. Cyphastrea monticulifera, Progyrosmilia vacua, Fungophyllia spp., Leptoseris, Goniopora planulata)

Van der Vlerk, I.M. (1922)- Studien over Nummulinidae en Alveolinidae. Haar voorkomen op Soembawa en haar betekenis voor de geologie van Oost-Azie en Australie. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie 5, p. 329-464. *(also as Doct. Thesis Leiden University)*
(online at: https://resolver.kb.nl/resolve?urn=MMKB21:031771000:pdf)
('Studies on Nummulinidae and Alveolinidae. Their occurrence on Sumbawa and significance for the geology of East Asia and Australia'. Limestone samples from Sumbawa, collected by J. Pannekoek van Rheden, with Miocene larger foraminifera, incl. Lepidocyclina spp., Alveolinella (incl. Alveolinella fennemai Checchia Rispoli, A. globulosa Rutten, A quoii)), Miogypsina, Cycloclypeus (incl. C. annulatus), etc. (Looks like mainly M Miocene, equivalent of Wonosari Lst of S Java?. With discussions of Indonesian larger foram species and distribution. With locality map. Little stratigraphic info; JTvG))

Van der Werff, W. (1996)- Variation in forearc basin development along the Sunda Arc, Indonesia. J. Southeast Asian Earth Sciences 14, 5, p. 331-349.
(Includes details on fore-arc areas off Sumba)

Van der Werff, W., H. Prasetyo & T.C.E. van Weering (1991)- The Bali-Lombok forearc region: trapped forearc basin or rifted continental origin? Proc. International Seminar Geodynamics, Indonesian Association Geophysicists (HAGI), p. 14-22.
(Geologic development of Sumba analogous to Doang borderland at leading edge of Sunda shield margin?)

Van Heek, J. (1910)- Bijdrage tot de geologische kennis van het eiland Lombok. Jaarboek Mijnwezen Nederlandsch Oost-Indie 38 (1909), Wetenschappelijk Gedeelte, Landsdrukkerij, Batavia, p. 1-82.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046039000:00001)
('Contribution to the geological knowledge of Lombok Island'. Most of Lombok composed of young volcanic rocks. Narrow range of hills along S coast ?E Miocene volcanics, overlain by ?M Miocene Lithothamnium-rich limestone with Lepidocyclina, looking like continuation of Java S Mountains. (Fig. 11 also shows Miogypsina and advanced Lep. (N), suggesting M Miocene age, similar to Wonosari Lst of S Java; JTvG). With geologic map 1:200,000)

Van Heek, J. (1911)- Onderzoek van een looderts voorkomen in Zuid-Lombok. Jaarboek Mijnwezen Nederlandsch Oost-Indie 38 (1909), Technisch Administratief Gedeelte, p. 177-201.
('Investigation of a lead ore occurrence in South Lombok'. Survey confirms older reports on presence of lead deposits (galena in quartz veins, with minor Ag, Cu) at Sukadana hill and at Bukit Pedjere near Lentek in S Central Lombok, but not deemed to be extensive. Hosted in (Early Miocene?) diagenetically altered andesitic volcanics, which are overlain by (Late?) Miocene limestones (geologically looks like continuation of Southern Mountains of Java)

Van Schelle, C.J. (1890)- Verslag van het onderzoek naar het voorkomen van tinertshoudende gronden op Flores. Extra-Bijvoegsel der. Javasche Courant, Batavia, February 1890, p. 1-24.
(online at: https://books.google.com/books....)
('Report of the investigation into the presence of tin-bearing soils on Flores'. Travel narrative of Van Schelle's first expedition of December 1889 into 'non-pacified' Rokka area from S coast of Flores (W of Endeh), with purpose of confirming reported tin ore occurrences in area. Expedition members were violently attacked and robbed off all supplies by 150 armed Rokkanese. Tin ores not (yet) found, but van Schelle remained optimistic about presence of tin N of Rokka area (NB: a second Van Schelle expediitie followed in mid-late 1890 and also ended prematurely; with no official Van Schelle report? (but summary in Jaarboek Mijnwezen 21 (1892), Techn.-Admin. Gedeelte 2, p. 63, 69))

Verdiansyah, O., H.G. Hartono & O. Sugarbo (2021)- Review of the volcano setting concept to discover the precious metal mineralization in Sunda Arc, Indonesia: An approach proposal for mineral exploration. Proc.

2nd Int. Conference on Industrial and Technology and Information Design (ICITID 2021), Institut Teknologi Nasional Yogyakarta, p. 1-18.
(online at: https://repository.itny.ac.id/id/eprint/4896/1/eai30-8-20212311541%20%281%29.pdf)
(Mineralization in Sunda belt generally formed in ancient (Oligo-Miocene) arc volcanic systems. Boundary between Eastern Sunda and Banda Arc is Flores Island. Kulon Progo mountain, C Java, is an example of Composite complex volcano of 3-4 paleovolcano complexes (Ijo Complex, Gadjah, Menoreh). Etc.)

Verdiansyah, O., A. Idrus, L.D. Setijadji, B. Sutopo & I.G. Sukadana (2021)- Mineralogy of hydrothermal breccia cement of Humpa Leu East porphyry copper-gold prospect, Sumbawa Island, Indonesia. Proc. 2nd Geoscience Environmental Management Symposium (ICST 2021), E3S Web of Conferences 325, 04008, p. 1-6.
(online at: www.e3s-conferences.org/articles/e3sconf/pdf/2021/101/e3sconf_icst2021_04008.pdf)
(Hu'u district in S Sumbawa interpreted as paleo-volcano in Old Volcanics Fm. Humpa Leu East porphyry prospect lithology consists of pre-volcanics unit (lava and pyroclastics), diorite, andesite -diorite, and tonalitic intrusion at depth. Hydrothermal alteration evolved from tonalite body outward. Several phases of hydrothermal activities. Etc.)

Verdiansyah, O., A. Idrus, L.D. Setijadji, B. Sutopo & I.G. Sukadana (2022)- Veins system and their mineralogical and micro thermometric charactertistics within the Humpa Leu East porphyry copper-gold mineralization at Hu'u District, Sumbawa Island, Indonesia. Jurnal Teknologi (UTM) 84, 5, p. 35-49.
(online at: https://journals.utm.my/jurnalteknologi/article/view/17906/7976)
(Humpa Leu East porphyry prospect in Sumbawa in paleo-volcano member of Late Miocene-Pleistocene volcanics. Hydrothermal alteration evolved from the tonalitic body. Mineralization dominated by chalcopyrite. Humpa Leu East identified as 'push-up porphyry system' that still remains more extensive at depth)

Vermaes, S.J. (1917)- Tinerts op Flores. De Ingenieur 32, p. 584-590.
('Tin ore on Flores' Report on a piece of tin ore present in the collection of the former Koloniaal Museum in Haarlem, by Prof. Vermaes from Delft, reportedly coming from 'Gunung Rokka', Flores. Its significance was disputed by Wichmann (1919), arguing tin is not associated with volcani arcs (mining engineer C.J. van Schelle had conducted two mostly unsuccesful expedions to this area in 1889-1890, to locate source of tin; JTvG))

Von Koenigswald, G.H.R. (1958)- A tektite from the island of Flores, Indonesia. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, B 61, p. 44-46.
(Report on occurrence of tektite from Flores, part of the Pleistocene Australasian impact strewn field)

Wawryk, C.M. & J.D. Foden (2017)- Iron-isotope systematics from the Batu Hijau Cu-Au deposit, Sumbawa, Indonesia. Chemical Geology 466, p. 159-172.
(Iron isotope values of andesite and quartz diorite and coeval hypogene ore minerals from Batu Hijau porphyry copper-gold deposit in Sumbawa)

Wichmann, A. (1891)- Bericht uber eine im Jahre 1888-89 im Auftrag der Niederlandischen Geographischen Gesellschaft ausgefuhrte Reise nach dem Indischen Archipel, Part 2, III. Flores. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap 1891, p. 188-293.
('Report on a voyage carried out for KNAG (Royal Netherlands Geographic Society) in 1888-1889 to the Indies Archipelago, part 2- III. Flores'. Part 2 of Wichmann geographic narrative of expedition to Indonesia)

Wichmann, A. (1892)- Ueber das angebliche Tertiar der Insel Adonara. Neues Jahrbuch Mineralogie Geologie Palaontologie 1892, 1, p. 61-64.
(online at: https://www.zobodat.at/pdf/Neues-Jb-Min-Geol-Palae_1892_0049-0070.pdf)
('About the alleged Tertiary age of the island Adonara'. Debate between Wichmann and Martin on whether presence of silicified corals Clementia papyracea, Coeloria singularis Martin and Hydnophora astraeoides Martin in limestone of W coast of Adonara represent Miocene age (as preferred by Wichmann) or something younger (N.B. latter two coral species also reported from latest Oligocene Rajamandala Limestone of W Java by Gerth 1921, supporting Miocene or older age; JTvG))

Wichmann, C.E.A. (1914)- On the tin of the island of Flores. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 17, 2, p. 474-490.
(online at: https://dwc.knaw.nl/DL/publications/PU00012691.pdf)
(Extensive review of old reports on tin occurrences at Rokka Mts of Flores, incl. by trader, Mr Freyss in 1860, partly based on tin-lead alloy ornaments possessed by Flores natives could not be confirmed by subsequent investigations (including an aborted mission in late 1889 led by Mijnwezen mining engineer C.J. van Schelle, which was assaulted by locals and had to retreat, followed by a second expedition with armed escort in 1890, which only encountered volcanic rocks (but also apparently did acquire two tin-rich samples). No tin found in follow-up geological survey work by J. Pannekoek van Rheden in 1910-1911. Tin in SE Asia is associated with Pretertiary granites, and older rocks gradually disappear E of Java. Outcrops on Flores limited to Tertiary volcanics and sediments, and Mt. Rokka location is in active volcanic area. Presence of tin in Flores therefore extremely unlikely, tin ornaments of natives were 'probably imported in former times')

Wichmann, A. (1919)- On tin-ore in the Island of Flores. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 21, 1, p. 409-416.
(online at: https://dwc.knaw.nl/DL/publications/PU00012095.pdf)
(Repeats Wichmann (19140 conclusion that no tin is present on Flores, despite it being further promoted in a 1917 paper by Prof. S.J. Vermaes from TH Delft, based on the presence of a piece of tin ore displayed in the Koloniaal Museum in Haarlem, reportedly from 'Gunung Rokka', Flores ('Tinerts op Flores', De Ingenieur 32, p. 584-590))

Widiyantoro, S. & Fauzi (2005)- Note on seismicity of the Bali convergent region in the eastern Sunda Arc, Indonesia. Australian J. Earth Sciences 52, 3, p. 379-383.
(Recent earthquakes around Bali show seismic activity concentrated down to ~200 km, along forearc and in backarc. Stress field dominated by N-S compression. Thrust events in backarc N of Bali likely due to W continuation of backarc thrust fault of Sumbawa and Flores. Local earthquake hypocentres form image of S-ward subduction of Java Sea oceanic crust, in opposite direction of main subduction of Indo-Australian Plate)

Wilkinson, J.J., Z. Chang, D.R. Cooke, M.J. Baker, C.C. Wilkinson, S. Inglis, H. Chen & J.B. Gemmel (2015)- The chlorite proximitor: a new tool for detecting porphyry ore deposits. J. Geochemical Exploration 152, p. 10-26.
(Major, minor and trace element chemistry of chlorite evaluated as tool for mineral exploration in propylitic environment of Batu Hijau Cu-Au porphyry deposit, SW Sumbawa)

Wong, H.K. & U. Salge (1992)- Seismic facies, sedimentary structures and tectonics around Sumbawa island in East Indonesia. In: E.T. Degens, H.K. Wong & M.T. Zen (eds.) The sea off Mount Tambora, Mitteilungen Geologisch-Palaontologisch Institut, Universitat Hamburg 70, p. 37-57.

Yang, X., S.C. Singh & A. Tripathi (2020)- Did the Flores backarc thrust rupture offshore during the 2018 Lombok earthquake sequence in Indonesia? Geophysical J. International 221, 2, p. 758-768.
(online at: https://academic.oup.com/gji/article/221/2/758/5757908)
(Flores thrust forms W segment (~450 km) of very active, ~E–W striking, ~800-km-long backarc thrust along the east Sunda Arc. In 2018 deadly earthquake sequence rattled Lombok island near Flores thrust. Offshore portion of Flores thrust likely did not rupture during this earthquake)

Yeh, H., F. Imamura, C. Synolakis, Y.Tsuji, P. Liu & S. Shi (1993)- The Flores Island tsunamis. EOS Transactions American Geophysical Union (AGU) 74, 33, p. 369, 371-373.
(December 12, 1992 Ms 7.5 earthquake and tsunami off N Flores with epicenter 50km NW of Maumere, hypocenter depth 15km. Considered to reflect activity in N Flores backarc thrust zone. Tsunami runup height up to 26m, inundation distance ~600m)

Zardi D, A., T. Sihombing, A. Purba & N.I. Basuki (2012)- Resource of Pangulir lode deposit, Sumbawa, Indonesia. Proc. Banda and Eastern Sunda Arcs, MGEI Annual Convention, Malang 2012, p. 159-179.

(Pangulir newly discovered Au-Ag-Cu epithermal quartz-sulfide vein breccia lode in S Sumbawa Island. Hosted in Tertiary arc volcanics)

Zen, M.T., S. Soemarno & F. Ilyas (1992)- Structural pattern and tectonic position of Sumbawa Island in East Indonesia. In: E.T. Degens, H.K. Wong & M.T. Zen (eds.) The sea off Mount Tambora, Mitteilungen Geologisch-Palaontologisch Institut, Universitat Hamburg 70, p. 21-35.

Zhang, P. (2023)- Understanding arc-continent collision in the Banda Arc through 3-D seismic imaging. Ph.D. ThesisAustralian National University, Research School of Earth Sciences, Canberra, p.
(online at: https://oatd.org/oatd/record?record=handle%5C:1885%5C%2F282604)
(Mainly collection of five earlier publications by P. Zhang, N.S. Miller, etc.))

Zhang, P. & M.S. Miller (2020)- Seismic imaging of the subducted Australian continental margin beneath Timor and the Banda Arc collision zone. Geophysical Research Letters 48, 4, e2020GL089632, p. 1-11.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2020GL089632)
(Crustal and uppermost mantle structure imaged from ~4 years of new broadband seismic data in Timor-Leste and Nusa Tenggara, Indonesia. Tomographic images show low-velocity anomalies (<30 km) beneath Timor related to underthrusted Gondwana sequence from Australian plate, vertically offset by high-velocity backstop of Banda forearc terrane. Structure changes along strike. At greater depth seismically fast lithospheric mantle (>30 km) and arc-ward dipping Moho beneath Timor, interpreted to be from Australian plate)

Zhang, P., M.S. Miller & C.M. Eakin (2022)- Unraveling an enigmatic boundary along the Sunda-Banda volcanic arc. Earth Planetary Science Letters 599, 117860, p. 1-13.
(Broadband seismic project across E Indonesia shows intriguing arc-perpendicular change in seismic anisotropy and velocity structure in C Flores. Correlates with change in strike of highest topography and presence of ~N-S aligned cinder cones. 3-D shear wave velocity model suggests sharp structural change in C Flores from rel. thin transitional crust in W to continental lithosphere in E. Observations correlate with previously identified changes in volcanic geochemistry across C Flores and indicate structural and/or compositional boundary)

Zhang, P., M.S. Miller & V. Schulte-Pelkum (2022)- Tectonic fabric in the Banda Arc-Australian continent collisional zone imaged by teleseismic receiver functions. Geochem. Geophysics Geosystems (AGU) 23, 6, e2021GC010262, p. 1-16.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2021GC010262)
(Seismic data from 30 seismic stations deployed in 2014-2019 across islands of E Indonesia and Timor-Leste, to observe processes of plate collision. Some of imaged structures related to active volcanoes; others associated with crustal deformation during collision of Australian plate with active volcanic arc)

Zhao, S., P.R. Cummins, S. McClusky & M.S. Miller (2025)- Interseismic coupling along the Java-Timor subduction-collision zone at East Indonesia. Geophysical Research Letters 52, 6, e2024GL112563, p. 1-11.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2024GL112563)
(GPS velocities and earthquake slip vectors used to investigate variation in interseismic coupling along Java-Timor megathrust and Flores-Wetar back-arc thrust. Heterogeneous coupling along systems)

Zollinger, H. (1850)- Verslag van eene reis naar Bima, Soembawa en naar eenige plaatsen op Celebes, Saleijer en Floris gedurende de maanden Mei tot December 1847. Verhandelingen Bataviaasch Genootschap Kunsten Wetenschappen 23, p. 1-224.
('Report on a journey to Bima, Sumbawa and some places on Sulawesi, Salayar and Flores in the months May-December 1847'. Probably the first observations on the geology, vegetation, people, language, history, etc. of Sumbawa, Bima (with discussion of 1815 eruption of Tambora volcano, which left >3' thick pumice layer near the volcano), Salayar, Flores, etc. by Swiss naturalist Heinrich Zollinger. Includes a mention of asphalt and crude oil in the interior of Flores near Bari (p. 65))

Zubaidah, T. (2010)- Spatio-temporal characteristics of the geomagnetic field over the Lombok Island, the Lesser Sunda Islands region: New geological, tectonic, and seismo-electromagnetic insights along the Sunda-Banda Arcs transition. Geo Forschungs Zentrum, Potsdam, Scientific Technical Report STR10/07, p. 1-115.
(online at: http://ebooks.gfz-potsdam.de/pubman/item/escidoc:10278:3/component/escidoc:10279/1007.pdf)

Zubaidah, T., M. Korte, M. Mandea, Y. Quesnel & M. Hamoudi (2014)- New insights into regional tectonics of the Sunda-Banda Arcs region from integrated magnetic and gravity modelling. J. Asian Earth Sciences 80, p. 172-184.
(Lombok Island lies between zones characterized by large intensity magnetic anomalies. Geomagnetic ground surveys and modelling suggest two active Quaternary normal faults and magmatic arc related to subduction region. Magnetic anomalies and gravity models suggest extension of Flores Thrust zone (reaching NW off Lombok Island). Flores Thrust zone may be considered as mature subduction in back arc region, showing tendency of progressive subduction during last decades)

Zubaidah, T., M. Korte, M. Mandea, Y. Quesnel & B. Kanata (2010)- Geomagnetic field anomalies over the Lombok Island region: an attempt to understand the local tectonic changes. Int. J. Earth Sciences (Geologische Rundschau) 99, 5, p. 1123-1132.
(Magnetic survey of SW Lombok. Magnetic high tied to large igneous intrusive body)

Zwyer, T. (2011)- Temporal and spatial evolution of hydrothermal, ore-related fluids in the Batu Hijau porphyry copper-gold deposit, Sumbawa (Indonesia), M.Sc. Thesis, Institute of Petrology and Geochemistry, ETH Zurich, p. 1-52. *(Unpublished)*

VII.3. Sumba, Savu, Savu Sea

Abdullah, C.I. (1994)- Contribution a l'etude geologique de l'isle de Sumba: apports a la connaissance de la geodynamique de l'archipel indonesien orientale. Doct. Thesis Universite de Savoie, Chambery, p. 1-255.
('Contribution to the geological study of Sumba island and relevance to the geodynamics of the east Indonesian archipelago'. Sumba island with thinned continental crust, located in forearc of Banda Arc. No significant folding, but evidence of long-lasting extension. Four sedimentary cycles recognized: (1) U Cretaceous - Paleocene marine deposits with turbiditic inputs (Llasipu Fm), associated with Santonian - Campanian and Maastrichtian- Danian island arc volcanic episodes; (2) Eocene-Oligocene volcano-sedimentary and neritic deposits associated with Lutetian-Rupelian island arc volcanism; (3) transgressive Neogene cycle of deep sea deposits, with volcanoclastic turbidites and synsedimentary tectonics; (4) Quaternary *cycle of uplifted reef terraces. Sumba part of Eurasian Plate since U Cretaceous, paleogeographically close to W Sulawesi)*

Abdullah, C.I. (2010)- Evolusi magmatisme Pulau Sumba. Proc. 39th Annual Conv. Indonesian Association Geologists (IAGI), Lombok, PIT-IAGI-2010-049, p. 1-3.
(online at: https://www.iagi.or.id/web/digital/12/2010_IAGI_Lombok_Evolusi-Magmatisme-Pulau-Sumba.pdf)
('Magmatic evolution of Sumba Island'. Short paper without figures, describing 3 periods of calk-alkaline island arc magmatism in Cretaceous- Paleogene of Sumba: (1) U Cretaceous (Santonian- Campanian; 85.4- 78.6 Ma), (2) Maastrichtian- Thanetian (71.7- 56.6 Ma), (3) M Eocene- Oligocene (Lutetian- Rupelian; 42.3- 31.4 Ma)

Abdullah, C.I., J.P. Rampnoux, H. Bellon, R.C. Maury & R. Soeria-Atmadja (2000)- The evolution of Sumba Island (Indonesia) revisited in the light of new data on the geochronology and geochemistry of the magmatic rocks. J. Asian Earth Sciences 18, 5, p. 533-546.
(online at: https://www.academia.edu/24640542/The_evolution_of_Sumba_Island_Indonesia_revisited_in_the_light_of_new_data_on_the_geochronology_and_geochemistry_of_the_magmatic_rocks)
(Sumba continental crustal fragment, with 3 Cretaceous-Paleogene arc volcanic episodes: Late Cretaceous (86-77 Ma), Maastrichtian- Thanetian (71-56 Ma) and Lutetian- Rupelian (42-31 Ma). W-ward shift of volcanism through time. No Neogene volcanism (considered reworked!?). Very similar to SW Sulawesi. Sumba was part of 'Andean' magmatic arc near SW Sulawesi magmatic belt and SE Kalimantan coast at margin of Asian Plate)

Abdullah, C.I., J.P. Rampnoux & R. Soeria-Atmadja (1996)- Data baru geochronologi, analysis kimia dan tinjauan geodinamik Pulau Sumba. In: Sampurno et al. (eds.) Pros. Seminar Nasional Geoteknologi III, LIPI, Bandung, p. 324-346.
('New data on geochronology, chemical analysis and review of geodynamics of Sumba Island'.Similar to above?. Sumba Block started to separate from Sundaland margin by oceanic rifting in Sumba Strait in Oligo-Miocene?)

Abdullah, C.I., E. Suparka & V. Isnaniawardhani (2008)- Sedimentary phases of Sumba Island (Indonesia). Proc. 37th Conv. Indonesian Association Geologists (IAGI), Bandung, 1, p. 66-79.
(online at: https://www.iagi.or.id/web/digital/14/2008_IAGI_Bandung_Sedimentary-Phase-of-Sumba.pdf)
(Sumba continental block never subjected to intense deformation. Stratigraphy with slightly to unmetamorphosed Cretaceous-Paleogene sediments, unconformably overlain by less deformed Neogene-Quaternary deposits. Four sedimentary phases: (1) Late Cretaceous-Paleocene marine turbidites with Santonian-Campanian (86-77 Ma) and Maastrichtian- Thanetian (71-56 Ma) magmatic episodes; (2) Paleogene neritic sedimentation with Lutetian-Rupelian magmatic episode (42-31 Ma); (3) Neogene rapid sedimentation in deep sea environment; (4) Quaternary uplift of terraces. Lack of intense deformation suggests Sumba was never involved in collision between Indian- Australian and Asiatic plates, except during minor compressive episode in Paleogene)

Audley-Charles, M.G. (1975)- The Sumba fracture: a major discontinuity between Eastern and Western Indonesia. Tectonophysics 26, p. 213-228.

(Sunda-Banda Arc not a continuous subduction system. Major tectonic discontinuity separates E Indonesia (Sumba, Banda Arcs, E Sulawesi) from W Indonesia (W Sulawesi and islands west of Sumba). Sumba fracture initially a Late Jurassic wrench fault that became Cretaceous and Cainozoic transform. Sumba detached from N Australia; Timor, etc., represent deformed Australian continental margin. Overthrust Asian elements also present. No subduction has taken place between Outer Banda Arc islands and Australia since Early Permian)

Audley-Charles, M.G. (1985)- The Sumba enigma: is Sumba a diapiric fore-arc nappe in process of formation? Tectonophysics 119, 1-4, p. 435-449.
(online at: http://searg.rhul.ac.uk/pubs/audley-charles_1985_Sumba%20enigma.pdf)
(Sumba Cretaceous-Miocene stratigraphy similar to Timor allochthonous Palelo-Cablac series and both with Cretaceous forearc deposits on thin continental crust. Postulated Sumba nappe not yet thrust onto Australian margin and may be diapyric dome)

Authemayou, C., G. Brocard, B. Delcaillau, S. Molliex, K. Pedoja, L. Husson, S. Aribowo & S. Y. Cahyarini (2018)- Unraveling the roles of asymmetric uplift, normal faulting and groundwater flow to drainage rearrangement in an emerging karstic landscape. Earth Surface Processes and Landforms 43, 9, p. 1885-1898.
(online at: https://www.researchgate.net/publication/328527912_Unraveling_the_roles_of_asymmetr Etc.)
(Assesment of drainage response to spatially heterogeneous rainfall, asymmetric uplift, and normal faulting on emerging carbonate platform (Sumba Island))

Authemayou, C., K. Pedoja, D. Chauveau, L. Husson, G. Brocard, B. Delcaillau, J. Perrot, S. Aribowo, S.Y. Cahyarini, M. Elliot, D.H. Natawidjaja & D. Scholz (2022)- Deformation and uplift at the transition from oceanic to continental subduction, Sumba Island, Indonesia. J. Asian Earth Sciences 236, 105316, p. 1-15.
(manuscript online at: www.sciencedirect.com/science/article/pii/S1367912022002474)
(Sumba island located at transition from oceanic to continental Indo-Australian plate subduction. Sumba affected by dextral en-echelon folding. Emergence of island and dextral shearing of accretionary prism triggered by subduction of W boundary of Australian continental margin. Plio-Quaternary tectonic evolution of region, with transpression and migration of trench toward Australian margin primarily dictated by shear stress transfer from lower plate to overriding plate and by SW-ward escape of Savu-Sumba block following impingement of Australian continental margin against Timor)

Bard, E., C. Jouannic, B. Hamelin, P. Pirazzoli, M. Arnold, G. Faure, P. Sumosusastro & Syaefudin (1996)- Pleistocene sea levels and tectonic uplift based on dating of corals from Sumba Island, Indonesia. Geophysical Research Letters 23, 12, p. 1473-1476.
(online at: https://www.academia.edu/8178092/Pleistocene_sea_levels_and_tectonic_uplift_based_on_dating_of_corals_from_Sumba_Island_Indonesia)
(Quaternary tectonic uplift rate calculated from uplifted reef terraces at Cape Laundi, NE coast Sumba, 0.2-0.5m/ 1000 yrs, Reefs terraces outcrops correspond to major sea level high stands, and timing of terraces broadly consistent with sea level fluctuations predicted by astronomical theory of paleoclimates)

Beiersdorf, H. & K. Hinz (1980)- Active ocean margins in SE Asia. In: H. Cloos et al. (ed.) Mobile Earth: International Geodynamics project, p. 121-125.
(Savu Basin underlain by 12-14 km thick oceanic crust, probably oceanic)

Boehm, G. (1911)- *Posidonomya becheri* in Niederlandisch-Indien? Centralblatt Mineralogie Geologie Palaontologie 1911, 11, p. 350-352.
(online at: https://www.zobodat.at/pdf/Centralblatt-Mineral-Geol-Palaeont_1911_0350-0352.pdf)
(On possible occurrence of bivalve Posidonomya, collected by Witkamp in 1910 in dark grey sandy shales from Lobewi village, near S coast of W Sumba (this identification implied Carboniferous age, but fossil re-identified by Roggeveen (1929) as Jurassic or Cretaceous mollusc of genus Inoceramus; JTvG))

Breen, N.A, E.A. Silver & D.M. Hussong (1986)- Structural styles in an accretionary wedge south of the island of Sumba, Indonesia, revealed by SeaMARC II side scan sonar. Geological Society of America (GSA) Bull. 97, 10, p. 1250-1261.

(Accretionary wedge S of Sumba in early stages of continent-island arc collision. Australian continental shelf sediments accreted to Sunda arc at Timor trough. Deformation concentrated on lower slope of accretionary wedge, within 15-25 km of thrust front, above which strain rate appears to decrease. Three structural styles developed in area. W part of accretionary wedge is being indented and redeformed by basement ridge)

Brouwer, H.A. (1943)- Leuciethoudende en leucietvrije gesteenten van den Soromandi op het eiland Soembawa. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam 52, 6, p. 303-307.
('Leucite-bearing and leucite-free rocks of the Soromandi volcano on Sumbawa Island')

Budiharto, R. (2002)- Oblique divergent wrench fault movement between the islands of Sumba and Timor. Proc. 31st Annual Conv. Indonesian Association Geologists (IAGI), Surabaya, 1, p. 315-326.
(online at: https://www.iagi.or.id/web/digital/17/OBLIQUE-DIVERGENT-WRENCH-FAULT-MOVEMENT-BETWEEN-THE-ISLANDS-OF-SUMBA-AND-TIMOR-.pdf)

Burollet, P.F. & C. Salle (1981)- A contribution to the geological study of Sumba (Indonesia). Proc. 10th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, p. 331-344.
(Basement exposed along S coast of Sumba is folded, low metamorphic Late Cretaceous deep marine sediments. ?Early Paleocene calk-alkaline volcanics and intrusives. Early Miocene carbonates unconformable over Eocene; thick E Miocene tuffs. Paleomag suggests 60° clockwise rotation since Cretaceous. Quaternary reef terraces 500m above sea level)

Burollet, P.F. & C. Salle (1982)- Histoire geologique de l'ile de Sumba (Indonesie). Bull. Societe Geologique France 24, 3, p. 573-580.
('Geologic history of Sumba Island'. Marine turbiditic and pelagic Cretaceous sediments strongly folded at end of Cretaceous and cut by numerous intrusions of a 66-59 Ma major volcanic phase. Unconformably overlain by gently folded Paleogene, including M-L Eocene limestones rich in larger forams and M Eocene andesitic volcanics (39-42.5 Ma, deepening upward into radiolarian clays. E Miocene carbonates- marls unconformable over all older formations. Total Neogene limestone-marl thickness ~500-600m; slightly dipping to NE)

Caudri, C.M.B. (1934)- Tertiary deposits of Soemba. Doctoral Thesis, University of Leiden, p. 1-225.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB21:029044000:00007)
(M-L Eocene carbonates (zones Ta2 and Tb) with Nummulites spp., Assilina, Discocyclina, Asterocyclina, alveolinids (Fasciolites), Pellatispira (= 'Sundaland' genus; not known from Australia/ New Guinea; JTvG), unconformably over folded and intruded Mesozoic (Jurassic?). Oligocene angular unconformity separates Late Eocene-earliest Oligocene (Tb-Tc) limestones with dips of 30°, from more horizontal earliest Miocene (zone Te5) sediments with Lepidocyclina (N.), Spiroclypeus and Miogypsina)

Chamalaun, F.H., A.E. Grady, C.C. von der Borch & H.M.S. Hartono (1981)- The tectonic significance of Sumba. Bull. Geological Research Development Centre (GRDC), Bandung, 5, p. 1-20.

Chamalaun, F.H., A.E. Grady, C.C. von der Borch & H.M.S. Hartono (1982)- Banda Arc tectonics: the significance of the Sumba Island (Indonesia). In: J.L. Watkins & C.L. Drake (eds.) Studies in continental margin geology, American Assoc. Petroleum Geol. (AAPG), Memoir 34, p. 361-375.
(Sumba not part of subduction tectonics of Sunda Arc to W, nor collision tectonics of Banda Arc system. Sumba is continental fragment from Australia or from Sundaland (Flores Basin), that became trapped behind E Java Trench. Data not convincing, but appears to favor Australian origin (more likely Sundaland magin; JTvG))

Chamalaun, F.H. & W. Sunata (1982)- The paleomagnetism of the Western Banda Arc System-Sumba. In: Paleomagnetic Research in Southeast and East Asia, Proceedings of a CCOP Workshop, Kuala Lumpur 1982, p. 162-194.

Chauveau, D. (2021)- Étude du couplage tectonique/erosion/eustatisme sur la morphogenèse de la sequence de terrasses de recifs coralliens du Cap Laundi (île de Sumba, Indonésie). Doctoral Thesis, L'Universite de Bretagne Occidentale, 598, p. 1-329.

(online at: https://hal.science/tel-03613575v1/file/These_ChauveauDenovan_ManuscritFinal_Corrige.pdf)
('Study of the tectonic/erosional/eustatic coupling of the morphogenesis of the Cape Laundi coral reef terrace sequence (Sumba Island, Indonesia)'. Discussions on genesis of uplifted coral reef terraces on Sumba and their degradation of the terraces series))

Chauveau, D., C. Authemayou, S. Molliex, V. Godard, L. Benedetti, K. Pedoja, L. Husson & S.Y. Cahyarini (2021)- Eustatic knickpoint dynamics in an uplifting sequence of coral reef terraces, Sumba Island, Indonesia. Geomorphology 393, 107936, p. 1-16.
(manuscript online at: https://archimer.ifremer.fr/doc/00720/83181/88117.pdf)
(Emerged coral reef terrace sequence flanking N coast of Sumba created by joint effects of uplift and Quaternary sea level oscillations. Morphology dissected by multiple catchments drained by deep canyons, whose stream profiles display several knickpoints. Knickpoints form at distal edge of emergent reef at each regressive stage following a sea level highstand, then propagates upward by regressive erosion. Etc.)

Chauveau, D., C. Authemayou, K. Pedoja, S. Molliex, L. Husson, D. Scholz, V. Godard, A.M. Pastier et al. (2021)- On the generation and degradation of emerged coral reef terrace sequences: First cosmogenic 36Cl analysis at Cape Laundi, Sumba Island (Indonesia). Quaternary Science Reviews 269, 5, 107144, p.
(manuscript online at: https://archimer.ifremer.fr/doc/00718/83000/89518.pdf)

Chauveau, D., A.M. Pastier, G. de Gelder, L. Husson, C. Authemayou, K. Pedoja & S.Y. Cahyarini (2023)- Unravelling the morphogenesis of coastal terraces at Cape Laundi (Sumba Island, Indonesia): Insights from numerical models. Earth Surface Processes and Landforms 49, 2, p. 549-566. *(manuscript online at: www.researchgate.net/publication/374549932_Unravelling_the_morphogenesis_of_coastal_terraces Etc.)*
(Chronology of development long-lasting sequence of coral reef terraces at Cape Laundi, Sumba Island, remains poorly constrained. Numerical modeling with eustatic sea level curves, etc., suggests lowermost main terrace was first constructed during marine transgression MIS 5e (~125 ka) and was later reshaped (higher terraces older, up to ~600 ka?))

Chauveau, D., K. Pedoja, C. Authemayou L. Husson, G. de Gelder, S. Aribowo, M. Elliott et al. (2025)- Morphogenesis of the Holocene coastal landforms on Sumba Island, Indonesia. J. Asian Earth Sciences: X, 14, 100208, p. 1-20.
(online at: https://www.sciencedirect.com/science/article/pii/S2590056025000192)
(Another review of Holocene coastal reef terraces of Sumba Island. Preservation of terraces favoured on leeward coast (N); almost absent on windward coast (S). Earlier Pleistocene coral reef limestones dominate in N, Miocene/Pliocene tuffs and pelagic carbonates outcrop on S coast. Etc.)

De Gelder, G., T. Solihuddin, D.A. Utami, M. Hendrizan, R. Rachmayani, D. Chauveau et al. (2023)- Stratigraphy and morphogenesis of Pleistocene coral reefs at Tambolaka (Sumba Island, Indonesia). Earth Surface Processes and Landforms, 2023, p. 1-18.
(online at: https://www.researchgate.net/publication/371229839_Geodynamic_control_on_Pleistocene_coral_reef_development_insights_from_northwest_Sumba_Island_Indonesia)
(= preliminary version of paper below?)

De Gelder, G., T. Solihuddin, D.A. Utami, M. Hendrizan, R. Rachmayani, D. Chauveau, C. Authemayou et al. (2023)- Geodynamic control on Pleistocene coral reef development: insights from northwest Sumba Island (Indonesia). Earth Surface Processes and Landforms 48, 13, p. 2536-2553.
(online at: https://onlinelibrary.wiley.com/doi/10.1002/esp.5643)
(On uplifted Pleistocene reef terraces and underlying sediments near Tambolaka, NW Sumba. Four lower layers of bedded chalky limestone units, attributed to M Miocene-Pliocene Waikabukak Fm based on nannofossils and planktonic forams. Uppermost layer calcretized reefal limestone attributed to Plio–Pleistocene reef sequence of Kalianga Fm. Seven marine terraces, four correlated with Marine Isotope Stages 5e (~125 ka), 7e, 9e, and 11c (400 ka) terraces of Cape Laundi in NE. Compared with Cape Laundi, Tambolaka has lower Quaternary uplift rate (~0.16 mm/yr instead of ~0.5 mm/yr). Morphodynamics of reef sequences impacted by tectonic evolution)

Djoehanah, S. & S. Hadiwisastra (1984)- Korelasi umur nannoplangton dan foraminifera Paleogen di daerah Wanokaka, Sumba Barat. J. RISET Geologi dan Pertambangan (LIPI) 5, 1, p. 1-8.
(online at: http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.5-No.1-2.pdf)
(Samples from S coast of W Sumba, S of Waikabukak, with common Late Eocene (zone NP19) nannoplankton, incl. Discoaster barbadiensis, D. saipanensis, etc. From same horizon planktonic foraminifera of zone P16 (Hadiwisastra 1980) and zone Tb larger foraminifera (Caudri 1934))

Djumhana, N. & D. Rumlan (1992)- Tectonic concept of the Sumba continental fragment, Eastern Indonesia. Proc. 21st Annual Conv. Indonesian Association Geologists (IAGI), Yogyakarta, 2, p. 585-598.
(online at: https://www.iagi.or.id/web/digital/50/21th-Vol-II-(7-10-Des-1992)-215-228.pdf)
(Sumba island fragment of continental crust. Structure rel. simple. Seismic data suggest Sumba originally continuous with N part of Timor, from which it separated in M-L Miocene (11-10 Ma) and rotated 60° CW)

Effendi, A.C. & T. Apandi (1994)- Geology of the Waikabubak and Waingapu sheets, Nusatenggara. Geological Research Development Centre (GRDC), Bandung, 2nd Edition.
(1:250,000 geologic map of Sumba Island, originally completed in 1981. Oldest rocks recognized in outcrops is >1000m thick series of Upper Cretaceous deep marine flysch/greywacke with Globotruncana, associated with lavas and volcanic breccias and tuffs (Masu Fm). Intruded by Paleocene granodiorites (61.5 Ma) and andesitic volcanics, overlain by Eocene greywackes, Eocene and Lower Oligocene limestones and E Miocene andesitic volcanics (Jawila Fm.) Uplifted coral reefs suggest rapid recent uplift along N coastal areas (not in S))

Ely, K.S. & M. Sandiford (2010)- Seismic response to slab rupture and variation in lithospheric structure beneath the Savu Sea, Indonesia. Tectonophysics 483, 1-2, p. 112-124.
(Banda Arc earthquake focal mechanisms suggest subducting slab under W Savu Sea in down-dip compression at 70-300 km, while down-dip tension typifies intermediate depth Sunda slab to W and Banda slab to E. Compression reflects subduction of transitional crust of Scott Plateau. Enhanced magma flux indicated by narrower volcano spacing in overlying arc. E of Savu Sea, near complete absence of intermediate depth seismicity attributed to slab window where Australian continental crust has collided with arc. Differences in seismic moment release around this slab window indicate asymmetric rupture, propagating to E faster than W. Volcano spacing from Bali-Sumbawa average 68 km, in E Banda Arc average of 72 km)

Fleury, J.M. (2005)- De la subduction oceanique a la subduction continentale: deformations associees et heritage structural: l'exemple du bloc Sumba-Savu, terminaison orientale du fosse de la Sonde. Thesis Universite Pierre & Marie Curie, Paris, p. 1-278. *(Unpublished)*
('From oceanic to continental subduction: associated deformation and structural heritage: the example of the Sumba-Savu Block at the eastern end of the Sunda arc'. East of 120ºE abrupt change in style of subduction deformation of upper plate. Fieldwork on Sumba demonstrated volcanic activity from Upper Cretaceous until Oligocene, followed by well-developed carbonate sedimentation. Miocene paleogeography shows E-W oriented platform-basin configuration. Currently Sumba is in extensional regime. Savu Basin is marine extension of Sumba structure. Internal part is little deformed and acts as rigid buttress and transfers convergence to backarc. Arrival of Australian margin at subduction zone forms, at end of Mio-Pliocene orogeny in Timor, a rigid block composed of Sumba island in W, Timor in E and the little deformed Savu Basin in middle. W limit of this block unknown)

Fleury, J.M., M. Pubellier, M. de Urreiztieta & N. Chamot-Rooke (2006)- Crustal erosion and subduction of continental asperity: Sumba Island and forearc, Indonesia. Geophysical Research Abstracts 9, 06054, 2007, European Geosciences Union, EGU2007-A-06054 *(Abstract only)*

Fleury, J.M., M. Pubellier & M. de Urreiztieta (2009)- Structural expression of forearc crust uplift due to subducting asperity. Lithos 113, p. 318-330.
(Sumba Island presently undergoing extension, associated with regional uplift. Crustal uplift may have been created by major thrust emerging in S of island, associated with NE tilt of island. The consequent anomalous positive topography along S coast compensated by significant tectonic erosion along large-scale curvilinear

normal faults in SE half of island. Expression of this gravitational collapse at receding side of an advancing circular dome striking similarities with accretionary wedges being affected by seamount subduction. Savu Basin moderately deformed and acts as rigid buttress in convergence between Banda Arc and Australian plate)

Fortuin, A.R., Th.B. Roep & P.A. Sumosusastro (1994)- The Neogene sediments of east Sumba, Indonesia- products of a lost arc? J. Southeast Asian Earth Sciences 9, 1-2, p. 67-79.
(M Miocene- Pliocene deep water sediments overlie Oligocene- E Miocene carbonate platform, overlying Paleogene volcanics and Late Cretaceous turbidites. Common arc volcanic debris in Mid-Late Miocene sourced from SSW (but present-day Sunda-Banda arc is to N))

Fortuin, A.R., Th.B. Roep, P.A. Sumosusastro, T.C.E. van Weering & W. van der Werff (1992)- Slumping and sliding in Miocene and Recent developing arc basins, onshore and offshore Sumba (Indonesia). Marine Geology 108, p. 345-363.
(Neogene slidemasses in E Sumba compared to analogues in seismic profiles off Lombok and Savu basins. Onshore examples were deposited in deep marine base-of slope environments, within reach of large amounts of clastics derived from volcanic arc. Tectonically induced oversteepening considered main cause of failure)

Fortuin, A.R., W. van der Werff & H. Wensink (1997)- Neogene basin history and palaeomagnetism of a rifted and inverted forearc region, on- and offshore Sumba, eastern Indonesia. J. Asian Earth Sciences 15, 1, p. 61-88.
(online at: https://dspace.library.uu.nl/bitstream/handle/1874/19036/fortuin_97_neogene.pdf)
(Sumba island is emerged part of SE Asian terrane, with angular unconformity between Paleogene platform carbonates and Mid-Late Miocene volcanoclastic submarine fan deposits, representing break-up stage. At least 3 km subsidence in M Miocene. High volcanic supply in M Miocene and E-M Tortonian, waning in late Tortonian and renewed supply during Messinian.Volcanoclastics sourced from S. Possible start of >4 km Sumba uplift at ~7 Ma, but most of uplift Pliocene- Recent.Since Late Miocene, only minor counter-clockwise rotation of Sumba (~5 degrees CCW). Emergence of Sumba probably not before 3 Ma)

Hadiwisastra, M.S. (1980)- Biostratigrafi Tersier Bawah daerah Wanokaka, Sumba Barat. J. RISET Geologi dan Pertambangan (LIPI) 3, 2, p. 18-26.
(online at: http://pustaka.geotek.lipi.go.id/wp-content/uploads/2016/02/Riset-Vol.3-No.2-2.pdf)
'Biostratigraphy of the Early Tertiary of the Wanokaka area, Sumba'. Late Eocene Tb shallow marine larger foraminifera (incl. Nummulites, Pellatispira) and 32 species of planktonic foraminifera (Late Eocene zone P16; incl. Globigerinatheka semiinvoluta, Pseudohastigerina micra, Globorotalia cerroazulensis, etc.) in marls/ limestones along road Waikabukak and Padedewatu, 2km N of Padedewatu)

Hantoro, W.S. (1993)- Linear result of 230^{Th}/234U and ESR dates of coral fossils obtained from Quaternary uplifted reef in the Savu Sea area. Proc. 18th Annual Conv. Indonesian Association Geophysicists (HAGI), Jakarta, p.

Hantoro, W.S. (1993)- Neotektonik dan kurva variasi paras muka laut Pleistosen: studi teras terumbu koral terangkat di Pulau Sumba, Nusa Tenggara Timur, Indonesia. Proc.22nd Annual Conv. Indonesian Association Geologists (IAGI), Bandung, 1, p. 159-180.
(online at: https://www.iagi.or.id/web/digital/61/21.pdf)
('Neotectonics and Pleistocene sea level variation curve: study of uplifted coral reef terraces on Sumba Island, East Nusa Tenggara, Indonesia'. NE Sumba island with 6 main uplifted Pleistocene reef terraces up to 475m elevation. Radiometric dating and correlation to oxygen isotope curves suggest ages up to ~1.0 Ma)

Hantoro, W.S., C. Jouannic & P.A. Pirazzoli (1989)- Terrasses coralliennes Quaternaires soulevees dans l'ile de Sumba (Indonesie). Photo-Interpretation 28, 1, p. 17-34.
('Quaternary uplifted coral reef terraces on Sumba Island (Indonesia)'. See also Pirazzoli et al. 1993, Bard et al., 1996, Chauveau et al., 2021-2023, de Gelder 2023, etc.)

Inamoto, A. & M. Sayama (1993)- Hydrogeology of Sumba Island, Nusa Tenggara Timur, Indonesia. J. Japan Society Engineering Geology 34, 4, p. 178-193.

(online at: www.journalarchive.jst.go.jp...) (in Japanese)

Isnaniawardhani, V., C.A. Abdullah & S.D. Pratiwi (2021)- Korelasi biostratigrafi foraminifera plankton dan nannoplankton Tertsier Indonesia bagian Timur (Studi kasus: Pulau Sumba). Bull. Scientific Contribution: Geology (UNPAD) 19, 1, p. 9-19.
(online at: https://jurnal.unpad.ac.id/bsc/article/view/33039/pdf)
('Biostratigraphic correlation of planktonic foraminifera and nannoplankton of Eastern Tertiary Indonesia (Case study: Sumba Island)'. Biostratigraphy of deep marine Late Eocene- Pliocene sediments on Sumba Island. Paleogene rocks generally exposed in W Sumba; Neogene exposed in W and E Sumba. Planktonic foraminifera (12 zones) and nannoplankton (11 zones) abundant; zones correlate well with earlier zonation schemes)

Jouannic, C.R., W.S. Hantoro, C.T. Huang, M. Fournier, R. Lafont & M.L. Ichram (1988)- Quaternary raised reef terraces at Cape Laundi, Sumba, Indonesia: geomorphological analysis and first radiometric age determinations. Proc. 6^{th} International Coral Reef Symposium, Townsville, Australia, 3, p. 441-447.
(Quaternary reef terraces uplifted up to 500m in N and C Sumba (see also Pirazzoli et al. 1991, Nexer 2015)

Karmini, Mimin (1985)- Paleontological analysis of the Sawu basin, Lombok basin and Argo abyssal plain. Proc. 14th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, p. 205-221.
(online at: https://www.iagi.or.id/web/digital/40/PIT_IAGI_1985_paper19.pdf)
(Foraminifera from Recent seafloor box core samples collected during Snellius II expedition in Savu and Lombok basins (2000-3500m water depth) and Argo Abyssal Plain. Lysocline depth 4500-5000m in Savu-Lombok, at ~5300m in Argo Plain. (no obvious paleobathymetric or other conclusions on foram distributions; JTvG))

Keep, M., I. Longley & R. Jones (2003)- Sumba and its effect on Australia's northwestern margin. In: R.R. Hillis & R.D. Muller (eds.) Evolution and dynamics of the Australian Plate. Geological Society of America (GSA), Special Paper 372 and Geological Society Australia Special Publ. 22, p. 309-318.
(Suggest 8 Ma collision of Sumba forearc and promontory of Australian continent, resulting in Sumba uplift)

Kruizinga, P. (1939)- Two fossil Cirripedia from the Pleistocene marls of Sumba. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie 12, p. 259-264.
(On two fossil barnacles attached to Spondylus mollusc collected by Verbeek in 1899 from Pleistocene marls near N coast Sumba)

Kusnida, D. (1992)- Stratigraphic break of the Sawu forearc basin. Bull. Marine Geological Institute, Bandung, 7, 1, p. 1-14.
(Interpretation of shallow seismic profiles of Savu Basin, acquired by Snellius II expedition)

Laufer, F. (1950)- Geology and morphology of West and Central Sumba. Organization for Scientific Research in Indonesia (O.S.R.) News, Jakarta, 2, 12, p. 161-166.

Laufer, F. & A. Kraeff (1957)- The geology and hydrology of West and Central Sumba and their relationship to the water-supply and rural economy. Djawatan Geologi (Geological Survey Indonesia, Bandung), Publikasi Keilmuan 33, Seri Geologi, p. 1-48.
(Sumba island with thick, folded Cretaceous? flysch-type slates and quartzites with possible NNW strike in S mountains of W Sumba. Cut by pre-Eocene basalt and gabbros and probably also large granodiorite massif. Unconformably overlain by Late Eocene limestones with larger forams including Pellatispira. Miocene and younger limestones probably with minor unconformity over Paleogene limestones. E Miocene Jawila volcanics. Quaternary reefal limestone terraces up to 300m above sea level)

Lytwyn, J., E. Rutherford, K. Burke & C. Xia (2001)- The geochemistry of volcanic, plutonic and turbiditic rocks from Sumba, Indonesia. J. Asian Earth Sciences 19, p. 481-500.

(online at: https://www.academia.edu/107966611/The_geochemistry_of_volcanic_plutonic_and_turbiditic_rocks_from_Sumba_Indonesia)
(Sumba underlain by Late Cretaceous- Early Oligocene volcanic arc rocks and associated turbiditic sediments, and is fragment of an oceanic island arc, not piece of Sundaland continent)

Meiser, P., D. Pfeiffer, M. Purbohadiwidjojo & Sukardi (1965)- Hydrogeological map of the isle of Sumba, scale 1:250,000. Indonesia Geological Survey, Bandung.

Nexer, M. (2015)- Etude conjointe des reseaux de drainage et des paleocotes plio-quaternaires soulevees: exemples de l'Indonesie et du golfe Normand Breton. Doctoral Thesis Universite de Caen Normandie, p. 1-365.
(online at: https://tel.archives-ouvertes.fr/tel-01258570/document)
('Joint study of the drainage systems and uplifted Pliocene-Quaternary paleocoasts: examples from Indonesia and the Gulf of Normandy-Brittany'. In French. With chapters on raised coral reef terraces of Sumba (E Indonesia) and Huon Peninsula (PNG))

Nexer, M., C. Authemayou, T. Schildgen, W.S. Hantoro, S. Molliex, B. Delcaillau, K. Pedoja, L. Husson & V. Regard (2015)- Evaluation of morphometric proxies for uplift on sequences of coral reef terraces: a case study from Sumba Island (Indonesia). Geomorphology 241, p. 145-159. *(online at: www.academia.edu/12542023/Evaluation_of_morphometric_proxies_for_uplift_on_sequences_of_coral_reef_terraces_A_case_study_from_Sumba_Island_Indonesia_?from=cover_page)*
(Study of uplifted Pleistocene coral reef terraces, preserved along 2/3 of coast of Sumba island (not along most of S coast). Six main terraces, up to 30 km wide. Max. elevations of 470m along NE coast. Uplift rates variable, between 0.10- 0.63 mm/yr)

Nishimura, S., Y. Otofuji, T. Ikeda, E. Abe, T. Yokoyama et al. (1981)- Physical geology of the Sumba, Sumbawa and Flores islands. In: A.J. Barber & S. Wiriyusono (eds.) The geology and tectonics of Eastern Indonesia, CCOP-SEATAR Meeting, Bandung 1979, Geological Research Development Centre (GRDC), Bandung, Special Publ. 2, p. 105-113.
(Major tectonic discontinuity between Sumbawa and Flores. Paleomag suggests about 60° clockwise rotation of Sumba island between Jurassic and Early Miocene. No stratigraphy/age control for their 'Jurassic mudstones' from SW Sumba (more likely Cretaceous?; HvG))

Otofuji, Y., S. Sasajima, S. Nishimura, S. Hadiwisastra, T. Yokoyama & F. Hehuwat (1980)- Palaeoposition of Sumba Island, Indonesia. In: S. Nishimura (ed.) Physics and geology of the Indonesian island arcs, Kyoto University Press, Kyoto, p. 59-66.

Otofuji, Y., S. Sasajima, S. Nishimura & F. Hehuwat (1979)- Paleomagnetic evidence for the paleoposition of Sumba Island, Indonesia. Rock magnetism and paleogeophysics, Tokyo, 6, p. 69-74. *(online at: http://peach.center.ous.ac.jp/rprep/Rock%20Magnetism%20and%20Paleogeophysics%20vol6%201979.pdf)*
(Paleomagnetic work on 15 sites, ranging in age from Jurassic (more likely Upper Cretaceous?; HvG) to Miocene, during which Sumba rotated CW by 59°. 'Late Jurassic' paleolatitude of 25.9°S, suggests Sumba formed part of Australian continent)

Otofuji, Y., S. Sasajima, S. Nishimura, T. Yokoyama, S. Hadiwisastra & F. Hehuwat (1981)- Paleomagnetic evidence for the paleoposition of Sumba Island, Indonesia. Earth Planetary Science Letters 52, p. 93-100.
(Sumba underwent 59.2° CW rotation since Jurassic and 79 4 ° relative to Timor since Jurassic (Cretaceous?). Until Jurassic, Sumba and Timor situated at Australian continental margin; Sumba at paleolatitude of ~26°S ('Jurassic' rocks analyzed more likely Cretaceous?; JTvG) (similar paper to Otofuji et al. 1979, 1980))

Permanadewi, S. & I. Saefudin (1994)- Umur mutlak batuan tuf daerah pegunungan Tanadaro dan sekitarnya, Sumba, Nusa Tenggara Timur: berdasarkan metoda pentarikhan jejak belah. Jurnal Sumber Daya Geologi (JSDG) 4, 34, p. 20-26.

('Absolute ages of tuffs in the Tanadaro Mts area, Sumba, E Nusa Tenggara, using fission track method'. Zircon fission track ages of 3 andesitic tuff samples from Masu Fm of C Sumba: (1) 57.3± 5.4 Ma (= ~Paleocene-Eocene boundary), (2) 49.3± 2.9 Ma (= ~E-M Eocene boundary) and (3) 45.3 ± 5.7 Ma (= M Eocene))

Pfeiffer, D. & P. Meiser (1968)- Geologische, hydrogeologische und geoelectrische Untersuchungen auf der Insel Sumba (Indonesia). Geologisches Jahrbuch 86, p. 885-918.
('Geological, hydrogeological and geoelectrical investigations on the island of Sumba, Indonesia')

Pirazzoli, P.A., U. Radtke, W.S. Hantoro, C. Jouannic, C.T. Hoang, C. Causse & M. Borel Best (1993)- Quaternary raised coral reef terraces on Sumba island, Indonesia. Science 252, p. 1834-1836.
(Sequence of coral-reef terraces (6 main steps >500m wide and many substeps) near Cape Laundi, Sumba Island, between 475m elevation and sea level. Uplift rate 0.5 mm/yr. Most terraces correspond to specific interglacial stages, with oldest terrace formed 1 million years ago)

Pirazzoli, P.A., U. Radtke, W.S. Hantoro, C. Jouannic, C.T. Hoang, C. Causse & M. Borel Best (1993)- A one million-year-long sequence of marine terraces on Sumba Island, Indonesia. Marine Geology 109, p. 221-236.
(11 Pleistocene coral reef terraces at N coast Sumba Island, <1 million years old, up to 475m above sea level)

Prasetyo, H. (1994)- The tectonics of the 'Sunda-Banda' forearc transition zone, eastern Indonesia. Bull. Marine Geological Institute, Bandung, 9, 1, p. 23-47.
(Marine geophysical and geological studies of forearc area between Sumba and Timor, including field studies of accretionary wedge of Sawu Island and uplifted portion of forearc basement (Sumba Ridge) of Sumba Island. Region of transition from conventional Andean-type Indian Ocean subduction along E Sunda Trench in W to arc-continent collision along Timor Trough in E. Several major problems remain unresolved)

Reed, D.L. (1985)- Structure and stratigraphy of the eastern Sunda forearc, Indonesia. Geologic consequences of arc-continent collision. Ph.D. Thesis, Scripps Inst. Oceanography, La Jolla, University of California, p. 1-235.
(Unpublished)
(Study of marine seismic profiles and piston cores in E Sunda fore-arc, with geologic fieldwork on Late Miocene- E Pliocene accretionary complex on Savu island. Savu with imbricated, well-indurated U Triassic-Jurassic quartzose turbidites/ deep water limestones (mainly ENE trending and WNW-dipping?) and more intensely deformed, sheared, poorly consolidated Cretaceous- Tertiary pelagic sediments (with scaly clays). Sumba Ridge best described as continental landmass (crustal thickness 24km), trapped in forearc during Miocene initiation of E Sunda arc-trench system, but rel. undeformed in Neogene. Between Sumba and Savu outflow of Pacific Ocean deep from Savu Basin water caused significant (up to 1000m?) submarine erosion on crests of ridges, with material re-deposited along Savu Thrust and Sumba Basin (mainly as muddy contourites/ drifts). Triassic limestones on Savu with Monotis salinaria, Halobia and radiolaria. U Jurassic with blocks of pillow basalts. Deformed strata on Savu never deeply buried. Blocks ('boudins'?) and scaly matrix formed by common deformation process. Opposite sense of imbrication along N and S coasts? Rel. undeformed U Miocene-Pliocene marls overlie U Miocene scaly clay of deformed section of Savu; uplifted >2km. N-directed backthrust N of Savu separates forearc basin from accretionary wedge. Refraction line across Savu Basin indicates oceanic crust)

Reed, D.L., A.W. Meyer, E.A. Silver & H. Prasetyo (1987)- Contourite sedimentation in an intraoceanic forearc system: Eastern Sunda Arc, Indonesia. Marine Geology 76, p. 223-241.
(Sedimentation in E Sunda forearc strongly influenced by vigorous deep- and bottom-water circulation. Sumba Ridge and Savu-Timor Ridge together form barrier to outflow of Pacific Ocean Deep Water from Savu Sea to E Indian Ocean. Outflow bottom currents eroded gap in sill at 1150m between Sumba and Savu. SW of gap, exposure of consolidated M Miocene- Pliocene foraminiferal chalks and oozes along Sumba Ridge suggests up to 1 km of overburden removed by currents. Eroded sediments re-deposited as muddy contourites in >1 km sediment drift in adjacent Sumba Basin. Drift forms elongated mound of reworked calcareous ooze and is bounded by moat-like channels)

Reed, D.L., E.A. Silver, H. Prasetyo & A.W. Meyer (1986)- Deformation and sedimentation along a developing terrane suture: Eastern Sunda forearc, Indonesia. Geology (GSA) 14, p. 1000-1003.
(Discussion of Savu thrust, a S-dipping reverse fault thrusting Savu-Timor terrane Neogene accretionary wedge towards Sumba Ridge terrane, which is part of Banda forearc)

Rigg, J.W.D. & R. Hall (2011)- Structural and stratigraphic evolution of the Savu Basin, Indonesia. In: R. Hall et al. (eds.) The SE Asian gateway: history and tectonics of Australia-Asia collision. Geological Society, London, Special Publ. 355, p. 225-240.
(Savu Basin located in Sunda-Banda forearc at change from oceanic subduction to continent-arc collision. Interpreted to be underlain by continental crust, added to Sundaland margin in mid-Cretaceous. Before M Miocene Sumba and Savu Basin close to sea level and subsided rapidly in late M Miocene in response to extension induced by subduction rollback at Banda Trench)

Rigg, J.W.D. & R. Hall (2012)- Neogene development of the Savu Forearc Basin, Indonesia. Marine and Petroleum Geology 32, p. 76-94.
(Savu Basin records M Miocene initiation of subduction of Banda oceanic embayment, subsequent arc volcanism and Pliocene- Recent collision of Australian continent and Banda forearc. Four Neogene units: Unit 1 underlain by continental crust and Cretaceous-Paleogene arc rocks, capped by Oligocene- Lower Miocene shallow water carbonates. Subduction rollback-induced extension in M Miocene caused subsidence to depths of several km. Units 2-4 include M Miocene-Pliocene arc-derived volcaniclastic turbidites and deep water carbonates. Savu Basin little deformed, except near Savu and Roti Thrusts. Sumba Ridge elevated as Australian margin continental crust underthrust forearc to form broad flexure, tilting older units. Savu- Roti Ridge is pre-collision Banda forearc accretionary complex and Australian margin sedimentary cover and has risen >2 km since 2 Ma)

Roep, T.B. & A.R. Fortuin (1996)- A submarine slide scar and channel filled with slide blocks and megarippled *Globigerina* sands of possible contourite origin from the Pliocene of Sumba, Indonesia. Sedimentary Geology 103, p. 145-160.
(Early Pliocene deep-water sequences (~1-2 km deep) near Kambatatana, Sumba island, include slide scar which evolved into channel, >120m wide, 20m deep. Origin of the mega-rippled planktonic foraminiferal sand-units uncertain, butpossible formed by contour currents)

Roggeveen, P.M. (1928)- Jura op het eiland Soemba. Verhandelingen Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 32, p. 674-676.
('Jurassic on Sumba Island'. See also Dutch version of paper below)

Roggeveen, P.M. (1929)- Jurassic in the island of Sumba. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam 32, p. 512-514.
(online at: https://dwc.knaw.nl/DL/publications/PU00015738.pdf)
(English version of paper above. Inoceramus molluscs and fragment of an aegoceratid ammonite from S coast of W Sumba in rocks collected by Witkamp. In opinion of Kruizinga this could be Hammatoceras molukkanum, as known from Jurassic of Sula islands. Tentatively placed in U Liassic by Wanner (1931)(Other specialists deemed the ammonite fragment indeterminate and the Inoceramus more likely a Cretaceous species (Van Gorsel 2012). More likely age of beds is Cretaceous according to Von der Borch et al. (1983)). Folded Mesozoic intruded by igneous rocks and unconformably overlain by Eocene (Caudri, 1934))

Roggeveen, P.M. (1932)- Abyssische und hypabyssische Eruptivgesteine der Insel Soemba. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam 35, 6, p. 878-890.
(online at: https://dwc.knaw.nl/DL/publications/PU00016297.pdf)
('Abyssal and hypabyssal igneous rocks of Sumba island'. Petrographic descriptions of outcrop samples of igneous rocks collected mainly by Witkamp in Central Sumba: granite, granodiorite, diorite, porphyrite, hornfels, etc. Igneous rocks unconformably overlain by marls and limestones with Eocene larger forams (Discocyclina; Rutten 1912), and may be of Late Mesozoic age)

Rutherford, E., K. Burke & J. Lytwyn (2001)- Tectonic history of Sumba Island, Indonesia, since the Late Cretaceous and its rapid escape into the forearc in the Miocene. J. Asian Earth Sciences 19, 4, p. 453-479.
(online at: https://www.academia.edu/107966616/Tectonic_history_of_Sumba_Island_Indonesia_since_the_ Late_Cretaceous_and_its_rapid_escape_into_the_forearc_in_the_Miocene
(In Late Cretaceous- Early Oligocene Sumba was part of Great Indonesian Volcanic arc system (~86- 31 Ma). At 16 Ma Sumba torn away from relict arc and moved WSW, moving ~450 km until present position at ~7 Ma)

Rutten, L. (1912)- On orbitoids of Sumba. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 15, 1, p. 461-467.
(online at: https://dwc.knaw.nl/DL/publications/PU00012991.pdf)
(English translation of Dutch version 'Over orbitoiden van Soemba') Presence of Eocene Orthophragmina (= Discocyclina) javana and O. dispansa, in samples collected by H. Witkamp at S coast of Sumba. Also samples with Miocene Lepidocyclina. No detailed localities information or fossil pictures (see also more extensive report of B. Caudri (1934))

Rutten, L.M.R. (1927)- Soemba, Rendjoewa, Savoe en Rotti. In: L.M.R. Rutten (1927) Voordrachten over de geologie van Nederlandsch Indie, Wolters, Groningen, p. 666-679.
(online at: https://resolver.kb.nl/resolve?urn=MMKB02:000119126:pdf)
(Old, brief, but still insightful reviews of geology of Sumba, Renjuwa, Savu and Roti islands, as known in 1927. Sumba with Eocene and older rocks that underwent minor folding, unconformably overlain by rel. thin, largely horizontal Miocene and younger rocks. Young sediments uplifted to over 900m asl. Rendjoewa island (between Sumba and Timor) with highly-folded Eocene marls-limestones (with Nummulites, Discocyclina, Alveolina) and moderately folded Miocene Lepidocyclina limestone (Verbeek, 1908) (= similar tectonostratigraphy to Sumba and ' Banda Terrane' of Timor?; HvG). Savu island with Permian coral limestone (possibly associated with basic volcanics), highly folded Triassic limestones, sandstones, radiolarites, etc. Roti island (investigated by Wichmann, Verbeek, Wanner and Brouwer in 1892-1920), with highly folded Permian-Eocene: Permian limestones, Triassic-Jurassic deep marine limestones with'Tethyan' fauna, Cretaceous in pelagic facies, etc.)

Santy, L.D. & A.J. Widiatama (2021)- Pedaro formation, equivalent of Plover sandstone at Savu Island, Outer Banda Arc. Proc. Int. Conf. Geological Engineering and Geosciences, Yogyakarta 2021, IOP Conference Series: Earth and Environmental Science 851, 012052, p. 1-12.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/851/1/012052/pdf)
(Unfossiliferous quartz-rich sandstones in outcrop on S Savu island, 39m thick. Previously mapped as Pedaro Fm. Underlies M Jurassic Wailuli shales and deposited in fluvial-tidal facies. Interpreted as equivalent of Plover Fm of Australian NW Shelf)

Satyana, A.H. & M.E.M. Purwaningsih (2011)- Sumba area: detached Sundaland terrane and petroleum implications. Proc. 35th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA11-G-009, p. 1-32.
(Sumba Island is microcontinental fragment in forearc of Sunda-Banda volcanic arc, here believed to be detached from SE/E Sundaland. Paleogene stratigraphy of Sumba similar to S Sulawesi, with arc volcanics, Eocene low-latitude Pellatispira larger foram fauna, etc.)

Satyana, A.H. & M.E.M. Purwaningsih (2011)- Multidisciplinary approaches on the origin of Sumba terrane: regional geology, historical biogeography, linguistic-genetic coevolution and megalithic archaeology. Proc. Joint 36th HAGI and 40th IAGI Annual Conv., Makassar, JCM2011-018, p. 1-28.
(online at: www.academia.edu/16757344/MULTIDISCIPLINARY_APPROACHES_ON_THE_ORIGIN Etc.)
(Sumba continental terrane came from E/SE margin of Sundaland based on stratigraphy, geochronology-geochemistry of magmatic rocks, paleomagnetism, and isotope geology. Sumba Paleogene stratigraphy similar to S Sulawesi, magmas characteristic of island arc at Sundaland margin. Late Cretaceous Lasipu Fm volcanics with Pb-Nd isotope characteristics suggesting affinities with Sundaland. Sumba Eocene with low-latitude 'Assilina-Pellatispira' Sundaland larger forams, no higher latitude Australian 'Lacazinella', suggesting Sumba shared closer biotic relationship with Sundaland before dispersal)

Satyana, A.H. & M.E.M. Purwaningsih (2012)- New look at the origin of the Sumba Terrane: multidisciplinary approaches. Berita Sedimentologi 25, p. 26-34.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/download/172/142)
(Extensive review of geology of Sumba island. Unlike nearby Timor, Sumba island stratigraphy and tectonics relatively simple. Basement of Upper Cretaceous turbidites, overlain unconformably by gently dipping Palaeogene shallow water sediments and volcanic rocks, resembling stratigraphy of Sundaland margin in SW Sulawesi and SE Kalimantan, but very different to that of NW Australian shelf. Also typical Eocene low-latitude Sundaland larger foram fauna. Part of Late Cretaceous-Paleogene volcanic arc near W Sulawesi)

Simandjuntak, T.O. (1993)- Tectonic origin of Sumba Platform. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 3, 22, p. 10-19.
(Geology of Sumba different from adjacent Neogene Banda volcanic arc islands and allochthonous Paleozoic microcontinents in Banda Sea region. Cretaceous- Miocene stratigraphy of Sumba most similar to SW arm of Sulawesi. Oldest sediments in outcrop are thick U Cretaceous flysch with volcanics series, very similar to Latimojong Fm of S Sulawesi and Pitap Fm of SE Kalimantan. Sumba probably detached from Sulawesi, possibly from N part of Bone Bay or from Walanae Depression and displaced S before development of Banda volcanic arc. May also have been detached from SE margin of Sundaland. Deepening of facies suggest detachment of Sumba took place in M Miocene)

Siregar, D.A. & D. Setyagraha (1995)- Pentarikhan radiokarbon terhadap teras batugamping Waingapu, Sumba, Nusatenggara Timur. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 5, 51, p. 16-22.
('Radiocarbon analysis of the Waingapu limestone terraces, Sumba, E Nusatenggara'. Sumba NE coast near Waingapu with 14 Quaternary uplifted coral reef terraces. Radiocarbon dating suggests ages between 5660 ± 260 BP and 1650 ± 130 BP. During this time two phases of marine transgression and regression)

Soeria-Atmadja, R., S. Suparka, C. Abdullah, D. Noeradi & Sutanto (1998)- Magmatism in western Indonesia, the trapping of the Sumba Block and the gateways to the east of Sundaland. J. Asian Earth Sciences 16, 1, p. 1-12.
(Similarities in Late Cretaceous-Paleogene stratigraphy and calc-alkali magmatism between Sumba, S Sulawesi and SE Kalimantan suggest Sundaland origin for all these areas. Southward migration of Sumba to frontal arc position of Sunda-Banda arc since Late Cretaceous-Paleocene)

Spence, W. (1986)- The 1977 Sumba earthquake series: evidence for slab pull acting at a subduction zone. J. of Geophysical Research: Solid Earth 91, B7, p. 7225-7239.
(Focal mechanism analysis of great (8.3 Mw) August 1977 earthquake at eastrn Sunda Trench under Sumba suggest normal faulting throughout upper 28 km of the oceanic lithosphere; no evidence for thrust faulting of deeper aftershocks. Probably evidence for slab pull of the~650 km deep and old subducting Indian Ocean plate beneath Sunda-Banda arc)

Toothill, S. & D. Lamb (2009)- Hydrocarbon prospectivity of the Savu Sea Basin. Proc. 33rd Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA09-G-013, p. 657-668.
(Seismic surveys in Savu basin suggest potential for hydrocarbons. Up to 4.8 km of sediment; no wells drilled. Basin origin complex: four to five phases of rifting and uplift and erosion in region, and overprinted in recent geological time by collision tectonics. Significant number of gas chimneys and bright amplitudes)

Umbgrove, J.H.F. (1946)- Tertiary corals from Sumba (East Indies). Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie 13, p. 393-398.
(Small collections of corals by Witkamp (1911) from W Sumba give conclusive evidence of Miocene and Eocene sediments. Corals mainly solitary species (Phyllangia, Hydnophyllia, Goniastrea, Diploastaea))

Van der Werff, W. (1995)- Cenozoic evolution of the Savu Basin, Indonesia: forearc basin response to arc-continent collision. Marine and Petroleum Geology 12, 3, p. 247-262.
(Savu Basin initial E Miocene subsidence of outer forearc basin and development of M-Late Miocene volcanic 'proto' arc in S of basin resulted from Late Oligocene-E Miocene E-ward propagation of Java-Timor Trench. N

of accretionary prism, forearc basement flexed down and reshaped into trenchward- dipping backstop that facilitates backthrusting of accretionary prism. Southern forearc basement probably acted as barrier against compression. Thickness of continental basement critical in response of forearc- continent collision. Savu Basin responded to underthrusting of continental crust by reactivation of basement ridges. This resulted in differentiation of forearc basin into extinct and uplifted Miocene S Savu Basin and Pliocene-Recent active N Savu Basin. Late Miocene-Recent uplift of large segments of outer forearc and subsidence of N Savu Basin)

Van der Werff, W. (1995)- Structure and morphotectonics of the accretionary prism along the Eastern Sunda-Western Banda Arc. J. Southeast Asian Earth Sciences 11, p. 309-322.
(Forearc region near Sumba- Savu variation in structure related to incipient collision with Australia. Arc-trench system changes from ridged S of Bali- Lombok- Sumbawa to sloped S of Sumba. E of Sumba, accretionary wedge backthrust over forearc basin, incorporating forearc sediments and basement. Accretionary wedge probably little of sediment subducted. Decrease in width of prism from Bali to Sumbawa corresponds to E-ward younging trend of arc-trench system from Late Oligocene to E Miocene. S of Sumba width of prism increases considerably, due to accretion of thick continental margin carbonates which deform by thrust-bounded folds. Buoyancy of partially subducted marginal Scott plateau increases basal shear stresses, adding to growth of large accretionary wedge. Further E, subduction of thick continental crust results in even higher basal shear stresses distributed through accretionary wedge, causing backthrusts and internal deformation, leading to shortening and thickening of wedge)

Van der Werff, W. (1996)- Forearc development and early orogenesis along the eastern Sunda/ western Banda arc (Indonesia). Ph.D. Thesis Vrije Universiteit, Amsterdam, pp. 1-311. *(Unpublished)*
(Collection of 7 previously published 1992-1996 papers, mainly on Snellius II seismic and land program in E Sunda- W Banda fore arc areas)

Van der Werff, W., D. Kusnida, H. Prasetyo & T.C.E. van Weering (1994)- Origin of the Sumba forearc basement. Marine and Petroleum Geology 11, 3, p. 363-374.
(Basement structures in E Sunda/ W Banda forearc suggests continuity between Sumba and N Timor. Structures trend E-W in W, gradually change into NE-SW trends in E. Major NE-SW trending discontinuity W of Sumba between 117° 30' and 118° 30' E marks transition between intraoceanic volcanic arc system in W and volcanic arc-continent collision zone in E. Extent of Sumba basement suggests either common (Late Jurassic) rift/drift history for Sumba and N Timor or (E Miocene) magmatic welding of two continental fragments of different origin, resulting in structural continuity between two microplates)

Van der Werff, W., H. Prasetyo & T.C.E. van Weering (1991)- The accretionary wedge South of Sumba Timor: an accreted terrane in the process of slivering? Proc. International Seminar on Geodynamics of fore-arc sliver plate, Indonesian Association Geophysicists (HAGI), p. 55-60.

Van der Werff, W., H. Prasetyo, D. Kusnida & T.C.E. van Weering (1994)- Seismic stratigraphy and Cenozoic evolution of the Lombok forearc basin. Marine Geology 117, p. 119-134.
(Lombok Basin probably underlain by thinned rifted continental crust. Five Cenozoic seismostratigraphic sequences (1) Paleogene synrift deposits, predating initiation of convergent margin; (2) and (3) two phases of evolution of accretionary prism, between Late Oligocene and M Miocene; (4) and (5) slope front fill deposits reflecting volcanic activity and tectonic uplift of magmatic arc from M Miocene onwards. By Late Miocene, increased convergence between subducting Indian and overlying Asian plates resulted in stronger mechanical coupling, expressed in southern forearc basin by folding of oldest basin fill. Present activity governed by Late Pliocene collision of accretionary prism with Scott marginal and Roo Rise oceanic plateaus, resulting in uplift of outer-arc ridge and southern part of forearc basement)

Van Gorsel, J.T. (2012)- No Jurassic rocks on Sumba? Berita Sedimentologi 25, p. 35-37.
(Identification of an ammonite fragment from SW Sumba as M Jurassic Hammatoceras by Roggeveen (1929) is highly questionable, and Cretaceous age is more likely. Oldest proven rock age on Sumba is thus Cretaceous)

Van Weering, T.C.E., D. Kusnida, S. Tjokrosapoetro, S. Lubis, P. Kridoharto & S. Munadi (1989)- The seismic structure of the Lombok and Savu forearc basins, Indonesia. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 251-262.
(Four seismic sequences in Lombok and Savu forearc basins, separated by unconformities (Late Oligocene, mid-Miocene and Pliocene S of Java). Upper Miocene- Pleistocene forearc fill turbidite-dominated. Faulting strongest in E Lombok Basin; growth faults, shale diapirs and mud volcanoes reflect intensity of deformation caused by merge of Sunda and Banda Arc collision systems. Tilted and uplifted basement ridges W of Sumba separate turbidite filled sub-basins from forearc basin. Sumba was in present position before onset of Sunda - Banda Arcs subduction system and initial Lombok and Savu forearc basins were connected)

Von der Borch, C.C., A.E. Grady, S. Hardjoprawiro, H. Prasetyo & S. Hadiwisastra (1983)- Mesozoic and Late Tertiary submarine fan sequences and their tectonic significance, Sumba, Indonesia. Sedimentary Geology 37, p. 113-132.
(Sumba Cretaceous with tropical Tethyan mollusc fauna, volcanoclastic component and andesite dykes. Part of major submarine fan complex with turbidite flow directions to N240°, suggesting paleoslope to SW (restoring ~90° of clockwise rotation (Wensink 1997) would become paleodip to SE, which would fit well with Cretaceous position at SE margin of Sunda Shelf; JTvG)

Vorkink, M. (2004)- Incipient arc-continent collision: structural analysis of Savu Island, Indonesia. Masters Thesis, Brigham Young University, Utah, p. 1-87.
(online at: www.geology.byu.edu/wp-content/uploads/2013/03/2004-Vorkink-Michael-W.pdf)
(Savu island is uplifted part of Banda fore-arc accretionary wedge, W of Timor. Consists of N and S verging thrust sheets of Late Triassic- M Jurassic Australian continental margin sediments, rimmed by discontinuous melange belt. Pillow basalts in Jurassic Wai Luli Fm. Detachment probably in Triassic Lower Babulu/ upper Aitutu Fm, at depth of ~2600m. Foraminifera in syn-orogenic deposits of Savu suggest water depths of 1-1.5 km at 1.8 Ma)

Vorkink, M.W. & R.A. Harris (2004)- Tectonic development of the incipient Banda Arc-continent collision: geologic and kinematic evolution of Savu Island, Indonesia. Abstracts with Programs Geological Society of America 2004 Annual Meeting, Denver, 36, 5, p. 319. *(Abstract only)*
(Savu both N and S-verging thrust sheets of Late Triassic- M Jurassic distal NW Australian continental margin units, rimmed by discontinuous melange of forearc basement fragments and synorogenic units. Pillow basalt in Jurassic Wai Luli Fm. N-verging folds move back of accretionary wedge over S Savu forearc basin. S-verging thrust sheets are bulk of island and well-exposed in S Savu. Detachment for thrust sheets in Triassic Lower Babulu or upper Aitutu Fms at ~2600m depth. Maximum age for initiation of collision 4.0 Ma. Foraminifera in syn-orogenic units indicate outer arc was at 1.0-1.5 km below sea level at 1.8 Ma, a surface uplift rate of ~1 mm/yr. At this rate, it takes 3.2-5.0 Ma to uplift these from pre-collisional depth of 3.5-4.0 km)

Wensink, H. (1991)- The paleoposition of the island of Sumba, derived from paleomagnetic data. In: E.P. Utomo, H. Santoso & J. Sopaheluwakan (eds.) Proc. Silver Jubilee Symposium on the dynamics of subduction and its products, Yogyakarta-Karangsambung 1991, Research Development Centre Geotechnology, Indonesian Institut of Sciences (LIPI), Bandung, p. 238-244.

Wensink, H. (1994)- Paleomagnetism of rocks from Sumba: tectonic implications since the Late Cretaceous. J. Southeast Asian Earth Sciences 9, p. 51-65.
(online at: https://dspace.library.uu.nl/handle/1874/19116)
(Overview of Sumba geology. In Late Cretaceous Sumba was at 8° (not sure if N or S, but both demonstrate Sumba was not part of Australia at that time). In this paper concluded to various CCW rotations between Late Cretaceous and Miocene, but re-interpreted to more reasonable CW rotations in Wensink 1997)

Wensink, H. (1997)- Palaeomagnetic data of Late Cretaceous rocks from Sumba, Indonesia; the rotation of the Sumba continental fragment and its relation with eastern Sundaland. Geologie en Mijnbouw 76, p. 57-71.
(Paleomagnetic studies on Sumba continental fragment. Tanadaro granodiorite (65 Ma) paleolatitude 8.3° S. E Sundaland with Borneo, W and S Sulawesi, and Sumba formed one continental unit in Late Mesozoic, most

likely attached to SE Asian mainland. Borneo and W and S Sulawesi large CCW rotations since Jurassic (45° in Cretaceous, 45° in Paleogene). Sumba microcontinent detached from E Sundaland soon after Late Cretaceous. Paleomagnetic data show Sumba underwent CW rotations of up to 96° (CW 53° between 82-65 Ma; 38° between 65-37 Ma; 9° between Late Eocene-Late Miocene and ~4° CCW since Late Miocene- E Pliocene). E Sundaland and Sumba close to equator since Jurassic)

Wensink, H. & M.J. van Bergen (1995)- The tectonic emplacement of Sumba in the Sunda-Banda Arc: paleomagnetic and geochemical evidence from the Early Miocene Jawila volcanics. Tectonophysics 250, p. 15-30.
(online at: http://dspace.library.uu.nl/handle/1874/19118)
(Paleomag of E Miocene Jawila arc volcanics suggests very similar position to present-day Sumba. Original position of Sumba in Late K- Paleocene probably 18° N; drift and rotation completed before Mid Miocene? Early Miocene arc volcanics on Sumba suggest island arc and imply older arc S of modern arc (= same as Java 'Old Andesites'?; JTvG), or was within E Sunda arc between Sumbawa and E Flores and drifted S. (NB: Fortuin et al. (1997) and Abdullah et al. (2000) suggest Jawila Volcanics Late Eocene- E Oligocene age)

Widiatama, A.J. (2019)- Sedimentasi batuan Mesozoikum Palau Sawu, Nusa Tenggara Timur. Masters Thesis Institut Teknologi Bandung (ITB), p. 1-175 ? *(Unpublished)*
(selections read online at: https://digilib.itb.ac.id/gdl/view/40380)
('Sedimentation of Mesozoic rocks on Savu island, East Nusa Tenggara'. Mesozoic rocks in Savu Island W of Timor three tectonostratigraphic units (1) Gondwana synrift (Late Triassic Babulu Fm, E Jurassic Quartz Sandstone Unit, M Jurassic Wailuli Fm, and Late Jurassic- E Cretaceous Oebaat Fm), (2) Post-break up Kolbano sequence (Cretaceous Nakfunu Fm and Ofu Fm, and (3) rocks from collision of passive margin of Australia with Banda Arc/ Viqueque sequence (Bobonaro Fm and Viqueque Fm))

Witkamp, H. (1912)- Een verkenningstocht over het eiland Soemba Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2) 29, p. 744-775.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046883000:00007)
('A reconnaissance trip across the island of Sumba'. 4 May- 14 June 1910. First of four parts of geographic-geologic reconnaissance across much of Sumba island during 3-month survey in May-August 1910, which previously had only been visited briefly in 1899 by Verbeek (Verbeek, 1908). Not much on geology. Eocene and Miocene larger foraminifera from Witkamp samples identified by Rutten (1912))

Witkamp, H. (1913)- Een verkenningstocht over het eiland Soemba- II. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2) 30, 1, p. 8-27.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046883000:00007)
('A reconnaissance trip across the island of Sumba'; part 2'. 2-14 June 1910. Mentions likely Upper Cretaceous-age sandstone-shale with Inoceramus, (Eocene) limestone with large Nummulites, pumice tuff, andesites, gabbro, etc. No evidence for recent volcanism)

Witkamp, H. (1913)- Een verkenningstocht over het eiland Soemba- III. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2) 30, p. 484-505.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046883000:00007)
('A reconnaissance trip across the island of Sumba'; part 3. 15 June- 14 July, 1910. Mentions limestone, andesite, augite-andesite breccia, etc.)

Witkamp, H. (1913)- Een verkenningstocht over het eiland Soemba- part IV. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2) 30, 5, p. 619-637.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046883000:00007)
('A reconnaissance trip across the island of Sumba'; part 4. 15 July- 5 August 1910. Little or no geology)

Zonneveld, J.P., Y. Zaim, Y. Rizal, Aswan, A. Fortuin, R. Larick & R.L. Ciochon (2021)- The Palaeo-Kambaniru river mouth, Sumba, East Nusa Tenggara, Indonesia: A record of strongly seasonal catastrophic

flow in a monsoon controlled deltaic complex. In: Prof. Yahdi Zaim Retirement Volume, ITB, Berita Sedimentologi 47, 3, p. 65-72.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/view/360)
(Kambaniru River valley near Waingapu, NE Sumba, preserves thick Late Pleistocene fluvial-deltaic coarse volcanogenic sediments, which cuts through thick uplifted coral reef terrace succession)

VII.4. Timor, Roti, Leti, Kisar, Moa (incl. Timor Leste) (non-volcanic Outer Banda Arc)

Aben, F.M., M.J. Dekkers, R.R. Bakker, D.J.J. van Hinsbergen, W.J. Zachariasse, G.W. Tate, N. McQuarrie, R. Harris & B. Duffy (2014)- Untangling inconsistent magnetic polarity records through an integrated rock magnetic analysis: a case study on Neogene sections in East Timor. Geochem. Geophysics Geosystems 15, 6, p. 2531-2554.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2014GC005294)
(Magnetic polarity analysis of latest Miocene-Pliocene 'post-orogenic' deep-marine siliciclastics and limestones at Viqueque and Cailaco Rivers, Timor Leste, shows (1) magnetic carriers mainly greigite and magnetite; (2) paleomagnetic directional analysis yields magnetic polarity patterns inconsistent with biostratigraphic constraints. Detrital magnetite suite yields largely viscous remanence signals and deemed unsuited; greigite suites more reliable and giving revised polarity pattern of Viqueque latter section more consistent with biostratigraphy)

Amaral, A.P., P. Cardoso, J. Pires, E. da Silva Cabral, A.M. Hornai & G. Ribeiro da Costa (2022)- Reassessment of the Tchinver Shale type section. Proc. 5th IPG International Conference on Geoscience Data and Information for Investment and Sustainability Development of Timor-Leste, Dili 2022, p. 67-71.
(Review of Late Jurassic Tchinver shale in Tchinver river section, S of Lospalos, Timor Leste)

Amelia, N.R., Supriyanto & Haryanto (2021)- Identifikasi stuktur geologi sebagai potensi area jebakan hidrokarbon berdasarkan integrasi data gaya berat dan data seismik di Pulau Timor, Indonesia Timur. Jurnal Geosains Terapan (UI) 4, 1, p. 1-14.
(online at: https://geosainsterapan.id/index.php/id/article/view/59)
(Subsurfce structure interpretation of westernmost Timor Island and adjacent offshore, from 2D seismic sections, gravity modelling and surface data. Showing most of Timor as imbricated/accretionary complex.)

Andaru, A., M.B. Wiranatanagara, M.Y.A. Madjid, N. Ardiansyah & J. Kristian2 (2022)- Offshore-onshore geological model to define deformation zone in West Timor and its implication to petroleum system. Proc. Asia Petroleum Geoscience Conference and Exhibition (APGCE 2022), Kuala Lumpur, p. 1-5.
(New geological model from onshore to offshore in West Timor. Four deformation zones based on depth and age of detachment surfaces. Detachment surfaces cut deeper sediment and lift older sediment in each zone. Petroleum potential highest opportunity in zone 1 and decreasing N-ward towards more deformed zone 4)

Archbold, N.W. & S.T. Barkham (1989)- Permian brachiopoda from near Bisnain village, West Timor. Alcheringa 13, p. 125-140.
(Permian brachiopoda from outcrops of calcarenites-shales attributed to Maubisse Fm near Bisnain, W Timor. Assemblage correlative to late Sakmarian (E Permian), temperate climate, Callytharra Fm of W Australia)

Archbold, N.W. & P.R. Bird (1989)- Permian brachiopoda from near Kasliu Village, West Timor. Alcheringa 13, p. 103-123.
(Permian brachiopoda from outcrops of Maubisse Fm volcanoclastics near Kasliu, W Timor. Assemblage probably Chidruan age and correlative of classic Late Permian 'Tethyan' Basleo and Amarassi faunas)

Astjario, P. & S. Tjokrosapoetro (1985)- Kecapatan pengangkatan Pulau Timor di zaman Kuarter. Proc. 14th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, p. 31-34.
(online at: https://www.iagi.or.id/web/digital/40/PIT_IAGI_1985_paper4.pdf)
('Uplift rates of Timor island in the Quaternary'. Uplift rates 2-3mm/ year. No figures)

Ati, E.M. (2012)- Geologi dan karakteristik endapan mangan tipe sedimen di daerah Supul, Kab. Timor Tengah Selatan, Provinsi Nusa Tenggara Timur. Thesis S2, Gadjah Mada University, Yogyakarta, p. 1-197.
(Unpublished; see also Imam et al., 2012)
('Geology and characteristics of sedimentary-type manganese deposits in the Supul area, south Central Timor district, …'. Sedimentary manganese layers in Supul area interbedded with red-brown deep sea claystone.

Spatial linkage with mud volcano intrusion. Manganese layers 2mm- 4cm thick and highly deformed. Primarily manganite, also pyrolusite, lithiophorite, etc. Manganese ores as nodules and manganese layers)

Audley-Charles, M.G. (1965)- The geology of Portuguese Timor. Ph.D. Thesis Imperial College, University of London, p. 1-401.
(online at: https://spiral.imperial.ac.uk/bitstream/10044/1/17036/2/Audley-Charles-MG-1965-PhD-Thesis.pdf)
(Published in 1968. Detailed descriptions of field geology of East Timor. Lolotoi Metamorphic Complex is considered to be 'klippen', resting everywhere on a thrust plane and strongly eroded surface of folded Permian and Mesozoic rocks; age of thrusting possibly Early Eocene ('Timorean orogeny'). Base Lower Miocene Cablac Lst major unconformity. Bobonaro Scaly Clay of M-L Miocene (Tf) age, not tectonic unit but huge gravity slide, associated with overthrusting of large masses of mainly Permian strata. Major orogenic phase M Miocene. Etc.)

Audley-Charles, M.G. (1965)- A Miocene gravity slide deposit from East Timor. Geological Magazine 102, p. 267-276.
(E Timor formation of unbedded scaly bentonitic clay with scattered exotic blocks and smaller fragments formed by submarine sliding of unstable clay mass from area N of Timor under influence of gravity, associated with the emplacement of large overthrusts. Proposed to call it Bobonaro Scaly Clay)

Audley-Charles, M.G. (1965)- A geochemical study of Cretaceous ferromanganiferous sedimentary rocks from Timor. Geochimica Cosmochimica Acta 29, p. 1153-1173.
(*Manganese nodules nodules from Cretaceous Wai Bua Fm in W Timor very similar to Pacific deep sea nodules; nodules from E Timor perhaps shallower ? M Eocene Seical Fm ferromanganiferous, radiolarian-bearing pelagic limestones from N coast E Timor also look 'oceanic')*

Audley-Charles, M.G. (1965)- Some aspects of the chemistry of Cretaceous siliceous sedimentary rocks from Eastern Timor. Geochimica Cosmochimica Acta 29, 11, p. 1175-1192.
(Chemical analysis of Cretaceous chert and radiolarites from E Timor indicate deposition in bathypelagic environment, paucity of land derived detritus, and analogy with modern biogenous deep-sea radiolarian ooze)

Audley-Charles, M.G. (1967)- Greywackes with a primary matrix from the Viqueque formation, Upper Miocene-Pliocene, Timor. J. Sedimentary Petrology 37, 1, p. 5-11.
(Silt-clay matrix of post-orogenic Mio-Pliocene Viqueque Fm is primary detrital deposit, not result of diagenesis of sand grains. Basal conglomerates contain metamorphic and volcanic rocks as well as Triassic limestone)

Audley-Charles, M.G. (1967)- Petrology of a Lower Miocene polymict intracalcirudite from Timor. Sedimentary Geology 1, p. 247-257.
(Base E Miocene Cablac Limestone is unconformity: polymict conglomerate, incl. variety of carbonate rocks, volcanics, Cretaceous deep water carbonates and cherts, Triassic sandstones, etc.)

Audley-Charles, M.G. (1968)- The geology of Portuguese Timor. Geological Society, London, Memoir 4, p. 1-76.
(Originally Ph.D. Thesis University of London, 1965. Classic E Timor study. Oldest dated rocks Lower Permian age. Metamorphic rocks interpreted as probably pre-Permian. Most formations autochthonous. Four formations completely allochthonous: Lolotoi Complex, Aileu Fm, Maubisse Fm and Bobonaro Scaly Clay. Bobonaro Scaly Clay emplaced as submarine gravity slide, and unlike other allochthonous formations, does not rest on thrust-plane. 'Autochthonous' Aitutu Fm up to 1000m thick with rich, mainly Carnian-Norian faunas)

Audley-Charles, M.G. (1972)- Cretaceous deep-sea manganese nodules on Timor: implications for tectonics and olistostrome development. Nature Physical Science 240, 102, p. 107-139.
(Cretaceous manganese nodules of W Timor, first described by Molengraaff, resemble deep-sea nodules of modern oceans. Occur with micronodules in red clay similar to deep-sea red clays. Chemistry and physical

characters suggest deposition on ocean floor, now at ~480m above sea level ('Maubisse seamounts' of Tethys Ocean, incorporated in Bobonaro melange))

Audley-Charles, M.G. (1973)- Paleoenvironmental significance of chert in the Franciscan Formation of western California: discussion concerning the significance of chert in Timor. Geological Society of America (GSA) Bull. 84, p. 363-368.
(Discussion of Chipping (1971) paper, who argued that cherts in Timor (following Grunau 1965) are 'important constituent' of melange and reflect subduction of oceanic crust beneath continental crust. However, chert is relatively insignificant in Timor melange and no evidence of subduction of oceanic crust below continental crust in Timor region since Early Permian. Chert in Timor reflects lack of supply of coarse terrigenous detritus and formed above sedimentary sequence on continental crust close to outer margin of continental slope)

Audley-Charles, M.G. (1981)- Geometrical problems and implications of large-scale overthrusting in the Banda arc- Australian margin collision zone. In: K. McClay & N.J. Price (eds.) Thrust and nappe tectonics, Geological Society, London, Special Publ. 9, p. 407-416.
(Geometrical problems in structural history interpretion of Australia-Banda Arc collision zone (mainly Timor area): (1) apparent absence of subduction trench and accretionary arc-trench gap in Banda Arc; (2) location of surface trace of Benioff zone before collision; (3) history of Benioff zone after Pliocene oceanic trench was destroyed; (4) relationship of developing fold- thrust belt to pre-collision geometry of Australia-New Guinea continental margin; (5) apparent absence of continental slope and rise in N Australia collision zone; (6) relationship of crystalline basement of Outer Banda Arc to cover rocks and (7) tectonic significance of apparent continuity of stratigraphically and structurally different Sunda and Banda Arcs. Australia- Banda arc collision associated deformation, represented by folding-imbrication of Australian continental rise sediments of Outer Banda Arc with emplacement of overthrust exotic sheets, was accomplished in 2 My. Geometrical considerations suggest Benioff zone and most of ~200 km wide arc-trench gap were overridden by Australian lithospheric plate during continued plate convergence of last 3 My. Banda Arc fold-thrust belt developed in proximal continental rise deposits at foot of Australian continental slope)

Audley-Charles, M.G. (1986)- Timor-Tanimbar Trough: the foreland basin to the evolving Banda orogen. In: P.A. Allen & P. Homewood (eds.) Foreland Basins, Int. Association of Sedimentologists (IAS), Special Publ. 8, p. 91-102.

Audley-Charles, M.G. (1986)- Rates of Neogene and Quaternary tectonic movements in the Southern Banda arc based on micropalaeontology. J. Geological Society, London, 143, p. 161-175.
(online at: http://searg.rhul.ac.uk/pubs/audley_charles_1986%20Timor%20uplift%20rates.pdf)
(Outer Banda Arc composed of highly deformed sediments that accumulated at Australian continental margin. Dating of onset of folding/uplift of Timor, from deep submarine position at end Neogene nappe emplacement, to mountains now 3 km high, indicates post-collision uplift rate initially 3 mm/yr, then slowed to ~1.5 mm/yr. Where Australian continental margin meets E end of present Java Trench Australian margin has overridden Trench in Timor region by 240 km. After nappe emplacement shortening of continental crust migrated towards Australian continent and shelf became involved in imbrication with shortening of cover rocks between nappes and present shelf edge amounting to ~40 km during last 2 Ma)

Audley-Charles, M.G. (1990)- Triassic Aitutu Formation of Timor, Indonesia. In: Triassic biostratigraphy and paleogeography of Asia, ESCAP Atlas of Stratigraphy IX, Mineral Resources Development Series, 59, United Nations, New York, p. 11-15.
(online at: https://www.unescap.org/kp/1990/stratigraphic-correlation-between-sedimentary-basins-escap-region-vol-xv-escap-atlas)
(Shortened version from Audley-Charles (1968) thesis. Due to structural complexity and generally poor fossils, hard to conduct detailed stratigraphic studies. Deep marine Carnian- Norian Aitutu Fm thickness ~1000m, probably unconformable over Permian limestones. Basal series dark Tallibellis Mb mudstones, probably Norian age, overlain by Aitutu Fm radiolarian calcilutites (80%)/ shales (15%)/ calcarenites (5%), radiolarites, bituminous rocks with Halobia and Daonella. Top Aitutu Fm unconformable below E Jurassic Wai Luli Fm)

Audley-Charles, M.G. (2011)- Tectonic post-collision processes in Timor. In: R. Hall et al. (eds.) The SE Asian gateway: history and tectonics of Australia-Asia collision, Geological Society, London, Special Publ. 355, p. 241-266.
(online at: https://earthjay.com/earthquakes/20200506_indonesia/audley_2011_tectonics_timor.pdf)
Australian continental margin collided with Asian fore-arc at 4 Ma, transforming Banda Trench into Timor fold-thrust belt. Tectonic Collision Zone (TCZ) progressively filled by two Australian continental upper crust mega-sequences. Slowing subduction of Australian sub-crustal lithosphere after ~2.5 Ma led to uplift of TCZ that raised Timor 3 km above sea level. Asian Banda fore-arc deformation linked to ~30 km SE-wards rollback of subducting Australian lithosphere. Two Asian fore-arc nappes (Banda, Aileu-Maubisse) thrust S-wards from Banda fore-arc onto older of two highly deformed Australian continental margin upper crust mega-sequences. Wetar Suture created as thrust at base of Australian partially detached continental lower crust propagated into Asian fore-arc)

Audley-Charles, M.G. & A.J. Barber (1976)- The significance of the metamorphic rocks of Timor of the Banda arc, Eastern Indonesia. Tectonophysics 30, p. 119-128.
(All metamorphic rocks in Timor allochthonous. Three groups: lustrous slate, amphibolite-serpentinite, and granulite-amphibolite-greenschist complex. Granulite facies meta-anorthosite in Timor must have originated near continental mantle-crust boundary and may represent slices of ancient Asian continental basement. Metamorphic rocks of Seram remarkably similar to those of Timor. Overthrust directions of metamorphic rocks in Timor is S-ward, in Seram N-ward. Opposite thrusts may be explained in terms of Banda Arc acquiring sinuosity after emplacement of metamorphic rocks)

Audley-Charles, M.G., A.J. Barber & D.J. Carter (1979)- Geosynclines and plate tectonics in Banda Arcs, Eastern Indonesia: Discussion American Assoc. Petroleum Geol. (AAPG) Bull. 63, p. 249-252.
(Discussion of Crostella (1977) paper on Timor geology)

Audley-Charles, M.G. & D.J. Carter (1972)- Palaeogeographical significance of some aspects of Palaeogene and Early Neogene stratigraphy and tectonics of the Timor Sea region. Palaeogeogr. Palaeoclim. Palaeoecology 11, p. 247-264.
('Autochthonous' Early Miocene Cablac limestones unconformable on folded Early Eocene carbonates, which unconformably overlie metamorphic schists, implying Paleocene and ?Late Eocene- Oligocene? orogenic phase on Timor. Four Eocene facies on Timor, incl. Late Eocene limestones with Pellatispira and deep-water facies and volcanoclastics, all different from NW Australian Shelf and Timor Trough, where most of Tertiary is deepwater carbonate. Cretaceous- M Miocene paleogeography)

Audley-Charles, M.G. & D.J. Carter (1974)- Petroleum prospects of the southern part of the Banda Arc, eastern Indonesia. Committee Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas, CCOP, Technical Bulletin 8, p. 55-70.
(online at: https://repository.unescap.org/items/5c4180c7-fd49-442d-b437-1bf01f68b63f)
(Mainly overview of geology of Timor, with some paleogeographic reconstructions and with comments on oil seeps and prospectivity of island)

Audley-Charles, M.G. & R. Harris (1990)- Allochthonous terranes of the Southwest Pacific and Indonesia. Philosophical Transactions Royal Society London, A 331, p. 571-587. *(online at: https://www.researchgate.net/publication/239038046_Allochthonous_Terranes_of_the_Southwest_Pacific_and_Indonesia_and_Discussion#fullTextFileContent)*
(Timor is deformed Australian margin, overridden by allochthonous nappes. Lowest is 'Lolotoi metamorphics'- 'Palelo Arc' (basal metamorphics, Cretaceous-Eocene arc volcanics and marine sediments, unconformably overlain by mid-Eocene-Early Miocene carbonates; similar succession in Sumba; thrusted over Australian margin in latest Miocene (= 'Banda Terrane" of later authors). Second exotic terrane is Maubisse Permo-Triassic limestone with pillow basalts; supposedly most distal part of rifted Australian margin. Third terrane is 'supra-subduction zone' Ocussi ophiolite, now being thrust over N Timor margin)

Audley-Charles, M.G. & J.S. Milsom (1974)- Comment on ‘Plate convergence, transcurrent faults, and internal deformation adjacent to southeast Asia and the western Pacific’. J. of Geophysical Research 79, 32, p. 4980-4981.
(A&M suggest Timor Trough and its eastward extensions are 'downbuckle in continental crust, with limited underthrusting', not surface trace of subduction zone. See also reply by Fitch and Hamilton (1974), who still do interpret this as subduction zone that continues East uninterrupted from Java Trench, based in part on Shell Group seismic profiles across N side of Timor Trough showing large-scale S-ward directed overthrusts and imbrications)

Aulia, D., S.H. Sinaga, R. Adiarsa, F. Al’ayubie, I.B. Arindra, F. Nikmata & I. Rodelian (2011)- Petrology and provenance of sandstone from Mesozoic sequence Soe-Kapan Block, West Timor, NTT. Proc. 35th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA11- SG-034, p. 1-12.
(Sandstones (lithic arenites) from Soe-Kapan Block, SW Timor: Permian Bisane Fm (quartz 45-57%, feldspar 9-13%, lithic fragments 9-19% (andesite, diorite, carbonate, sandstone, chert, schist and phyllite) and Triassic Aitutu Fm (quartz 31-72%, feldspar 9-39%, lithics 5-21%). Most likely provenance recycled orogen. Flute casts in Aitutu Fm indicate dominant NW to SE transport directions)

Bachri, S. (1995)- The origin of the Aileu and Maubisse Formations in the East Timor area, Indonesia. In: J. Ringis (ed.) Proc. 31st Session Committee Co-ord. Joint Prospecting Mineral Resources in Asian Offshore Areas (CCOP), Kuala Lumpur 1994, 2, p. 232-241.
(online at: https://repository.unescap.org/server/api/core/bitstreams/4198bc42-86c9-49fe-843e-60aebea03e54/content)
(Aileu Fm metamorphics at N coast of E Timor decrease in metamorphic grade in S direction and grade into both Permian Maubisse Fm and Jurassic Wai Luli Fm, suggesting it is composed of metamorphosed Permian and Jurassic NW Australian passive margin sediments)

Bachri, S. (2004)- The relationships between the formation of the multi-genesis chaotic rocks and the Neogene tectonic evolution in Timor. Jurnal Sumber Daya Geologi (JSDG) 14, 3, p. 94-100.
(Chaotic rocks of Bobonaro Complex of Timor occupy 40% of Timor island. Composed of scaly matrix with exotic blocks of Permian- Quaternary(?) age. Scaly clay matrix rich in deep marine foraminifera, varying in age from Triassic, Mesozoic and Late Cretacous. Generated in multiple ways: mainly sedimentary olistostrome, less common tectonic melange and shale diapirs. Tectonic melange formed since N-dipping subduction in Paleogene. Arc-continent collision since E Neogene, with shale diapirs and olistostrome at beginning of collision. Olistostrome may have covered most of tectonic melange, which is probly older. After subduction ceased in post-Neogene, shale diapirism continued)

Bachri, S. (2008)- Formasi Maubisse dan Aileu di bagian Barat Timor Leste dalam kerangka tektonostratigrafi Pulau Timor. Jurnal Sumber Daya Geologi (JSDG) 18, 5, p. 281-289.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/254/234)
('The Maubisse and Aileu Formations in the west of East Timor, in the framework of Timor tectonostratraphy'. Position of Maubisse and Aileu Fms in Timor Leste controversial, but tendency to place them in para-autochthonous sequence. Formations transitional relationships with overlying para-autochthonous Wailuli Fm. Paleontological evidence indicates Maubisse Fm derived from Australian continent, and related Aileu Fm was located on NW flank of Australia until Neogene arc-continent collision event)

Bachri, S. (2011)- Tektonostratigrafi Busur Banda dengan referensi bagian barat Timor Leste dan bagian timur Pulau Seram. Jurnal Sumber Daya Geologi (JSDG) 21, 2, p. 53-62.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/135/132)
(‘Tectonostratigraphy of the Banda Arc, with reference to the western part of Timor Leste and the eastern part of Seram’. Timor and Seram similar parts of Banda Outer Arc collision zone between Australia NW Shelf and Banda Arc subduction system. Three tectonostratigraphic sequences of differents origins: (1) para-autochthonous sequence, derived from Australia; (2) Banda forearc sequence (allochthonous sequence), nappe structures overthrust on para-autochthonous sequence; (3) autochthonous sequence unconformably over previous sequences. Bobonaro olistostrome unit of Timor Island can be compared with Salas Complex on

Seram. Lolotoi metamorphic complex on Timor Island can be correlated with Kobipoto Complex on Seram Island, forming basement of para-autochthonous sequence)

Bachri, S., B. Hermanto & E. Partoyo (1995)- Genesa kompleks Bobonaro di Timor Timur. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 5, 45, p. 17-22.
('Genesis of the Bobonaro Complex in East Timor'. Bobonaro Complex of Timor multiple genesis:(1) mainly deep marine M Pliocene olistostromal deposits, (2) minor tectonic melange, and (3) minor part formed by shale diapirism and mud volcano activity. Matrix with planktonic foraminifera suggest age range within Late Miocene- E Pliocene (zones N14-N19) and in deep marine setting based on benthic foraminifera like Planulina wuellerstorfi, Favocassidulina, etc. Overlying Viqueque Fm marls with Late Pliocene- E Pleistocene (N21-N22) planktonics)

Bachri, S. & A.K. Permana (2015)- Tektonostratigrafi cekungan Timor di bagian barat Pulau Timor. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 16, 2, p. 79-91.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/43)
('Tectonostratigraphy of Timor Basin in Western Timor'. Brief review of W Timor tectonostratigraphy. Three tectonostratigraphic units, i.e. parautochtonous (Permian-Late Jurrasic), allochtonous (Late Jurassic-Pliocene) and autochtonous unit (Late Miocene-Pleistocene) Etc.).

Bachri, S. & R.L. Situmorang (1994)- Geological map of the Dili Sheet, East Timor, Scale: 1:250,000. Geological Research Development Centre (GRDC), Bandung.
(Geologic map of western part of Timor Leste, With Late Miocene (Bobonaro complex) to Pliocene-Pleistocene Autochthonous, E Miocene Allochthonous (Cablac Lst, on Lolotoi Metamorphics and Maubisse Fm) and Permian- Eocene 'Australia margin' Para-autochthonous units. Area S of Dili mainly Permian Aileu Fm metamorphics over Permian Maubisse Fm)

Bakhtiar, A. (1984)- Geologi daerah Kapan, Kabupaten Timor Tengah Selatan, Nusa Tenggara Timur. Ph.D. Thesis, Institut Teknologi Bandung (ITB), p. 1-425. *(Unpublished)*
(The geology of the Kapan area, Kapubaten S Central Timor, NTT province)

Bakker, P.J. (2002)- Timor-Leste natural and mineral resources inventory, policy and development strategy- Economic geology, development strategy, and capacity building. Final Consultancy Report, ESCAP/UNDP/TIM 01/022, Dili, p. 1-70.
(online at: https://www.laohamutuk.org/OilWeb/RDTLdocs/ESCAP/Bakker.pdf)
(Review of economic geology and resources potential of East Timor (gold, chromite, copper, etc.). Mainly literature survey, for UN ESCAP, prepared at time of Timor Leste Independence, after Indonesian annexation)

Bakker, R.R. (2011)- Surface uplift in world's youngest orogen, can crustal thickening explain the uplift in Timor? M.Sc. Thesis, University of Utrecht, p. 1-32.
(online at: http://dspace.library.uu.nl/handle/1874/208928)
(Recent uplift of Timor may be explained by buildup of fold-and-thrust belt. Age model and paleobathymetry using benthic foraminifera used to reconstruct uplift history of syn-orogenic Viqueque Fm basin. Timor uplifted in two phases: (1) very low rates during deposition of lower Viqueque Fm; (2) followed by rapid uplift, up to ~3 mm/yr. Homogeneous thickening of fold-and-thrust belt not enough to explain rapid uplift. Slab detachment unlikely cause, because there is no evidence that slab has broken off. Delamination most likely process)

Bando, Y. & K. Kobayashi (1981)- Upper Triassic cephalopods from Eastern Timor (Paleontological Study of Eastern Timor 6). Memoirs Faculty of Education Kagawa University, Japan, II, 31, 1, p. 57-142.

Barber, A.J. (1978)- Structural interpretations of the island of Timor, Eastern Indonesia. Proc. SE Asia Petroleum Exploration Society (SEAPEX) Conference 4, Singapore 1977/1978, p. 9-21.
(Timor evolution model with 'Lolotoi microcontinent' breaking off Australia in Jurassic, colliding with Sundaland in Early K, separating from Sundaland in Late K- Paleocene, colliding with Australia in Pliocene)

Barber, A.J. (1981)- Structural interpretations of the island of Timor, eastern Indonesia. In: A.J. Barber & S. Wiryosujono (eds.) The geology and tectonics of Eastern Indonesia, Proc. CCOP-IOC SEATAR Working Group Meeting, Bandung 1979, Geological Research Development Centre (GRDC), Bandung, Special Publ. 2, Bandung, p. 183-197.
(online at: http://searg.rhul.ac.uk/pubs/barber_1981%20Timor%20structure.pdf)
(Reprint of Barber (1978) SEAPEX paper. Three interpretations of structure of Timor: imbricate melange model of Hamilton 1979, overthrust model of Audley-Charles et al., upthrust model of Chamalaun & Grady (1978). New model incorporates elements of all three models: Late Jurassic breakup of piece of Australia, Cretaceous collision with Sundaland, Eocene breakup of Sundaland margin during Banda Sea opening and Pliocene collision of 'Lolotoi microcontinent' with Australia)

Barber, A.J. (1991)- The origin of melange in the Timor collision complex. In: E.P. Utomo et al. (eds.) Proc. The Silver Jubilee LIPI- Symposium on the Dynamics of subduction and its products, Yogyakarta-Karangsambung 1991, Research and Development Center for Geotechnology, Indonesian Institut of Sciences (LIPI), Bandung, p. 52-61.

Barber, A.J. & M.G. Audley-Charles (1976)- The significance of the metamorphic rocks of Timor in the development of the Banda Arc, eastern Indonesia. Tectonophysics 30, p. 119-128.
(online at: http://searg.rhul.ac.uk/pubs/barber_audleycharles_1976%20Timor%20metamorphics.pdf)
(All metamorphic massifs on Timor are allochthonous. Various grade metamorphic rocks on Timor. Three distinct metamorphic grade groups: lustrous slate, amphibolite-serpentinite and granulite- amphibolite-greenschist complex. Highest grade metamorphic rocks (granulite facies) in Booi massif. Amphibolite facies in many massifs through Timor. Many high-grade metamorphic rocks affected by subsequent lower grade (greenschist) metamorphism. Ailei Formation laterally grades into Permian-Triassic Maubisse Fm. High-grade metamorphic rocks interpreted as fragments of ancient continental crust, perhaps from Asia/ Sundaland)

Barber, A.J., M.G. Audley-Charles & D.J. Carter (1977)- Thrust tectonics in Timor. J. Geological Society of Australia 24, p. 51-62.
(Reply to Grady (1975) who argued structure of Timor can be interpreted without major overthrusting. Reasons for major overthrusting restated here and tied to collision between Australian continental margin and detached portion of Asiatic continental margin. Timor is series of overlapping thrust slices, resting on folded sediments of Australian continental margin. Kolbano lowest thrust sheet, composed of deformed deep-water calcilutites. Followed to N by Lolotoi thrust sheet (metamorphics with unmetamorphosed ophiolites, clastic sediments and massive Miocene limestones). Overlying this group to N is Maubisse-Aileu thrust sheet (with Permian crinoidal limestones and volcanics in S, passing N into shales and sandstones, with increase in deformation and metamorphism from S to N. Slates in S pass into amphibolite facies on N coast of E Timor. A further thrust-slice composed of ophiolites rests on this thrust unit on N coast of W Timor between Wini and Atapupu. Mesozoic cherts sandwiched between metamorphic thrust sheets and 'autochthonous' Bisane Fm Permian clastics suggest ocean floor separated this from Maubisse Fm Permian carbonates)

Barber, A.J. & K. Brown (1988)- Mud diapirism: the origin of melanges in accretionary prisms? Geology Today 4, p. 89-94.
(Chaotic melange deposits, mixed blocks in clay matrix, commonly attributed to submarine slumping, but in accretionary complexes shale diapirism produces large volumes of melange. With examples from Timor mud volcanoes and associated deposits of Bobonaro scaly clay with blocks)

Barber, A.J., S. Tjokrosapoetro & T.R. Charlton (1986)- Mud volcanoes, shale diapirs, wrench faults and melanges in accretionary complexes, Eastern Indonesia. American Assoc. Petroleum Geol. (AAPG) Bull. 70, p. 1729-1741.
(Timor mud volcanoes. Bobonaro scaly clay commonly interpeted as melange or olistostrome, but more likely product of shale diapyrism)

Barkham, S.T. (1993)- The structure and stratigraphy of the Permo-Triassic carbonate formations of West Timor, Indonesia. Ph.D. Thesis University of London, p. 1-379. *(Unpublished)*

(Detailed study of Permian (Maubisse) to Triassic (Aitutu) carbonates of W Timor. Focus areas: SW of Soe (Late Triassic Aitutu Fm pelagic radiolarian-mollusc (Halobia-Monotis) limestones and marls in Noil Meto), Bisnain and Laktitus areas. Includes reports of E Permian fusulinids from Maubisse Fm)

Barros, I.S., D.W. Haig & E. McCartain (2022)- Uppermost Triassic Halstatt-like cephalopod limestone (Lilu Facies) and foraminifera, Timor-Leste. Alcheringa 46, 3-4, p. 244-256.
(2m thick 'Halstatt-like' red and grey ammonoid-rich wackestone near Maliana in western Timor Leste. Called 'Lilu facies', underlain by Norian (- E Rhaetian?) shallow marine limestone of Bandeira Gp, and overlain by 'basinal' Lower Jurassic Wailuli Gp limestones-calcareous mudstones. Age-diagnostic involutinid foraminifera include Involutina liassica, Variostoma, etc., and conodont Norigondolella steinbergensis, indicating Rhaetian age. Interpreted to be deposited in few 10s of m of water depth and reflect drowning. Very low conodont colour alteration index of 1, suggesting low post-burial T and limited tectonic loading No identifications of ammonites)

Barros, I.S., D.W. Haig & E. McCartain (2025)- Upper Triassic (Norian-Rhaetian) variostomatids (Foraminifera), Timor Leste: systematics, paleoenvironmental, and biostratigraphic implications. J. Foraminiferal Research 55, 2, p. 188-217.
(online at: https://pubs.geoscienceworld.org/cushmanfoundation/jfr/article/55/2/188/653698/UPPER-TRIASSIC-NORIAN-RHAETIAN-VARIOSTOMATIDS)
(Late Triassic basinal facies in central area of Timor-Leste with diverse variostomatid foraminifera,including new genus Pualacana (type species P. hortai). Genus includes species formerly included in Variostoma. Six species recognised in Norian-Rhaetian of Timor-Leste. Associated with Duostomina turboidea, Diplotremina subangulata and Oberhauserella rhaetica ('Tethyan affinities'). Pualacana most common in thin-bedded carbonate-cemented mudstones of Aitutu Group of 'East Gondwana Interior Rift Association' and a facies association similar to the Pötschenkalke in the Hallstatt Basin of the Austrian Alps)

Bassler, R. (1929)- The Permian bryozoa of Timor. In: Palaontologie von Timor, Schweizerbart, Stuttgart, 16, Lieferung 28, p. 37-90.
(Principal (and only?) work on Permian bryozoa of Timor from Wanner and Molengraaff collections. Faunas generally poorly preserved. Artinskian Bitauni Beds sparse bryozoan fauna, early Late Permian Basleo beds more abundant, overlying Amarassi beds sparse bryozoan. Some species, like Fistulipora timorensis, rel. widespread in M-U Permian of Tethys region. Also Ulrichotrypa, Rhombopora, Streblotrypa, Fenestella, Polypora, etc.)

Bather, F.A. (1913)- The fossil crinoids referred to *Hypocrinus* Beyrich. Proc. Zoological Society of London 83, 4, p. 894-913.
(Re-description of Permian crinoid species Hypocrinus schneideri, first described by Beyrich (1865) from Air Mati locality near Kupang, Timor)

Bather, F.A. (1920)- Reviews: Echinoid or crinoid? Geological Magazine 57, 8, p. 371-372.
(Discusses genus Timorocidaris as described in Wanner (1920), Uber einige Palaeozoische Seeigelstacheln, etc. from Permian of Timor. Believed to be echinoid radiole by Wanner, but may be crinoid fragments)

Bather, F.A. (1929)- Triassic echinoderms of Timor. In: J. Wanner (ed.) Palaeontologie von Timor, Schweizerbart, Stuttgart, 16, 30, p. 214-272.
(Description of probably Upper Triassic crinoid fragments (incl. pentacrinids Isocrinus spp.) and echinoids (Miocidaris timorensis n.sp.))

Baud, A. (2013)- The Olenekian (Early Triassic) red ammonoid limestone, a time-specific facies on the Gondwana margin: Timor- Roof of the World- Oman connection. Acta Geologica Sinica (English Ed.), 87 (Supplement), p. 894-895.
(online at: https://onlinelibrary.wiley.com/doi/pdf/10.1111/1755-6724.12150_2)
(Lower Triassic red limestone blocks with abundant ammonoids in Basleo, W Timor, of Smithian (Lower Olenekian) age occur as exotic blocks in Neogene Bobonaro melange, and believed to originate from detached Triassic Tethyan seamount, incorporated in NW Australian margin accretion prism. Similar blocks of same age

and facies known from Oman Mountains and in melange of Indus suture of Ladakh Himalaya (Lamayuru Exotic block, etc.). Olenekian 'Time-Specific Facies' of condensed red ammonoid limestone deposited on isolated seamounts or submarine rise and plateau, possibly also on distal tilted blocks of continental shelves/slope (all are remnants of Permian-Cretaceous-Mesotethys Ocean, which closed in Late Cretaceous?; JTvG))

Baud, A. & H. Bucher (2019)- Time specific facies: the red ammonoid limestone at the Paleozoic-Mesozoic turnover and the Tethyan Redox evolution. In: 4th Int. Congress of Paleogeography, Beijing 2019, Abstract book, p. 54-56. *(Extended Abstract) (online at: https://www.researchgate.net/publication/336025092_Time_specific_facies_the_red_ammonoid_limest Etc.)*
(Examples of red, condensed ammonoid-rich limestones, believed to be from rifted/drifted oceanic seamounts and apparently mainly from near distal Gondwana margin of Neotethys: (1) M. Permian (Wordian; Sicily, Timor, Oman); (2) E Triassic (Smithian; Oman, Himalayas, W Timor), and others like Late Triassic Hallstatt facies, Jurassic 'Ammonitico Rosso', etc.)

Belford, D.J. (1960)- Micropalaeontology of samples from Ossulari No. 1 and No. 1A bores, Portuguese Timor. Bureau Mineral Resources Geology Geophysics (BMR), Record 1960/33, p. 1-2.
(online at: https://ecat.ga.gov.au/geonetwork/srv/eng/catalog.search#/metadata/10621)
(Brief summary of analysis of cutting samples from wells Ossulari 1 (2840'-3010') and Ossulari 1a (2960'-3100'). All contain mixed Permian, Jurassic-Cretaceous and ?Miocene fauna)

Belford, D.J. (1960)- Micropalaeontology of samples from Portuguese Timor. Bureau Mineral Resources (BMR), Record 1960/98, p. 1-6.
(online at: www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=10686)
(Biostrat of 76 outcrop samples collected by Timor Oil Co in Timor Leste. Oldest rocks with Permian foraminifera and one sample with mollusc Atomodesma exarata. Tertiary samples M-U Eocene (with Nummulites and planktonics and reworked U Cretaceous plankton), Lower Miocene (Te with Spiroclypeus and reworked U Cretaceous Globotruncana limestone) and pelagic U Miocene (more likely Plio-Pleistocene; JTvG). Also several samples rich in radiolaria, probably Mesozoic. No locality maps))

Belford, D.J. (1961)- Micropalaeontology of samples from Portuguese Timor. Bureau Mineral Resources (BMR), Record 1961/6, p. 1-5.
(online at: www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=10733)
(Biostrat of 56 outcrop samples collected by Timor Oil Co. Oldest samples are of Permian age (foraminifera). Radiolarian-rich sediments are probably of Triassic age (probable Halobia). Also Eocene limestone with Alveolina and planktonics-rich U Miocene sediments (more likely Pliocene?; JTvG; one sample with reworked Permian). No locality maps)

Belford, D.J. (1961)- Micropalaeontology of samples from Matai No. 1 bore, Portuguese Timor. Bureau Mineral Resources (BMR), Record 1961/31, p. 1-3.
(online at: www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=10758)
(Summary of biostratigraphy of Matai 1 cuttings (370'- 2000'). Interval 370-760' regarded as 'block clay' of Upper Miocene age (but faunal lists include Pleistocene Gr. truncatulinoides and Hyalinea balthica; JTvG) with reworked Upper Cretaceous and Eocene forams. Eocene limestone with Discocyclina and Alveolina rel. common at 760-830'. Also limestone chips between 880-1000' with Late Eocene Discocylina and Pellatispira, but not sure if in situ. Sample gap between 1040-1300', and no microfossils observed between 1300-2000')

Benincasa, A. (2009)- The geology of Mount Mundo Perdido, Timor Leste. Thesis University of Western Australia, Perth, p. 1-169. *(Unpublished)*
(Mt Mundo Perdido 1750m high massif, originally interpreted as coherent block of Lower Miocene Cablac Limestone, but is complex of rock types of different ages and tectonostratigraphic affinities, including 'Gondwanan affinity' Triassic-Jurassic carbonates, Cretaceous- Oligocene pelagites (pink-white Cretaceous, red shaly Eocene), 'Banda-Terrane' earliest Miocene limestones on Barique Fm mafic island arc volcanics and associated with gabbros and schists, and Plio-Pleistocene synorogenic(?) deposits. Dominant structures late stage, high-angle, oblique-slip faults, probably in sinistral strike-slip zone)

Benincasa, A. (2015)- The 'fatus' of East Timor: stratigraphy and structure. Ph.D. Thesis University of Western Australia, Perth, p. 1-504.
(online at: https://research-repository.uwa.edu.au/files/5338890/Benincasa_Aaron_2015.pdf)
(Studies of isolated limestone peaks ('fatus') of Timor Leste, incl. Mt Mundo Perdido, Laritame, Builo, Bibileu, Paitchau, Matebian, etc. Many fatus previously mapped as Miocene Cablac Lst, but cores of all fatus contain Late Triassic- E Jurassic shallow water limestones associated with Triassic- Jurassic rift deposits, Cretaceous-Oligocene pelagic limestones, Asian-affinity Tertiary limestones and volcanics, etc. Many fatus are pop-up structures, with recent high-angle oblique slip and strike-slip faults (map suggests all are associated with Banda Terrane?))

Benincasa, A., M. Keep & D. Haig (2012)- A restraining bend in a young collisional margin: Mount Mundo Perdido, East Timor. Australian J. Earth Sciences 59, 6, p. 859-876.
(online at: www.academia.edu/3675152/A_restraining_bend_in_a_young_collisional_margin_Mount_Mundo_Perdido_East_Timor)
(Appendix 1 online at: www.gsa.org.au/pdfdocuments/AJES_Supplementary%20Papers/59-6%20supp%20papers_Benincasa%20et%20al%20AJES%20.pdf)
(Mt Mundo Perdido 1 km NW of Ossu. Like Mt Cablac, originally mapped as Miocene 'Cablac Lst', but has core of highly deformed (Late Triassic?) to E Jurassic oncoidal- ooid limestone, overlain by bathyal latest Jurassic- E Cretaceous calpionellid/ Inoceramus wackestone and mid-Cretaceous-Oligocene pelagic limestones. It is surrounded (looks like overlain?; JTvG) by less-deformed latest Oligocene- earliest Miocene (N4) Booi Limestones and Pleistocene bathyal limestones. Structure dominated by high angle, oblique-slip and strike-slip faults that were active into Pleistocene, comparable to pop-up structures at restraining bends within E-W zone of sinistral strike-slip. Appendix 1 documents E Jurassic age of 'Perdido Limestone' algal limestone (incl. Thaumatoporella ?parvovesiculifera and agglutinated forams (Siphovalvulina, Duotaxis))

Berry, R.F. (1979)- Deformation and metamorphism of the Aileu Formation, East Timor. Ph.D. Thesis, School of Earth Sciences, Flinders University of South Australia, Adelaide, p. 1-393.
(online at: http://eprints.utas.edu.au/11496/2/Whole-Berry,_R.F.,_PhD_(Flinders),_1979.pdf)
(Aileu Fm along N coast of E Timor composed of metamorphosed shales, siltstones and arenites with minor limestones and basites. Greater proportion of coarser and quartz-rich sediment towards N coast. Fossils rare, dominated by crinoid ossicles, probably Permian age. Metamorphic grade lower greenschist facies in SW, almandine-amphibolite facies in NE. Amphibolite and schists with marble close in composition to Permian Maubisse Fm. On N coast of E Timor is Hili Manu peridotite, faulted against Aileu Fm in S; lherzolite and serpentinite abut Aileu Fm at highest metamorphic grade (p. 239). Five structural phases recognised. K/Ar ages of hornblendes from amphibolites 7.7- 16.5 Ma (av.11.3 Ma). Geology of Timor consistent with evolution as rift valley in Late Paleozoic-Early Mesozoic and trailing margin from Cretaceous- E Miocene, Late Miocene arc-continent collision followed by uplift and minor Plio-Pleistocene deformation)

Berry, R.F. (1981)- Petrology of the Hili Manu lherzolite, East Timor. J. Geological Society of Australia 28, 4, p. 453-469.
(Spinel lherzolite outcrop on N coast of E Timor. Most common rock-type clinopyroxene-poor lherzolite, but also clinopyroxene-rich lherzolite and harzburgite. Three events indicated by geothermometry (1) coarse exsolution lamellae of orthopyroxene in clinopyroxene porphyroclasts (1250°C); (2) granoblastic texture equilibrated at 1100°C; and (3) rocks mylonitised at 800-1000°C. Peridotite probably oceanic upper mantle trapped between Java Trench and Inner Banda Arc)

Berry, R.F., C. Burrett & M. Banks (1984)- New Triassic faunas from East Timor and their tectonic significance. Geologica et Palaeontologica 18, p. 127-137.
(online at: https://www.researchgate.net/publication/285778371_New_Triassic_faunas_from_East_Timor_and_their_tectonic_significance)
(Conodonts from red ammonoid-bearing limestone 6 km W of Manatuto, previously assigned to Permian Maubisse Fm, contains Upper Smithian (E Triassic) Tethyan conodonts. Area previously interpreted as thrusted, with inverted ages (Permian on Triassic), but probably simple Triassic stratigraphic succession and

structure mainly steeply dipping normal faults. Conodonts well-preserved with CAI of 1, suggesting rel. low paleotemperatures <100°C)

Berry, R.F., K. Goemann & L. Danyushevsky (2021)- Geology of the Mutis Complex, Miomaffo, West Timor. Proc. Australian Earth Science Convention (AESC 2021, online) Session 12.3, 1p. *(Presentation Abstract)*
(online at: https://aesconvention.com.au/mutis-complex-west-timor/)
(Mesozoic accretionary assemblages in overthrust terranes on Timor (commonly called 'Banda Terranes'; JTvG). Oldest rocks in allochthonous Mutis Complex (at Miomaffo) highly deformed Jurassic melange with blocks of N-MORB basalt (194 ±5 Ma= E Jurassic), amphibolite (metamorphism at 175 Ma), garnet and actinolite bearing schists, arkosic sandstone and volcanogenic material. Sediments sourced from Mesozoic island arc along S margin of Sundaland; ~200 Ma detrital zircons). Sequence intruded by calc-alkaline andesitic dykes (possibly in Eocene). To W of melange transition to greenschist facies rocks with isoclinal folding. Further W amphibolite facies metamorphics, with same N-MORB composition as basalt in E. Same bulk composition as melange including detrital zircon ages. Metamorphic assemblages overprint low T isoclinal folds. Peak metamorphism at 38 Ma (M-L Eocene) reflects event within Sundaland active margin. At ~5 Ma, NW Australia collided with this margin and Mutis Complex was thrust over Timor. Late generation cataclastic faults largely result of extensional collapse)

Berry, R.F., K. Goemann, L. Danyushevsky & E. Lounejeva (2024)- Geology of the Mutis Complex, Miomaffo, West Timor. Australian J. Earth Sciences 71, 2, p. 231-250.
(online at: https://www.tandfonline.com/doi/full/10.1080/08120099.2023.2290702)
(Oldest rocks in W Timor allochthonous Mutis Complex ("Banda Terrane'), are E Jurassic basaltic rocks and melange with blocks of N-MORB basalt with (~194 Ma zircons), amphibolite (metamorphism at ~184 Ma; E Jurassic), garnet and actinolite-bearing schists, arkosic sandstone and volcanogenic sedimentary rocks. The common Jurassic material suggests relationship with Woyla oceanic terrane. E Miomaffo massif complexly deformed with dominant foliation overprinted by several fold- fault events including late normal cataclastic zones. Intruded by calc-alkaline andesitic dykes (possibly in Eocene). Central Sector of Miomaffo high-strain greenschist facies rocks, with composition same as volcaniclastic rocks in E. FurtherW, amphibolite facies with same N-MORB composition as basalt in E, but with more arc-sourced protoliths. Peak metamorphic conditions 650℃ and 0.9 GPa, occurring at 37 Ma (N.B.:M-L Eocene age of metamorphism= younger than overlying Cretaceous marine sediments; impossible?-JTvG), reflecting subduction on SE Sundaland, whereas low-grade Mesozoic metamorphism of E Sector of massif occurred in accretionary prism along Woyla Arc. Miomaffo demonstrates strong oceanic character of Banda terrane and complex geological history of Mesozoic rocks in E Indonesia)

Berry, R.F. & A.E. Grady (1981)- Deformation and metamorphism of the Aileu Formation, North coast, East Timor and its tectonic significance. J. Structural Geology 3, p. 143-167.
(Aileu Fm at N coast of Timor probably metamorphosed Permian (+ Jurassic?) flysch. Metamorphism increasing from low greenschist facies in SW to upper amphibolite facies in E. Five deformation phases; second phase post-dates metamorphic maximum (Jurassic?), produced tight folds and may be Late Miocene. Metamorphic maximum occurred before 11 Ma)

Berry, R.F. & A.E. Grady (1981)- The age of the major orogenesis in Timor. In: A.J. Barber & S. Wiryosujono (eds.) The geology and tectonics of Eastern Indonesia. Proc. CCOP-IOC Working Group Meeting, Bandung 1979, Geological Research Development Centre (GRDC), Bandung (GRDC), Special Publ. 2, p. 171-181.
(Radiometric dates of N coast E Timor Aileu Fm metamorphic rocks suggest metamorphism peak before Late Miocene (8-9 Ma; possibly even before 70 Ma; Harris & Long 2001), with most intense deformation probably between 11-6 Ma)

Berry, R.F. & G.A. Jenner (1982)- Basalt geochemistry as a test of the tectonic models of Timor. J. Geological Society, London, 139, 5, p. 593-604. (+ Supplemental papers)
(Geochemistry of metamorphosed Permo-Triassic basic volcanics on Timor from both 'allochthonous' and parautochthonous' formations are all consistent with rift or ocean floor setting; no calc-alkaline arc volcanics)

Berry, R.F. & I. McDougall (1986)- Interpretation of 40Ar/39Ar and K/Ar dating evidence from the Aileu Formation, East Timor, Indonesia. Chemical Geology 59, p. 43-58.
(Aileu Fm-Maubisse metamorphics retrograde metamorphism (=collision?) at 8 Ma. Cooling to 300°C by 5.5 Ma)

Berry, R.F., J.M. Thompson, S. Meffre & K. Goemann (2016)- U-Th-Pb monazite dating and the timing of arc–continent collision in East Timor. Australian J. Earth Sciences 63, 4, p. 367-377.
(Metamorphic age of highest-grade rocks formed in Timor arc collision remains controversial. U-Th-Pb dating of monazite from Aileu Fm amphibolite-grade schists suggests peak metamorphism at 5.5-4.7 Ma)

Beyrich, E. (1862)- Gebirgsarten und Versteinerungen welche von dem Arzte Dr. Schneider in der Gegend von Koepang auf der Insel Timor gesammelt... Zeitschrift Deutschen Geologischen Gesellschaft 14, p. 537.
(online at: https://archive.org/details/zeitschriftderd141862deut/page/536/mode/2up)
('Mountain types and fossils collected by medical doctor Schneider in the area of Kupang on Timor.'. First brief note summarizing the occurrence of Late Paleozoic fossils in Timor (brachiopods, crinoids (incl. Hypocrinus schneideri)) from Air Mati, collected by Dr. C.F.A. Schneider and studied by Prof. E.Beyrich from Berlin. Now known to be of M-L Permian age)

Beyrich, E. (1865)- Uber eine Kohlenkalk-Fauna von Timor. Abhandlungen Koniglichen Akademie Wissenschaften Berlin, 1864, p. 59-98.
(online at: https://www.digitale-sammlungen.de/de/view/bsb10225842?page=1)
('On a Carboniferous fauna from Timor'. First description of 'Carboniferous' (now accepted as Late Permian) limestone fauna from Timor, collected in Kupang area by Dr. C.F.A. Schneider. Includes mollusc genus Atomodesma, solitary rugose coral Zaphrentis, new brachiopod species Spirifer kupangensis (= Arcullina; Waterhouse 2004), Rhynchonella timorensis (assigned to Uncinunellina timorensis by later authors; JTvG), new crinoid species Hypocrinus schneideri, etc.)

Bird, P.R. (1987)- The geology of the Permo-Triassic rocks of Kekneno, West Timor. Ph.D. Thesis, University of London, p. 1-264. *(Unpublished)*
(Structure, stratigraphy and sedimentology of 'parautochthonous' mainly fine clastic Permo-Triassic in Kekneno area. Sandstone petrography shows Timor Permian sands less mature than those of NW Shelf of Australia. Paleocurrents mainly towards WSW, suggesting source from E (Arafura) and/or N (terrane removed in Jurassic rifting), not from NW Shelf. Slice of Banda fore-arc basement obducted over parautochthonous, with fossiliferous Permian Maubisse carbonates and volcanics very different from parautochton)

Bird, P.R., K. Brata & I. Umar (1989)- Sedimentation and deformation of the Permo-Triassic of Kekneno, West Timor: from intracratonic basin to accretionary complex. In: B. Situmorang (ed.) Proc. 6th Regional Conference Geology mineral and hydrocarbon resources of SE Asia (GEOSEA VI), Jakarta 1987, IAGI, p. 3-23.
(Permian and Triassic turbiditic marine clastics in Kekneno area of Timor considered deposited in intra-cratonic basin near NW margin of Gondwana. Thickness hard to estimate due to common imbrication along mainly N-dipping thrust planes. Oldest formation Atahoc Fm, >600m thick, with common ammonites of Sakmarian Properrinites zone; in E with pillow lavas near top. Overlain by Kungurian Cribas Fm with Atomodesma, 400m thick, current ripple directions to SE. Sandstones petrologically much less mature than age-equivalent rocks of NW Australia Shelf, indicating Timor sediments not derived from Australian hinterland. Paleocurrents show sediment transport predominantly to WSW and secondary transport to SE. Northerly source removed by Jurassic rifting. Kekneno Permo-Triassic overthrusted by Mutis allochthon (W-ward thrusting?))

Bird, P.R. & S.E. Cook (1991)- Permo-Triassic successions of the Kekneno area, West Timor: implications for palaeogeography and basin evolution. J. Southeast Asian Earth Sciences 6, 3-4, p. 359-371.
(Permian sandstones less mature and different heavy mineral assemblages from Bonaparte/Timor Sea equivalents. This and Permian paleocurrent data suggests mainly northerly provenance of Timor Permian. Late Triassic Babulu Fm turbidites dominant sediment transport directions NE to SW or E to W)

Bless, M.J.M. (1987)- Lower Permian ostracodes from Timor (Indonesia). Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, B, 90, 1, p. 1-13.
(Lower Permian (Sakmarian- Artinskian) ostracodes from Bitauni, Mutis, Nono Ofien and Noil Toensieh in W Timor. Diverse 'Thuringian-type' assemblages with 40 species, usually interpreted as deep marine, as also suggested by Grundel & Kozur 1975)

Boavida, N., K. Kawamura, C. Cardoso, O. Sarmento, A. Soares, J. Guterres, A. Lira, M. Mendonca & F. Estefes (2023)- The hidden Sunda-Forearc Complex evidence underneath the Raitahu mud volcano, Southeastern Coast of Timor. Timorese Academic J. Science and Technology 6, p. 205-215.
(online at: http://fect.untl.edu.tl/tajst_article-136-tp.html)
(Raitahu (Bibiluto) mud volcano near SE coast of Timor Leste with clasts of Permian-Neogene rocks reflecting underlying geology. These include 'Gondwana/Australian sediments of Atahoc, Cribas, Aituto, Wailuli, Waibua/Nakfunu, etc. Fms (dominantly Triassic sst clasts). Source of overpressured clays probably E-M Jurassic-Lower Cretaceous of Gondwana/Australian margin. Sunda forearc complex represented by Lolotoi schist, green metavolcanics and Eocene Same/Dartollu Lst. Formed originally in subduction channel as tectonic melanges during Sunda forearc emplacement over Australian passive margin and subsequently intruded into Sunda and synorogenic deposit by diapiric processes (similar to Bobonaro melange?))

Boehm, G. (1908)- Jungeres Paläozoicum von Timor. In: G. Boehm (ed.) Geol. Mitteilungen Indo-Australischen Archipel VIc, Neues Jahrbuch Mineralogie Geologie Palaeontologie, Beilage Band 25, p. 303-323.
(online at: https://opac.geologie.ac.at/ais312/dokumente/Boehm_1908_Indo-Australisch_Archipel_VI.pdf)
('Late Paleozoic of Timor'. (with F.A. Bather). Two new Permian blastoids from Timor, collected by Verbeek in 1899 from Bisano Hill S of Baung (Schizoblastus (now called Deltablastus), S. timorensis and S. delta. Associated with brachiopod Spirifer lineatus, ammonoid Agathiceras timorense n.sp., trilobite Phillipsia)

Boehm, G. (1908)- Jura von Rotti, Timor, Babar und Buru. In: G. Boehm (ed.) Geol. Mitteilungen Indo-Australischen Archipel VIc, Neues Jahrbuch Mineralogie Geologie Palaeontologie, Beilage Band 25, p. 324-343.
(online at: https://opac.geologie.ac.at/ais312/dokumente/Boehm_1908_Indo-Australisch_Archipel_VI.pdf)
('The Jurassic of Roti, Timor, Babar and Buru'. Descriptions of Jurassic brachiopods (Rhynchonella) and ammonites (Phylloceras, Perisphinctes from Buru; Aegoceras, Harpoceras, Stephanoceras, Macrocephalites from Batu Berketak Roti; Stephanoceras from Babar and Perisphinctes from Timor), all collected by Verbeek)

Boger, S.D. (2012)- The Aileu Formation of Timor Leste. First International Geological Congress of Geology of Timor-Leste, Dili 2012, p. 85. *(Abstract only; see also Boger et al. (2017))*

Boger, S. D., O. Lindenmayer, T.R. King, L.G. Spelbrink & M. Sandiford, M. (2016)- Laclo 1:50 000 geological map (Timor Leste). Geological Map Serias Dili Timor Leste 2407 33 ZONE 51/52, The University of Melbourne.
(online at: http://www.faultrock.nz/uploads/4/4/8/3/44833089/dili1-50000.pdf)
(Geologic map along north coast of western Timor Leste. Mainly Permian Aileu Fm clastics)

Boger, S.D., L.G. Spelbrink, R.I. Lee, M. Sandiford, R. Maas & J.D. Woodhead (2017)- Isotopic (U-Pb, Nd) and geochemical constraints on the origins of the Aileu and Gondwana sequences of Timor. J. Asian Earth Sciences 134, p. 330-351.
(Detrital zircon U-Pb age data from Aileu Complex and 'Gondwana Sequence' of Timor, indicate both derived from common source, with zircon age peaks of 200-600 Ma, 900-1250 Ma and 1450-1900 Ma. Most significant age population ~260 Ma (M-L Permian). Similar spectrum of ages along E active margin of Pangea, today best exposed along NE coast of Australia. Mudstones of Aileu Complex more siliceous and other chemical differences from 'Gondwana Sequence', so possibly eroded from different sections of margin and deposited in separate basins. Present proximity result of Pliocene- Recent collision between N Australia plate and Banda Arc)

Boutakoff, N. (1965)- Geological investigations in Portuguese Timor. Report for Timor Oil Ltd, R05372, p.
(Unpublished. Mainly discussion of drilled and undrilled anticlines; no maps, good cross-sections)

Boutakoff, N. (1968)- Oil prospects of Timor and the Outer Banda Arc, SE Asia. Australian Oil and Gas Review 14, p. 44-55.
(Review of Timor area oil prospectivity by Russian-Australian geologist Nicholas Boutakoff (1903-1977))

Boz, A., M. Bakhrudin, P. Bernardelli, F. Coraggio, A. Ardjuna & A. Radityo (2014)- Potential field data acquisition and interpretation supporting exploration activities in The West Timor PSC area. Proc. 38th Annual Conv., Indonesian Petroleum Association (IPA), Jakarta, IPA14-G-0547, p. 1-20.
(Potential fields data acquired over parts of W Timor. No details on geo-structural interpretation)

Breimer, A. & D.B. Macurda (1965)- On the systematic position of some blastoid genera from the Permian of Timor. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, B68, p. 209-217.

Breimer, A. & D.B. Macurda (1972)- The phylogeny of the fissiculate blastoids. Verhandelingen Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, ser. 1, 26, 3, p. 1-390.
(online at: https://dwc.knaw.nl/DL/publications/PU00011028.pdf)
(Monograph on Paleozoic fissiculate blastoids (echinoderms). Mainly taxonomy, anatomy and phylogeny, also discussions of geographic distribution (worldwide), stratigraphic distribution (Silurian- Permian) and paleoecology (open marine, attached to limy-muddy seafloors). Most extensive development of Permian fissiculates is on Timor, associated with tuffs (12 genera; all in allochthonous blocks). Main collecting area is Basleo, with many endemic species. Some also in other areas, e.g. Pterotoblastus gracilis in Thailand)

Broili, F. (1915)- Permische Brachiopoden der Insel Letti. Jaarboek Mijnwezen Nederlandsch Oost-Indie 43 (1914) Verhandelingen 1, p. 187-207.
('Permian brachiopods from Leti Island' (E of Timor). Small brachiopod fauna collected by Molengraaff. With Productus spp., Chonetes strophomenoides, Spirifer spp., Martinia nucula, Retzia, Dielasma and Notothyris)

Broili, F. (1916)- Die Permischen Brachiopoden von Timor. In: J. Wanner (ed.) Palaeontologie von Timor, Schweizerbart, Stuttgart, VII, 12, p. 1-104.
('The Permian brachiopods of Timor'. Descriptions of 46 species in material from numerous localities in W and some from E Timor, collected by Wanner and Molengraaff (mainly from Basleo= late M Permian?; JTvG). Many are long-ranging and widely distributed Tethys forms, incl. Productus, Spirifer, Spirigera, Retzia, Camarophoria, Dielasma, etc. Rare Lyttonia (Leptodus) cf. tenuis from Basleo and Amarassi/ Niki-Niki areas)

Broili, F. (1922)- Permische Brachiopoden von Rotti. In: G.A. Molengraaff (ed.) Nederlandsche Timor expeditie 1910-1912- III, Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen 3, p. 223-227.
(Brief report on Permian brachiopods from Roti island, W of Timor, collected by H.A. Brouwer in 1912. Species rel. long-ranging, incl. Derbya beyrichii, Productus waageni, Productus cf. semireticulatus, Spirifer fasciger, Spirigera timorensis, Retzia radialis, Camarophoria purdoni, Notothyris, etc.)

Broili, F. (1931)- Mixosauridae von Timor. Wetenschappelijke Mededeelingen Dienst Mijnbouw Nederlandsch-Indie 17, p. 3-10.
(Vertebrae collected from clays with manganese nodules and ammonites by Jonker in 1873 in NE part of W Timor near E Timor border ('Wai Loelik/ Ramea, Beloe district'). Looks like primitive Ichtyosaurus group and described as Mixosaurus timorensis n.sp. Age probably Triassic (manganese nodules known in Timor-Roti from Upper Triassic, Jurassic and Upper Cretaceous; JTvG; see also Zammit, 2010))

Brouwer, H.A. (1913)- Neue Funde von Gesteinen der Alkalireihe auf Timor. Centralblatt Mineralogie Geologie Palaontologie 1913, p. 570-576.
(online at: www.biodiversitylibrary.org/item/192907#page/594/mode/1up)

('New discoveries of rocks of the alkali series on Timor'. Descriptions of basic igneous-volcanic rocks collected during Molengraaff 1912 Timor Expedition. Some associated with Permian sediments. No figures (probably 'Maubisse Fm'))

Brouwer, H.A. (1914)- Neue Funde von Gesteinen der Alkalireihe auf Timor (Zweite Mitteilung). Centralblatt Mineralogie. Geologie Palaontologie 1914, p. 741-745.
(online at: https://babel.hathitrust.org/cgi/pt?id=uc1.b4291847;view=1up;seq=767)
('New finds of rocks of the alkali series on Timor'- Part 2. Brief note on reddish alkalirhyolites SW of Sufa collected during Molengraaff West Timor Expedition 1912. (No figures or details on geologic setting))

Brouwer, H.A. (1914)- Voorlopig overzicht der geologie van het eiland Roti. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (2) 31, p. 611-617.
(online at: https://resolver.kb.nl/resolve?urn=MMUBA13:001660001:pdf)
('Preliminary overview of the geology of Roti island'. December 1911-January 1912 visit found 'Timor-like' (W of Niki-Niki) intensely folded Permian- Eocene section. Permian marls with brachiopods, coral, etc., on amygdaloidal basaltic rock similar to camptonite (plagioclase rich rock). Upper Triassic reddish deep water Halobia-Daonella limestone with radiolarian chert and mica-sandstones (no Triassic in 'Halstatt facies'). Jurassic dark marls with some belemnites, ammonites, locally rich in manganese nodules. One locality of Eocene Nummulites-alveolinid limestone on Landoe Peninsula (similar to Timor). All unconformably overlain by young coral limestones, some elevated to over 400m. Active mud volcanoes (see also Brouwer, 1921))

Brouwer, H.A. (1915)- Gesteenten van het eiland Letti. Nederlandsche Timor Expeditie 1919-1912 (G.A.F. Molengraaff, fieldwork by H.A. Brouwer and G.A.F. Molengraaff), vol. I, Jaarboek Mijnwezen Nederlandsch Oost-Indie 43 (1914), Verhandelingen 1, p. 89-160.
('Rocks from Leti Island', E of Timor)

Brouwer, H.A. (1918)- Gesteenten van het eiland Moa. In: Nederlandsche Timor-expeditie 1910-1912, vol. II. Jaarboek Mijnwezen Nederlandsch Oost-Indie 45 (1916), Verhandelingen 1, p. 13-34.
('Rocks from Moa Island'. Petrographic descriptions of gabbros, diorites, lherzolites, phyllites and crystalline limestones from Moa island E of Timor)

Brouwer, H.A. (1918)- Geologie van een gedeelte van het eiland Moa. In: Nederlandsche Timor-expeditie 1910-1912, vol. II, Jaarboek Mijnwezen Nederlandsch Oost-Indie 45 (1916), Verhandelingen 1, p. 37-56.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB21:040193000:00001)
('Geology of a part of the island of Moa'. Island with broad, low rim of young raised reefal limestone. Older rocks in hills in center include folded metamorphics (phyllites, crystalline limestone; probably metamorphic Permian, with more limestone than on Leti), ultrabasic rocks (peridotites, serpentinite, gabbro), reddish limestones and radiolarian cherts, poorly bedded crystalline limestone (Triassic?) and mica-bearing sandstones with conglomerates (similar to Triassic of Timor-Seram). With 1: 200,000 geological sketch map)

Brouwer, H.A. (1918)- Gesteenten van Oost-Nederlandsch Timor. In: Nederlandsche Timor-expeditie 1910-1912, vol. II, Jaarboek Mijnwezen Nederlandsch Oost-Indie 45 (1916), Verhandelingen 1, p. 67-260.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB21:040193000:00001)
('Rocks from East Netherlands Timor'. Petrographic descriptions of igneous, metamorphic and sedimentary rocks from W Timor. Sandstones and conglomerates rich in feldspars and lithics of schists and andesites)

Brouwer, H.A. (1921)- Geologische onderzoekingen op het eiland Rotti. In: G.A.F. Molengraaff (ed.) Nederlandsche Timor-expeditie 1910-1912, vol. III, Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen, p. 33-106.
('Geological investigations on the island Roti' (SW of Timor). Rel. detailed description of geology of Roti island (in Dutch), based on December 1911- January 1912 field work by Brouwer. Timor-like stratigraphy of highly folded, predominantly deep marine sediments, from Permian (reddish limestone with brachiopods and basaltic layers), Upper Triassic limestone with Halobia, etc., Jurassic (with Macrocephalites and other ammonites, Belemnites gerardi and other belemnites and small manganese nodules), Cretaceous limestones with planktonic

foraminifera and radiolaria (latter described by Tan Sin Hok, 1927), Eocene limestone with Nummulites- Discocyclina- Asterocyclina, Late Tertiary marls with planktonic forams and radiolaria, and uplifted ?Quaternary reef terraces up to ~450m asl. Fossils described in same volume by Broili and Krumbeck. Also metamorphic rocks as mud volcano ejecta)

Brouwer, H.A. (1922)- Geologische onderzoekingen op de eilanden Loeang en Sermata. Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen 2, p. 207-222.
('Geological investigations on the islands Luang and Sermata'. Two small islands NE of Timor. Luang mostly intensely folded Permian marls and crinoidal limestone. Also quartzose and calcareous sandstones, which may be Permian or Triassic. Strike directons highly variable: NW-SE in W of island, more or less E-W in East. On Sermata only crystalline schists representing metamorphosed sediments and basic volcanics)

Brouwer, H.A. (1928)- On the age of alkaline rocks from the island of Timor. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 31, p. 56-58.
(online at: https://dwc.knaw.nl/DL/publications/PU00015549.pdf)
(Permian sediments of Timor mainly tuffs, marls with tuffaceous material, marls, limestones and volcanics. Also locally conglomerates with pebbles of volcanics. Conglomerate studied from near path Sufa-Maubesi. Clasts of syenite and trachyte up to several cm, probably also of Permian age)

Brouwer, H.A. (1938)- Preliminary remarks on geological investigations in the Lesser Sunda islands near Australia. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 41, 4, p. 334-335.
(online at: https://dwc.knaw.nl/DL/publications/PU00017173.pdf)
(Summary of preliminary results of 1937 University of Amsterdam expedition to Timor and nearby islands. Age of 'flysch' on Timor is Ladinian- Norian (Late Triassic). Overthrusting superposes two very different units of Permian rocks, separated by intensely crushed and squeezed zone)

Brouwer, H.A. (1939)- Exploration in the Lesser Sunda islands. The Geographical Journal 94, 1, p. 1-10.
(Review of lecture on recent geologic work on Lesser Sunda islands, particularly Timor- Wetar: distribution of volcanics, uplifted young coral reef terraces, older and younger thrusting directed towards Australian continent, etc.))

Brouwer, H.A. (ed.) (1940)- Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands in the South Eastern part of the Netherlands East Indies 1937, vol. I, Noord-Hollandsche Uitgevers Mij., Amsterdam, p. 1-348.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046046000:00009)
(Collection of 2 Ph.D. theses (D. Tappenbeck, A.L. Simons) on geology of Timor and two papers by J. Wanner on Permian blastoids and F. de Marez Oyens on Permian crinoids from Timor)

Brouwer, H.A. (ed.) (1940)- Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands in the South Eastern part of the Netherlands East Indies 1937, vol. II., Noord-Hollandsche Uitgevers Mij. Amsterdam, p. 1-395.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046047000:00009)
(Collection of two Ph.D. theses on Timor geology by W.P. De Roever and J. van Voorthuysen, also two papers by H. Brouwer on volcanics of Adonara, etc., and J. Wanner on Permian bivalves)

Brouwer, H.A. (ed.) (1941)- Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands in the South Eastern part of the Netherlands East Indies 1937, vol. III, Noord-Hollandsche Uitgevers Mij, Amsterdam, p. 1-380.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046048000:00280)
(Collection of 3 Ph.D. theses, by F.van West and D.L. de Bruyne on geology of West Timor and one thesis by J. de Jong on Banda Arc islands Wetar, Lirang and Solor)

Brouwer, H.A. (ed.) (1942)- Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands in the South Eastern part of the Netherlands East Indies 1937, vol IV. Noord-Hollandsche Uitgevers Maatschappiij, Amsterdam, p. 1-401.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046050000:00009)
(Collection of one Ph.D. thesis by J.Heering on Wetar- Alor islands of Banda Arc, and four papers by H.A. Brouwer (summary Timor expedition), C. Wanner (Permian gastropods- Timor), W.P. de Roever (Permian olivine basalts- Timor) and J. de Jong (Flores))

Brouwer, H.A. (1942)- Summary of the geological results of the expedition. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands in the South Eastern part of the Netherlands East Indies 1937, 4, p. 345-402.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046050000:00001)
(Overview of geology of northern Banda arc islands Flores, Pantar, Alor, Wetar, etc., and southern rows of outer arc islands (Timor). Timor structure characterized by large overthrusts, formed mainly in pre-Miocene, also younger movements. 'Kekneno series' Permian-Triassic flysch facies derived from metamorphic and feldspar-rich volcanic rock. "Schist-Palelo Complex" (now usually called Banda overthrust terrane; JTvG) is high nappe unit with crystalline schists overlain by Upper Cretaceous Palelo clastics with Upper Cretaceous Globotruncana and conglomerates rich in volcanics, metamorphics and Paleogene Lower Palelo ('other rocks in neighbourhood apparently not exposed' Early Miocene unconformable over older rocks, etc.)

Brown, K.M. (1987)- Structural and physical processes in accretionary complexes: the role of fluids in convergent margin development. Ph.D. Thesis, Durham University, p. 1-500.
(online at: http://etheses.dur.ac.uk/7186/1/7186_4368.PDF)
(General study on accretionary prisms and mud volcanoes, with chapters on North Borneo and Timor)

Brown, M. & M.M. Earle (1983)- Cordierite-bearing schists and gneisses from Timor, eastern Indonesia. P-T conditions of metamorphism and tectonic implications. J. Metamorphic Geology 1, p. 183-203.
(Mutis Complex in W Timor Boi Massif composed of basement schists and gneisses and dismembered remnants of ophiolite. Mineral assemblages sugggest P-T path of rocks started with initial metamorphism at P= 10 kbar and T=>750°, followed by decompression probably during rifting and syn-metamorphic ophiolite emplacement resulting from processes during initiation and development of convergent plate junction located in SE Asia in late Jurassic- Cretaceous)

Brunnschweiler, R.O. (1978)- Notes on the geology of Eastern Timor. BMR Bull. Australian Geology Geophysics 192 (Crespin volume), p. 9-18.
(online at: https://d28rz98at9flks.cloudfront.net/68/Bull_192.pdf)
(Mainly critical review of E Timor mapping by Audley-Charles (1968). Much of what was mapped as Bobonaro melange is Late Triassic mudstone. Late Jurassic rocks also common. At least 3 different ages of 'block clays'; much of what was mapped as olistostrome is complexly thrusted sediment. Two types of Eocene limestones: (1) Early Eocene 'Coinassa Lst' with Orbitolites and Alveolina (= 'Same series' of Gageonnet and Lemoine 1958), (2) late Middle-Late Eocene Dartollu Lst. Evidence of Early and Late Tertiary thrusting phases in Timor, etc.)

Bucknill, M., B. Duffy, J. Noble & A. Berkovitch (2019)- What lies beneath? Prospecting for hydrocarbons under a metamorphic allochthon, Timor-Leste. 2nd Australasian Exploration Geoscience Conference, Perth 2019, Extended Abstracts, p. 1-5.
(online at: https://www.tandfonline.com/doi/abs/10.1080/22020586.2019.12073217)
(Interpretation of reprocessed 1994 seismic data, interpreting subsurface Lolotoi Metamorphic Complex as allochthonous unit. Suggesting 'It is thus near impossible to reconcile the Charlton (2002) Australian Basement model requiring a vertical displacement greater than 10 km with our well and outcrop-constrained interpretations'. (N.B.: re-interpretation of same data by Charlton et al. 2021; JTvG))

Burck, H.D.M. (1923)- Overzicht van de onderzoekingen der 2de Nederlandsche Timor-expeditie. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie onder leiding van Dr. H.G. Jonker+, vol. I, Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen 4, p. 1-55.

('Overview of investigations of the 2nd Netherlands Timor Expedition'. W Timor localities sampled by the 2nd Dutch Timor expedition in January- May1916., Led by Prof. H.G. Jonker from TH Delft, assisted by L.J.C. van Es (Mijnwezen geologist) and H.D.M. Burck (TH Delft student). Main purpose was to collect Permian and Triassic fossils. Good documentation of fossil localities (Baoen/ Baung, Niki Niki, Basleo, Kapan, Noil Toko, Bitauni, Sufa, Atambua) (with little geology/ stratigraphy context): the fossil-rich blocks excavated here are probably all isolated blocks in melange; JTvG)

Burke, J.J. (1966)- On the occurrence of *Oklahomacrinus* in Ohio and Timor. Ohio J. Science 66, 5, p. 464-468.
(Delocrinus expansus Wanner from M Permian of Basleo, W Timor, re-assigned to Oklahomacrinus)

Cardoso, C., A. Freitas, O. Sarmento, N. Boavida, A. de Araujo, A. Soares, M. Mendonca & A.de Jesus Lira (2023)- Porosity analysis of Triassic sandstone rock implication for petroleum reservoir potential in Timor onshore. Timorese Academic J. Science and Technology 6, p. 205-215.
(online at: http://fect.untl.edu.tl/tajst_article-134-tp.html)
(Triassic Babulo (= Babulu) Fm and Foura Sst best potential petroleum reservoir rocks onshore Timor. Samples from Maubui, Cassa and Sahem River sections in S Timor Leste. Light gray micaceous sandstones 3m or more thick, interbedded with thin mudstone and silty shale layers. Porosities poor-fair (7-11%))

Carter, D.J. (1971)- Report on Suai Loro boreholes Nos. 1 & 2. Timor Oil Palaeontological Report 10, p.
(Unpublished micropaleontology report of oil exploration well near S coast of SW Timor Leste)

Carter, D.J. (1972)- Cota-Taci-1 Palaeontology report. Timor Oil Palaeontological Reports 15 & 16.
(Unpublished micropaleontology report of Cota Taci 1 hydrocarbon exploration well, Timor Leste)

Carter, D.J. (1973)- Report on borehole Betano No. 2. Timor Oil Palaeontological Report 20, p.
(Unpublished micropaleontology report of oil exploration well near S coast of Timor Leste)

Carter, D.J., M.G. Audley-Charles & A.J. Barber (1976)- Stratigraphical analysis of island-arc-continental margin collision in eastern Indonesia. J. Geological Society, London, 132, p. 179-198.
(Stratigraphic analysis of collision zone in Timor reveals pre-Pliocene deformation in allochthon elements before M Pliocene overthrusting onto Australian margin. Australian para-autochthon below thrust sheets not involved in pre-Pliocene deformations. Distinction of elements with different structural histories and opposite facies polarity permits identification of plate margin. Lowest thrust sheet part of Asian outer arc ridge, overthrust by fragments of continental margin metamorphic basement and volcanic-sedimentary cover. Model interprets progressive Mio-Pliocene collision between Australian margin and island arc migrating from SE Asia by spreading of Banda Sea. Asian arc was underthrust by Australian continental margin, but buoyancy restricted process to overthrusting slivers of rocks from trench and trench-arc gap)

Chamalaun, F.H. (1977)- Paleomagnetic evidence for the relative positions of Timor and Australia in the Permian. Earth Planetary Science Letters 34, 1, p. 107-112.
(Paleomag suggests pole from Cribas Fm redbeds very close to Australian P-Tr poles, so'autochthonous' Timor was part of Australia. Magnetic inclination places Timor at 34°)

Chamalaun, F.H. (1977)- Paleomagnetic reconnaissance result from the Maubisse Formation, East Timor and its tectonic implication. Tectonophysics 42, 1, p. T17-T26.
(Paleolatitude of 'allochthonous' Permian Maubisse Fm is 26°, indistinguishable from 'autochthonous' Permian Cribas Fm red beds, therefore not supporting Asian origin of Maubisse. Conclusions deemed unjustified by Wensink (1990, 1994) (possible alternative solution: Maubisse and Cribas are both allochthonous; JTvG))

Chamalaun, F.H. & A.E. Grady (1978)- The tectonic development of Timor: a new model and its implications for petroleum exploration. Australian Petroleum Exploration Assoc. (APEA) Journal, p. 102-108.

(Preferred tectonic model for Timor intermediate between Audley-Charles overthrust model and Hamilton accretionary wedge model: (1) initial collision/trench downwarp at ~15-10 Ma, creating Bobonaro melange; followed by (2) slab breakoff causing late, rapid uplift)

Chamalaun, F.H. & A.E. Grady (1978)- Timor tectonic development: new model and exploration implications. Oil and Gas Journal 76, 42, p. 114-116.
(Tectonic model without major allochthonous terranes and overthrusts would predict simpler structural geology and stratigraphic continuity between Timor and NW Shelf)

Chamalaun, F.H., K. Lockwood & A. White (1976)- The Bouguer gravity field and crustal structure of eastern Timor. Tectonophysics 30, p. 241-259.
(N-S gravity traverse from Betano to Dili in Timor Leste Strong 6 mGal/km gravity gradient at N coast, which is part of significant geophysical trend along Outer Banda Arc. Interpreted to be fault, separating oceanic in NW from continental crust in SE)

Chappell, J. & H.H. Veeh (1978)- Late Quaternary tectonic movements and sea level changes at Timor and Atauro Island. Geological Society of America (GSA) Bull. 89, p. 356-368.
(Atauro Island N of Timor has raised Quaternary coral reefs up to 500m)

Charlton, T.R. (1987)- The tectonic evolution of the Kolbano-Timor Trough accretionary complex, Indonesia. Ph.D. Thesis University of London, p. 1-374. *(Unpublished)*

Charlton, T.R. (1988)- Tectonic erosion and accretion in steady-state trenches. Tectonophysics 149, p. 233-243.
(Analysis of relations between rate of plate convergence, sedimentation rates and angle of decollement in subduction zones. Tectonic accretion where decollement steeper than outer trench slope, tectonic erosion where decollement shallower than outer slope dip. Applied to Timor Trough to demonstrate subduction has ceased)

Charlton, T.R. (1989)- Geological cross-section through the Timor collision complex, Eastern Indonesia. In: B. Situmorang (ed.) Proc. 6th Regional Conference Geology mineral hydrocarbon Resources of SE Asia (GEOSEA VI), Jakarta 1987, IAGI, p. 93-104.
(online at: https://www.iagi.or.id/web/digital/45/PIT-IAGI-1987-Paper-8.pdf)
(Cross-section across Timor collision zone with characteristics of subduction-accretion complex, but Timor Trough subduction trench has recently become inactive. Plate convergence being transferred to young zone of thrusting N of volcanic arc, with reverse sense of polarity. Accretionary complex morphology modified by sinistral wrench faulting. Kolbano area thrust-bounded repetitions of Cretaceous- Miocene of sediments accumulated at outermost edge of Australian NW Shelf (up to 9 imbricates onshore?))

Charlton, T.R. (1989)- Stratigraphic correlation across an arc-continent collision zone: Timor and the Australian Northwest Shelf. Australian J. Earth Sciences 36, p. 263-274.
(online at: https://www.researchgate.net/publication/252527289_Stratigraphic_correlation_across_an_arc-continent_collision_zone_Timor_and_the_Australian_Northwest_Shelf)
(Facies of Triassic- Neogene series of imbricate stack of Kolbano foldbelt, SW Timor, is deep to very deepwater, suggesting it represents outermost edge of pre-collisional Australian margin. Similarities include ?Early Jurassic redbeds, Oxfordian 'breakup unconformity' with Early Cretaceous missing, etc. Implication is that N Timor is either block that rifted off Australia, then collided in Pliocene (Barber 1979) or partly rifted marginal plateau off NW shelf)

Charlton, T.R. (2001)- The petroleum potential of West Timor. Proc. 28th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, p. 303-317.
(online at: https://www.researchgate.net/publication/323148722_The_Petroleum_Potential_of_West_Timor)
(Timor island has numerous oil and gas seeps, and contains high-quality hydrocarbon source rocks, but island widely considered to have only moderate petroleum potential due to its structural complexity, but complexity is limited to shallow structural levels, and below this simpler structural style predominates. Kolbano area of SW

Timor interpreted to be underlain by large, simple inversion anticline. Banli-1 penetrated flank of this structure, below prospective crest)

Charlton, T.R. (2002)- The petroleum potential of East Timor. Australian Petroleum Production Exploration Association (APPEA) J. 42, p. 351-369.
(Hydrocarbon prospectivity of E Timor widely considered to be only moderate due to Timor island's complex structure, but here interpreted as having higher potential in large, simple inversion structures below shallow complexly folded thrust/ melange terain)

Charlton, T.R. (2002)- The structural setting and tectonic significance of the Lolotoi, Laclubar and Aileu metamorphic massifs, East Timor. J. Asian Earth Sciences 20, 7, p. 851-865.
(Two types of metamorphic complexes on Timor: (1) Australian continental basement (Lolotoi, Lachlubar), (2) allochthonous basement derived from Banda forearc (Mutis in W Timor, Aileu in E Timor; with inverted metamorphic gradients))

Charlton, T.R. (2003)- The petroleum potential of sub-thrustbelt inversion anticlines in the Banda forearc. Indonesian Petroleum Association (IPA) Newsletter, March 2003, p. 22-27.

Charlton, T.R. (2004)- The petroleum potential of inversion anticlines in the Banda Arc. American Assoc. Petroleum Geol. (AAPG) Bull. 88, 5, p. 565-585.
(Mainly on structural style of Timor. Banda forearc is fold- thrust belt, with imbricated outer edge of Australian continent, overlain locally by fragments of precollisional oceanic forearc, and is established petroleum province in Seram. Structural complexity overstated. Basement-involved inversion structures in deeper parts of collision complex. Inverted graben basins filled with Permian-Jurassic continental margin sequences, including Late Triassic- E Jurassic source rocks and potential reservoirs, sealed by M-L Jurassic shales. Jurassic shales decollement separates shallow-level structural complexity from deeper simpler structural style of large inversion anticlines)

Charlton, T.R. (2020)- 2507-131 Gunung Ranac 1:25,000 Geological map sheet. Data compilation and interpretation *(Unpublished) (online at: www.researchgate.net/project/Geological-mapping-of-Timor-Leste/update/61b1fb42d248c650edb7b87b)*
(North-Central Timor Leste map sheet with Cribas anticline, cored by Permian and Triassic sediments)

Charlton, T.R. (2020)- 2406-523 Suai 1:25,000 Geological Map sheet. Data compilation and interpretation *(Unpublished) (online at: www.researchgate.net/project/Geological-mapping-of-Timor-Leste/update/61b1fb42d248c650edb7b87b)*
(Southern Timor Leste map sheet with Suai oil exploration wells)

Charlton, T.R. (2024)- Metamorphic complexes in Timor: no field or drilling evidence for a fundamental basal thrust? Manuscript, 36p.
(preprint online at: https://www.researchgate.net/publication/386075851_Metamorphic_complexes_in_Timor_no_field_or_drilling_evidence_for_a_fundamental_basal_thrust)
(20 years of of geological fieldwork at 79 Lolotoi metamorphic complex boundary localities on Timor failed to confirm the commonly suggested basal thrust plane or structual melange complex under 'Banda Terrane' Lolotoi metamorphic complexes)

Charlton, T.R. (2025)- Notes on the geology of Timor. Part 1: Introduction to a stratigraphic framework for Timor. Slide Presentation, p. 1-18.
(online at: https://www.researchgate.net/publication/394432269_Notes_on_the_geology_of_Timor_Part_1_Timor_lithostratigraphy)
(Broad overview of Permian-Recent lithostratigraphic schemes for West Timor and Timor Leste)

Charlton, T.R. (2025)- Notes on the geology of Timor. Part 2. The pre-Permian Slide Presentation, p

(online at: https://www.researchgate.net/profile/Tim-Charlton-2/publication/394432422_Notes_on_the_geology _of_ Timor_Part_2_The_pre-Permian)

Charlton, T.R. (2025)- Notes on the geology of Timor. Part 3. The Permian (stratigraphy). Slide Presentation, p. 1-40.
(online at: https://www.researchgate.net/publication/394432328_ Notes_on_the_geology_of_Timor_Part_3_ The_Permian_stratigraphy)
(Review of Permian stratigraphy of Timor. Two main groups, of parallel ages: Maubisse Gp (limestone with fusulinds and (pillow-)basaltic volcanics) and Akraun Fm (= Atahoc- Cribas Fms) basinal clastics. Etc.)

Charlton, T.R. (2025)- Notes on the geology of Timor 4. The Triassic. Slide Presentation, p. 1-39.
(online at: www.researchgate.net/publication/395303812_Notes_on_the_geology_of_Timor_4_The_Triassic)
(Elegant review of lithostratigraphy (many formation names))

Charlton, T.R. (2025)- Notes on the geology of Timor 5. The Jurassc. Slide Presentation, p. 1-21.
(online at: https://www.researchgate.net/publication/396245974_Notes_on_the_geology_of_Timor_5 _The_Jurassic)

Charlton, T.R. (2026)- Notes on the geology of Timor 7. The Paleolo Association. Slide Presentation, p. 1-29.
(online at: https://www.researchgate.net/publication/399755403_Notes_on_the_geology_of_Timor_7_The_ Palelo_Association)
(Palelo/ unit (= Banda Terrane) generally regarded as allochthonous Sundaland margin unit, but here suggested to have formed at originated on outer edge of the Australian continental margin)

Charlton, T.R. (2026)- Notes on the geology of Timor 8. The syn-to post-orogenic succession. Slide Presentation, p. 1-23.
(online at: https://www.researchgate.net/publication/399950664_Notes_on_the_geology_of_Timor_8_The_syn-to_post-orogenic_succession)
(Review of Late Pliocene Viqueque Formation of marine post-orogenic siliciclastic deposits, overlying E Pliocene Butu Putih Fm pelagic marls. Reflect uplift and erosion of the Timor orogenic complex)

Charlton, T.R. (2026)- Notes on the geology of Timor 9. The Bobonaro Complex, melange and broken formation.. Slide Presentation, p. 1-26.
(online at: https://www.researchgate.net/publication/400544660_Notes_on_the_geology_of_Timor_9_The_ Bobonaro_Complex_melange_and_broken_formation)

Charlton, T.R., A.J. Barber & S.T. Barkham (1991)- The structural evolution of the Timor collision complex, Eastern Indonesia. J. Structural Geology 13, 5, p. 489-500.
(New Timor structural evolution model combining element of previous three Timor models; foldbelt as rel. simple progressive thrusting of Australian crustal elements, starting in N at 8 Ma)

Charlton, T.R., A.J. Barber, R.A. Harris, S.T. Barkham, P.R. Bird, N.W. Archbold, N.J. Morris, R.S. Nicoll, H.G. Owen, R.M. Owens, J.E. Sorauf, P.D. Taylor, G.D. Webster & J.E. Whittaker (2002)- The Permian of Timor: stratigraphy, palaeontology and palaeogeography. J. Asian Earth Sciences 20, p. 719-774.
(online at: www.academia.edu/63258400/The_Permian_of_Timor_stratigraphy_palaeontology_and_palaeogeography)
(Extensive compilation of Timor Permian stratigraphy and paleontology, with specialist reviews of brachiopods, bryozoans, cephalopods, conodonts, corals, echinoderms, foraminifera, molluscs, trilobites, etc. Permian sequences deposited on Australian continental basement which was undergoing extension, with basaltic volcanism. Carbonates of Maubisse Fm deposited on horst blocks and volcanic highs, clastic sediments of Atahoc and Cribas Fms deposited in grabens)

Charlton, T.R., A.J. Barber, A.J. McGowan, R.S. Nicoll, E. Roniewicz, S.E. Cook, S.T. Barkham & P.R. Bird (2009)- The Triassic of Timor: lithostratigraphy, chronostratigraphy and palaeogeography. J. Asian Earth Sciences 36, p. 341-363.
(online at: www.researchgate.net/publication/222896332_The_Triassic_of_Timor_Lithostratigraphy_c Etc.)
(Overview of Triassic successions of Timor, exposed in fold-and-thrust belt and melange complex. Three formal lithostratigraphic units defined previously (Niof, Aitutu and Babulu Fms), with a fourth, Wai Luli Fm, primarily Jurassic in age but extending down into Triassic. Triassic extension not associated with major volcanism, unlike Early Permian extension)

Charlton, T.R. & D. Gandara (2012)- Structural-stratigraphic relationships at the boundary of the Lolotoi Metamorphic Complex, Timor-Leste: field evidence against an allochthonous origin. In: P. Noguera (ed.) 1st Int. Congress of Geology of Timor-Leste, Dili 2012, p. 41-44. *(Extended Abstract)*
(online at: https://dspace.uevora.pt/rdpc/bitstream/10174/8197/1/1%C2%BA%20Congresso%20Internacional%20de%20Geologia%20de%20Timor.pdf)
(Results of new fieldwork at several Lolotoi Complex massifs ofTimor Leste suggests Australian continental basement origin for complex. S front of Lolotoe metamorphic massif controlled primarily by down-to-S normal faults, not N-dipping thrust front, and metamorphics extend to depth of 2805m at TD in Cota Taci-1 well in Suai Basin. Stratigraphic contacts observed between Lolotoi Complex and Eocene Dartollu Fm, but also between Lolotoi Compex and Permian Maubisse Fm. One outcrop of Dartollu Fm with reworked fragments of Maubisse Fm crinoid limestone clasts and porphyritic volcanics. Similar relationships at Legumau Range)

Charlton, T.R. & D. Gandara (2014)- The petroleum potential of onshore Timor-Leste. Proc. 38th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA14-G-017, p. 1-7.
(Brief review of petroleum prospectivity in Mesozoic of 6 areas of onshore Timor Leste. Two new lithostratigraphic units recognized: (1) Foura Sst, thick-bedded but fine-grained sandstone of probable E Jurassic age; appears to interdigitate with shales of Wai Luli Fm and possibly correlative to 'Plover Sst' in Banli 1 well of SW Timor; (2) Late Jurassic Tchinver Shale, 100-200m thick shale section, with Belemnopsis-type belemnites, disconformably over shales-thin sandstones of Wai Luli Fm; with source rock/seal potential)

Charlton, T.R., D. Gandara & N. da Costa Noronha (2017)- TIMOR GAP's onshore Block: a preliminary assessment of prospectivity in onshore Timor-Leste. In: SEAPEX Exploration Conference 2017, Singapore, Session 4, p. 1-30. *(Abstract + Presentation)*
(Onshore block in SW part of Timor Leste now held by national oil company Timor Gap EP. 18 exploration wells drilled between 1960-1973: ten with hydrocarbons, two (Matai-1/-1A and Cota Taci-1) tested oil in subcommercial quantities. At least 37 surface hydrocarbon seeps (14 oil, 23 gas) across block. Gas from seeps both high-mature thermogenic (from Permian?) and biogenic. Triassic calcareous restricted marine shale likely source for all Timor oils. Likely subthrust inversion anticlines of Permo-Triassic rifts)

Charlton, T.R., D. Gandara, D. Freitas, M. Guterres & N. da Costa Noronha (2018)- TIMOR GAP's onshore Block: a preliminary assessment of prospectivity in onshore Timor-Leste. In: PEGSB SEAPEX Asia Pacific E&P Conference, London, p. 1-8.
(Review of 3 onshore oil exploration blocks in SW Timor Leste: A- Suai (Suai Late Miocene - Recent syn-orogenic basin in 'Banda Terrane' basement), C- Betano-Same, and Block B)

Charlton, T.R., D. Gandara, D. Freitas, M. de Araujo, M. Guterres, F. Tilman, L. Fernandes et al. (2021)- Mid-crustal detachment beneath southern Timor-Leste: seismic evidence for Australian basement in the Timor collision complex (and implications for prospectivity). Proc. 45th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA21-G-98, p. 1-12.
(Pertamina-Mobil 1994 seismic data over SW Timor Leste shows two regional seismic reflectors: (1) 'Red' reflector, deepening S-ward, with block-faulted morphology, corresponding to top of "Lolotoi" metamorphic basement; (2) deeper 'Blue' horizon at which bases of normal faults merge, also deepens S-ward, has geometry of mid-crustal extensional detachment. No indications for thrusting on seismic section below Red horizon

(although surface geology over much of Lolotoi Complex shows thin-skinned fold-thrust belt). Lolotoi Complex interpreted as Australian continental basement underthrust beneath S Timor collision complex)

Charlton, T., D. Gandara, M. Guterres, D. Freitas & N da Costa Noronha (2020)- TIMOR GAP's lithostratigraphic framework for Timor-Leste. Unpublished Report, p. 1-84.
(online at: https://www.researchgate.net/publication/374386686_Lithostratigraphic_framework_for_Timor-Leste)
(Updated December 2022. Detailed first pass of a Timor Leste lithostratigraphic framework, with numerous references to equivalent formations in W Timor (many new names))

Charlton, T.R. & Suharsono (1990)- Mesozoic-Tertiary stratigraphy of the Kolbano area, southern West Timor. Bull. Geological Research Development Centre (GRDC) 14, p. 38-58.
(Kolbano complex interpreted as accretionary complex. Late Jurassic- Miocene accumulated on outermost edge of Australian NW Shelf. Possible unconformity at base Ofu Fm deepwater marls, with Eocene planktonics but also abundant reworked Cretaceous and Paleocene planktonics)

Charlton, T.R. & A. Titu-Eki (2023)- 'Banda Terrane' basement and cover in the Noil Meto River section, southern West Timor (Timor Barat, Nusa Tenggara Timur, Indonesia). Berita Sedimentologi 49, 1, p. 1-24.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/view/398/378)
(New outcrop of Mutis metamorphic complex from Noil Meto River, ~7km S of Soe, SW Timor. Mutis Complex overlain by Cretaceous Haulasi Fm (= upper Palelo Group), most likely unconformable on metamorphics. Permian Maubisse Fm may overlie Mutis Complex with unresolved stratigraphic or structural contact. First record of Mutis Complex and Palelo Group S of Central Basin. These elements of Banda Terrane (widely considered allochthonous 'Asiatic' elements), overthrust by Triassic-Jurassic Aitutu and Wai Luli Fms of Australian continental margin succession)

Charlton, T.R. & D. Wall (1994)- New biostratigraphic results from the Kolbano area, southern West Timor: implications for the Mesozoic-Tertiary stratigraphy of Timor. J. Southeast Asian Earth Sciences 9, 1-2, p. 113-122. *(online at: https://www.academia.edu/27703759/New_biostratigraphic_results_from_the_Kolbano_area_southern_West_Timor_Implications_for_the_Mesozoic_Tertiary_stratigraphy_of_Timor)*
(On Kolbano area Late Jurassic- Neogene stratigraphy and dinoflagellate, forams, nannofossil contents of selected samples. Youngest sediments involved in Kolbano foldbelt thrusting N18-N19/20, latest Miocene-earliest Pliocene (but nothing younger than N15 suggested by Keep and Haig 2010))

Chiang, H.W., R.A. Harris, C. Prasetyadi, C.C. Shen, T.C. Chiu, N.L. Cox & Y.G. Chen (2010)- Th-230 dates of MIS 5e coral terraces in Kisar Island, Eastern Indonesia. EGU General Assembly, Vienna, Conference Abstracts 12, p. 13467. *(Abstract)*
(online at: http://adsabs.harvard.edu/abs/2010EGUGA..1213467C)
(New 230Th dates of raised Quaternary coral terraces at Kisar suggest ages of ~122 ka and minimum uplift rate of 0.1 m/kyr. On N coast of Timor-Leste MIS 5e terraces reach 55m high, with uplift rate of ~0.4 m/kyr. No remnant Holocene fringe reefs around Kisar Island, also suggesting rel. low recent active tectonics at Kisar)

Clowes, E. (1997)- Micropalaeontological analysis of the Kolbano sequence (Jurassic to Pliocene), West Timor and its radiolarian fauna. Ph.D. Thesis, University College London, London, p. 1-443. *(Unpublished)*
(online at: https://discovery.ucl.ac.uk/id/eprint/10104677/)
(Detailed descriptions of SW Timor Kolbano foldbelt Early Cretaceous- E Miocene radiolarian-rich deep-water pelagic facies. Nakfunu Fm dated as Valanginian-Aptian. Albian-Coniacian hiatus. Ofu Fm mainly Santonian-Maastrichtian. Early Cretaceous species dominated by endemic species known only from high S latitudes, but Tethys species present as well. Aptian-Albian more common Tethys species)

Cockcroft, P., C. Kenyon & W. Spencer (2005)- A journey into East Timor's exploration history. Proc. 2005 SE Asia Petroleum Exploration Society (SEAPEX) Conference, Singapore, p. 1-64. *(Abstract + Presentation)*

(Five phases of oil-gas exploration in Timor Leste since 1893. Oil-gas seeps known since 18th century, mainly along S coast, and exploited by local communities.~1945-1947 Royal Dutch-Shell fieldwork. Late 1950 s-1960s wells by Timor Oil at Aliambata, Ossulari, Matai, Tafara, Suai, etc.1990s Mobil Oil field study, 1993 Amoseas Banli 1 well. Etc.)

Cook, S.E. (1984)- Geochemical evaluation of outcrop samples from Timor, Indonesia with geological notes. University of London, Geological Research in SE Asia, Report 27, p. 1-37. *(Unpublished)*
(16 outcrop samples from Permian and Triassic of Kekneno window analyzed for TOC (generally lean, woody and inertinite) and thermal maturation (generally immature- mature))

Cook, S.E. (1986)- Triassic sediments from East Kekneno, West Timor. Ph.D. Thesis, University of London, p. 1-384. *(Unpublished)*
(Facies trends and current directions suggest Triassic turbiditic sediments in NW Timor derived from clastic source in easterly direction. Sandstone composition less mature than in most age-equivalent Australia NW shelf well samples. Heavy mineral assemblages suggest some similarities with two samples from Sahul Shoals 1 well; may be from similar source)

Cook, S.E., K. Hasan, A. Said & S. Hidayat (1989)- Stratigraphic sequences in deep-water Triassic sediments from Timor. In: B. Situmorang (ed.) Proc. 6th Regional Conference Geology mineral hydrocarbon resources of SE Asia (GEOSEA VI), Jakarta 1987, IAGI, p. 25-41.
('Para-autochthonous' deep-water M-L Triassic in E Kekneno area, W Timor. Three parallel sequences of same age, dut different stratigraphies. New formation names: Niof Fm for fine-grained slope deposits, Babulu Fm for base-of-slope turbidites.With bivalves Halobia and Daonella. Turbidite sole marks suggest dominant flow direction from ENE to WSW. Main deformation NNE-to-SSW low-angle thrusting)

Cook, S.E., K. Hasan, A. Said & S. Hidayat (1990)- Stratigraphic sequences in deep-water Triassic sediments from Timor. J. Southeast Asian Earth Sciences 4, p. 74 *(Abstract only)*
(E Kekneno area of W Timor with 11 units in Triassic, representing 3 separate sequences, all deep water. Sediment source predominantly from NNE)

Costa, J., S. Kiyokawa, T. Ito, Y. Tsutsumi & V. Vilanova (2020)- U-Pb detrital zircon age dating of central portion of East Timor: estimate stratigraphy of the Aileu Formation and depositional ages and source of sediments. Timorese Academic J. Science and Technology 3, p. 93-104.
(online at: http://fect.untl.edu.tl/tajst_article-53-tp.html)
(LA-ICP-MS U-Pb detrital zircon analyses of sandstones in central portion E Timor:(1) Permian Aileu Fm meta-sandstones (5 age groups: main peak ~283-290 Ma= Artinskian (37%) and significant old Paleoproterozoic peak around 1780-1823 Ma. Clastic source of Aileu Fm mainly from Sula Spur fragment; (2) Red Maubisse Fm sandstone with E-M Triassic zircons (245 Ma) (= not same as Maubisse Fm red limestones with rich Permian marine faunas?; JTvG), (3) Barique Fm arc volcanoclastics M Eocene (34-41 Ma))

Cotelo Neiva, J.M. (1955)- Alguns marmores do Timor Portugues. Garcia de Orta 3, 2, p. 205-209.
('Some marbles from Portuguese Timor'. With some chemical analyses)

Cox, N. (2009)- Variable uplift from Quaternary folding along the Northern coast of East Timor based on U-series age determinations of coral terraces. M.Sc. Thesis, Brigham Young University, p. 1-135.
(online at: https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=2680&context=etd)
(Mapping of uplifted Pleistocene marine coral reef terraces along ~180 km of N coast of E Timor. Highest terrace/platform elevations of ~500-650m asl. Above Miocene synorogenic material. Mean uplift of 0.6m/ ka for last 150,000 yrs. Uplift likely associated with folding above N-directed thrust faults)

Cox, N., R. Harris & D. Merritts (2006)- Quaternary uplift of coral terraces from active folding and thrusting along the northern coast of Timor-Leste. EOS Transactions AGU, 87, 52, Fall Meeting Suppl., p. *(Abstract only)*

(Number of major emergent coral terraces along N coast Timor-Leste increases from 2 to 25 over 150 km from C to E Timor-Leste. Vertical displacement increases from <0.3 in W to 1.0-1.5 mm/yr in E. Both erosional (regressional) and depositional terraces. Active uplift associated with N-ward movement along retro-wedge thrust faults)

Crespin, I. (1956)- Micropalaeontological examination of rock specimens from Portuguese Timor. Bureau Mineral Resources Geology Geophysics (BMR), Record 1956/65, p. 1-3.
(online at: www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=10139)
(Brief report on 8 samples from Timor Leste (presumably Timor Oil Ltd outcrop samples). Include Late Eocene larger foram limestone with common Pellatispira, Biplanispira, Discocyclina from localities Suai and Ranuc)

Crespin, I. (1959)- Micropalaeontological report on rock samples from Portuguese Timor. Bureau Mineral Resources Geology Geophysics (BMR), Record 1959/92, p. 1-3.
(online at: www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=10523)
(Report on 6 samples from Timor Leste (Timor Oil Ltd outcrop samples). Samples from tuffaceous breccia near base of fatu/ ophiolite at Mota Cena (Barique) contains limestone boulders with M-U Eocene larger forams (Nummulites, Discocyclina). Sample from matrix of Bibileu block clay N of Fatu Lulic, below Viqueque Fm, is of M Eocene age)

Crespin, I. & D.J. Belford (1959)- Micropalaeontology of further rock samples from Portuguese Timor. Bureau Mineral Resources Geology Geophysics (BMR), Record 1959/118, p. 1-3.
(online at: www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=10548)
(Report on 7 more samples from Timor Leste (Timor Oil Ltd outcrop samples). Mainly Cretaceous (Albian-Turonian) deep water shale and radiolarite from E of Betano Landing)

Cross, I. (1990)- Hydrocarbon potential of Timor laid bare. Petromin, October 1990, p. 40-44.

Cross, I. (2000)- The search for oil and gas on East Timor. Petroleum Exploration Society Great Britain (PESGB) Newsletter, February 2000, p. 62-66.

Crostella, A.A. & D.E. Powell (1975)- Geology and hydrocarbon prospects of the Timor area. Proc. 4th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, 2, p. 149-171.
(Exploration history of Timor, etc. Consider Timor sediments all parts of Australian margin)

Da Costa, E.F., A.L. Guterres de Sa Benevides & U. Chwae (2012)- Melange and thrust geometry of the western Covalima District, Timor Leste. In: P. Noguera (ed.) 1st Int. Congress of Geology of Timor-Leste, Dili 2012, p. 112-113. *(Abstract only; no figures)* *(online at: https://dspace.uevora.pt/rdpc/bitstream/10174/8197/1/1%C2%BA%20Congresso%20Internacional%20de%20 Geologia%20de%20Timor.pdf)*
(W part of Covalima District, SW Timor-Leste, with sedimentary melange, with very low dip and with pre-Permian-Miocene megablocks brought up from depth, including Lolotoi Complex schist and metavolcanics in Fohorem Subdistrict, M-L-Triassic Aitutu Fm (limestone, mudstone, sandstone' between Mt. Maubesse and Mt. Nanu, and U Babulu Fm (mudstone, limestone). Melange might be correlated to Bobonaro Fm, previously considered to be of Miocene age, but possibly younger. Melange matrix variecolored scaly clay, with unsorted fragments or huge boulders, and with sheared cleavage indicating movement to SE. Melange is shear-zone melange. not diapiric melange. Five limestone klippes, regarded as allochthonous nappe)

Da Costa Monteiro, F. (2003)- Late Triassic strata from East Timor: stratigraphy, sedimentology and hydrocarbon potential. M.Sc. Thesis, University of Auckland, p. 1-115. *(Unpublished)*
(With palynology analyses by R. Helby)

Da Costa Monteiro, F., J.A. Grant-Mackie, B. Ricketts & B. Woods (2003)- Some Late Triassic rocks in Timor Leste. In: Int. Conf. Opportunities and challenges for oil & gas & mining sectors in Timor-Leste, Dili 2003, p. 1-31.

Da Costa Monteiro, F. & V. da Costa Pinto (2003)- Exploring Timor-Leste- minerals potential. Pacific Economic Cooperation Council-PECC Minerals Network, Brisbane, Queensland, p. 1-16.
(online at: https://www.pecc.org/resources/minerals-a-energy/1264-exploring-timor-leste-minerals-potential-paper/file)
(Mainly summary of UN ESCAP-(2003) report. Main metallic minerals in Timor-Leste are gold (mainly alluvial deposits probably derived from quartz veins in crystalline schist of Aileu Fm), copper (in allochthonous ophiolite units in north), silver, manganese (interbedded with Mesozoic deep marine red shale), chromite (in ophiolites))

Da Costa Monteiro, F., B. Ricketts, J.A. Grant-Mackie & B. Woods (2002)- Late Triassic strata from East Timor- stratigraphy, sedimentology and hydrocarbon potential. Geological Society New Zealand, Annual Conference Abstracts, p. 17.
(E Timor Late Triassic flysch-like interbedded sandstone- shale in lower part; upper part mainly calcarenites, massive sandstones and polymict conglomerates. Locally, Wailuli Fm, a name applied to E-M Jurassic rocks based on ammonites and belemnites, extends down into Late Triassic. Much of Wailuli Fm is Late Triassic, with Carnian- Norian age ammonites (Juvavites, etc.) and Halobia in marls and limestones. Babulu Fm, defined in W Timor as Late Triassic flysch facies, can be extended into E Timor to cover most rocks previously mapped as Wailuli Fm. Abundant organic matter may be source for hydrocarbons)

Davydov, V.I., D.W. Haig & E. McCartain (2013)- A latest Carboniferous warming spike recorded by a fusulinid-rich bioherm in Timor Leste: implications for East Gondwana deglaciation. Palaeogeogr. Palaeoclim. Palaeoecology 376, p. 22-38. *(online at: https://www.researchgate.net/publication/256822315_A_latest_Carboniferous_warming_spike_recorded_by_a_fusulinid-rich_bioherm_in_Timor_Leste_Implications_for_East_Gondwana_deglaciation)*
(Lensoidal limestone body of Maubisse Fm near Kulau village in central highlands of Timor Leste is bioherm with massive lower unit, including reef framework at base, and bedded grainstone upper unit. Bioherm developed on basalt substrate in warm shallow water. Fusulinid foraminifera including Schwagerina spp. and Eostaffella suggest latest Carboniferous (-earliest Permian) age. Kulau bioherm is oldest unit recognized in Maubisse Fm of Timor. Also suggest subtropical environment at paleolatitude of ~40° S, at N margin of Gondwana (where E Permian is glacial-dominated) (Authors do not consider previous interpretations that Maubisse Fm may be 'allochthonous' (Intra-Tethys oceanic arc or Sundaland margin), and not part of Australian margin; JTvG))

Davydov, V.I., D.W. Haig & E. McCartain (2014)- Latest Carboniferous (late Gzhelian) fusulinids from Timor Leste and their paleobiogeographic affinities. Journal of Paleontology 88, 3, p. 588-605.
(Uppermost Gzhelian (possibly lowermost Asselian) 9-24m thick bioherm on basalt near Kalau, 6 km WNW of Maubisse, in highlands of Timor Leste. With abundant foraminifera belonging to 17 genera (incl. fusulinids Ozawainellidae, Schubertellidae, Schwagerinidae, etc. Two new Schwagerina species: S. timorensis and S. maubissensis in oldest carbonate unit recorded frome Maubisse Fm. Also Eostaffella spp., Schellwienia spp. Timor was in N part of N-S East Gondwana rift system along which W margin of Australia later developed. Timor fauna most closely related to faunas from S China and Changning-Menlian region of Yunnan)

De Azeredo Leme, J. (1963)- The eastern end geology of Portuguese Timor (a preliminary report). Garcia de Orta (Lisboa) 11, 2, p. 379-388.

De Azeredo Leme, J. (1968)- Breve ensaio sobre la geologia da provincia de Timor. Junta de Investigacoes do Ultramar, Curso de Geologia do Ultramar, Lisbon, 1, p. 105-161.
('Brief overview of the geology of the province of Timor'. Principal publication on geology of East Timor during Portuguese colonial time. In Portuguese)

De Azeredo Leme, J. & A.V.P. Coelho (1962)- Sombre una rocha granitoide da parte oriental da Ilha de Timor. Garcia de Orta (Lisboa) 10, 2, p. 407-410.
('On a granitoid rock from the eastern part of Timor island')

De Azeredo Leme, J. & A.V.P. Coelho (1962)- Geologia do enclave de Oecusse (Provincia de Timor). Garcia de Orta (Lisboa) 10, 3, p. 553-566.
('Geology of the Ocussi enclave, Timor'. Occurrence of U Triassic and Tertiary sediments and igneous rocks)

De Beaufort, L.F. (1923)- On a collection of Upper Cretaceous teeth and other vertebrate remains from a deep sea deposit in the island of Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie onder leiding van Dr. H.G. Jonker+, vol. I, Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen 4, p. 57-70.
(Decalcified Elasmobranchii shark teeth and reptile teeth from U Cretaceous oceanic red clays with manganese nodules from Niki Niki area, SW Timor (abyssal deposits originally described and recognized by Molengraaff, 1920). Overlie thin-bedded Late Triassic limestone with Halobia. Locality is at NW margin of Kolbano foldbelt)

De Bruijn, H. (1869)- Ontwerp van kopermijn-ontginning op het eiland Timor, 2nd Ed., De Breuk & Smits, Leiden, p. 1-74.
('Design of copper mine exploitation on the island Timor'. On (vague unconfirmed reports of) occurrences of copper ore (malachite) reported by Macklot (1828 trip with S. Muller; 1830 unpublished report). Concession for copper mining issued to J.S. Crawfurd in 1868 in Timor Leste near Atapupu. In brochure, De Bruijn is looking for investors (copper occurrences on Timor were later confirmed by Jonker (1873) and 't Hoen and Van Es (1928), butall deemed non-commercial; associated with serpentinites)

De Bruyne, D.L. (1941)- Sur la composition et la genese du basin central de Timor. Ph.D.Thesis University of Amsterdam, p. 1-98.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046873000:00001)
(Also in H.A. Brouwer (ed.) Geological expedition of the University of Amsterdam to the Lesser Sunda Islands, III, p. 135-238) ('On the composition and genesis of the Central basin of Timor'. Mainly on the Neogene deposits of Central Basin of W Timor. Small outcrops of Late Eocene reefal limestones with Discocyclina, Nummulites and Pellatispira. 'Early Miocene' calcareous conglomerates with schist fragments and Spiroclypeus (probably latest Oligocene 'Cablac Limestone' equivalent?; see also Marks 1954, JTvG), suggesting Late Oligocene uplift-erosion event? Pliocene Globigerina marls)

De Marez Oyens, F.A.H. Weckherlin (1933)- On *Paralegoceras sundaicum* Haniel and related forms. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 36, 1, p. 88-98.
(online at: https://dwc.knaw.nl/DL/publications/PU00016378.pdf)
(Six species of Permian ammonite Paralegoceras were erected by Smith (1927) from specimens in Jonker collection from Timor. All are here believed to be variations of Paralegoceras sundaicum Haniel)

De Marez Oyens, F.A.H. Weckherlin (1938)- Preliminary note on the occurrence of a new ammonoid fauna of Permian age on the island of Timor. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 41, 10, p. 1122-1126.
(online at: https://dwc.knaw.nl/DL/publications/PU00017273.pdf)
(Brief listing of 23 Permian ammonite species from tuffaceous marls of new locality Tae Wei, 5 km NE of Basleo. Thought to be stratigraphically transitional between known Basleo and Bitauni faunas (probably Roadian/ Wordian= early Middle Permian). Incl. Agathiceras brouweri, A. cf. sundaicum, Popanoceras, Metalegoceras, Sicanites, Parapronorites, etc.)

De Marez Oyens, F.A.H. Weckherlin (1940)- Neue Permische Krinoiden von Timor, mit Bemerkungen uber deren Vorkommen im Basleogebiet. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands, etc., 1937, Noord Hollandsche Publ., Amsterdam, 1, p. 285-348.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046046000:00009)
('New Permian crinoids from Timor, with remarks on their occurrence in the Basleo area'. NW of Basleo Permian limestones generally thin lenses, associated with marls and common diabase with tuffs, coarse conglomerates with brachiopods. Marls locally rich in crinoids. In some areas this Permian adjacent to deep marine Cretaceous with manganese nodules and fish teeth)

De Marez Oyens, F.A.H. Weckherlin (1940)- *Platycrinus tuberculatus* Oyens, a correction. Geological Magazine 77, 3, p. 253-254.
(Proposes to replace name Platycrinus tuberculatus Oyens for a Permian crinoid, from Basleo, Timor, with Platycrinus wrighti nov. nom, as P. tuberculatus has already been used)

De Marez Oyens, F.A.H. Weckherlin (1941)- Over het voorkomen van *Fusulina*-kalken in het Basleo gebied. Handelingen 28th Nederlandsch Natuur- Geneeskundig Congres, Utrecht, p. 240-242.
('On the occurrence of Fusulina limestones in the Basleo area'. Loose blocks of fusulinid limestones in Noil Boenoe river deposits. In Noil Toeke in Permian limestones that are probably remnants of once more widely distributed thrust sheet over Mesozoic rocks. Timor island has two drainage divides, a northern one over Fatu Leo, Mutis Mt, etc., and southern one along Kolbano thrust belt, which may have formed two parallel island chains like Tanimbar Islands today)

Demouchy, S., F. Barou, A. Ishikawa, E. Gardes & A. Tommasi (2024)- Microstructures, hydrogen concentrations, and seismic properties of a tectonically exhumed sliver of oceanic mantle lithosphere, Moa Island, Timor-Tanimbar outer-arc, eastern Indonesia. Tectonophysics 887, 230443, p. 1-15.
(online at: https://www.sciencedirect.com/science/article/pii/S0040195124002452)
(Kerbau and Kaiwatu peridotite massifs outcropping on Moa Island (Leti archipelago) are tectonically exhumed slivers of Asia Plate (Banda Sea) oceanic lithospheric mantle. Petrophysics and microstructures of peridotites (harzburgite, lherzolite) (not sure what it means for local geology: JTvG)

De Oliveira, G.G.A. (2012)- Cartografia e estrutura da regiao oeste do anticlinal de Cribas. Implicacoes para a genese de hidrocarbonetos. M.Sc. Thesis, Evora University, Portugal, p. 1-94. *(in Portuguese; Unpublished)*
(online at: https://dspace.uevora.pt/rdpc/handle/10174/15182)
('Mapping and structure of the western area of the Cribas anticline; implications for hydrocarbon generation'. W Cribas anticline three lithotectonic units: (1) allochthonous Lolotoi metamorphics, Maubisse (Permian limestones and pillow basalts) and Bobonaro Fms melange; (2) parautochthonous Permian-Triassic flysch (Atahoc, Cribas and Aitutu Fms); (3) post-tectonic Plio-Pleistocene Ainaro Fm. Three deformation events. Etc. Geochemical study show all lithologies have low organic matter content and high Tmax values, suggesting rocks suffered high temperatures, probably related to emplacement of allochthonous units (see also companion thesis by Ferreira, 2011)

De Roever, W.P. (1940)- Geological investigations in the Southwestern Moetis Region (Netherlands Timor). Ph.D. Thesis University of Amsterdam, p. 1-244.
(also in H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1937, 2 (1940), Noord Hollandsche Publ., Amsterdam, p. 97-344)
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046047000:00009)
(Detail maps and descriptions of SW Mutis Mts region of W. Timor. Distinguishes tectonically juxtaposed rock series of similar ages, but different facies. Rock types Pre-Permian(?) crystalline schists, Kekneno series (Permian-Triassic flysch), Sonnebait series (= 'Maubisse Fm'; Permian crinoid/brachiopod limestones with basic volcanics, Triassic cephalopod- limestones, Jurassic marls with cherts and radiolarites, U Cretaceous pelagic Globotruncana limestone and marls with cherts), Fatoe series (Triassic oolitic limestones and Liassic Mytilus limestones) and ophiolite-spilite complex. Major thrust plane between Kekneno and Sonnebait series. Fatoe series youngest nappe complex overlies ophiolite-spilite complex which may belong to same nappe as crystalline schists. Main strike direction NW-SE, dipping NE)

De Roever, W.P. (1940)- Description of some Permian ammonoids from F. Koekatoe, Lidak. Palaeontological Appendix to Simons (1940), in H.A. Brouwer (ed.) (1940) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1937, 1, p. 206-210.
(New species of cyclolobid ammonite Waagenoceras lidacense from Lower Permian of NE West Timor, in A.L. Simons (1940) Doctoral Thesis)

De Roever, W.P. (1940)- Uber Spilite und verwandte Gesteine von Timor. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 43, 5, p. 630-634.

(online at: https://dwc.knaw.nl/DL/publications/PU00017447.pdf)
('On spilites and related rocks from Timor'. Mutis area in W Timor with complex of Pre-Tertiary spilite, dolerite, basalt, gabbro, lherzolite and serpentinite. Associated with crystalline schists and Palelo series (= Banda Terrane of later authors). Rock types also common below Triassic 'Fatu limestones'. Common albitization in spilite)

De Roever, W.P. (1941)- Die permischen Alkaligesteine und die Ophiolite des Timorischen Faltengebirges. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 44, 8, p. 993-995.
(online at: https://dwc.knaw.nl/DL/publications/PU00017655.pdf)
('The Permian alkaline rocks and ophiolites of the Timor foldbelt'. Permian Sonnebait series (= Maubisse Fm of later authors; JTvG) mainly marine, highly fossiliferous crinoidal limestones with volcanic rocks (mainly olivine basalts, trachybasalts, alkali trachytes and alkali rhyolites, also spilites and poeneites). Present both N and S of Plio-Pleistocene Central Basin. No similar volcanics observed in Permian- Triassic flysch facies of the Kekneno series. Post-Permian igneous rocks mainly ophiolites)

De Roever, W.P. (1941)- De prae-Miocene tektoniek van het ZW Moetis gebied (Timor) in verband met het karakter der oudere eruptiefgesteenten. Handelingen 28e Nederlandsch Natuur- Geneeskundig Congres, 1941, p. 242-244. *(Abstract)*
('The pre-Miocene tectonics of the SW Mutis area, Timor, in relation to the nature of older volcanic rocks')

De Roever, W.P. (1942)- Olivine-basalts and their alkaline differentiates in the Permian of Timor. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1937, 4, Noord-Hollandsche Uitgevers Maatschappij, Amsterdam, p. 209-289.
(online at: (online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046050000:00009)
(Descriptions of Permian olivine basalts, alkali-rhyolites, etc. of the 'geosynclinal' Sonnebait series (=Maubisse complex; JTvG), associated with shallow marine Permian crinoidal limestones. Very different from age-equivalent Kekneno flysch series. Possibly 'embryonal geosynclinal phase' (today called oceanic crust succession?; JTvG). Triassic-Jurassic-Cretaceous of Sonnebait overthrust complex all pelagic sediments) (see also De Roever, 1959)

De Roever, W.P. (1959)- Schwach alkalischer fruhgeosynklinaler Vulkanismus in Perm der insel Timor. Geologische Rundschau 48, p. 179-184.
('Weakly alkaline, early geosynclinal volcanism in the Permian of Timor'. Permian basic volcanics of Timor (of Maubisse Terrane) mainly olivine basalts, also trachybasalt, alkali-trachyte. Do not belong in cratonic setting, but are similar to oceanic basalts and here called 'early geosynclinal')

De Smet, M.E.M, A.R. Fortuin, S.R. Troelstra, L.J. Van Marle, Mimin Karmini, S. Tjokrosapoetro & S. Hadiwisastra (1990)- Detection of collision-related vertical movements in the Outer Banda Arc (Timor, Indonesia), using micropaleontological data. J. Southeast Asian Earth Sciences 4, p. 337-356.
(Timor Central Basin fill Late Pliocene pelagic calcilutites with vitric tuffs (Batu Putih Fm), unconformably over Bobonaro scaly clay and imbricated Early Pliocene- older rocks. Batu Putih carbonates change to submarine fan clastics at ~2.2 Ma (Noele Fm). Source of turbidites was from N Timor and include serpentinite fragments. Two rel. short uplift periods: (1) >600m uplift at 2.2- 2.0 Ma, associated with creation of Central Basin and emergence of N Timor and (2) >1500m of uplift starting at 0.2 Ma and still ongoing)

De Waard, D. (1954)- Contributions to the geology of Timor. I. Geological research in Timor. Indonesian J. Natural Science (Majalah Ilmu Alam Indonesia) 110, p. 1-8.
(Summary of 1953 Timor expedition of Geology Department of University of Indonesia, Bandung (now ITB))

De Waard, D. (1954)- Contributions to the geology of Timor, II. The orogenic main phase in Timor. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 110, p. 9-20.
(Lalan Asu area, SW Timor, typical Palelo Series of schists overlain by Cretaceous flysch, with unconformities at base of shallow marine Eocene and Base Miocene limestones. Basal Miocene conglomerate has Miogypsinoides complanata (= Aquitanian age according to Marks 1954, but signifies zone Te4/Chattian/

latest Oligocene; JTvG). Structural analysis suggests thrusting to S and SSW. Strike directions of Cretaceous, Eocene and Miocene similar, suggesting rel. minor overthrusting in pre-Lower Miocene, main phase in Late Miocene; Sonnebait overthrusts Palelo complex)

De Waard, D. (1954)- Contributions to the geology of Timor, V. Structural development of the crystalline schists in Timor. Tectonics of the Lalan Asu Massif. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 110, 4-6, p. 143-153.
(Structural analysis of foliation in Lalan Asu schists suggests 2 main structural events; (1)'Pre-Permian?' event caused E-W striking foliation and low-medium grade metamorphism and (2) Late Miocene folding/thrusting, with minor tectonic events in-between. Serpentine masses, occasionally with gabbro, along border of massif between schist and overthrust series)

De Waard, D. (1954)- Contributions to the geology of Timor, VI. The second geological Timor expedition, preliminary results. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 110, 4-6, p. 154-160.
(Tectonics of Timor very complex; overthrusting present, but not like rel. coherent and flat alpine nappes. Crystalline massifs and associated ophiolites probably lenticular masses in overthrust succession. Chaotic structures in Sonnebait series suggest gravity tectonics)

De Waard, D. (1955)- Contributions to the geology of Timor, VII. On the tectonics of the Ofu series. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 111, 4-6, p. 137-143.
(Ofu series in mountainous area near S coast of W Timor (later called Kolbano foldbelt = young accretionary prism of distal Australian NW margin rocks; JTvG) consists of Jurassic-Cretaceous marly limestones, highly folded with E-W orientation of fold-axes and dominantly N-ward dips. Ofu series may be thrust over more marly Permo-Triassic 'parautochthonous' Kekneno series)

De Waard, D. (1955)- Contributions to the geology of Timor, VIII. Tectonics of the Sonnebait overthrust unit near Nikiniki and Basleo. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 111, 4-6, p. 144-150.
(SW Timor Sonnebait overthrust unit in Nikiniki- Basleo region with famous Permian-Triassic fossil localities. Mainly composed of 500-750m of Permian shales and reddish limestones with common pillow basalt flows, subordinate Triassic cephalopod limestones and U Cretaceous deep-sea clays with manganese nodules. Structurally not as complex as previously reported: NW-SE trending open folds with wavelength of 1.5- 2 km. Tectonically thrusted over Ofu series in S, which is separate overthrust sheet with different stratigraphy (Jurassic-Cretaceous deep-water marly limestones) and with E-W trending fold axes. Different orientations suggest two separate fold-thrust events))

De Waard, D. (1956)- Contributions to the geology of Timor, IX. Geology of a N-S across Western Timor. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 112, 2, p. 1-13.
(W Indonesian Timor northern and southern zones of overthrust structures, separated by central basin with latest Miocene-Pleistocene sediments and bordered on S by major (~2000m of throw) Nikiniki fault. Overthrusting completed in Early Miocene. Orogenic movements continued with faulting, tilting of blocks, and formation of central depression. Position of Tertiary volcanic rocks along N coast not yet clear)

De Waard, D. (1957)- Contributions to the geology of Timor, XII. The third Timor geological expedition, preliminary results. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 113, p. 7-43.
(1957 Timor Expedition. Name Mutis unit proposed for tectonic unit composed of crystalline basement overlain by Palelo (+U Jurassic?+ Cretaceous greywackes and volcanics), Eocene limestone and volcanics and Lower Miocene reefal limestones and volcanics, all folded (=Banda Terrane of Harris). Fatus, previously assumed to be separate tectonic units, now considered to be bioherms in Permian, Triassic and Jurassic of Sonnebait overthrust unit. Only one overthrust sheet of importance: Sonnebait overthrust, which overlies all other tectonic units, incl. Mutis and parautochthonous Kekneno unit)

De Waard, D. (1957)- Zones of regional metamorphism in the Lalan Asu Massif, Timor. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 60, p. 383-392.

(Five metamorphic zones ranging from muscovite-chlorite subfacies to amphibolite facies in crystalline schists of Lalan Asu massif, W Timor. Massif surrounded by marly sediments of Sonnebait overthrust sheet)

De Waard, D. (1959)- Anorthite content of plagioclase in basic and pelitic crystalline schists as related to metamorphic zoning in the Usu massif. Timor. American Journal of Science 257, p. 553-562.
(Sampling of schists in Usu massif yielded detailed pattern of isopleths based on An values of plagioclase. An10 isopleth marks isograd separating greenschist facies from almandine amphibolite facies. Grade of metamorphism probably responsible for plagioclase equilibrium values)

Dias, R. (2012)- Strike-slip tectonics in arc-continent collision: The Timor-Leste example. First International Geological Congress of Geology of Timor-Leste, Dili 2012, p. 53-58. *(Extended Abstract)*
(online at: www.rdpc.uevora.pt/bitstream/10174/8173/1/Dias_2012_Strike-slip%20tectonics%20in%20arc-continent%20collision.pdf)
(Recent detailed structural mapping in Cribas region led to new data on submeridian sinistral strike-slip fault system and relation with E-W Cribas anticline)

Diener, C. (1923)- Ammonoidea trachyostraca aus der mittleren und oberen Trias von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie onder leiding van Dr. H.G. Jonker+, vol. I, Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen 4, p. 75-276 + Atlas.
(online at: https://opac.geologie.ac.at/ais312/dokumente/Diener_1922_Ammonoidea_trachyostraca_Timor.pdf)
(Descriptions of >300 species of M-U Triassic ammonoids from W Timor collected by Jonker 1916 2nd Timor expedition. Assemblages from blocks very rich in well preserved ammonites, resembling 'Halstatt Limestones' in Austrian Alps, with species of both Alpine-Mediterranean and Himalayan affinities. Dominated by Haloritids. Different blocks different ages, mainly Carnian- Norian or mix of these, but also Anisian and Ladinian faunas. Upper Norian-Rhaetian faunas not demonstrated. Total thickness of M-U Triassic may be only 2 meters)

Dinis, P.A., J.S. Pereira, E.I. Alves & J. Serra Pratas (2021)- Compositional variability of regoliths on equatorial highlands (East Timor). Source-rock control and competing effects of weathering and denudation. J. Asian Earth Sciences 219, 104658, p. 1-14.
(Mineralogical and geochemical data from weathering mantles on mountainous region of Maubisse, S of Dili, Timor Leste. Chemical weathering highly limited by high denudation rates))

Dinis, P.A., C. Tassinari & M.M.S. Cabral Pinto (2013)- Geochemistry and detrital geochronology of stream sediments from East Timor: implications for the origin of source units. Australian J. Earth Sciences 60, 4, p. 509-519.
(Geochemistry and detrital zircon geochronology of Recent stream sediments in E Timor. Zircons with ages of 2150-1500 Ma and 365-210 Ma most common populations in all samples. Sampling sites with Banda Terrane units in watersheds have common Triassic zircons, also common in Sula Spur. Significant component of zircon in allochthonous units of Timor probably inherited from crustal fragments that drifted from Sula Spur. These were carried S as Banda Arc progressed towards Australian continent and emplaced in Timor with Banda Terrane. Geochem interpretation: 'none of the studied sediments plot in the fields of passive margins')

Djohor, D.D. & J. Sopaheluwakan (2006)- Studi batuan metamorf dalam mempelajari evolusi geologi (studi kasus di daerah Komplek Miomaffo- Timor). MINDAGI (Trisakti) 10, 1, p. 1-10.
(online at: www.journal.trisakti.ac.id/index.php/MINDAGI/article/view/101/109)
('Study of metamorphic rocks in the study of geological evolution (case study in the area of the Miomaffo-Complex, Timor)'. Brief descriptions of low-grade metamorphic rocks, incl. metatuff, schist (no locality maps: not sure if samples actually from Miomaffo Massif or Mutis Complex? Mainly summary of Sopaheluwakan 1989 data?; JTvG))

Donovan, S.K. & G.D. Webster (2013)- Platyceratid gastropod infestations of *Neoplatycrinus* Wanner (Crinoidea) from the Permian of West Timor: speculations on thecal modifications. Proc. Geologists Association, London, 124, 6, p. 988-993.

(Distinctive traces on camerate crinoid Neoplatycrinus from Permian of Timor reflect infestation by coprophagous platyceratid gastropods)

Donovan, S.K. & G.D. Webster (2016)- A Permian *Barycrinus*? Wachsmuth (Crinoidea, Cladida) from Timor. Alcheringa 40, 2, p. 216-218.
(*online at: https://www.researchgate.net/publication/286490144_A_Permian_Barycrinus_Wachsmuth_Crinoidea_Cladida_from_Timor)*
(A Permian crinoid pluricolumnal from Noil Simaam, Timor, identified as Barycrinus? sp., youngest member of this otherwise E Carboniferous genus)

Donovan, S.K., G.D. Webster & J.A. Waters (2016)- A last peak in diversity: the stalked echinoderms of the Permian of Timor. Geology Today 32, 5, p. 179-185.
(online at: https://www.researchgate.net/publication/308706064_A_last_peak_in_diversity_the_stalked_echinoderms_of_the_Permian_of_Timor)
(Timor island is one of most notable sites in world for marine Permian rocks , where thick, olistostromic blocks of limestone yielded 1000+ shelly species. Over a third of these are stalked crinoids and blastoids (Palaeozoic groups that would later be devastated by the end-Permian mass extinction))

Dos Santos, J.B., M. Cabral Pinto, V.A.S. Vicente, A. Ram Soares, and J.A.M S. Pratas (2026)- Geochemical framework of Atauro Island (Timor Leste) in an arc-continent collision setting. Minerals (MDPI) 16, 1, 89, p. 1-24.
(online at: https://www.mdpi.com/2075-163X/16/1/89)
(Atauro island N of Dili and SW of Wetar Island, is extinct volcanic island in Banda arc. Outcrops mainly Late Pliocene-age basaltic-andesitic volcanics dacite domes overlain by Pleistocene limestones. Stream sediments analyses show three geochemical process domains (see also Ely et al., 2011))

Dropkin, M.J., R.A. Harris & P.K. Zeitler (1993)- An Oligocene forearc crustal flake exposed in a contemporary arc continent collision, Timor, Indonesia. Geological Society of America (GSA), Meeting Abstracts, 25, 6, p. A-482. *(Abstract only)*
(Harris et al. 2000: Banda Terrane of Timor from continental and oceanic protoliths, and reached thermal peak at or before 35-40 Ma)

Ducrocq, S. (1996)- The Eocene terrestrial mammal from Timor, Indonesia. Geological Magazine 133, 6, p. 763-766.
(Discussion of skull of Eocene Anthracothema/ Anthracotherium verhoeveni (= extinct ancestral Hippopotamus relative) from northern West Timor. First described by Von Koenigswald (1967), and recognizing Asian affinities. Can not be autochthonous, unless part of Timor is Asian continental microplate that migrated S and collided with Timor (Late Eocene anthracotheres common in mainland SE Asia, but also known from W Kalimantan (Stromer 1931) (also in W Sulawesi? (Villeneuve et al. 2010); JTvG))

Duffy, B. (2012)- The structural and geomorphic development of active collisional orogens, from single earthquake to million year timescales, Timor Leste and New Zealand. Ph.D. Thesis, University of Canterbury, Christchurch, p. 1-221.
(online at: https://ir.canterbury.ac.nz/bitstream/10092/7527/1/thesis_fulltext.pdf
(Geomorphology and structural geology of Timor records lateral extrusion of orogenic wedge that developed by underthrusting of Australian continental terrace below Banda forearc)

Duffy, B., J. Kalansky, K. Bassett, R. Harris, M. Quigley, D.J.J. van Hinsbergen, L.J. Strachan & Y. Rosenthal (2017)- Melange versus forearc contributions to sedimentation and uplift, during rapid denudation of a young Banda forearc-continent collisional belt. J. Asian Earth Sciences 138, p. 186-210.
(online at: https://www.sciencedirect.com/science/article/pii/S1367912017300561)
(Along Timor sector of Banda Arc synorogenic piggy-back basins formed above melange unit, exhumed to sea floor in latest Messinian. Following deep marine marl sedimentation, increasingly muddy sediment flux indicates emergence of Timor 4.5 Ma. Sediment source probably 50-60 km to N. Sedimentation between 4.5-3.2

Ma probably derived from mudstone-dominated landscape with geochemical affinities to Triassic-mudstone-rich synorogenic melange, which overlies and surrounds Banda Terrane. After 3.2 Ma, sedimentation dominated by hard rock lithologies of Banda Terrane, and accompanied by rapid uplift)

Duffy, B., B. Lew, K. Boland, B. Kohn, E. Matchan, R. Maas, D. Dixon, L. Pedro, P. de Carvalho & M. Sandiford (2021)- Cenozoic affinity of the Gondwanan rocks of eastern Timor: evidence from geo-thermochronometry. Australian Earth Science Convention (AESC 2021, online) Session 12.3, 1p. *(Presentation Abstract)*
(online at: https://aesconvention.com.au/cenozoic-affinity-of-the-gondwanan-rocks-of-eastern-timor-evidence-from-geo-thermochronometry/)
(New field mapping in type-area of Lolotoi Metamorphic Complex (LMC) shows pre-Permian basement exposed in erosional window. Much of previously mapped LMC overlies alkaline Permian basalt. U-Pb ages for zircons, etc., from LMC type-area are Precambrian, and consistent with Gondwanan continental slivers that now form basement of E Java and W Sulawesi. Such basement ages also in inherited zircons peaks from LMC elsewhere in Timor. Basement faults separating LMC from Triassic and Jurassic sediments contain white micas with Ar-Ar ages of ~38 Ma, similar to white micas from 'Asian-affinity' Mutis complex of W Timor. Low vitrinite reflectance values in much of study area do not support previous models of Cenozoic overthrusting. Thermochronometric data indicate rapid Eocene-Oligocene cooling, similar to thermal history of Mutis complex of W Timor. Based on these data, we revive Barber's (1978) interpretation that almost all of pre-Neogene exhumed rocks of E Timor (including the 'Gondwanan' rocks), resided in Sundaland during Cenozoic)

Duffy, B., M. Quigley, R. Harris & U. Ring (2013)- Arc-parallel extrusion of the Timor sector of the Banda arc-continent collision. Tectonics 32, 3, p. 641-660.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/tect.20048)
(New structural and geomorphic evidence for syn-collisional extension in converging plate boundary zone between Australian Plate and Banda Arc. Dominantly NW-SE dextral normal faults and NE-SW sinistral normal faults. Extension resulted from collision of outlying plateau that arrived S of Wetar and was bounded by ocean crust to both W and E)

Dun, W.S. & E. David (1922)- Notes on the occurrence of *Gastrioceras* at the Irwin River coal-field, W. Australia, and a comparison with the so-called *Paralegoceras* from Letti, Dutch East Indies. J. and Proceedings of the Royal Society of New South Wales, Sydney, 56, p. 249-252.
(online at: https://www.biodiversitylibrary.org/page/41505106#page/301/mode/1up)
(W Australia Permian ammonoid Gastrioceras, locally abundant in Irwin River coal field, W Australia. Very similar to Paralegoceras sundaicum Haniel from Leti island, E of Timor (now assigned to Metalegoceras; see Glenister et al., 1973)

Earle, M.M. (1979)- Mesozoic ophiolite and blue amphibole on Timor and the dispersal of eastern Gondwanaland. Nature 282, p. 375-378.
(Timor 'Lolotoi unit' is dismembered metamorphosed ophiolite formed during Jurassic rifting of NW margin of Australia. Rift developed into ocean basin which carried rifted microcontinental block N-wards, which accreted to SE Asia in M-Late Cretaceous and experienced low grade metamorphism with crossitic amphibole)

Earle, M.M. (1980)- A study of Boi and Molo, two metamorphic massifs on Timor, Eastern Indonesia. Ph.D. Thesis Chelsea College, University of London, p. 1-240. *(Unpublished)*
(Metamorphic Mutis Unit of W Timor regarded as microcontinental fragment detached from margin of W Indonesia in Oligocene and underthrust by continental rise deposits of the Australia-New Guinea plate during Pliocene orogenic main phase on Timor. Structural correlations between Boi, Molo and Lalan Asu regions demonstrate Mutis Unit forms coherent thrust sheet, subsequently folded and imbricated during Late Pliocene-E Pleistocene. Etc.)

Earle, M.M. (1981)- The metamorphic rocks of Boi, Timor, Eastern Indonesia. In: A.J. Barber & S. Wiryosujono (eds.) The geology and tectonics of Eastern Indonesia, Proc. CCOP-IOC SEATAR Working Group Meeting, Bandung 1979, Geological Research Development Centre (GRDC), Bandung, Special Publ. 2,

Bandung, p. 239-251. *(online at: www.researchgate.net/publication/285976880_The_metamorphic_rocks_of_Boi_Timor_eastern_Indonesia)*
(In W Timor Boi Massif 'Mutis' metamorphics with isoclinally folded pelitic gneiss at base, amphibolite and metamorphosed gabbroic rocks and serpentinite at top. Late Cretaceous radiometric age. Boi metamorphics overlain by M Eocene and Miocene carbonates. In other similar massifs on Timor, metamorphics covered by Palelo Group radiolarian cherts (E-M Cretaceous) and Eocene and Miocene carbonates. Regional foliation E-W strike, S dip. Boi and Lalan Asu massifs part of larger metamorphic overthrust sheet, emplaced from N)

Earle, M.M. (1983)- Continental margin origin for Cretaceous radiolarian cherts in western Timor. Nature 305, p. 129-130. *(online at: https://www.researchgate.net/profile/Michael-Earle/publication/239282570_Continental_margin_origin Etc.)*
(Deep water Cretaceous radiolarian cherts interpreted as deep sea deposits, in both 'autochthonous' (Wai Bua, Kolbano) and 'allochthonous' (Noni Fm of Palelo Series in Molo and Miomaffo massifs) parts of Timor. Palelo Group was derived from SE Asia)

Earle, M.M. (2023)- Protolith origin and plate tectonic setting of metamorphic complexes in the Timor fold and thrust belt, Indonesia. Earth-Science Reviews 246, 104589, p. 1-12.
(online at: https://www.sciencedirect.com/science/article/pii/S0012825223002787)
(Review of 'Banda Terrane' overthrust metamorphic complexes on Timor. Represent polymetamorphic basement complexes, originally from Gondwana, but accreted to Sundaland margin in Cretaceous, from which they separated again in Eocene time. Four periods of metamorphism recognized)

El Wakeel, S.K. & J.P. Riley (1961)- Chemical and mineralogical studies of fossil red clays from Timor. Geochimica Cosmochimica Acta 24, p. 260-265.
(Manganese nodules from Cretaceous red clay from Noil Tobe, W Timor, chemically very similar to Pacific-Indian oceanic deep sea nodules, providing strong confirmation of deep sea origin)

Ely, K.S. (2009)- Geochronology of Timor-Leste and seismo-tectonics of the southern Banda Arc. Ph.D. Thesis, University of Melbourne, p. 1-262.
(online at: https://minerva-access.unimelb.edu.au/handle/11343/35296)
(Detrital zircons from N Timor Leste Aileu Metamorphic Complex of N Timor Leste show age modes at 270-425 Ma, 860-1180 Ma and 1460-1870 Ma, favoring sediment source from E Malaya- Indochina and maximum depositional age of 270 Ma (E-M Permian). Aileu Complex cooling ages of 6-10 Ma, implying metamorphism started by at least ~12 Ma. Metamorphism attributed to arc setting rather than collision of Australian continent with Banda Arc. Atauro island N of Timor bi-modal subaqueous volcanism ceased by ~3 Ma, followed by uplift of coral reef terraces to 700m around island. N of Timor absence of intermediate depth seismicity attributed to slab window down to 350 km depth. Slab under W Savu Sea in down-dip compression at ~70-g 300 km, beneath region of arc with closest spacing of volcanoes in Sunda-Banda arc system. Unusual state of stress attributed to subduction of N extension of Scott Plateau)

Ely, K.S., M. Sandiford, D. Phillips & S.D. Boger (2014)- Detrital zircon U-Pb and 40Ar/39Ar hornblende ages from the Aileu Complex, Timor-Leste: provenance and metamorphic cooling history. J. Geological Society, London, 171, 2, p. 299-309.
(online at: https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=6e67417abc36c9 Etc.)
(Detrital zircons from metasediments of Permian Aileu Complex of N Timor Leste have major U-Pb age modes at 275-440 Ma (peak at 290 Ma, reflecting nearby E Permian magmatism?), 860-1240 Ma and 1460-1870 Ma, most compatible with sediment source from now fragmented Sula Spur. 40Ar/39Ar cooling ages of hornblende show W parts cooling through hornblende closure temperature by 10 Ma and central parts by 6 Ma, consistent with variable exhumation history. Onset of cooling by 10 Ma implies metamorphism was probably coeval with initiation of Banda Arc. Aileu Complex cooling ages record deformation related to fragmentation of Sula Spur and early development of Banda Arc, rather than collision between Australian continent and Banda Arc)

Erdi, A., B. Sapiie, N.M. Kusuma, A. Rudyawan & I. Gunawan (2018)- New perspective of Mesozoic hydrocarbon prospectivity within West Timor. Proc. Australian Exploration Geoscience Conference (AEGC 2018), Sydney, ASEG Extended Abstracts, 1, p. 1-7. *(Extended Abstract)*
(online at: www.publish.csiro.au/ex/pdf/ASEG2018abP031)
(Review of Mesozoic of W Timor and comparisons to Australian NW Shelf, suggesting similar hydrocarbon plays)

Escher, E.F. (1948)- Summary geological report, C.U.P. Concession, Portuguese Timor. Unpublished report, 22 p.
(Brief report on hydrocarbon exploration surveys in 1947-1948 by Companhia Ultramarina de Petroleos (Overseas Petroleum Company= a Shell-Stanvac-BP consortium for Timor hydrocarbon exploration; company disbanded in 1949) in Portuguese Timor (see also paper by H.R. Grunau, 1953))

Estrella Resources (2024)- 27km of manganese host formation within Estrella's Lautém Project/ High-grade manganese reveals Estrella's Timor-Leste potential. Company brochures April 2024, p. 1-9. and 10p.
(online at: https://data-api.marketindex.com.au/api/v1/announcements/XASX:ESR:6A1202373/pdf/inline/27km-of-manganese-host-formation-within-esr-lautem-project? Etc.)
(Exploration of manganese deposits in northern part of Timor Leste found manganese deposits as 2-10cm thick manganese-rich (61%) bands in >100m thick Cretaceous deep marine Noni Formation in allochthonous Banda Terrane. Associated with apparent hydrothermal breccias suggesting exhalative deposits of direct precipitation of manganese onto sea floor (also with banded cherts and banded irons))

Ezzoubair, F. (2000)- Recherches sur les Tabules permiens de Timor et sur les affinities des Spongiomorphides du Trias d'Autriche: importances des donnees microstructurales, geochimiques et biochimiques. Ph.D. Thesis Universite Libre Bruxelles, Faculte Sciences, p. 1-346. *(Unpublished)*
('Research on the Permian tabulate corals of Timor and on the affinities of the spongiomorphs of the Triassic of Austria; importance of microstructural, geochemical and biochemical data')

Fainstein, R., J.D.C. do Rosario, H.C.Guterres, R.P. dos Reis & L.T. da Costa (2020)- Coastal and offshore provinces of Timor-Leste- Geophysics exploration and drilling. The Leading Edge 39, 8, p. 543-550.
(Brief review; not much new- JTvG)

Falloon, T.J., R.F. Berry, P. Robinson & A.J. Stolz (2006)- Whole-rock geochemistry of the Hili Manu peridotite, East Timor: implications for the origin of Timor ophiolites. Australian J. Earth Sciences 53, 4, p. 637-649.
(online at: www.researchgate.net/publication/251755695_Whole-rock_geochemistry_of_the_Hili_Manu Etc.)
(Geochemistry of Hili Manu peridotite on N coast E Timor similar to Oecussi peridotite of N coast of W Timor, and suggesting supra-subduction origin. Therefore more likely to be part of Banda upper plate, not Australian subcontinental lithosphere. This supports interpretation that Miocene collision between Banda Arc and Australian continental margin produced widespread 'Cordilleran'-style ophiolites on Timor)

Faria, M.J., D. Manuel, A. de Jesus Lira, J. Fernandes & E. McCartain (2025)- Geoheritage potential assessment of the Nino Konis Santana National Park geotourism area, Timor-Leste: A first step toward UNESCO Global Geopark status. Geoheritage 18, 8, p. *(in press)*
(Geoheritage assessment of Nino Konis Santana National Park geotourism area in Timor-Leste)

Fay, R.O. (1961)- *Deltoblastus*, a new Permian blastoid genus from Timor. Oklahoma Geology Notes (Oklahoma Geological Survey, Norman, OK) 21, 2, p. 36-40.
(online at: http://ogs.ou.edu/docs/geologynotes/GN-V21N2.pdf)
(New blastoid genus from Timor, Deltoblastus. Type species D. elongatus (initially described as Schizoblastus delta var. elongata by Wanner (1924). Holotype from Permian Amarassi Beds near Doeasnain, W Timor, and deposited in collections of Technische Hogeschool Delft, the Netherlands (now at Naturalis, Museum, Leiden?))

Fay, R.O. (1961)- The type species of *Pterotoblastus*, a Permian blastoid from Timor. Oklahoma Geology Notes (Oklahoma Geological Survey, Norman, OK) 21, 11, p. 298-300.
(online at: http://ogs.ou.edu/docs/geologynotes/GN-V21N11.pdf)
(Blastoid genus Pterotoblastus from Permian of Timor, with type species, P. gracilis Wanner 1924, from Basleo beds, W Timor. Topotype deposited in Museum Geologi, Bandung)

Fedorowski, J. (1986)- Permian rugose corals from Timor (remarks on Schouppe and Stacul's collections and publications from 1955 and 1959). Palaeontographica A 191, 4-6, p. 173-226.

Felix, J. (1887)- Untersuchungen uber fossile Holzer, III. Zeitschrift Deutschen Geologischen Gesellschaft, Berlin, 39, 3, p. 517-528.
(online at: https://www.biodiversitylibrary.org/item/141360#page/549/mode/1up)
('Research on fossil woods, III'. Incl. brief descriptions of silicified wood as float in Koinino River, Timor, collected by Martens and Schneider (p. 519-520; 'Araucarioxylon martensi n.sp.'; not figured). Age unknown (Wichmann 1892, p. 194 assumes Tertiary age; Roggeveen 1932 noted similarities with Triassic wood from Riau Archipelago, Sumatra) (case of misidentication or wrong location (Timor mainly marine)?; JTvG))

Felix, J. (1915)- Jungtertiare und quartare Anthozoen von Timor und Obi- I. In: J. Wanner (ed.) Palaeontologie von Timor 2, 2, Schweizerbart, Stuttgart, p. 1-45.
(online at: https://books.googleusercontent.com/books/content/)
('Late Tertiary and Quaternary anthozoans from Timor and Obi- part 1. Mainly taxonomic descriptions of corals collected by Wanner, Molengraaff 1909, 1911 expeditions)

Felix, J. (1920)- Jungtertiare und Quartare Anthozoen von Timor und Obi-II. In: J. Wanner (ed.) Palaeontologie von Timor 8, 13, Schweizerbart, Stuttgart, p. 1-40.
('Late Tertiary and Quaternary anthozoans from Timor and Obi- part 2'. Second part of descriptions of Pliocene- Pleistocene molluscs and corals from Timor and Obi)

Ferreira, V. (2011)- Cartografia e estrutura da regiao Este do anticlinal de Cribas. Implicacoes para a genese de hidrocarbonetos. M.Sc. Thesis, Evora University, Portugal, p. 1-94. *(in Portuguese; Unpublished)*
(online at: https://dspace.uevora.pt/rdpc/handle/10174/17418)
('Mapping and structure of the eastern area of the Cribas anticline; implications for hydrocarbon generation'. (Timor Leste. See also companion thesis by De Olivera, 2012)

Ferreira, V. (2011)- The Aitutu Formation and associated units at Soibada, Timor Leste: the potential source rocks for Timor Leste petroleum system. Honors Thesis University of Western Australia, Perth, p. *(Unpublished)*
(Stratigraphic succession of Triassic Aitutu Fm and associated units in Sahem River near Soibada, Timor Leste. Eight lithostratigraphic units, mainly basinal facies marls, radiolarian wackestone, bedded wackestone with chert nodules, etc. Ages mainly Late Triassic (Aitutu Fm), some E Jurassic (Wailuli Fm). Lowest unit is M Triassic (Late Anisian- E Carnian) deltaic quartz sst-sandy shale, and correlates to Babulu Fm)

Finch, J. (1994)- Late Triassic and Early Jurassic calcareous nannofossils from Timor. M.Sc. Thesis, University College, London, p. *(Unpublished)*
(Rose 1994: rel. poor Norian- Rhaetian nanno assemblages in Aitutu Fm, rel. rich ?Sinemurian-Pliensbachian-lower Toarcian nannos in Wai Luli Fm)

Flugel, E. (2002)- Triassic reef patterns. In: W. Kiessling et al. (eds.) Phanerozoic reef patterns, Soc. Sedimentary Geology (SEPM) Special Publ. 72, p. 391-463.
(p. 419-420: Timor Norian 'allochthonous' reefal limestones: corals mixture of W Tethys and 47% endemic taxa. Conclusion disputed by Martini et al. (2000), who argue that bulk of Timor Triassic macrofauna is 'Tethyan')

Forel, M.B., E. McCartain & D. Haig (2025)- Triassic ostracods from the southeastern Tethys: the Timor-Leste record. Alcheringa, p. 1-40. *(in press)*
(Triassic deep marine ostracods from Timor-Leste, which "accumulated in NE Gondwana basins along proto-Australian plate sector". Seventy-two species/ 22 genera. Ostracods in Triassic deposits indicative of outer neritic settings. Babulu Fm (Anisian-Norian) with taxa typical of bathyal settings, etc. Paleobiogeographical affinities suggest assemblages are part of the wider peri-Tethyan realm)

Frech, F. (1908)- Untere Trias in Timor und Obertrias der Molukken. Nachtrag zu Trias Asiens. In: Lethaea Geognostica, 2, Das Mesozoicum, p. 541-542.
('Lower Triassic of Timor and Upper Triassic of the Moluccas; appendix to the Triassic of Asia'. Brief review of records of Triassic fossils reported by Wanner (1907))

Furnish, W.M. & B.F. Glenister (1971)- The Lower Permian Somohole fauna of Timor. In: W.B. Saunders, The Somoholitidae: Mississippian to Permian Ammonoidea. J. Palaeontology 45, p. 100-118.
(Somohole Horizon of the Kekneno series, NW slope of Mount Somohole ~3 km SW of village at Fatu Bena, Mutis region, N West Timor is one of oldest Permian horizons, probably of Sakmarian age. With Neopronorites timorensis, Somoholites beluensis, Metalegoceras involutum, Juresanites somoholensis, Agathiceras, Waagenina dieneri, Propopanoceras boesei, Properrinites, etc. New species Somoholites deroeveri n.sp.)

Fyan, E.C. (1916)- Some young-Pliocene ostracods of Timor. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 18, 2, p. 1205-1216.
(online at: https://archive.org/details/proceedingsofsec182koni)
(First description of SE Asian Tertiary ostracodes: nine species from Pliocene clay along Mota Talau near Atambua, based on samples collected by Molengraaff Timor expedition of 1910-1912. Includes Paracypris zealandica, Nesidea molengraaffi, N. mulleri, Loxoconcha australis, L. alata, Cytheridea (now called Neocyprideis) timorensis n.sp.), C. spinulosa, etc.)

Gageonnet, R. & M. Lemoine (1957)- Note preliminaire sur la geologie du Timor portugues. Garcia de Orta, Lisbon, 5, 1, p. 153-163.
('Preliminary note on the geology of Portuguese Timor'. Descriptions of stratigraphies of 'Autochthonous' (Permian - Quaternary) and 'Nappe complex' (Permian- Eocene and metamorphics). Discussion of nappe structures. Multiple structural events: main one between Oligocene-M Miocene, lesser one in Pleistocene)

Gageonnet, R. & M. Lemoine (1957)- Sur la stratigraphie de l'autochtone au Timor Portugais. Comptes Rendus hebd. Academie Sciences Paris 244, p. 2168-2171.
('On the stratigraphy of the autochthonous of Portuguese Timor'. Deepest unit of E Timor called 'autochthonous'. Composed of Permian Cribas shales and thick Triassic- E Jurassic flysch, overlain by Eocene pelagics. Cretaceous appears to be absent. Unconformably overlain by weakly deformed Neogene Viqueque series marls, sands and conglomerates)

Gageonnet, R. & M. Lemoine (1957)- Composition et subdivisions du complexe charrie au Timor portugais. Comptes Rendus hebd. Academie Sciences Paris 244, p. 2246-2249.
('Composition and subdivisions of the nappe complex of Portuguese Timor'. Three units in overthrust complex above autochthonous series in Portuguese Timor: (1) lower (Permian Maubisse series shales, volcanics, pink crinoidal limestones; (2) intermediate (crystalline and volcanic rocks mainly in North) and (3) upper complex composed largely of late Cretaceous Fatu and Eocene Same Fm massive limestones (2-3= 'Banda Terrane'? JTvG)

Gageonnet, R. & M. Lemoine (1957)- Sur l'age et les modalites des phenomenes de charriage au Timor portugais. Comptes Rendus hebd. Academie Sciences Paris 244, 19, p. 2407-2410.
(Principal tectonic events of E Timor: major overthrusting before Middle Miocene, followed by formation of simple folds in Plio-Pleistocene and uplift. Displacement driven by gravity played an important role)

Gageonnet, R. & M. Lemoine (1958)- Contribution a la connaissance de la geologie de la province Portuguese de Timor. Junta de Investigacoes do Ultramar, Lisbon, p. 1-134.
(‘Contribution to the knowledge of the geology of Portuguese Timor’. Classic early work on E Timor)

Gageonnet, R., M. Lemoine & D. Trumpy (1959)- Problemes petrolifiers dans la province Portugaise de Timor. Revue Institut Francais Petrole 14, 4-5, p. 466-473.
(‘Petroleum problems in Portuguese Timor’. W Indonesia commercial hydrocarbon accumulations mainly Neogene age, thick and rel. little deformed. Timor numerous oil and gas shows tied to Permian- Mesozoic geosynclinal series, that underwent alpine nappe tectonics in Miocene, complicating the presence of reservoirs and commercial traps)

Gerth, H. (1909)- *Timorella permica* n.g., n.sp., eine neue Lithistide aus dem Perm von Timor. Centralblatt Mineralogie Geologie Palaontologie 1909, p. 695-700.
(online at: www.biodiversitylibrary.org/item/192781#page/717/mode/1up)
('Timorella permica, new genus, new species, a new lithistid from the Permian of Timor'. New sponge species from Permian crinoid limestone and shale, collected by Verbeek at Ajer Mati river near Kupang)

Gerth, H. (1915)- Die Heterastridien von Timor. Palaontologie von Timor, Schweizerbart, Stuttgart, 2, p. 63-69.
(online at: https://books.googleusercontent.com/books/content/)
('The Heterastrids from Timor'. Late Triassic small, globular, possibly pelagic colonial hydrozoans, named Heterastridium conglobatum, similar to those originally described from Halstatter Limestone in Austrian Alps. Over 1000 specimens collected by Wanner and Molengraaff expeditions, mainly from Bihati (near Baung, Amarassi), some from Nifoekoko near Niki Niki. Appear to be restricted to blocks of pelagic, deep water 'Halstatt' cephalopod facies with Norian ammonites. Some layers composed exclusively of heterastrids, covered with black iron-manganese coating)

Gerth, H. (1921)- Die Anthozoen der Dyas von Timor. Palaontologie von Timor, Schweizerbart, Stuttgart, 9, 16, p. 65-147.
('The corals from the Permian of Timor'. First and still principal monograph on Permian corals from Timor. 15 species of solitary rugose corals (Timorphyllum, Pterophyllum, Carcinophyllum, Verbeekiella, Amplexus, etc.) and 3 species of 'waagenophyllid' colonial rugose corals (Lonsdaleia, Michelinia, Favosites))

Gerth, H. (1922)- Der palaeontologische Character der Anthozoenfauna des Perms von Timor. In: G.A.F. Molengraaff (ed.) Nederlandsche Timor Expeditie 1910-1912, vol. III, Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen 3, p. 3-30.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB21:040191000:00001)
('The paleontological character of the Permian coral fauna of Timor'. Permian corals found across most of W and C Timor (coll. Molengraaff and Wanner), as well as Poruguese Timor (Coll. F. Weber). Dominated by solitary corals (Timorphyllum wanneri, Verbeekiella, Carcinophyllum from Artinskian- Roadian of Bitauni, Basleo). New colonial corals Lonsdaleia timorica n.sp. (= Ipciphyllum timoricum) from Fatu Oinino on road to Nenas and Favosites permica from Basleo)

Gerth, H. (1926)- Die Korallenfauna des Perm von Timor und die Permische Vereisung. Leidsche Geologische Mededelingen 2, 1, p. 7-14.
(online at: www.repository.naturalis.nl/document/549627)
(‘The coral fauna of the Permian of Timor and the Permian glaciation’. Timor Permian marine fauna rich in corals, crinoids and fusulinids and is typical warm water fauna. It is contemporaneous with glaciations in nearby Australia, suggesting these areas were farther apart in Permian time. With world map showing distribution of Permian floras and faunas)

Gerth, H. (1927)- Ein *Heterastridium* mit eigenartiger Oberflachen Skulptur aus dem Perm von Timor, *Heterastridium (Stolicskaria) rugosum* spec. nov. Beitrage zur Palaeontologie und Stratigraphie des Indischen Archipels 1, Leidsche Geologische Mededelingen 2, 3, p. 223-225.
(online at: https://repository.naturalis.nl/pub/505840/LGM1926002001010.pdf)

('A Heterastridium with unusual surface sculpture from the Permian of Timor'. New species of Triassic hydrozoan described as Heterastridium (Stoliczkaria) rugosum from Noil Boewan, presumably from Triassic limestones of Nifoekoko area)

Gerth, H. (1927)- Ueber einige Pliozan-Quartare Echiniden von Timor. Palaeontologie von Timor, Schweizerbart, Stuttgart, 15, 26, p. 181-184.
('On some Pliocene- Quaternary echinoids from Timor'. Rare echinoids in young raised coral reef limestones, incl. Cidaris, Pleurechinus, Pericosmus timorensis, Breynica sundaica)

Gerth, H. (1929)- Die Spongien aus dem Perm von Timor. In: Palaontologie von Timor, Schweizerbart, Stuttgart, 27, p. 1-36.
(('The sponges from the Permian of Timor'. At least 25 species of siliceous sponges in Permian, collected by Molengraaff, Wanner and Jonker Timor across W Timor, mainly Basleo near Niki-Niki and Nifoetassi near Sufa. Sponges not as abundant and diverse as some other fossil groups. 25 species identified, most of them new. Timorella, Hindia spp., Pemmatites timorensis, etc. Rather endemic assemblage of lithistids)

Gerth, H. (1929)- Die Spongien aus dem Perm von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie onder leiding van Dr. H.G. Jonker+, vol. VI, Jaarboek Mijnwezen Nederlandsch-Indie 55 (1926), Verhandelingen 1, p. 89-132.
('The sponges from the Permian of Timor'. At least 25 species of siliceous sponges in Permian. 25 species, most of them new. Rather endemic assemblage of lithistids. Same paper as Gerth (1929) above)

Gerth, H. (1931)- Coelenterata. In: Onze palaeontologische kennis van Nederlandsch Oost Indie. Leidsche Geologische Mededelingen 5 (K. Martin volume), p. 120-151.
(online at: www.repository.naturalis.nl/document/549311)
('Our paleontological knowledge of the Netherlands Indies: Coelenterata'. Includes Timor corals)

Gerth, H. (1936)- The occurrence of isolated calicular plates of *Dinocrinus* in the Permo-Carboniferous of Australia and India and its stratigraphical significance. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 39, 7, p. 865-870.
(online at: http://https://dwc.knaw.nl/DL/publications/PU00016941.pdf)
(Crinoid Dinocrinus cornutu, described from E Permian of Timor by Wanner, probably junior synonym of Calceolispongia hindei Etheridge known from W Australia (not from India, but Netherlands Indies; JTvG))

Gerth, H. (1942)- Formenfulle und Lebensweise der Heterastridien von Timor. Palaeontologische Zeitschrift 23, p. 181-202.
('Shapes and mode of living of the Heterastrids of Timor'. On Late Triassic hydrozoan fossil Heterastridium conglobatum, also known from other Tethyan regions from Austrian Alps to Seram to New Zealand. Usually associated with Late riassic (Norian) marine fauna)

Gerth, H. (1944)- Eine neue Art der Spongiengattung *Mortieria* des belgischen Kohlenkalkes aus dem Perm von Timor. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie 14 (Tesch volume), p. 199-203.
('A new species of the sponge genus Mortieria from the Belgian Carboniferous from the Permian of Timor'. Mortieria permica from Tai Wei near Basleo)

Gerth, H. (1950)- Die Ammonoiden des Perm von Timor und ihre Bedeutung fur die stratigraphische Gliederung der Perm-Formationen. Neues Jahrbuch Mineralogie Geologie Palaontologie, Abhandlungen B, 91, 2, p. 233-320.
('The ammonoids from the Permian of Timor and significance for zonation of Permian formations'. Key paper on Timor Permian ammonite zonation and correlations with Sumatra, China, Japan, Alps, etc. Five ammonoid zones in Permian, from old to young: Properrinites (Sakmarian), Perrinites (Artinskian), Waagenoceras (Sosio stage), Timorites (Basleo stage) and Cyclolobus (Chidru stage))

Gheyselinck, R. (1934)- Zur Systematik der Aulacoceraten. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 37, 3, p. 173-180.
(online at: https://dwc.knaw.nl/DL/publications/PU00016371.pdf)
('On the systematics of the aulacocerates'. Study of >3000 specimens of ribbed belemnite Aulacoceras from Triassic of W Timor (probably from Late Triassic 'Halstatter facies'-like blocks of highly condensed deep marine deposit, now in melange), collected by the Jonker 1916 Timor expedition. Timorese aulacocerates, originally described as Asteroconites savuticus (Boehm) 1907 and Aulacoceras timorense Wanner 1911, may be varieties of alpine species Aulacoceras sulcatum Von Hauer)

Gheyselinck, R.F.C.R. (1937)- Permian trilobites from Timor and Sicily. Doct. Thesis University of Amsterdam, Scheltema & Holkema, Amsterdam, p. 1-108. *(Unpublished)*
(Comprehensive study of (generally rare) trilobites from Permian of Timor. About 100 specimens, 7 species, mainly from Basleo. Most common species is Neoproetus indicus Tesch. Also Pseudophillipsia timorensis n.sp. Age of Basleo faunas believed to be late M Permian by Kobayashi & Hamada (1984). No locality maps or stratigraphic info)

Giaj-Via, P. & S. Poynter (2008)- Timor-Leste Field Trip 2008. ENI Timor Leste company report ETL-TL-EXP-RP002_00, Rev-0, Perth, p. 1- *(Unpublished)*.

Giani, L. (1971)- The geology of the Belu District of Indonesian Timor. Masters Thesis, Imperial College, University of London, p. 1-122.
(online at: https://spiral.imperial.ac.uk/handle/10044/1/35410)
(Reconnaissance study of easternmost district of Indonesian Timor. Stratigraphy-structure similar to adjacent TimorLeste: (1) highly deformed Autochthonous units (Permian Cribas Fm turbidites with plant material, Triassic Aitutu Fm radiolarian calcilutite with Halobia and thin bituminous shales (no benthic fauna) and younger? Babulu Mb siliciclastic flysch; possible Jurassic Wai Luli Fm); (2) three overthrust allochthonous units (klippen of Maubisse Fm Permian crinoid limestones with thin chert layers and olivine pillow basalts, Aileu Fm metamorphosed Permian, Lolotoi quartz-mica schists). Emplacement of overthrust sheets during Ramelauean orogeny, dated as M Miocene in E Timor. Lolotoi Complex was emplaced before arrival of Maubisse Fm?; (3) Fatu Mondeo is E Miocene Cablac Limestone (Miogypsina, Spiroclypeus); (4) All deformed autochthonous and overthrust units overlain unconformably by Bobonaro olistostrome of exotic blocks in scaly (slickenside) clay matrix with Permian-Pliocene? foraminifera; (5) Olistostrome overlain by little deformed Late Miocene- Quaternary Viqueque Fm; (6) Quaternary coral reef terraces uplifted to 300m. With mud volcanoes, Oetfo gas seep and small Roti Mutin oil seep.)

Glasby, G.P. (1978)- Deep-sea manganese nodules in the stratigraphic record: evidence from DSDP cores. Marine Geology 28, p. 51-64.
(Core records of first 370 holes of DSDP Project shows manganese nodules relatively uncommon in stratigraphic column and >42% of nodules are from Pleistocene. Onset of high ocean bottom current velocities at ~3.5 Ma may have favored nodule growth through much of Pacific Ocean. Manganese nodules from pelagic red clay on Timor formed in Cretaceous when Antarctic circumpolar current was deflected N of Australia)

Glenister, B.F. & W.M. Furnish (1987)- New Permian representatives of ammonoid superfamilies Marathonitaceae and Cyclolobaceae. Journal of Paleontology 61, 5, p. 982-998.
(New species Eohyattoceras gerthi and Cardiella martodjojoi from late Early Permian (Roadian) of Basleo and Bitauni, Timor. Demarezites oyensi (Gerth, 1950 from Tae Wei, Basleo) and D. lidacensis (de Roever, 1940, from Lidak district), formerly assigned to Waagenoceras, ancestral to Waagenoceras-Cyclolobus lineage, redescribed from Roadian of Timor)

Glenister, B.F. & W.M. Furnish (1988)- Patterns in stratigraphic distribution of Popanocerataceae, Permian Ammonoids. Senckenbergiana Lethaea 69, 1-2, p. 43-71.
(With descriptions of Propopanoceras boesei (Smith) from Somohole and Epitauroceras soewarnoi n.sp. from Amarassi beds at Kuafeu, Baun area, Timor)

Glenister, B.F., W.M. Furnish & Z. Zhou (2004)- *Paedopronorites*, a new Upper Permian (Wuchiapingian) ammonoid from Indonesia (Timor). Journal of Paleontology 78, 5, p. 1014-1015.
(New Permian ammonoid from Amarassi Beds, Kuafeu (Koeafeoe), Baun area, Amarassi Province, W Timor. Associated with cyclolobid genera Timorites and Cyclolobus. No strat info)

Glenister, B.F., D.L. Windle & W.M. Furnish (1973)- Australasian Metalegoceratidae (Lower Permian Ammonoids). Journal of Paleontology 47, 6, p. 1031-1043.
(Taxonomy of Lower Permian Juresanites- Metalegoceras- Pseudoschistoceras ammonoid lineage, based on collections from W Australia, Timor and Oman. Names Paralegoceras sundaicum form. evoluta and form. involuta replaced by genera Metalegoceras and Pseudoschistoceras. Descriptions of Sakmarian Juresanites somoholense (Haniel) and J. hanieli (Smith) (both formerly Gastrioceras). Australian species M. clarkei Miller conspecific with senior Indonesian synonym, M. australe (Smith). Metalegoceratidae are distinctive element of Lower Permian 'Boreal' ammonoid realm)

Grady, A.E. (1975)- A reinvestigation of thrusting in Portuguese Timor. J. Geological Society of Australia 22, p. 223-228.
(Field relations from Maubisse region of Portuguese Timor fail to support hypothesis of S-ward overthrusting of Permian rocks or postulate that Maubisse Fm represents a mid-Tethys island group (This 'autochthonous' model has since been widely criticized in several papers; JTvG))

Grady, A.E. & R.F. Berry (1977)- Some Palaeozoic-Mesozoic stratigraphic-structural relationships in East Timor and their significance in the tectonics of Timor. J. Geological Society of Australia 24, p. 203-214.
('Autochthonous' model suggested for development of Timor, with essentially no allochthonous pre-Cenozoic material)

Grady, A.E. & R.F. Berry (1980)- The significance of blue amphibole in Timor. Institute for Australasian Geodynamics (Flinders University), Adelaide, Publication 80, 5, p.

Grunau, H.R. (1953)- Geologie von Portugiesisch Osttimor. Eine kurze Ubersicht. Eclogae Geologicae Helvetiae 46, 1, p. 29-37.
(online at: https://www.e-periodica.ch/digbib/view?pid=egh-001%3A1953%3A46%3A%3A37#37)
('Geology of Portuguese East Timor: a brief overview'. Two tectonic complexes in East Timor (1) essentially autochthonous unit of Permian, Triassic, Jurassic and Upper Cretaceous- Tertiary geosynclinal sediments, and (2) overthrust complex with crystalline schists, diabases and spilites, Permian crinoidal and massive limestones and Fatu limestones. Main period of nappe emplacement probably post-Aquitanian)

Grunau, H.R. (1956)- Zur Geologie von Portugiesisch Osttimor. Mitteilungen Naturforschenden Gesellschaft, Bern, N.F. 13, p. 11-18.
('On the geology of Portuguese East Timor'. Summary of presentation for Bern Nature Research Society, Switzerland)

Grunau, H.R. (1957)- Neue Daten zur Geologie von Portugesisch Osttimor. Eclogae Geologicae Helvetiae 50, p. 69-98.
(online at: https://www.e-periodica.ch/digbib/view?pid=egh-001%3A1957%3A50%3A%3A128#128)
('New data on the geology of Portuguese Timor'. Aspects of East Portuguese Timor geology based on observations of 1947-1948 oil company (Shell consortium) fieldwork with E.F. Escher, mainly in southern part. With 10 cross sections. 'Autochthonous' flysch-type Permian clastics similar to Kekneno series of W Timor. Ophiolites common in nappe complex, believed to be of Cretaceous age, similar to E Sulawesi ophiolites, usually associated with thin Permian crinoid/ fusulinid limestones, Triassic in multiple facies: flysch, radiolarian limestone and Fatu limestone with Lovcenipora and Misolia. Jurassic Chondrites marls and marls with Aucella malayomaorica. Upper Cretaceous limestones with Globotruncana. E Miocene Te limestones with Spiroclypeus, probably same time as main thrusting. Timor good example of mountain building by gravitational gliding)

Grunau, H.R. (1957)- Geologia da parte oriental do Timor Portugues. Garcia de Orto 5, 4, p. 727-737.
('Geology of the eastern part of Portuguese Timor'. Portuguese translation of Grunau 1953 paper)

Grundel, J. & H. Kozur (1975)- Psychrospharische Ostracoden aus dem Perm von Timor. Freiberger Forschungshefte C 304, p. 39-49.
(Psychrospheric ostracodes from the Permian of Timor'. Permian ostracodes in samples from Mutis area, W Timor, collected by W.P. de Roever in 1937, interpreted as deep marine Early Permian assemblages)

Gurich, G. (1893)- Uber ein Vorkommen von Lias und oberen Jura auf der Insel Rotti bei Timor in Ostindien und.... 70th Jahresbericht Schlesise Gesellschaft vaterlandische Kultur, II, Naturwissenschaftliche Abt., Breslau, p. 16-18.
('On an occurrence of Lias and Upper Jurassic on the island Roti near Timor in the East Indies..'. First? (brief) report of Jurassic fossils in Indonesia, from Roti Island near Timor: Lower Jurassic ammonites (Arieticeras, Lytoceras) and Upper Jurassic belemnites (Belemnites gerardi group). Collected by German physician Dr. C.F.A. Schneider from Surabaya and sent to Prof. Ferd. Roehmer in Germany for identification. No figures (see also Rothpletz 1892))

Hadimuljono, J.S., D. Yensusminar, A.B. Wicaksono & S. Suliantara (2016)- Rembesan migas di daerah Timor Barat. Lembaran Publikasi Minyak dan Gas Bumi (Lemigas) 50, 3, p. 1-8.
(online at: https://journal.lemigas.esdm.go.id/index.php/LPMGB/article/view/2)
('The oil and gas seepages in West Timor'. Many oil and gas seeps in W Timor, generally associated with mud volcanoes. Gas seeps in all mud volcanoes in W Timor; oil seeps only at mud volcanoes in S part of W Timor. Gas mainly methane (CH4) and minor ethane (C2H6) with high N2 content. Gas chromatography of oil seeps suggest oil probably originated from lacustrine or marine-transition environments)

Hadiwisastra, S. (1987)- Plio-Plistocen nannofosil biostratigrafi dari daerah Soe, Timor. Proc. 15th Annual Conv. Indonesian Association Geologists (IAGI), Yogyakarta 1986, p. 1-14.
('Plio-Pleistocene nannofossil biostratigraphy of the Soe area, Timor')

Haig, D.W. (2004)- Stratigraphic reconstruction of Timor Leste and correlation to the Bonaparte Basin. PESA Newsletter 73, p. *('Geology in Timor Symposium' Abstract)*
(Wai Luli Formation type area with clastics ranging in age from Late Permian- M Jurassic. Stratigraphic succession similar to Bonaparte Basin)

Haig, D.W. (2012)- Stratigraphic reconstruction of Timor Leste. In: P. Noguera (ed.) 1st Int. Congress of Geology of Timor-Leste, Dili 2012, p. 59-62. *(Extended Abstract)*
(online at: https://dspace.uevora.pt/rdpc/bitstream/10174/8197/1/1%C2%BA%20Congresso%20Internacional%20de%20Geologia%20de%20Timor.pdf)
(Three phases recognized in development of Late Neogene Timor orogen:(1) initial collision and emplacement of early nappes, creating loading and diapirism (within 9.8-5.5 Ma), (2) tectonic quiet interval (5.5-4.5 Ma), probably resulting from locking of subduction system, and (3) post 4.5 Ma uplift, unroofing and diapirism, probably due to subducting slab tear. Stratigraphic relationships suggest collision was between Banda Arc and ancient Timor Plateau- a continental terrace/plateau similar to present-day Exmouth Plateau)

Haig, D.W. (2012)- Palaeobathymetric gradients across Timor during 5.7-3.3 Ma (latest Miocene-Pliocene) and implications for collision uplift. Palaeogeogr. Palaeoclim. Palaeoecology 331-332, p. 50-59.
(Paleobathymetry analysis of oldest post-collision deposits in Timor, from distributions of planktonic and benthic foraminifera in chalk, marl and mudstone successions that accumulated during 5.7-3.3 Ma. Paleo water depths between 500-2500m, deepening from N to S, E and W)

Haig, D.W. (2018)- Key stratigraphic horizons for assembling a revised tectonostratigraphic framework for Timor-Leste. Proc. 4th IPG International Geosciences Conference on Timor-Leste, Dili 2018, p. 19-27.
(online at: http://ipg.tl/wp-content/uploads/2018/10/PROCEEDING-4th-Int.-Conference-2018.pdf)

(Useful listing of major rock associations on Timor and their biostratigraphic and other age control: (1) Synorogenic (latest Miocene- Holocene, between Australian continent and volcanic Banda Arc, accumulated as present-day island of Timor formed; (2) Timor- Scott Plateau (Late Jurassic- early Late Miocene); (3) East Gondwana Interior Rift (Late Carboniferous/Cribas- M Jurassic/ Wailuli; represent deposits of pre-collision Late Miocene Australian continental margin); (4) Overthrust Terrane (includes Gondwanan/island arc/ocean crustal fragments, emplaced in Late Miocene over NW Australian continental margin during collision. Age of oldest Bacau Gp uplifted limestone terrace within zone N22, ~E Pleistocene)

Haig, D.W. & A.N. Bandini (2013)- Middle Jurassic radiolaria from a siliceous argillite block in a structural melange zone near Viqueque, Timor Leste: paleogeographic implications. J. Asian Earth Sciences 75, p. 71-81.
(Large, thin-bedded, pelagic siliceous argillite block in Bobonaro melange at Viqueque, S Timor Leste, associated with blocks of pillow basalts, near contact with post-orogenic Viqueque basin deposits. Contains M Jurassic (late Bathonian- E Callovian) radiolarian assemblage of 55 species. Fauna little similarity to other Jurassic radiolarian assemblages known from Timor or from Roti, Sumatra, S Kalimantan and Sula. Interpreted as part of Noni Gp, originally described as lower part of Palelo Series in W Timor. Age close to that of continental breakup in area, suggesting deposition in newly rifted Indian Ocean (placed in newly distinguished 'Indian Ocean Megasequence'))

Haig, D.W. & M. Keep (2016)- Recent advances in reconstructing the pre-collision stratigraphy of Timor-Leste. Proc. 3rd International Geosciences Conference (IPG) on Earth Science & Sustainable Development, Dili 2016, p.
(Conference Abstract; see also Haig (2018))

Haig, D.W. & E. McCartain (2007)- Carbonate pelagites in the post-Gondwana succession (Cretaceous-Neogene) of East Timor. Australian J. Earth Sciences 54, 6, p. 875-897.
(online at: https://www.tandfonline.com/doi/pdf/10.1080/08120090701392739)
(Upper parts of Permian- M Jurassic 'Gondwana Megasequence'in Timor Leste structurally juxtaposed against Aptian- Late Miocene carbonate pelagites. Pelagites probably several 100m thick, bathyal, deposited unconformably above Gondwana succession after continental breakup. Cementation, stylolitisation and vein formation after early Late Miocene (after ~11-10 Ma). Deformed succession overlain by relatively undeformed Plio- Pleistocene Viqueque Megasequence (N18-N23). First distal turbidites were from 4.2- 3.4 Ma; proximal turbidite deposition from ~3.35 Ma, with clasts from emerging Timor island to N. M bathyal continental terrace setting continued from mid-Cretaceous- Paleogene to E Pliocene. Soft-sediment mixing in deformed pelagites and Bobonaro Melange under Viqueque Gp suggests Late Miocene (9.8-5.6 Ma) tectonic mobilisation of sedimentary units, with mud volcanoes erupting on seafloor)

Haig, D.W. & E. McCartain (2010)- Triassic organic-cemented siliceous agglutinated foraminifera from Timor-Leste: conservative development in shallow marine environments. J. Foraminiferal Research 40, 4, p. 366-392.
(49 species of agglutinated foraminifera in 11 facies associations in Triassic basinal deposits of Timor Leste. One genus and five species new. Fauna cosmopolitan composition. Coherent stratigraphic sections not preserved and stratigraphic reconstruction is based on correlations using conodonts, palynomorphs and other forams. Most samples Upper Triassic, some Lower Triassic. Facies associations range from those influenced by sediment from nearby carbonate banks to prodelta and delta-front associations)

Haig, D.W. & E. McCartain (2012)- Intraspecific variation in Triassic ophthalmidiid Foraminifera from Timor. Revue de Micropaleontologie 55, 2, p. 39-52.
(Four ophthalmidiid species from Triassic mudstones and wackestones. In Timor Leste, A. bandeiraensis, K. atsabensis and S. grunaui found with Carnian conodonts, at another locality K. atsabensis occurs with conodonts suggestive of M Triassic age)

Haig, D.W., E. McCartain, L. Barber & J. Backhouse (2007)- Triassic- Lower Jurassic foraminiferal indices for Bahaman-type carbonate-bank limestones, Cablac Mountain, East Timor. J. Foraminiferal Research 37, 3, p. 248-264.

(Peloidal- oolitic limestones on Cablac Mountain in E Timor contain Triassic or Lower Jurassic small foraminifera, not Lower Miocene as previously mapped. E Jurassic (Sinemurian-Pliensbachian) age indicated by Meandrovoluta asiagoensis, Everticyclammina praevirguliana and palynomorphs. Other limestones Late Triassic- Early Jurassic, based on Duotaxis metula. Basinal facies of nearby Wai Luli Valley indicate Late Triassic (Carnian) transported carbonate-bank foraminiferal assemblage. This suggests carbonate banks developed locally on topographic highs in seas that flooded interior-rift basins in this part of Gondwana and complex facies array of deep-water muds, deltaic sands, and carbonate shoals)

Haig, D.W., E.W. McCartain, M. Keep & L. Barber (2008)- Re-evaluation of the Cablac Limestone at its type area, East Timor: revision of the Miocene stratigraphy of Timor. J. Asian Earth Sciences 33, p. 366-378.
(Cablac Limestone supposedly a Lower Miocene shallow marine carbonate, but is of Late Triassic- E Jurassic age at Cablac Mountain type locality. Crush breccia at N flank Cablac Mountain formerly regarded as basal conglomerate of Cablac Lst reinterpreted as breccia along high angle fault between 'Asian' Banda Terrane and overthrust limestone)

Haig, D.W., E. McCartain, A.J. Mory, G. Borges, V.I. Davydov, M. Dixon, A. Ernst, S. Groflin, E. Hakansson, M. Keep, Z. Dos Santos, G.R. Shi & J. Soares (2014)- Postglacial Early Permian (late Sakmarian-early Artinskian) shallow-marine carbonate deposition along a 2000 km transect from Timor to West Australia. Palaeogeogr. Palaeoclim. Palaeoecology 409, p. 180-204. (*online at: www.researchgate.net/publication/262489172_Postglacial_Early_Permian_late_Sakmarian-_early_Art etc.)*
(Late Sakmarian- E Artinskian carbonate deposition widespread in marine intracratonic rift basins from Timor to N Perth Basin, spanning ~20° of paleolatitude (35-55°S). Type section of Maubisse Lst in Timor-Leste compared to sections in Canning Basin, S Carnarvon Basin (Callytharra Fm) and N Perth Basin (Fossil Cliff Mb). Carbonate units have no glacial influence, overlie glacially influenced strata in S. Limestone deposition under very shallow marine conditions, and similar grain composition, dominated by bryozoan and crinoidal debris. Tubiphytes, gastropod and bivalve shell debris, echinoid spines, solitary rugose corals and trilobite elements rare. Lack of tropical elements such as fusulinid foraminifera, colonial corals or dasycladacean algae indicate temperate marine conditions with only small increase in temperature to N. Carbonate deposits represents warmer phase than preceding glacially influenced Asselian- E Sakmarian interval and subsequent cool phase of 'mid' Artinskian that is followed by significant warming during late Artinskian- E Kungurian)

Haig, D.W., A.J. Mory, E. McCartain, J. Backhouse, E. Hakansson, A. Ernst, R.S. Nicoll, G.R. Shi, J.C. Bevan, V.I. Davydov, A.W. Hunter, M. Keep et al. (2017)- Late Artinskian- Early Kungurian (Early Permian) warming and maximum marine flooding in the East Gondwana interior rift, Timor and Western Australia, and comparisons across East Gondwana. Palaeogeogr. Palaeoclim. Palaeoecology 468, p. 88-121.
(manuscript online at: https://discovery.ucl.ac.uk/id/eprint/1530886/3/Halliday_1-s2.0-S0031018216307994-main.pdf)
(U Artinskian- Kungurian deposits in Timor-Leste and Canning, S Carnarvon and N Perth basins of W Australia formed between 35- 55°S paleolatitude in East Gondwana interior rift, a precursor to rift that 100 My later formed Indian Ocean in region. Timor lay near main axis of E Gondwana rift. Main depocenters developed by faulting initiated in latest Carboniferous. Cool conditions in early Late Artinskian (water T 0-4 °C), followed by rapid warming in late Artinskian and maximum marine flooding near Artinskian-Kungurian boundary. Carbonate mounds, with larger fusulines and algae developed in N part of rift; Tubiphytes, conodonts, and brachiopods with Tethyan affinities to migrate into marginal-rift basins. Bua-bai Lst (= 'upper Maubisse Gp) locally rich in Late Artinskian? fusulinid Praeskinnerella. Similar pattern of climate change in Carboniferous- E Permian between E Gondwana rift and Lhasa and Sibumasu terranes)

Haig, D.W., Z.K. Mossadegh, J.H. Parker & M. Keep (2019)- Middle Eocene neritic limestone in the type locality of the volcanic Barique Formation, Timor-Leste: microfacies, age and tectonostratigraphic affinities. J. Asian Earth Sciences: X, 1, 100003, p. 1-20.
(online at: https://www.sciencedirect.com/science/article/pii/S2590056018300033)
(Occurrences of M Eocene Alveolina-Nummulites- Discocyclina-Asterocyclina-Orbitolites limestones in mainly volcanic Barique Fm. Ages of limestone using planktonic and benthic foraminifers late M Eocene (~38-44 Ma). Similar Eocene limestone-volcanic association widespread in Timor, but not known along NW Shelf of

Australia. Usually found in coherent areas of outcrop with Late Mesozoic Palelo Group and oceanic facies (radiolarites to carbonate pelagites), E Jurassic carbonate-bank deposits, etc. This is 'Overthrust Terrane Association', which originated away from Australian margin. Cretaceous- E Miocene units of OTA (incl. Barique Group) similar to coeval units in Sumba and considered fragments of fore-arc of Banda Arc (in W Timor generally called 'Banda Terrane'(Harris et al. 1998))

Haig, D.W., J. Nano, E.O. Fraga, M. Soares, I.S. Barros, E. McCartain & P. Baillie (2024)- Disjunct Lower Jurassic to Lowest Miocene stratigraphic units in the Matebian Overthrust Terrane, Timor-Leste, Northwestern margin of Australian Continent. J. Royal Society Western Australia. 107, p. 36-61.
(online at: https://rswa.scholasticahq.com/article/126413-disjunct-lower-jurassic-to-lowest-miocene-stratigraphic-units-in-the-matebian-overthrust-terrane-timor-leste-northwestern-margin-of-australian-conti)
(Matebian Overthrust Terrane in E Timor-Leste chaotic mix of nine Mesozoic-Paleogene rock types, originally deposited (1) shallow marine, oolitic E Jurassic Perdido Limestone (olistoliths?) and associated deepwater radiolarian-rich Sagadati argillite at N margin of E Gondwana; (2) Cenomanian-Turonian Tibalari planktonic foram pelagite off S Sundaland margin of SE Asia, probably near E Java-S Sulawesi; and (3) in Eocene-earliest Miocene orogenic belt along SE Sundaland margin. During Late Miocene, terrane rifted from Sundaland margin during Banda Sea opening, and collided with Timor/Scott Plateau,becoming incorporated in Timor-Seram orogenic belt along Australian continental margin. Barique Volcanics with M Eocene planktonic forams. Late Oligocene- earliest Miocene Booi/Cablac Limestone with conglomerates with many of the above rock types, Youngest and least deformed unit Atelari Mudstone with latest Oligocene planktonics and conglomerate beds with reworked Cretaceous dinoflagellates and Jurassic-Eocene lithologies)

Haig, D.W., S. Rigaud, E. McCartain, R. Martini, I.S. Barros, L. Brisbout, J. Soares & J. Nano (2021)- Upper Triassic carbonate-platform facies, Timor-Leste: foraminiferal indices and regional tectonostratigraphic association. Palaeogeogr. Palaeoclim. Palaeoecology 570, 110362, p. 1-22.
(Widespread Triassic shallow-water carbonate-platform facies in Timor-Leste (here named 'Bandeira Group'). Many of foraminiferal species also known from N Africa and Europe (Duostomina turboidea, etc.) and signify U Carnian-Rhaetian ages. Slab-like platform architecture. Interpreted as part of the 'East Gondwana Interior Rift Association')

Haig, D.W., S. Rigaud, E. McCartain, R. Martini, I.S. Barros, L. Brisbout, J. Soares & J. Nano (2025)- Triassic massive limestones forming high peaks and mountain ranges in Timor: part 1: western Timor-Leste. J. Royal Society Western Australia, 108, p. 1-29.
(online at: https://rswa.scholasticahq.com/article/143801-triassic-massive-limestones-forming-high-peaks-and-mountain-ranges-in-timor-part-1-western-timor-leste)
(Partly overlap with Haig et al. (2021) on the same topic)

Haig, D.W., S. Rigaud, E. McCartain, J. Nano, I.S. Barros & R. Martini (2021)- Biostratigraphic indices for Lower Jurassic carbonate-platform deposits (Perdido Group), Overthrust Terrane Association, Timor-Leste. J. Asian Earth Sciences 215, 104797, p. 1-14.
(Lower Jurassic Perdido Group in Timor-Leste part of "Overthrust Terrane Association" and contains Bahamian-type facies shallow-water limestone that had been mixed up with Tertiary Cablac Limestone. Foraminiferal assemblages confirm Sinemurian-Pliensbachian age. With Biokovina sp., Bosniella, Endotriadella, Lituosepta recoarensis, Palaeocyclammina complanata, etc. No equivalent coeval facies known from Indonesia, Malaysia, Timor-Leste or NW Australia (closest comparable occurrences in W Thailand))

Haile, N.S., A.J. Barber & D.J. Carter (1979)- Mesozoic cherts on crystalline schists in Sulawesi and Timor. J. Geological Society, London, 136, p. 65-70.
(online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.820.2026&rep=rep1&type=pdf)
(Chert-bearing deep water Jurassic-Cretaceous, unconformable on metamorphics of continental origin in SW Sulawesi and Timor, suggesting Sulawesi and Timor probably part of continuous terrain during deposition of radiolarian cherts. Description of Noil Toko section of Miomaffo complex where Late Jurassic- E Cretaceous radiolarian cherts overlie Mutis-Miomaffo metamorphics)

Hamlet, B. (1928)- Permische Brachiopoden, Lamellibranchiaten und Gastropoden von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie VI, Jaarboek Mijnwezen Nederlandsch-Indie 56 (1927), Verhandelingen 2, p. 1-115.
(Permian brachiopods and molluscs from W Timor, collected by the Molengraaff 1911 and H.G. Jonker 1915-1917 expeditions. Incl. Leptodus from Fatu Kuat. Little or no stratigraphy or locality information. Originally a doctorate thesis under Prof. F. Broili in Munich. Author B. Hamlet later became Beata Moos)

Haniel, C.A. (1915)- Ammoniten aus dem Perm der Insel Letti. Jaarboek Mijnwezen Nederlandsch Oost-Indie 43 (1914) Verhandelingen 1, p. 161-165.
('Ammonites from the Permian of Leti Island' (E of Timor). Brief descriptions of presumably Early Permian ammonites Paralegocereas sundaicum (= Metalegoceras), Agathiceras sundaicum n.sp. and Propinacoceras sp. from greywacke shale at S slope of 'small Woerlawan' Mountain, Leti. Similar to Bitauni fauna of W Timor)

Haniel, C.A. (1915)- Die Cephalopoden der Dyas von Timor. In: J. Wanner (ed.) Palaontologie von Timor, Schweizerbart, Stuttgart, 3, 6, p. 1-153.
('The cephalopods from the Dyas (= Permian) of Timor'. First and only monograph on Permian ammonites from 35 localities on W and E Timor, expanding on brief earlier papers by Beyrich (1865), Rothpletz (1892) and Boehm (1907). Incl. species of Agathiceras, Cyclolobus, Popanoceras, Paralegoceras, etc. New genera Timorites and Sundaites. New species incl. Sundaites levis. Also straight nautiloids Orthoceras spp.)

Hantoro, W.S. (1994)- Batugamping terumbu koral Kuarter terangkat di Timor. Proc. 23rd Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, p. 192-207.
(online at: https://www.iagi.or.id/web/digital/62/18.pdf)
('Uplifted Quaternary reefal limestones of Timor'. Eight reef terraces at Kupang, uplifted to ~100m)

Hantoro, W.S., A. Sofian & Z. Abidin (1994)- Geologi dan sumberdaya air wilayah pesisir utara lintasan Liquica- Los Palos, Propinsi Timor Timur. Proc. hasil-hasil penelitian Puslitbang Geoteknologi-LIPI 1993/1994, 1, p. 464-488.
('Geology and water resources of the northern coastal area of Liquica- Los Palos, East Timor')

Harahap, B.H. (2003)- Melange and broken formation on the road from Baucau to Manatuto, Timor Leste. Buletin Geologi (ITB) 35, 1, p. 25-42.
(Melange and broken formation along Baucau- Manatuto road. Melange with scaly mudstone matrix and clasts of crinoidal limestone, pelagic limestone, oolitic limestone, radiolarian chert, sandstone, serpentinite, pillow lava and volcanic rock, fragments of manganese. Broken formation composed mainly of Triassic Aitutu Fm and Permian Maubisse and Atahoc Fms. Most clasts, except serpentinite and radiolarian chert same as broken formation units (also occur as more coherent, mappable units in Central Range of Timor Leste). Serpentinite, radiolarian chert and possibly some pillow lavas thought to be derived from Flores Sea Basin to N. Melange and broken formation may have formed during Australian continent- Banda Arc collision in Pliocene)

Harjanto, A. & C. Danisworo (2013)- Karakteristik mangan (Mn) di daerah Sipul dan sekitarnya, Kecamatan Niki-Niki, Kabupaten Soe, Propinsi Nusa Tenggara Timur. J. Ilmiah Magister Teknik Geologi (UPN) 6, 1, p. 1-14.
(online at: http://jurnal.upnyk.ac.id/index.php/mtg/article/view/250/212)
'(Characteristics of manganese (Mn) in Sipul and surrounding area, Niki-Niki, District Soe, West Timor'. Manganese in Late Cretaceous- Eocene Ofu Fm pelagic sediments N of Sipul. Mineralization of pyrolusite and psilomelane as 2-15 cm thin layers in calcilutite and chert series, with Mn content up to 52%. Manganese deposition probably related to hydrothermal processes)

Harloff, C.E.A. (1936)- Vondst van een Radiumhoudend uraniumerts in de Timorcollectie van den Dienst van den Mijnbouw. De Ingenieur in Nederlandsch-Indie (IV) 3, 4, p. IV.64- IV.70.
(online at: https://www.stichtingblauwelijn.nl/assets/files/1936-04.pdf
('Discovery of a radium-bearing uranium ore in the Timor collection of the Mines Department'. Radioactive mineral in Bandung collection labeled from Timor, but not clear if this really came from Timor)

Harper, K. (2004)- Constraining the uplift history of the Banda arc. Geology in Timor 2004 Symposium abstract, PESA Newsletter 73, p. 32
(Apatite analysis from Aileu metamorphic complex suggest slow cooling between 16.4- 4.6 Ma, with no significant subsequent denudation)

Harris, R.A. (1989)- Processes of allochton emplacement with special reference to the Brooks Range ophiolite, Alaska and Timor. Ph.D. Thesis, University of London, p. 1-514. *(Unpublished)*

Harris, R.A. (1991)- Temporal distribution of strain in the active Banda orogen: a reconciliation of rival hypotheses. J. Southeast Asian Earth Sciences 6, 3-4, p. 373-386.
(online at: https://www.researchgate.net/publication/248552116_Temporal_distribution_of_strain_in_the_active_Banda_orogen_a_reconciliation_of_rival_hypotheses)
(On the Australian continental margin- Banda arc collision zone. Collision began in C Timor at end of Miocene. In W part of collision (Sumba- Savu Islands) most plate convergence occurs within 20-40 km of deformation front. This narrow zone of frontal accretion expands E-ward toward Savu where it is part of submarine accretionary pile >150 km wide. In W Timor accretionary wedge internally shortened and emergent)

Harris, R. (2006)- Rise and fall of the Eastern Great Indonesian Arc recorded by the assembly, dispersion and accretion of the Banda Terrane, Timor. Gondwana Research 10, 3-4, p. 207-231.
(online at: http://geology.byu.edu/Home/sites/default/files/2006-banda-terrane-gr.pdf)
(Banda Terrane is remnant of Jurassic-Eocene arc-trench system that formed E part of the 'Great Indonesian Arc'. Arc rifted apart during Eocene- Miocene supra-subduction zone spreading, which dispersed ridges of Banda Terrane embedded in young oceanic crust as far S as Sumba and Timor. In Timor, Banda Terrane high-level thrust sheets, detached from Banda Sea upper plate and were uplifted by collision with NW Australia margin. Thrust sheets contain medium grade metamorphics overlain by Cretaceous- Miocene forearc deposits. Igneous zircons <162 Ma with clusters of ages at 83 Ma and 35 Ma. Ar/Ar plateau ages from metamorphics cluster at 32-38 Ma. Cooling curves show exhumation from ~550 °C to surface between 36-28 Ma; after this time no evidence of metamorphism. Banda Terrane rocks and events similar to E edge of Sunda Shelf and Banda Sea floor)

Harris, R. (2011)- The nature of the Banda Arc-continent collision in the Timor region. In: D. Brown & P.D. Ryan (eds.) Arc-continent collision, Frontiers in Earth Sciences 2, Springer Verlag, Heidelberg, p. 163-211.
(online at: http://geology.byu.edu/Home/sites/default/files/2011-nature-of-banda-a-c.pdf)
(Extensive review of oblique collision of Banda arc- Australian continent in Timor region. Significant factor in Banda arc continent collision is thermo-mechanical influence of old and cold lower plate)

Harris, R. (2012)- Free at last: new data helps Timor Leste redefine the processes of arc-continent collision. In: P. Noguera (ed.) 1st Int. Congress of Geology of Timor-Leste, Dili 2012, p. 63-66. *(Abstract)*
(online at: https://dspace.uevora.pt/rdpc/bitstream/10174/8197/1/1%C2%BA%20Congresso%20Internacional%20de%20Geologia%20de%20Timor.pdf)

Harris, R.A. & M.G. Audley-Charles (1987)- Taiwan and Timor neotectonics: a comparative review. Memoir of the Geological Society of China (Taiwan) 9, p. 45-61. *(online at: https://geology.byu.edu/0000017e-45ea-d474-a7ff-6fea6caa0001/1991-taiwan-and-timor-paper-pdf)*
(Taiwan and Timor both thrust belts formed by Pliocene- Recent convergence between passive continental margin and volcanic arc. Taiwan greater rate of uplift, thicker deforming sedimentary wedge and well-defined seismically active suture zone)

Harris, R.A., J.S. Kaiser, A.J. Hurford & A. Carter (2000)- Thermal history of Australian passive margin cover sequences accreted to Timor during Late Neogene arc-continent collision, Indonesia. J. Asian Earth Sciences 18, 1, p. 47-69.
(online at: http://geology.byu.edu/home/sites/default/files/2000-thermal-history-harris-et-al.pdf)

(Paleotemperature and apatite fission track analysis of Australian continental margin cover sequences accreted to active Banda arc-continent collision indicate little to no heating during late Neogene uplift and exhumation. Thrust stacking of rise, slope and shelf units produces inverted vertical profile of increasing apatite fission track age with depth. Lack of any long confined track lengths in apatite from all units requires rapid and recent exhumation of thrust stack, coincident with rapid phases of Plio-Pleistocene exhumation These data preclude pre-Late Miocene tectonic burial or pre-Pliocene exhumation of NW Australian continental margin)

Harris, R.A. & T. Long (2000)- The Timor ophiolite, Indonesia: model or myth? Geological Society of America (GSA), Special Paper 349, p. 321-330.
(online at: www.researchgate.net/publication/281527027_The_Timor_Ophiolite_Indonesia_Model_or_myth)
(Only parts of ophiolite sequence of Timor are small bodies of spinel lherzolite and volcanic rocks. Lherzolite mostly blocks in Bobonaro melange. E Timor lherzolite associated with Aileu metamorphic complex, with Mesozoic prograde metamorphism increasing toward lherzolite bodies via Barrovian zonation. Aileu complex and lherzolites similarly affected by Late Neogene collisional (retrograde) metamorphism. W Timor Atapupu and Nefomasi lherzolites indistinguishable from those of E Timor. Position of lherzolite indicates affinity to thrust sheets accreted from distal edge of Australian continental margin (lower plate) rather than forearc basement. Lherzolite and volcanics in Ocussi region different and may represent parts of young, SSZ ophiolite, emplaced less than few Myr after birth).

Harris, R.A., R.K. Sawyer & M.G. Audley-Charles (1998)- Collisional melange development: geologic associations of active melange-forming processes with melange facies in the western Banda orogen, Indonesia. Tectonics 17, 3, p. 458-479.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/97TC03083)
(Bobonaro melange facies include (1) broken formation, (2) matrix-rich mud injections, (3) mixed block-in-clay facies. Most important control is whether formed beneath or in front of upper plate Banda forearc Terrane. Kolbano Mts (Pliocene fold- thrust wedge of S Timor, structurally contiguous with Timor Trough deformation front) melange mostly broken formation and matrix-rich injections of mud from Jurassic- Cretaceous. Mud diapirs rise from near decollement along fault conduits. Melange in hinterland of orogenic wedge dominantly block-in-clay facies with large blocks from roof thrust sheets of Banda Terrane and Maubisse Fm units. At base of thrust sheets is Sonnebait Disruption Zone (SDZ), the initial suture between Banda Terrane and Australian margin sequences in Late Miocene- E Pliocene. Thickest accumulations of block-in-clay melange at S edge of SDZ, near Central/ Viqueque basins. Extent of block dispersion and mixing in SDZ indicative of intense shear strains perhaps induced by oversupply of accretable material when suture zone clogged by underthrusting of Australian continental margin)

Harris, R.A., M.W. Vorkink, C. Prasetyadi, E. Zobell, N. Roosmawati & M. Apthorpe (2009)- Transition from subduction to arc-continent collision: geological and neotectonic evolution of Savu, Indonesia. Geosphere 5, p. 152-171.
(online at: https://pubs.geoscienceworld.org/gsa/geosphere/article/5/3/152/31231/Transition-from-subduction-to-arc-continent)
('Savu melange' product of Sunda/Banda arc- Australian continent collision. Blocks of Permian- Paleogene indurated sandstone, limestone and metamorphic and igneous rocks floating in muddy matrix, correlated with Bobonaro melange of Timor and associated with recent mud diapyrism. Previously unrecognized units of pillow basalt interlayered with Jurassic sediments. Savu 1 well TD at 1227m in Cretaceous clastics (=different from Scott Plateau, but similar to Sumba). Includes detailed geological map and cross sections of S-C Savu. Island emergence documented by uplifted coral terraces encrusting highest ridges to 338m elevation: U/Th ages of uplifted coral yields ages of 122 ka, indicating slow uplift rates of 0.2 mm/yr)

Harris, R.A. & S. Wu & T.R. Charlton (1992)- Comment and Reply on "Postcollisional extension in arc-continent collision zones, eastern Indonesia". Geology (GSA) 20, 1, p. 92-94.
(Discussion of Charlton 1991 paper on post-collisional isostatic rebound of Timor area)

Harsolumakso, A.H. (1993)- Etude lithostratigraphique et structurale le long du transect Wini-Kolbano a Timor Ouest (Indonesie). Doct. Thesis, University of Nice- Sophia-Antipolis, Valbonne, p. 1-256. *(Unpublished)*

('Lithostratigraphic and structural study along the Wini-Kolbano transect on West Timor'. Structure and stratigraphic studies across W Timor show two principal deformation phases: (1) pre-Miocene, probably corresponding to emplacement of allochthonous nappes and (2) intense thrusting phase at E-M Pliocene boundary)

Harsolumakso, A.H., B. Sapiie, A. Rudyawan, H. Tiranda, E. Reski & R. Fauziah (2019)- Understanding structural style of onshore Timor Basin from detailed fieldwork. Modern Applied Science 13, 4, p. 123-136.
(online at: http://www.ccsenet.org/journal/index.php/mas/article/view/0/38998)
(Timor characterized by development of complex imbricate thrust-fold-belt deformation involving sedimentary sequence from Australia continental margin. Thick-skinned and thin-skinned thrust faults both present in W Timor area divided by syn-orogenic basin. Change in decollement surface likely caused by inversion structures under thrust sheets. Inversion anticlinal structures likely to occur both onshore and offshore. Bobonaro Complex covers 60% of W Timor region, including Rote Island)

Harsolumakso, A.H. & M. Villeneuve (1993)- Structural section of Timor: lithostratigraphical and structural study from central part of West Timor. Proc. 22nd Annual Conv. Indonesian Association Geologists (IAGI), Bandung, 1, p. 82. *(Abstract only)*
(Two main tectonic phases responsible for structuring of Timor: (1) pre-Miocene, corresponding to allochthonous nappes emplacement; (2) E-M Pliocene intensive thrusting)

Harsolumakso, A.H., M. Villeneuve, J.J. Cornee, P. De Wever, G. Tronchetti, J. Butterlin, G. Glacon & P. Saint-Marc (1995)- Stratigraphie des series para-autochtones du Sud de Timor occidental (Indonesie). Comptes Rendus Academie Sciences, Paris 320, IIa, p. 881-888.
(online at: https://www.researchgate.net/publication/303593754_Stratigraphy_of_para-autochtonous _and_autochtonous_formations_of_the_southern_part_of_Western_Timor_Indonesie)
('Stratigraphy of the para-autochthonous series in the South of West Timor'. New Late Triassic- Pleistocene reconstruction of stratigraphy of 'para-autochthonous' series of Kolbano area in SW Timor)

Hartmann, E. (1916)- Kurze Mitteilung uber Uberschiebungen auf Niederlandisch Timor. Private print, Batavia, p. 1-4. *(Unpublihed)*
('Brief communication on thrusts on Netherlands Timor'. With map and cross-sections of Ayer Mati- Soengei Kokilah area S of Kupang, showing 'autochthonous' Jurassic sediments, over which Permian limestones with serpentinite and diabase porphyrite and Triassic 'Halstatter' cephalopod limestone were thrusted from NE. All overlain by Late Tertiary)

Hartono, H.M.S., S. Tjokrosaputro, K. Suwitodirdjo & H.M.D. Rosidi (1978)- Some notes on the geologic map of Timor. In: S. Wiryosujono & A. Sudradjat (eds.) Proc. Regional Conference Geology and Mineral Resources of SE Asia (GEOSEA), Jakarta 1975, Indonesian Association Geologists (IAGI), p. 69-76.
(online at: https://www.iagi.or.id/web/digital/32/PIT-IAGI-1975-Paper-9.pdf)
(Two overthrust units recognized: (1) Oligocene overthrusting by allochthonous unit of ?Carboniferous Mutis metamorphic complex overlain by U Cretaceous Palelo Complex, Eocene Manamas(?) Fm volcanics/ limestones, unconformably overlain by Late Oligocene-E Miocene Noil Toko/Cablac Lst; (2) M Miocene overthrusting of Bobonaro (melange) complex and embedded Kiupukan Fm (with Maubisse Lst and volcanics). Authochthonous formations Permian- Triassic Kekneno (Aitutu) Halobia shale and Bisane (Cribas-Atahoc) flysch of Australian origin. Youngest formation Batuputih/Viqueque Fm up to 800m thick and late M Miocene-E Pleistocene age)

Hasan, K. (1984)- A study on heavy minerals from the Kekneno Area, West Timor, Indonesia. Certificate of Chelsea College, Chelsea College, University of London, p. *(Unpublished)*

Hasibuan, F. (1994)- Fauna Gondwana dari Formasi Maubisse, Timor Timur. Proc. 23rd Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, 1, p. 104-111.
(online at: https://www.iagi.or.id/web/digital/62/9.pdf)

(‘Gondwana fauna from the Maubisse Formation, E Timor'. Occurrence of 'Gondwanan' cool-climate brachiopods (Globiella foordi) and bivalves (Atomodesma and Eurydesma) in E Permian red limestones-shales of Maubisse Fm in central part of Timor Leste, 75 km S of Dili. Linked to S Tethys, at N margin of Gondwana)

Hasibuan, F. (2007)- Penelitian biostratigrafi Mesozoikum Pulau Rote, Nusa Tenggara Timur. Jurnal Sumber Daya Geologi (JSDG) 17, 3, p. 126-144.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/285/256)
('Research on Mesozoic biostratigraphy of Rote Island, East Nusatenggara'. Distribution of Triassic, Jurassic and Cretaceous rocks on Roti broader than previously mapped. Paleozoic not exposed, but Permian ammonite Timorites possibly came up in mud volcano. Aitutu/ Kekneno Fm with Carnian- E Norian Halobia spp. (H. austriaca, H. styriaca, H. charlyana). Presence of Monotis salinaria in Norian Aitutu Fm. Jurassic Wailuli Fm with Perisphinctes, Belemnopsis moluccana, B. galoi, Irianites. Nakfunu Fm rich in radiolaria of Albian age)

Hasibuan, F. (2009)- Geological and paleontological investigation of Rote island, Indonesia. Acta Geologica Sinica 30, Supplement 1, p. 13. *(Abstract only)*
(Rote Island Permian not exposed, but ammonite Timorites in float indicates Permian, brought to surface by mud volcanoes. Well exposed fossiliferous Mesozoic. Carnian-Norian Aitutu Fm thin-bedded marl with Halobia and Monotis. Bathonian-Berriasian Wailuli Fm fine sandstones and sandy limestone with Perisphinctes timorense, Belemnopsis moluccana, B. galoi, B. stolleyi, etc. Cretaceous Nakfunu Fm calcilutite with chert interbeds and radiolarians such as Dictyomitra sp., indicating Albian age. Aitutu Fm probably overturned. Mesozoic overlain by Bobonaro Complex)

Hasibuan, F. (2012)- Rote Ndao: Paling Selatan, jangan dilupakan. Geomagz 2, 3, p. 26-31.
(online at: https://geologi.esdm.go.id/assets/media/content/content-geomagz-vol-2-no-3-tahun-2012-.pdf)
(‘Rote Ndao island: Southernmost, don't forget it’. Popular review of diverse geology of Rote/ Rotti island, related to that of nearby Timor. With intensely folded fossiliferous deep marine sediments of Permian, Triassic (Aitutu Fm with Halobia, Monotis), Jurassic (Wailuli Fm with belemnites) and Cretaceous (Nakfunu Fm with radiolaria) ages, mud volcanoes, etc. (see also Hasibuan, 2007))

Hayasaka, I. (1939)- On a *Fusulina*-limestone fragment found in the Niki-Niki region, SE Dutch Timor. Kwagaku (Science) 9, 3, p. 86-87.

Hayasaka, I. (1953)- *Hamletella*, a new Permian genus of brachiopoda, and a new species from the Kitakami Mountains, Japan. Transactions Proceedings Paleontological Society of Japan, N.S. 12, p. 89-95.
(online at: www.jstage.jst.go.jp/article/prpsj1951/1953/12/1953_12_89/_pdf)
(Hamletella n.gen. proposed for Permian brachiopod from Timor described as ?Streptorhynchus altus by Hamlet (1928))

Hayasaka, I. & S. Gan (1940)- A note on *Camarophoria ‘purdoni’* from the Permian of Timor. J. Geological Society Japan 47, 558, p. 127-132.
(online at: www.jstage.jst.go.jp/article/prpsj1935/1940/17/1940_17_19/_pdf)
(Permian brachiopod Camarophoria 'purdoni' of Broili (1916; presumably from Basleo area) includes several species. New species proposed Camarophoria timorensis (now usually called Stenoscisma timorense and viewed as peri-Gondwanan, anti-tropical species; JTvG))

Hayasaka, I. & M. Hosono (1951)- A new Permian *Spirifer* from Timor. Short Papers Institute of Geology Paleontology, Tohoku University, Sendai, 3, p. 25-28.
(Short paper describing new Permian brachiopod species Spirifer basleoensis from Basleo, Timor)

Hayasaka, I. & K. Ishizaki (1939)- On the occurrence of Eocene foraminifera in the neighbourhood of Besleo, Timor. Mem. Faculty of Science Agriculture, Taihoku Imperial University, 22, 2, Geol. 15, p. 9-17.
(online at: https://dl.lib.ntu.edu.tw/files/original/383269/ntul-tj-0172_19390315_0009.pdf)

(Eocene limestone blocks found in Basleo area, Niki-Niki region, SW Timor, otherwise known mainly for its abundant Permian fossils and Cretaceous manganese-bearing beds with abundant shark teeth. Descriptions of alveolinids (Fasciolites timorensis (Verbeek), Fasciolites wichmanni (Rutten) and Nummulites cf. perforata)

Hehenwarter, E. (1951)- Erganzungen zur Tabulatenfauna des Perm von Timor und zur Stellung des Genus *Trachypsammia* Gerth. Palaeontographica, Supplement IV, Beitrage zur Geologie von Niederlandisch-Indien V, 2, p. 57-94.
('Observations on Timor Permian tabulate coral faunas and on the position of the genus Trachypsammia Gerth')

Helmers, H., J. Sopaheluwakan, F.F. Beunk & S. Tjokrosapoetro (1991)- Metasomatism in basal amphibolite of ophiolite complexes around the Banda Sea, exemplified by the Atapupu outcrops of North Timor, Indonesia. Proc. Silver Jubilee Symposium on the dynamics of subduction and its products, Yogyakarta-Karangsambung 1991, Research Development Centre Geotechnology, Indonesian Institute of Sciences (LIPI), Bandung, p. 302-314.

Helmers, H., J. Sopaheluwakan, S. Tjokrosapoetro & E. Surya Nila (1989)- High-grade metamorphism related to peridotite emplacement near Atapupu, Timor with reference to the Kaibobo peridotite on Seram, Indonesia. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2/3, p. 357-371.
(online at: https://www.academia.edu/55529734/HIGH_GRADE_METAMORPHISM_RELATED_TO_PERIDOTITE_EMPLACEMENT_NEAR_ATAPUPU_TIMOR_WITH_REFERENCE_TO_THE_KAIBOBO_PERIDOTITE_ON_SERAM_INDONESIA)
(Peridotites from Seram and Atapupu, Timor show cooling and deformation history starting at ~1050°C Metamorphic conditions in pelitic-mafic rocks below Atapupu peridotite >800°C at 6- 7 kbar. Prograde metamorphism nearly obliterated. Mylonitization accompanied metamorphic re-equilibration. Granitic to trondjemitic melt formed from metamorphites above 750°C. Displaced part of this melt is included in late granitic bodies cross-cutting peridotite. Axial directions of four successive folding phases at Atapupu consistent with N-S shortening during subduction. Folding and mylonitization are simultaneous.)

Henrici, H. (1934)- Foraminiferen aus dem Eozan und Altmiozan von Timor. In: J. Wanner (ed.) Beitrage zur Geologie von Niederlandisch-Indien, Palaeontographica Supplement IV, 1, p. 1-56.
(Read only online at: https://archive.org/details/palaeontographica-supplementbaende_1934_4_1/mode/2up)
('Foraminifera from the Eocene and Early Miocene of Timor'. Larger foraminifera of M Eocene (Nummulites, Fasciolites= Alveolina), Late Eocene (Nummulites, Pellatispira, Discocyclina) and Early Miocene age (Spiroclypeus, Miogypsina, Lepidocyclina (Nephrolepidina). HH studied at the University of Bonn under Prof. J. Wanner, from samples collected in West Timor by J. Wanner (1909, 1911) and G. Molengraaff (1910-1911), and in East Timor by BPM geologist F. Weber in 1909))

Heritsch, F. (1937)- Rugose Korallen aus dem Salt Range, aus Timor und aus Djoulfa, mit Bemerkungen uber die Stratigraphie des Perms. Sitzungsberichte Osterreichischen Akademie der Wissenschaften, Wien, Mathematisch- Naturwissenschaftliche Klasse, Abt. 1, 146, p. 1-16.
('Rugose corals from the Salt Range (Himalaya), from Timor and from Djoulfa, with remarks on the stratigraphy of the Permian'. Brief descriptions of some Permian rugose corals)

Hidayah, A.R., U.P. Wibowo, A. Purwoarminta, G.J.Price & S. Noerwidi (2021)- Palaeoenvironments and palaeontology of the Atambua Basin, West Timor, Indonesia. Quaternary International 603, p. 82-89.
(M Pleistocene vertebrate faunas (in particular dwarf elephant Stegodon and Geochelone) long known from Timor. Cause of extinction unknown. Document fossil Pleistocene fauna of Atambua basin iin NE part of W Timor in paleoenvironmental context. Vertebrate fossils restricted to fluvial sandstones of upper Noele Fm. Lithic artefacts recorded widely across basin, but no direct association extinct Pleistocene faunas. Pre-date the oldest modern humans on island)

Hinde, G.J. (1908)- Radiolaria from Triassic and other rocks of the Dutch East Indian Archipelago. In: R.D.M. Verbeek, Molukkenverslag. Geologische verkenningstochten in het oostelijke gedeelte van den Nederlandsch Oostindische Archipel. Jaarboek Mijnwezen Nederlandsch Oost-Indie 37 (1908), Wetenschappelijk Gedeelte, p. 694-736.
(Radiolaria from Timor, Savu, Ceram, Sulawesi, Buru and Mangoli in Verbeek's Moluccas report. Probably mainly of Late Triassic-Jurassic age. 83 species identified, including 74 new species. Richest assemblages from Triassic Halobia-Daonella-bearing cherty limestones from Roti, Savu and Timor (Cenosphaera, Dictyomitra, etc.). Fewer, but similar species in loose chert pebbles collected at Seram and E Sulawesi)

Hirschi, H. (1907)- Zur Geologie und Geographie von Portugiesisch Timor. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 24, 2, p. 460-474. *(online at: https://opac.geologie.ac.at/ais312/dokumente/Boehm_1907_Indo-Australisches%20Archipel_V.pdf)*
('On the geology and stratigraphy of Portuguese Timor'. First observations on geology and stratigraphy of Portuguese East Timor along two N-S traverses made in 1904 from a base in Manatutu, during investigation of oil potential for BPM. With two traverse maps (No geologic map, cross-sections))

Hirschi, H. (1933)- Eine geologische Expedition in Portugiesisch Timor; aus Tagebuchnotizen vor 29 Jahren. Mitteilungen Naturwissenschaftlichen Gesellschaft Thun, N.F. 13, p. 25-41.
('A geological expedition in Portuguese East Timor, from 29-year old diary notes'. Mainly travel notes on two traverses of Timor Leste in January- February 1904, during oil company reconnaissance. Very little on geology)

Hoffmann, R. & H. Keupp (2010)- The myth of the Triassic lytoceratid ammonite *Trachyphyllites* Arthaber, 1927, in reality an Early Jurassic *Analytoceras hermanni* Gumbel, 1861. Acta Geologica Polonica 60, 2, p. 219-229.
(online at: https://geojournals.pgi.gov.pl/agp/article/view/9830/8363)
(Trachyphyllites costatum Arthaber (1927) described from single specimen from limestone boulder in Tertiary melange in Bihati River, Timor and interpreted to be of Late Triassic (Norian) age. However, 'Hallstatt facies' limestones ranges in age from Triassic- E Jurassic (Hettangian). New collections from other erratic boulders in type locality confirmed observations of Tozer (1971) and Krystyn (1978) that age of original boulder is E Jurassic (Hettangian). 'Trachyphyllites costatum Arthaber' is junior synonym of Analytoceras hermanni (Gumbel, 1861))

Howell, D.G. (1989)- Tectonics of suspect terranes, mountain building and continental growth. Chapman and Hall, London, p. 1-232.
(Includes chapter 'Taiwan to Timor' (p. 159-167) on collisions of island arcs and continental margins)

Huang. C.C. (2022)- Age and geochemical constraints on igneous rocks from Dai island, Eastern Indonesia: Discovery of Oligocene island arc tholeiitic magmatism. Master Thesis, National Taiwan University, p.
((Lin et al. 2023:) Dai island (part of Banda Outer Arc E of Timor) tholeiitic arc rocks, dated at 32-25 Ma (= Oligocene= continuation of Banda Terrane volcanic arc?; JTvG)

Hulse, J. & J. Soares (2023)- Onshore oil and gas exploration resumes in Timor-Leste after a half-century. Proc. 2023 Southeast Asia Petroleum Exploration Society (SEAPEX) Conference, Singapore, p. 1-28. *(Abstract + Presentation) (see also Taylor et al., 2023)*
(New exploration activites in SW Timor Leste by Timor Resources since 2017, after Timor Oil Company ceased operations in 1972, when still under Portuguese jurisdiction. Drilling campaign started in late 2021, with Karau 1, Kumbili 1, Lafaek 1, Rusa 1 wells. New wells general stratigraphy: at surface (1) Plio-Pleistocene Viqueque Fm; underlain by (2) thick, extremely deformed Bobonaro tectonic melange (with Permian-Pliocene fragments and more coherent Triassic Aitutu and Babulu Fms blocks), underlain by (3) 'Banda Terrane' Lolotoi Metamorphics, overlain by Palelo volcanics, 'Noni Fm' (= Cretaceous radiolarian cherts?; JTvG) and (Eocene?) limestone, underlain by (4) 'sub-decollement' Triassic-Jurassic section. Oils marine algal-derived)

Hunter, D.C. (1993)- A stratigraphic and structural study of the Maubisse area, East Timor, Indonesia. Masters Thesis, West Virginia University, Morgantown, p. 1-214. *(Unpublished)*

(Geologic mapping around Maubisse village in E Timor. Two Permian and one Triassic formations identified: (1) Permian Maubisse Fm of volcaniclastics, limestones and pillow basalts, (2) Permian Cribas Fm, dominated by turbiditic clastics, and (3) Triassic Aitutu Fm, composed mostly of carbonates. Maubisse Fm has been thrust along unconformable contact between Cribas and Aitutu Fm resulting in zone of tectonic melange)

Hutubessy, S. (1998)- Analisis data gayaberat dan seismologi dalam upaya memahami proces gempabumi Dili, Timor Timur. Jurnal Geologi dan Sumberdaya Mineral (JGSM), 8, 82, p. 14-27.
('Gravity and seismological data analysis in an attempt to understand the process of the Dili earthquake, East Timor'. E Timor dominant strike-slip faults in N-S direction, secondary fault pattern in E-W direction)

Idrus, A., E.M. Ati & A. Harijoko (2012)- Preliminary study on the occurrence of mud-volcano-related sedimentary manganese layers at South Central Timor Regency, Timor Island, Indonesia. Proc. 41st Annual Conv. Indonesian Association Geologists (IAGI), Yogyakarta, 2012-M-16, p.
(Sedimentary manganese layers in S Central Timor 2-10 cm thick and interbedded with (Jurassic?) Cretaceous-Eocene deep sea sedimentary rocks of Ofu and Nakfunu Fms., incl. red-brown claystone, radiolarian chert, slate, marl and white-pink calcilutite. Rock formations underlain by Bobonaro Fm (?; JTvG). Significant manganese layers mostly found ~50- 1000m from margin of mud-volcanoes. Manganese layers strongly deformed. Ore mainly composed of pyrolusite (MnO2), groutite, feitknechtite, manganite and less hematite. Manganese minerals interpreted as alteration products of hydrothermal processes induced by mud-volcanoes)

Idrus, A., E.M. Ati, A. Harijoko & F.M. Meyer (2012)- Occurrences and characteristics of sedimentary-related manganese layers in Timor island, Indonesia. In: N.I. Basuki (ed.) Proc. Annual Conv. Indonesian Soc. Economic Geologists (MGEI). Malang 2012, Banda and Eastern Sunda arcs, p. 201-216.
(Similar to paper above on sedimentary manganese in folded bathyal Cretaceous sediments of Kolbano thrust belt, S Central Timor. Manganese nodules (mainly manganite MnO(OH) interpreted to be precipited on deep sea floor. Manganese layers are formed by Mn remobilization in seawater column, precipitated and deposited on deep sea floor. Probably influenced by 'hydrothermal process' of mud-volcanoes)

Idrus, A., E.M. Ati, A. Harijoko & F.M. Meyer (2013)- Characteristics and origin of sedimentary-related manganese layers in Timor Island, Indonesia. Jurnal Geologi Indonesia 8 4, p. 191-203.
(online at: http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/169/169)
(Manganese layers of 2-10 cm thick interbedded with highly deformed deep sea reddish claystone, radiolarian chert, slate, marl and white and pinkish calcilutite of (Jurassic) Nakfunu Fm in SW Timor. Stratigraphically overlain by Bobonaro Fm. Two types of manganese ores: mainly layers but also manganite nodules)

Ikegami, T. (1942)- Oil reserve in Portuguese Timor. J. Mining Institute of Japan 58, 685, p. 320-331. *(in Japanese)*
(online at: https://www.jstage.jst.go.jp/article/shigentosozai1885/58/685/58_685_320/_pdf/-char/en)

Imdahl, H. (1922)- Beitrage zur Petrographie von West-Timor. Centralblatt Mineralogie Geologie Palaontologie, p. 65-76.
(online at: www.biodiversitylibrary.org/item/203797#page/91/mode/1up)
('Contributions to the petrography of West Timor'. Petrographic descriptions of rocks collected by Wanner (1909, 1911) in W Timor. Igneous (diorite, gabbro, peridotite, lherzolite, serpentinite), volcanics (quartz keratophyr, andesite, diabase) and metamorphics (amphibolites, chlorite schist, mica schist and epidote schist). No figures)

Ishikawa, A., Y. Kaneko, A. Kadarusman & T. Ohta (2007)- Multiple generations of fore-arc mafic-ultramafic rocks in the Timor- Tanimbar ophiolite, Eastern Indonesia. In: M. Santosh & S. Maruyama (eds.) Island arcs past and present, Gondwana Research 11, 1-2, p. 200-217.
(online at: https://www.academia.edu/download/44965200/Multiple_generations_of_forearc_maficult20160421-24106-s5m4r2.pdf)
(Mafic-ultramafic rocks in Timor-Tanimbar region suggest uplift of fragments of mantle-crust by buoyant subduction of Australian continent. Peridotite masses in Timor (Mutis, Atapupu, Dili) mostly fertile (lherzolitic)

in compositions. Overlying Ocussi volcanics resemble island-arc tholeiite, inconsistent with genetic relationship with Timor lherzolites. In eastern islands (Moa, Dai) ophiolitic rocks island-arc affinities. Petrological and geochemical variations best explained by combination of (1) temporal change of igneous activity possibly associated with development of forearc basin and (2) emplacement of spatially different forearc regions in each locality. Fertile lherzolite in forearc setting, high-Mg andesite magmatism, inverted metamorphic grade in associated metamorphics and formation of marginal basins may be linked to injection of high-T asthenospheric materials into mantle wedge)

Ishikawa, A., Y. Kaneko, T. Ohta & Y. Isozaki (2011)- Ophiolites in the non-volcanic Banda outer arc of East Indonesia. Journal of Geography (Chigaku Zasshi) 120, 1, p. 52-64.
(In Japanese; online at: www.jstage.jst.go.jp/article/jgeography/120/1/52/_pdf)
(Looks like summary of Ishikawa et al. 2007)

Jacobson, M.I. & K. Sani (1993)- Post-Convention fieldtrip 1993- West Timor, Nusa Tenggara Timur. Indonesian Petroleum Association (IPA), Fieldtrip guidebook, Jakarta, p. 1-95.

Jafar, S.A. (1975)- Calcareous nannoplankton from the Miocene of Rotti, Indonesia. Verhandelingen Koninklijke Nederlandse Akademie van Wetenschappen, Afd. Natuurkunde, Amsterdam, ser. 1, 28, p. 1-99.
(online at: https://dwc.knaw.nl/DL/publications/PU00010962.pdf)
(Calcareous nannoplankton from single chalk sample 168 from Bebalain, Roti, collected by Molengraaff 1910 and previously studied by Tan Sin Hok (1927) and Kamptner (1955). Seventy-four recognizable autochthonous species of calcareous nannoplankton belonging to 18 genera. Age of sample upper NN9, Discoaster hamatus zone (= early Late Miocene; ~10 Ma). Also common reworked E Cretaceous- E Miocene nannoplankton)

Jafar, S.A. (1975)- Some comments on the calcareous nannoplankton genus *Scyphosphaera* and the neotypes of *Scyphosphaera* from Rotti, Indonesia. Senckenbergiana Lethaea 56, p. 365-379.

Jansen, H. (1934)- Die Variationsstatistische Methode angewandt auf ein groszes Material von *Schizoblastus* aus dem Perm von Timor und einige neue Anomalien dieser Gattung. Verhandelingen Koninklijke Akademie van Wetenschappen, Amsterdam, 37, 10, p. 819-825.
('Variation statistics method applied to a large collection of Schizoblastus from the Permian of Timor and some new anomalies of this genus'. Permian blastoids from Basleo and Niipol, W Timor)

Jattiot, R., H. Bucher & A. Brayard (2020)- Smithian (Early Triassic) ammonoid faunas from Timor: taxonomy and biochronology. Palaeontographica, Abt. A, 317, p. 1-137.
(manuscript online at: https://hal.archives-ouvertes.fr/hal-02615367/document)
(Paleontological descriptions of several well-preserved and highly diverse Smithian (E Triassic) ammonoid faunas from exotic 'Cephalopod Limestone' blocks in Bobonaro melange at Lidak, Bihati (Baun) and Noe Tobe localities in W Timor (Kashmirites, Owenites and Anasibirites faunas). Material collected by Snyder and Veit, and now in University of Zurich. Similar material described earlier by Welter (1922) and Kummel (1968). Early Smithian ammonoids often coated in black ferromanganiferous minerals. One new genus and five new species. New Timor data confirm uniform biogeographical distribution of Smithian ammonoid faunas within Tethys)

Jattiot, R., H. Bucher, A. Brayard, C. Monnet, J.F. Jenks & M. Hautmann (2015)- Revision of the genus *Anasibirites* Mojsisovics (Ammonoidea): an iconic and cosmopolitan taxon of the late Smithian (Early Triassic) extinction. Papers in Palaeontology 2, 1, p. 155-188.
(online at: https://hal.archives-ouvertes.fr/hal-01282981/document)
(Ammonoid Anasibirites restricted to beginning of late Smithian (E Triassic), and characterized by unusual cosmopolitan distribution. Study based mainly on population variability study of new ammonite collection of ~900 Anasibirites specimens from cephalopod limestone blocks at Noe Tobe, N of Nikiniki, W Timor. Similar material described by Welter (1922). Of the ~60 Anasibirites species names described before, only two are deemed valid here: Anasiberites kingianus (Waagen, 1895) and A. multiformis Welter, 1922)

Jell, P.A. (1999)- A monasterid starfish from the Permian of Timor. Mem. Queensland Museum, Brisbane, 43, 1, p. 340.
(Brief first description of two arms of small Permian starfish from Noil Tonino I, SE of Basleo, from Macurda collection)

Johnston, C.R. (1981)- A review of Timor tectonics with implications for the development of the Banda Arc. In: A.J. Barber & S. Wiryosujono (eds.) The geology and tectonics of Eastern Indonesia, Proc. CCOP-IOC SEATAR Working Group Meeting, Bandung 1979, Geological Research Development Centre (GRDC), Bandung, Special Publ. 2, p. 199-216.
(Australia- Timor collision started ~3Ma, but almost all continental rocks in Timor formed part of Banda forearc. Jurassic and older continental rocks of Timor have N Australian affinity, but probably rifted off in Late Jurassic, collided with SE Asia subduction zone in Cretaceous and was reunited with Gondwanaland when Australian continent arrived at this subduction zone)

Johnston, C.R. & C.O. Bowin (1981)- Crustal reactions resulting from the mid-Pliocene to Recent continent island arc collision in the Timor region. BMR J. Australian Geology Geophysics 6, p. 223-243.
(online at: www.ga.gov.au/corporate_data/81078/Jou1981_v6_n3_p223.pdf)
(DSDP-262 data suggest continental edge of Australia first entered subduction zone in Timor region at ~3 Ma. With map of position of pre-collisional continental margin of Australia)

Jonker, H.J.W. (1873)- Rapport van het voorloopig onderzoek naar de aanwezigheid van kopererts op het eiland Timor. Jaarboek Mijnwezen Nederlandsch-Indie 1873, 1, p. 157-186.
('Report of the preliminary investigation of presence of copper ore on Timor Island'. Earlier reports on presence of copper minerals (malachite, lazurite) in N coastal area of Timor could partly be confirmed, but nowhere in commercially significant quantities. Areas investigated in regions of Harneno and Beboki dominated by serpentinitic rock, Fialarang and Niti copper-bearing claystones, etc.)

Jouannic, C., C.H. Hoang, W.S. Hantoro & R.M. Delimon (1988)- Uplift rate of coral reef terraces in the area of Kupang, West Timor; preliminary results. Palaeogeogr. Palaeoclim. Palaeoecology 68, p. 259-272.
(In Kupang area seven uplifted Quaternary coral reef terraces. Fifth step at +44m dated at 152,000 yrs, giving mean uplift rate of 0.3 mm/yr since last interglacial; faster uplift rates in other parts of Timor)

Juliansyah, M.N. & R.D. Putrohari (2014)- Identifying the amount of uplifting of Timor Island using pressure data in Banli-1 well, Bonaparte Basin, southern Banda Arc. Proc. 43rd Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, PIT IAGI 2014-060, p. 1-5.
(Banli-1 well drilled in 1993 in S edge of W Timor (not Bonaparte Basin). Overpressure interval indicates uplift event of Timor. Depth of Jurassic on Timor Island 2296' higher than on Ashmore Platform. Minimum amount of uplift of Timor Island identified from difference between actual pressure data and hydrostatic pressure curve is ~1800', suggesting position of Timor Island prior to late uplift is already higher than Ashmore Platform of NW Australian margin)

Kadarusman, A., S. Maruyama, Y. Kaneko, T. Ota, A. Ishikawa, J. Sopaheluwakan & S. Omori (2010)- World's youngest blueschist belt from Leti Island in the non-volcanic Banda outer arc of Eastern Indonesia. Gondwana Research 18, 1, p. 189-204.
(online at: https://www.academia.edu/48818307/Worlds_youngest_blueschist_belt_from_Leti_Island_in_the_non_volcanic_Banda_outer_arc_of_Eastern_Indonesia)
(Timor-Tanimbar non-volcanic outer Banda Arc with world's youngest 'A'-type high-P metamorphic belt, outcropping with different stages of evolution. Advanced domal uplift in Timor, still in first stage of tectonic extrusion on Kisar, Leti, Moa, Sermata and Laibobar. Metamorphics on Leti tectonically juxtaposed against overlying ultramafic rocks and underlying unmetamorphosed continental shelf sediments, bound by normal and reverse faults, respectively. Leti metapelites and metabasite units progressive metamorphic zones; highest grades in structurally intermediate levels. Protoliths of Leti metamorphics originally Permo-Triassic. Sediments and igneous rocks at margin of advancing Australian continent entered subduction zone immediately prior to

commencement of Banda Arc-Australia collision in Pliocene. Burial reached 30-35 km. Slab-breakoff at depth in collision zone facilitated rapid uplift by wedge extrusion and active erosion during exhumation)

Kadarusman, A., S. Maruyama, Y. Kaneko, T. Tsujimori, T. Ohta & J. Sopaheluwakan (1997)- On-going exhumation of blueschist belt in the Timor-Tanimbar Region, Eastern Indonesia. Abstracts, Japan Earth and Planetary Science Joint Meeting 1997, p.

Kamptner, E. (1955)- Fossile Coccolithineen-Skelettreste aus Insulinde; eine mikropalaeontologische Untersuchung. Verhandelingen Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, ser. 2, 50, 2, p. 1-105.
(online at: https://dwc.knaw.nl/DL/publications/PU00011530.pdf)
('Fossil coccolith skeletal remains from Indonesia: a micropaleontological investigation'. Study of coccolithophores from Jurassic-Cretaceous and Upper Tertiary marls of Timor and Roti, from same samples as studied by Tan Sin Hok 1927 and later also by Jafar 1975. Paleontological study without maps or stratigraphic context. Numerous new species)

Kaneko, Y., S. Maruyama, A. Kadarusman, T. Ota, M. Ishikawa, T. Tsujimori, A. Ishikawa & K. Okamoto (2007)- On-going orogeny in the outer-arc of the Timor-Tanimbar region, Eastern Indonesia. Gondwana Research 11, p. 218-223.
(online at: https://www.academia.edu/37513307/On_going_orogeny_in_the_outer_arc_of_Timor_Tanimbar_region_eastern_Indonesia)
(Timor-Tanimbar 'outer arc' one of youngest high P/T metamorphic belts in world. Deformation and metamorphic grade increase to center of 1 km thick crystalline belt. Metamorphics extruded as thin sheet between ophiolites and underlying shelf sediments. Central unit Barrovian overprint of high P/T metamorphics during wedge extrusion. Metamorphic grade pumpellyite-actinolite to amphibolite facies. Exhumation of metamorphics started in Late Miocene in W Timor, migrating/younging to E. Deep-seated high P/T metamorphic belt extruded into shallow levels, followed by doming. 'Mountain building' restricted to second stage. Quaternary uplift of ~1260m in Timor, decreasing toward Tanimbar.Quaternary uplift due to rebound of subducting continental crust after oceanic slab break-off. Tanimbar not yet affected by later doming)

Kanmera, K. & K. Nakazawa (1973)- Permian- Triassic relationship and faunal changes in the eastern Tethys. In: A. Logan & L.V. Hills (eds.) Permian-Triassic systems and their mutual boundary, Canadian Society of Petroleum Geologists, Memoir 2, p. 100-119.
(Description of stratigraphy and faunal sequences of U Permian- Lower Triassic from sections in Japan, S China and Indochina. Timor 'allochthonous' shallow marine Asinepe Limestone close affinities to Asian facies and faunas; Audley-Charles et al. 1979)

Karig, D.E., A.J. Barber, T.R. Charlton, S. Klemperer & D.M. Hussong (1987)- Nature and distribution of deformation across the Banda Arc-Australian collision zone at Timor. Geological Society of America (GSA) Bull. 98, 1, p. 18-32.
(Profiles near Timor show Banda Arc-Australia collision zone similar to typical oceanic subduction system. Present deformation most intense at foot of Timor Trough inner slope. Deformation front discontinuously advancing S as new thrust slices develop in subducting Australian margin strata. Present deformation negligible in Savu fore-arc basin, N of Timor. Back-arc thrusting N of volcanic arc, but convergence minor compared with Timor Trough deformation. Along-strike variations in Timor Trough- Savu Basin deformation may be related to variable degree of involvement of Australian continental margin along arc)

Kato, M., K. Takeuchi, A. Hendarsyah & D. Sundari (1999)- On the occurrence of the Permian brachiopod genus *Leptodus* in Timor. Geological Research Development Centre (GRDC), Bandung, Seri Paleontologi 9, p. 43-51.
(Brachiopod Leptodus probably from Permian Maubisse Fm, now embedded in Tertiary clay, indicates Timor was in Tethyan faunal realm (but Kato et al. also quote Leptodus occurrence in W Australia; JTvG). Timor Permian marine faunas closer affinity to SE Asian Permian faunas than to Australian Gondwana)

Kaye, S.J. (1989)- The structure of eastern Indonesia: an approach via gravity and other geophysical methods. Ph.D. Thesis, University College, University of London, p. 1-239.
(online at: www.bandaarcgeophysics.co.uk/Thesis/Thesis-kaye.pdf)
(Study of tectonics of Timor and Tanimbar-Kai regions incorporating gravity data. With discussions of obducted ophiolite terrains and comparisons to PNG and Taiwan. Assumes most of material on Timor belongs on NW Australian margin, and prior to collision Timor region was probably promontory or plateau composed of sedimentary and volcanic units)

Kaye, S.J. & J.S. Milsom (1988)- A new Bouguer anomaly map of Timor eastern Indonesia. University College London Gravity Research Group, p. 1-31. *(Unpublished)*

Keep, M., L. Barber & D. Haig (2009)- Deformation of the Cablac Mountain Range, East Timor: an overthrust stack derived from an Australian continental terrace. J. Asian Earth Sciences 35, 2, p. 150-166.
(Cablac Mountain Range in E Timor S-directed thrust stack of mainly Triassic- E Jurassic carbonates, in structural contact with underlying Lolotoi Fm metamorphics. Lolotoi Fm and overlying Gondwanan thrust stack structurally emplaced on M Eocene units to S. Cablac thrust stack bound to N by high-angle fault along which crush breccia with clasts from Gondwana Megasequence and Asian Banda Terrane. Previously Cablac Lst suggested to be massive E Miocene limestones in depositional contact with underlying units)

Keep, M., L. Beck & P. Bekkers (2005)- Complex modified thrust systems along the southern margin of East Timor. Australian Petroleum Production Exploration Association (APPEA) J. 2005, p. 297-310.
(Study of Plio-Pleistocene accretionary wedge along S coast of East Timor)

Keep, M. & D.W. Haig (2010)- Deformation and exhumation in Timor: distinct stages of a young orogeny. Tectonophysics 483, p. 93-111.
(E Timor data suggest major break between deformed pre-collisional strata and relatively undeformed overlying deposits in Late Miocene (9.8-5.5 Ma). Three distinct phases of orogenic development: Late Miocene initial collision and emplacement of early nappes creating loading and diapirism (9.8-5.5 Ma), tectonic quiet interval (5.5 Ma- 4.5 Ma), which may represent time of locking of subduction system, and post 4.5 Ma uplift, unroofing and further diapirism in response to isostatic rebound. First emergence of parts of Timor island above sea level ~3.1 Ma (mid-Pliocene)))

Keep, M. & D.W. Haig (2010)- Timor collision: deformation and tectonic implications. 20th Australian Geological Convention, Canberra 2010, Geological Society Australia, Abstracts 98, p. 205. *(Abstract only)*
(New biostratigraphic dating places collision between Australian Plate and Banda Arc at 10.9- 9.8Ma. Collision produced complex intercalation of thrust slices from Australian Plate and Banda Arc sides of plate boundary. Initial thrust emplacement between 9.8-5.5 Ma. Intercalation of Australian-derived material with material from Banda Terrane complicated by over-folding of Banda Terrane thrust slices. Young high-angle strike-slip faults control much of present-day topographic expression of island)

Kenyon, C.S. (1974)- Stratigraphy and sedimentology of the Late Miocene to Quaternary deposits of Timor. Ph.D. Thesis, University of London, p. 1-291. *(Unpublished)*
(Stratigraphy of W Timor includes late M Miocene- Quaternary (N15-N23) Viqueque group sediments above Bobonaro olistostrome. Viqueque group subdivided into 6 formations, 26 members. Several phases of uplift and subsidence. Paleogeographies showing uplifted area to N, deep water sediment transport to South)

Kenyon, C.S. (1999)- The exploration of Timor. In: R.W. Murphy (ed.) The silver years- 25 years of SEAPEX, SE Asia Petroleum Exploration Society (SEAPEX), Singapore, p. 77-83.
(Personal history of Ph.D. fieldwork in Central Basin of West Timor in 1969-1970. Little or no geology)

Keupp, H. (2009)- Timor: Bonanza nicht nur fur Triasfossilien. Fossilien, 4/2009, p. 214-220.
(Well-illustrated report on 2008 fossil collecting trip to Baun area, SW Timor. Large erratic, generally reddish color Permian- Lower Jurassic limestone blocks in olistostrome in Late Tertiary marl-radiolarite-tuff succession. Triassic- Early Jurassic limestones open ocean facies, locally rich in ammonites and aulocerate

belemnites, commonly coated by manganese layer. Also found 1-5 cm big globular hydrozoans Heterastridium conglobatum, of Norian age and possibly pelagic hydrozoan colony)

Kieslinger, A. (1924)- Die Nautiloideen der mittleren und oberen Trias von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie onder leiding van Dr. H.G. Jonker+, vol. III, Jaarboek Mijnwezen Nederlandsch Oost-Indie 51 (1922), Verhandelingen, p. 51-145.
('The nautiloids from the Middle and Upper Triassic of Timor', by student of Carl Diener at University of Vienna. Mainly taxonomic descriptions of nautiloid ammonites collected by 1916 Jonker expedition. Fossils all from isolated blocks of 'Halstatter facies' condensed Triassic section. 14 newspecies. (other classic works on Triassic ammonites from Timor are by Welter 1914, 1915 and Diener 1922))

Koesmono, M (1975)- Rekonstruksi palinspastik dan evolusi geologi daerah Tubuh Bokon, Timor. Thesis, Geology Department, UNPAD Padjadjaran University, Bandung, p. 1-199. *(Unpublished)*
('Palinspastic reconstruction and geologic evolution of the Tubuh Bokon area, N Central Timor')

Koesnama & A.K. Permana (2015)- Sistem minyak dan gas di cekungan Timor, Nusa Tenggara. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 16, 1, p. 23-32.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/48/50)
('Petroleum system in the Timor Basin, Nusa Tenggara'. Brief review of Permian- Jurassic potential source and reservoir rocks of Timor)

Koevoets, M.J., A.S. Schulp & S.R. Troelstra (2014)- The age and provenance of the *Globidens timorensis* holotype. Berita Sedimentologi 30, p. 59-62.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/view/136)
(Three fossil marine reptile teeth from U Cretaceous of W Timor, originally described by Von Huene, are only known fossils of Mosasaurus-type reptiles in E Tethys region. However, there is some uncertainty about exact locality of origin of these fossils (see also Mulder & Jagt 2019, who viewed these as Truassic ichthyosaurians;JTvG)

Koker, E.M.J. (1924)- Anthozoa uit het Perm van het eiland Timor. I. Zaphrentidae, Pterophyllidae, Cystiphyllidae, Amphiastreidae. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie onder leiding van Dr. H.G. Jonker+, vol. III, Jaarboek Mijnwezen Nederlandsch Oost-Indie 51 (1922), Verhandelingen, p. 1-50.
(Permian corals from Timor, collected by 1916 Jonker expedition, from Wesleo, Nefotassi, Bitauni, etc. Mostly from reddish tuffaceous marls of Wesleo region and associated with rich crinoid, blastoid and brachiopod faunas. Descriptions of probably deeper water solitary rugose assemblages of Zaphrentis spp., Amplexus, Polycoelia, Pterophyllum, Cystiphyllum, Prosmilia. Mixture of cosmopolitan and endemic species)

Koperberg, E.J. (1931)- Jungtertiare und Quartare Mollusken von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie 1916 onder leiding van Dr. H.G. Jonker+, vol. VII, Jaarboek Mijnwezen Nederlandsch-Indie 59 (1930), Verhandelingen 1, p. 1-165.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB18:008240000:00003)
('Late Tertiary and Quaternary molluscs from Timor', collected in the post-collisional Central Basin of West Timor by the 1916 Timor expedition led by Prof. H.G. Jonker of the TH Delft. Faunas interpreted as Late Miocene- Pliocene in age. 150 species identified, many of them new. Little or no stratigraphy; localities information on pages 154-160)

Koperberg, E.J. (1931)- Jungtertiare und Quartare Mollusken von Timor. Doctoral Thesis, University of Amsterdam, p. 1-201.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB18:004487000:00009)
('Late Tertiary and Quaternary molluscs from Timor', Same as paper above. The 1916 Jonker mollusc collection from Timor was initially sent by H.A. Brouwer from Delft to Leiden for study by Prof. K. Martin. Instead, this project was started by Assistant Professor P.H. Kuenen during his early years in Leiden, but was sidetracked by his involvement with the Snellius Expedition. Continued by E. Koperberg in Leiden under

supervision of H. Gerth in Leiden in later 1920s and completed in 1931, after H. Gerth had moved to become Professor of Paleontology in Amsterdam)

Kossovaya O.L. (2009)- Artinskian-Wordian antitropical rugose coral associations: a palaeogeographical approach. Palaeoworld 18, p. 136-151.
(Antitropical rugose corals distributed in temperate zones of Boreal and Perigondwanan realms. E-M Permian antitropical associations represented by 'Cyathaxonia fauna'. Roadian-Wordian in the Southern Hemisphere Perigondwanan temperate zone (Australia, Timor, SE Pamirs) predominance of Verbeekiella- Wannerophyllum assemblage. Timor Basleo Fm fauna with 'typical deep-water, peri-Gondwanan' Wannerophyllum, Verbeekiella, Timorphyllum, etc. Through time gradually replaced by Cathaysian faunas)

Kristan-Tollman, E. (1988)- I. Coccolithen aus den aelteren Allgauschichten (Alpiner Lias, Sinemur) von Timor, Indonesien. Geologisch-Palaontologische Mitteilungen Innsbruck 15, p. 71-83.
(online at: www2.uibk.ac.at/downloads/c715/gpm_15/15_071-083.pdf)
('Coccoliths from the Alpine Liassic, Sinemurian, from Timor'. First description of Early Jurassic (Sinemurian) nannofossils, from Aitutu Fm at SW edge of Soe town and Meto River, SW of Soe, W Timor. Rel. low diversity assemblage, dominated by Timorhabdus timorensis. Associated with common ostracode Ptychobairdia neokristanae)

Kristan-Tollman, E. (1988)- II. Coccolithen aus dem Pliensbach (aelteren Allgauschichten, Alpiner Lias) von Timor, Indonesian. Geologisch-Palaontologische Mitteilungen Innsbruck 15, p. 109-133.
(online at: www2.uibk.ac.at/downloads/c715/gpm_15/15_109-133.pdf)
('Coccoliths from the Alpine Liassic, Pliensbachian, from Timor'. Early Jurassic (Pliensbachian) nannofossils from Aitutu Fm at Meto River, SW of Soe, W Timor. Single sample with 20 species, dominated by Biscutum novum, Lotharingius haufforum and Discorhabdus ignotus)

Kristan-Tollmann, E. (1991)- Mikrocrinoiden aus der Obertrias der Tethys. Geologisch-Palaontologische Mitteilungen Innsbruck 17, p. 51-100.
(online at: www2.uibk.ac.at/downloads/c715/gpm_17/051_100_17.pdf)
('Microcrinoids from the Upper Triassic of the Tethys'. With descriptions of new taxa from Alpine Late Triassic of Eastern Alps (Austria), Taurus Mts (Turkey) and Norian 'Hallstatt Limestone' at Bihati near Baun, W Timor, incl. Leiocrinus krystini, L. gracilis, Bihaticrinus manipalus, etc.)

Kristan-Tollman, E., S. Barkham & B. Gruber (1987)- Potschenschichten, Zlambachmergel (Hallstatter, Obertrias) und Liasfleckenmergel in Zentraltimor, nebst ihren Faunenelementen. Austrian J. Earth Sciences (Mitteilungen Osterreichischen Geologischen Gesellschaft) 80, p. 229-285.
(online at: http://geologie.or.at/index.php/downloads2/category/7-archiv-mitteilungen)
('Potschen beds, Zlambach marl (Hallstatter, Upper Triassic) and Lias flecken-marl in Central Timor, along with their faunal elements' Upper Triassic (Norian- Rhaetian) to E Jurassic thin-bedded marls-limestones and faunas from deep marine 'Aitutu Fm', mainly along Meto River, SW part of W Timor, SW of Soe. Close faunal and lithological similarities with age-equivalent 'Hallstatt facies' rocks in E Alps (W Tethys), with no Pacific faunal elements. With descriptions of U Triassic and Liassic ostracod assemblages and Liassic calcareous nannofossils by Kristan-Tollman, and revision of U Triassic mollusc genera Halobia (H. rugosa, H. fascigera, H. radiata) and Monotis salinaria by B. Gruber)

Kriwet, J. & S. Klug (2011)- The Late Cretaceous deep-sea fish assemblage (Chondrichthyes, Actionopterygii) of the island of Timor, SE Asia. In: Beiträge zur Paläontologie 32, 82nd Jahrestagung der Paläontologischen Gesellschaft in Wien, Vienna 2011, Abstract Volume, p. 62-63. *(Poster Abstract)*
(online at: https://www.zobodat.at/pdf/Beitr-Palaeontologie_32_0001-0100.pdf)
(Late Cretaceous deep-sea red clays of W Timor along Noil Tobee river near Nikiniki contain abundant and diverse fossil fish teeth assemblage (De Beaufort 1920, Weiler 1932). Re-examination of material in London and Leiden confirm most earlier determinations. Diverse open marine and pelagic selachian fauna. Several species of enigmatic shark Ptychodus, characteristic for Late Cretaceous. Common teeth of lamniform sharks,

Cretaceous enchodontids, Lophius, Carcharocles megalodon, tooth crowns of Mitsukurina lineata. Several tooth plates of Diodon. Fsh fauna of Noil Tobee mixture of fish assemblages of Late Cretaceous-Miocene age)

Krumbeck, L. (1921)- Die Brachiopoden, Lamellibranchiaten und Gastropoden der Trias von Timor. I. Stratigraphischer Teil. In: J. Wanner (ed.) Palaeontologie von Timor 10, 17, Schweizerbart, Stuttgart, 142p.
('Triassic brachiopods, bivalves and gastropods from Timor- part 1, Stratigraphic part'. Extensive overview of Triassic occurrences on Timor, Savu, Roti, etc., with distribution of ages and facies and comparisons to Triassic in other regions. Based on collections from 1911 Wanner and Molengraaff Timor expeditions. Five main facies: 1. Klippen/ Fatu coral reefal limestone, often oolitic; 2. Bituminous platy limestone and marls; 3. Brachiopod Limestone (rel. rare); 4. Cephalopod Limestone (condensed 'Halstatter facies'); 5. Halobia limestone and shales)

Krumbeck, L. (1922)- Zur Kenntnis des Juras der Insel Rotti. In: G.A.F. Molengraaff (ed.) Nederlandsche Timor Expeditie 1910-1912, vol. III, Jaarboek Mijnwezen Nederlandsch Oost-Indie 49 (1920), Verhandelingen 3, p. 107-220.
('On the knowledge of the Jurassic of Roti Island'. Descriptions of 44 species of Liassic ammonites from grey cephalopod nodule marls, but also some Middle Jurassic ammonites (Macrocephalites). Most species similar to Alpine- Mediterranean species, with, unlike Timor Permian-Triassic, few new species. Assemblages dominated by Dactylioceras spp. and Arietites spp., also Arnioceras, Lytoceras rotticum, Arietites wichmanni, Aegoceras subtaylori, etc. All Jurassic facies on Roti deep marine and of Tethyan affinity)

Krumbeck, L. (1923)- Zur Kenntnis des Juras der Insel Timor, sowie des Aucellen-Horizontes von Seran und Buru. In: J. Wanner (ed.) Palaeontologie von Timor 12, 20, Schweizerbart, Stuttgart, p. 1-120.
('On the knowledge of the Jurassic of Timor, as well as the Aucella horizon of Seram and Buru'. Jurassic of Timor mainly in brachiopod-bivalve facies, while in Roti dominated by ammonites. Jurassic of Timor four facies types: (1) Liassic red cephalopod limestones; (2) M Liassic 'Lithiotis fauna' of thick-shelled molluscs with Mediterranean affinities in 'Fatu Limestones' at Lelefoei Pass (Bonleo, Mutis Mts.) and Fatu Nimassi (where underlain by U Triassic limestone) and Fatu Kenapa: Lithiotis timorensis n.sp., with Pachymegalodus, Myophoria, etc. from brown-grey Mytilus limestone (= typical Tethyan; Geyer 1977, Hayami 1984, Krobicki & Golonka 2009); (3) Early Malm Aucella (= Malayomaorica) malayomarica at several localities on W and E Timor, often 'rock-forming' and aociated with Inoceramus cf. haasti (also known from Roti, Seram, Buru); (4) M Liassic dark grey bituminous platy limestone of Ramelau Mts, E Timor, with Rhynchonella, Spiriferina)

Krumbeck, L. (1924)- Die Brachiopoden, Lamellibranchiaten und Gastropoden der Trias von Timor II. Palaeontologischer Teil. In: J. Wanner (ed.) Palaeontologie von Timor 13, 22, Schweizerbart, Stuttgart, p. 1-275.
(Triassic brachiopods, bivalves and gastropods from Timor- part 2 of 2 (part 1 1921). Paleontological section)

Krystyn, L. & M. Siblik (1983)- *Austriellula robusta* n. sp. (Brachiopoda) from the Upper Carnian Hallstatt limestones of Timor (Indonesia). Osterreich. Akademie Wissenschaften, Schriftenreihe Erdwissenschaftlichen Kommissionen 5, p. 259-266.
(online at: https://opac.geologie.ac.at/ais312/dokumente/SchriftR_Erdw_Komm_5_259.pdf)
(New rhynchonellid brachiopod species from Carnian (U Triassic) red limestone block of Baun, Timor. From 'Halstatt facies' ammonite-rich limestone blocks in Tertiary olistostrome in SW Timor, collected in 1975)

Krystyn, L. & J. Wiedmann (1986)- Ein *Choristoceras* Vorlaeufer (Ceratitina, Ammonoidea), aus dem Nor von Timor. Neues Jahrbuch Geologie Palaontologie, Monatshefte 1986, 1, p. 27-37.
('A Choristoceras ancestor (Ceratitina, Ammonoidea) from the Norian of Timor'. Norian ammonites from 'Halstatt-facies' Norian cephalopod limestone of Timor)

Kuenen, Ph.H. (1942)- Obilatoe, Kisar and Siboetoe. Contributions to the geology of the East-Indies from the Snellius Expedition II. Geologie en Mijnbouw 4, 11-12, p. 81-90.
(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0M0tDX2Uxbnh3cEE/view)

(Geological observations from short visits to islands of Obilatu, Kisar and Sibutu with the 1929 Snellius Expedition. Kisar (NE of Timor) consists of crystalline schists (incl. amphibolite) with thin cover of elevated Quaternary coral reef terraces that are tilted to East)

Kummel, B. (1968)- Scythian ammonoids from Timor. Breviora, Museum Comparative Zoology, Harvard University, 283, p. 1-21.
(online at: www.biodiversitylibrary.org/page/4294222page/308/mode/1up)
(Description of Lower Triassic ammonites from J. Wanner, H.G. Jonker, etc. collections, all from isolated blocks from extremely condensed sections. Many specimens manganese-coated. Mainly addendum to Welter (1922) monograph. Incl. Owenites, Prosphingites)

Kutassy, E. (1930)- Triadische Fossilien vom Portugiesischen Timor. Foldtani Kozlony (Bulletin Hungarian Geological Society) 60, Budapest, p. 200-209.
(online at: http://epa.oszk.hu/01600/01635/00383/pdf/EPA01635_foldtani_kozlony_1930_60_01-12.pdf)
('Triassic fossils from Portuguese Timor'. Same paper as Kutassy 1931, below)

Kutassy, A. (1931)- Triadische Fossilien vom Portugiesischen Timor. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie 9, p. 49-56.
(Triassic fossils from Von Loczy 1922 expedition in S part of Portuguese Timor near Suai. Mostly from folded deep-water marly limestones. With ammonites, belemnites (Aulacoceras striatus) and pelagic molluscs (Daonella indica, Halobia styriaca) (= most likely Upper Triassic (Carnian-Norian); JTvG)

Kwon, C.W., S.W. Kim, S.I. Park, J. Park, J.H. Oh, B.C. Kim, H.J. Koh & D.L. Cho (2014)- Sedimentological characteristics and new detrital zircon SHRIMP U-Pb ages of the Babulu Formation in the Fohorem area, Timor-Leste. Australian J. Earth Sciences 61, 6, p. 865-880. *(with supplementary data)*
(Zircon ages from Triassic Babulu Fm deep marine clastics in Fohorem area, Timor-Leste, Neoarchean-Triassic, with main age pulses Paleozoic- Triassic (329-256 Ma). Proterozoic major peak at 1878-1857 Ma, also at ~1560, 1750, 1830 Ma (results similar to Zobell 2007 data from Savu). Maximum depositional age indicated by youngest zircon age peak (~256-238 Ma) is post- early Late Triassic. Babulu Fm in Fohorem area initiated as submarine fan lobe and represents distal Gondwana Sequence of Australian margin. Zircon age for M Permian trachyandesite in Maubisse Fm (270 ± 3 Ma= E Guadalupian))

Lakeman, R. (1950)- On the crinoid nature of *Timorocidaris sphaeracantha* Wanner. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 53, 1, p. 100-108.
(Timorocidaris sphaeracantha one of most common fossils in Permian of Timor. Hemispherical fossil, here believed to be axillary primibranch of unknown poteriocrinoid, not an echinoid)

Lay, A., I. Graham, D. Cohen, J.M. Gonzalez-Jimenez, K. Privat, E. Belousova & S.J. Barnes, (2014)- Platinum Group Minerals in ophiolitic chromitites of Timor Leste. In: E.V. Anikina et al. (eds.) 12th Int. Platinum Symposium, Inst. Geology and Geochemistry UB RAS, Yekaterinburg, p. 179-180. *(Abstract)*
(online at: http://conf.uran.ru/12IPS/12%20IPS%20ABSTRACTS.pdf)
(Hili Manu peridotites in Manatuto District on N coast of Timor Leste, ~50km E of Dili with ultramafic rocks (serpentinised dunites, harzburgites and lherzolites associated with rare rodingites and gabbros) in two massifs, separated by amphibolite block. With chromitite bodies and Platinum-Group mineralisation. Preliminary PGM Re-Os ages from 0.05 Ga (Subao Highway) to 0.21 Ga (Kerogeol Hill))

Lay, A., I. Graham, D. Cohen, K. Privat, J.M. Gonzalez-Jimenez, E. Belousova & S.J. Barnes (2017)- Ophiolitic chromitites of Timor Leste: their composition, platinum group element geochemistry, mineralogy, and evolution. Canadian Mineralogist 55, 5, p. 875-908.
(Ultramafic rocks at Hili Manu, ~50 km E of Dili, two ultramafic massifs separated by amphibolite. Chromitite bodies at Hili Manu small lenses few m in size. Chromites both high-Cr and high-Al types. Platinum-group minerals (laurite, etc.) as inclusions and in fractures in chromite or serpentinite matrix. Peridotite geochemistry and chemistry of chrome-spinels suggest formation of Hili Manu peridotite in upper mantle in supra-subduction

zone setting, Evolutionary trend for the Hili Manu peridotite from MORB through SSZ to arc setting supports interpretation that Hili Manu peridotite is fragment of young oceanic lithosphere from Banda Arc)

Lelono, E.B. (2016)- Palynology of the Permian freshwater deposit in West Timor. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 17, 4, p. 231-239.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/18/16)
(Permian Bisane Fm of W Timor dominated by calcareous sandstone with abundant marine crinoid fossils. Intercalation of non-calcareous dark shale-siltstone with papery structure, 5m thick, with Permian striate-bisaccate pollen, incl. Protohaploxypinus samoilovichii and other species (associated with Glossopteris flora), Striatopodocarpidites phaleratus, Pinuspollenites globosaccus, Lunatisporites pellucidus, etc. and lack marine dinoflagellates. Possibly syn-rift lacustrine deposit)

Lelono, E.B. (2017)- Pollen record of the Permian marine sediments from West Timor. Scientific Contributions Oil and Gas (SCOG), Lemigas, 40, 2, p. 75-84.
(online at: http://journal.lemigas.esdm.go.id/index.php/SCOG/issue/view/12
(Permian calcareous shale and sandstone at 50m thick Lilana river outcrop (Bisane Fm) with moderate pollen recovery (mostly consists of striate and non-striate bisaccates as well as trilete monosaccates). Permian age taxa Protohaploxypinus samoilovichi, Lunatisporites pellucidus, Falcisporites australis, Plicatipollenites malabarensis and Cannanoropollis janakii. Common marine dinoflagellates Dapsilidium langii and Veryhachim reductum and abundant crinoid macrofossils confirm shallow marine paleoenvironment. Common Tasmanites green algae in lower part of section suggest potential hydrocarbon source rock)

Lelono, E.B. (2019)- The Gondwanan green alga *Tasmanites* sp. in the Permian lacustrine deposits of West Timor. Indonesian J. on Geoscience (IJOG) 6, 3, p. 255-266.
(online at: http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/434/290)
(Permian lacustrine sediments of W Timor 5m thick non-calcareous black shale with papery structures and part of Bisane Fm. Rich but low diversity palynomorphs indicate non-marine environment. >80% of pollen assemblages green alga Tasmanites sp., also striate/ non-striate bisaccate pollen and trilete spores, indicating Permian age. Tasmanites believed to be source for tricyclic terpanes, a primary source of hydrocarbons)

Lelono, E.B., P. Bohemi, A. Bachtiar, P. Suandhi, B.H. Utomo, H. Ibadurrahman, M. Arifai, A. Yusliandi & Z. Lesmana (2016)- Paleozoic lacustrine sediment at West Timor and tectonic implication for Timor Island, new exploration concept of hydrocarbon. Proc. 40th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA16-642-G, p. 1-12.
(Discovery of 5m thick non-calcareous black shale with papery structure at Ajobaki Village, Fatunausus High, Kapan, Soe (in mud volcano?). Consisting of algae layered with sulphur content. With Late Permian(?) fresh water pollen species (incl. Permian Plicatipollenites malabarensis and P. janakii (=Cannanoropollis janakii?) and Triassic Protohaploxypinus samoilovichi and Falcisporites australis) and interpreted as lacustrine deposits. High maturity (Ro>0.9), TOC up to 24% (NB: Possibly Triassic bituminous shale?: Falcisporites australis, Cannanoropollis janakii, P. samoilovichi may occur in Late Permian but primarily Triassic markers. Little info on geological context of sample; JTvG))

Lelono, E.B., D. Kurniadi, K.D. Anggritya & Saidah (2017)- Palynological review of the Permian lacustrine sediment in the West Timor. Proc. Joint Convention HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, p. 1-6.
(online at: https://www.iagi.or.id/web/digital/5/2017_IAGI_Malang_Palynological-Review-Of-The-Permian.pdf)
(Palynology of new locality of 4m thick non-calcareous black 'paper shale' in central W Timor interpreted as Late Permian lacustrine deposit. High abundance but low diversity of palynomorphs. Tasmanites-green algae >80% of pollen assemblage; rest assemblage striate and non-striate bisaccate and trilete spore, characterising Permian age. Tasmanites blooms interpreted as lake supplied with meltwater from surrounding glaciers. Tasmanites algae potential hydrocarbon source (NB: Tasmanites commonly viewed as pelagic marine algae, common in higher latitudes? (e.g. Barentsz Sea M Triassic marine oil shales with Tasmanites blooms and common Daonella bivalves; Vigran et al. 2008; JTvG). No details on locality)

Lelono, E.B., L. Nugrahaningsih & D. Kurniadi (2016)- Permo-Triassic palynology of the West Timor. Scientific Contributions Oil and Gas (SCOG), Lemigas, Jakarta, 39, 1, p. 1-13.
(online at: http://journal.lemigas.esdm.go.id/index.php/SCOG/article/view/529/297)
(Bisane Fm sandstones-shales in W Timor outcrops with mica and abundant crinoids and up to 5m thick non-calcareous dark shale-siltstone with papery structure and rich in sulfur. Permo-Triassic ages indicated by striate-bisaccate pollen, incl. Protohaploxypinus samoilovichii, P. fuscus, P. goraiensis (= from Glossopteris plants), Striatopodocarpidites phaleratus, Pinuspollenites globosaccus, Lunatisporites pellucidus, also non-striate Falcisporites australis, Samaropollenites speciosus, etc. Trilete-monosaccate spores of Plicatipollenites malabarensis and Cannanoropollis janakii in non-calcareous shale samples Permian or older age. Marine dinoflagellates in calcareous samples (incl. Dapsilidinium langii, Dingodinium jurassicum) suggest marine influence, and not present in non-calcareous samples. Possibly new petroleum system in Paleozoic of W Timor? (NB: dinoflagellates include latest Triassic-Jurassic species?; JTvG))

Lelono, E.B., L. Nugrahaningsih, D. Kurniadi, P.A. Suandhi & B.H. Utomo (2016)- Palynological investigation of the Permian sediment in the on-shore West Timor. Proc. 14th Regional Conference Geology and Mineral Resources of SE Asia (GEOSEA XIV) and 45th Annual Conv. Indonesian Association Geologists (IAGI) (GIC 2016), Bandung, p. 401-404.
(Abbreviated version of Lelono et al. 2016, above, on freshwater synrift facies in Permian Bisane Fm with 44 palynomorph species of Falcisporites superzone)

Lelono, E.B., D. Sunarjanto & A. Kholiq (2016)- Potensi hidrokarbon sedimen Pra-Tersier daerah Atambua, Timor Barat. Lembaran Publikasi Minyak dan Gas Bumi (Lemigas) 50, 2, p. 2-8.
(online at: https://journal.lemigas.esdm.go.id/index.php/LPMGB/article/view/715)
('Hydrocarbon potential of Pre-Tertiary sediments of the Atambua area, West Timor'. Atambua area with many hydrocarbon seeps. Permian shale of Bisane Fm and Triassic clay of Aitutu Fm considered to be source rocks, Permian and Jurassic sandstone potential reservoirs, Jurassic of Wailuli Fm clay potential seal)

Lemoine, M. (1959)- Un example de tectonique chaotique: Timor. Essai de co-ordination et d'interpretation. Revue Geographie Physique Geol. Dynamique 2, 4, p. 205-230.
('Timor, an example of chaotic tectonics'. Complex thrust tectonics on Timor not well understood. Thrusting mainly in Miocene, essentially completed by M or Late Miocene)

Lin, Y.C., S.L. Chung, S. Maruyama, A. Kadarusman & H.Y. Lee (2023)- The ephemeral history of Earth's youngest supra-subduction zone type ophiolite from Timor. Nature Communications Earth and Environment 4, 308, p. 1-9.
(online at: https://www.nature.com/articles/s43247-023-00973-5)
(Earth's youngest supra-subduction zone-type ophiolitic fragments are exposed along outer Banda Arc, from N Timor (Ocussi, Atapupu) to Moa island. Zircon U-Pb ages from dolerites, gabbros, spilites and plagiogranites and geochemical data indicate short time span (~10- 8 Ma) for magmatic sequence with boninitic and tholeiitic arc compositions. Timor ophiolite interpreted as part of infant Banda arc-forearc complex, which formed with opening of N Banda Sea and subsequent arc collision with irregular Australian continental margin. These 'orogenic ophiolites' do not represent pre-existing oceanic crust, but result from upper-plate processes in early orogenesis and mark onset of collision zone magmatism)

Lisboa, J.V.V., T.P. Silva, D.P.S. de Oliveira & J.F. Carvalho (2020)- Mineralogical and geochemical characteristics of the Bobonaro melange of western East Timor: provenance implications. Comunicacoes Geologicas (Lisbon) 106, 1, p. 35-49.
(online at: https://www.lneg.pt/wp-content/uploads/2020/11/CG19-08-0212-VLisboa.pdf)
(*Bobonaro melange synorogenic deposit with wide variety of unsorted blocks in scaly clay matrix. Mineralogical and geochemical characterization of silt and clay matrix suggest dominant metasedimentary source and small intermediate- felsic contribution; mafic input is residual)*

Lockwood, W.L. (1975)- A geophysical assessment of the Outer Banda Arc with emphasis on gravity measurements in Eastern Timor. M.Sc. Thesis, Flinders University, Adelaide, p. 1-83. *(Unpublished)*

Lombard-Jourdan A. (2000)- L'or de Timor. In: L'horizon Nousantarien. Melanges en hommage a Denys Lombard, vol. IV, Archipel 60, p. 167-198.
(online at: www.persee.fr/docAsPDF/arch_0044-8613_2000_num_60_4_3587.pdf)
('The gold of Timor'. Historical review of records on gold occurrences on Timor, since Portuguese explorers of 1500s. Despite common reports by numerous explorers of presence of minor gold on Timor, and some minor indigenous production, gold was never exploited commercially on Timor)

Macurda, D.B. (1972)- The type species of the Permian blastoid *Calycoblastus*. Journal of Paleontology 46, 1, p. 94-98.
(On discovery of second specimen of large blastoid Calycoblastus tricavatus Wanner from Lower Permian of Baun-Amarasi near Kupang, W Timor)

Maekawa, T., S. Kiyokawa, H. Maeda, G. Tanaka, J.E.F. Costa & A.T. Freitas (2021)- First report of Early Permian Albaillellarian radiolarians from East Timor. Paleontological Research (Palaeontological Society of Japan) 25, 1, p. 32-40.
(online at: https://bioone.org/journals/paleontological-research/volume-25/issue-1/2020PR009/First-Report-of-Early-Permian-Albaillellarian-Radiolarians-from-East-Timor/10.2517/2020PR009.full)
(First report of age-diagnostic Permian radiolarians from E Timor: Pseudoalbaillella postscalprata and P. sakmarensis from calcareous nodule in Permian Atahoc Fm siliciclastics in N-C East Timor. Association indicates Sakmarian (early Cisuralian; Early Permian) age)

Major, J.R. (2011)- Evolution and emergence of the hinterland in the active Banda arc-continent collision: insights from the metamorphic rocks and coral terraces of Kisar, Indonesia. M.Sc. Thesis, Brigham Young University, Provo, Utah, p. 1-165.
(online at: http://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=3945&context=etd)
(Metamorphic rocks of Kisar island correlate with Aileu Metamorphic Complex of E Timor. Protoliths mostly psammitic with minor basaltic and felsic igneous material. Mafic meta-igneous rocks show rift affinities, likely related to rifting of Gondwana. Collision of N margin of Australia with Banda Arc in latest Miocene caused metamorphism of distal edge of continental margin rocks at depths of 25-30 km, followed by rapid uplift and exhumation. U-Pb analysis of detrital zircons show main populations of ~300 Ma and ~1850 Ma. Youngest grains are ~286/ 295 Ma in age (earliest Permian). Timing of metamorphism poorly constrained by previous studies; mica cooling age of 5.36 Ma reliable. Domal geometry expressed by pinnacle shape of island and by metamorphic foliations parallel to coastline, possibly caused by diapirism into hinge of active thrust anticline)

Major, J.R. & R. Harris (2009)- The tectonic evolution and regional significance of Kisar Island, Indonesia. Geological Society of America, Rocky Mountains Section, 61st Annual Meeting, May 2009, Paper 13-11. *(Abstract only)*
(Kisar Island, NE of Timor, emerges from small ridge in forearc suture zone 3 km deep. Consists of metamorphic rocks encircled by Quaternary uplifted coral terraces. Terraces gently warped and correlated to known sea-level highstands. Metamorphic rocks among youngest in world, range from phyllite to amphibolites)

Major, J.R., R.A. Harris, H. Chiang, C. Prasetyadi & C. Shen (2009)- Variation in deformational mechanisms in the Banda Arc: uplift and tectonic implications of Kisar, Indonesia. EOS Transactions AGU 90, 52, Fall Meeting Suppl., Abstract T33B-T1915. *(Abstract only)*

Major, J.R., R.A. Harris, H.W. Chiang, N. Cox, C.C. Shen, S.T. Nelson, C. Prasetyadi & A. Rianto (2013)- Quaternary hinterland evolution of the active Banda Arc: surface uplift and neotectonic deformation recorded by coral terraces at Kisar, Indonesia. J. Asian Earth Sciences 73, p. 149-161.
(Coral terrace ages yield surface uplift rate of ~0.5 m/ka for Kisar Island in hinterland of active Banda arc-continent collision. Based on this rate, Kisar first emerged from ocean as recently as ~450 ka. Uplifted terraces gently warped in E-W striking folds. Pinnacle shape of Kisar and protrusion of its metamorphic rocks through forearc basin sediments also suggest component of extrusion along shear zones or active doming)

Margolis, S.V., T.L. Ku, G.P. Glasby, C.D. Fein & M.G. Audley-Charles (1978)- Fossil manganese nodules from Timor: geochemical and radiochemical evidence for deep-sea origin. Chemical Geology 21, p. 185-198.
(online at: https://www.researchgate.net/publication/229412598_Fossil_manganese_nodules_from_Timor_Geochemical_and_radiochemical_evidence_for_deep-sea_origin)
(Cretaceous-age Mn nodules from exotic blocks in Miocene Bobonaro scaly clay 4.5 km ENE of Niki Niki are similar to nodules now found at ~3500-5000m in Pacific and Indian Oceans)

Mariotti, N. & J.S. Pignatti (1995)- *Claviatractites*, a new xiphoteuthidid cephalopod from the Upper Triassic of Timor. Palaeopelagos 5, p. 45-52. *(online at: www.academia.edu/19053217/Mariotti_N_and_Pignatti_J_1996_Claviatractites_a_new_xiphoteuthidid_cephalopod_from_the_Upper_Triassic_of_Timor_Palaeopelagos_5_1995_45_52_Roma_Publ_date_April_1996_)*
(New genus name Claviatractites proposed for belemnite originally described as Atractites claviger by Von Bulow (1915) from Late Triassic of Nefokoko, W Timor, because Atractites has ventral furrows, waist is narrower, etc.)

Marks, P. (1954)- Contributions to the geology of Timor. III. An occurrence of *Miogypsina (Miogypsinella) complanata* Schlumberger in the Lalan Asu area, Timor. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 110, p. 78-80.
(Lalan Asu area polymict basal conglomerate above amphibolite, originally described by Tappenbeck 1939, contains latest Oligocene larger forams Miogypsinoides complanata (with >21 spiral chambers) and Spiroclypeus (= Letter zone Te4). Probably equivalent of Base Cablac Limestone in E Timor (called Aquitanian by Marks, but zone Te4 now considered to be Late Chattian = latest Oligocene; Van Gorsel et al., 2014))

Marks, P. (1961)- The succession of nappes in the western Miomaffo area of the island of Timor; a possible key to the structure of Timor. Proc. 9th Pacific Science Congress, Bangkok 1957, Geology and Geophysics 12, p. 306-310.
(Diagram of stratigraphies in W Miomaffo area, W Timor, depicting succession of overthrust sheets)

Martin, K. (1881)- Die versteinerungfuhrenden Sedimente Timors. Nach Sammlungen von Reinwardt, Macklot und Schneider. Sammlungen Geologischen Reichs-Museums Leiden 1, 1, p. 1-64.
(online at: www.repository.naturalis.nl/document/552422)
('The fossil-bearing sediments of Timor, from collections of Reinwardt, Macklot and Schneider'. Early description of Timor fossils, collected by C. Reinwardt in 1821, H. Macklot and S. Muller in 1823-1829 (Kupang area) and Dr. Fritz Schneider in 1863. Mainly solitary corals (Amplexus, Lophophyllum, Lithostrotion) and brachiopods (Spirifer, Spirigera) from Permian. Fossils now in Leiden Naturalis collections. With 3 plates)

Martin, K. (1882)- Die versteinerungfuhrenden Sedimente Timors. Nach Sammlungen von Reinwardt, Macklot und Schneider. Jaarboek Mijnwezen Nederlandsch Oost-Indie 11 (1882), Wetenschappelijk Gedeelte, p. 71-136.
('The fossil-bearing sediments of Timor, from collections of Reinwardt, Macklot and Schneider'. Same as Martin (1881) paper above)

Martin, K. (1890)- Notiz uber das Pliocaen von Timor. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap (KNAG) (2), 7, p. 278-280.
('Note on the Pliocene of Timor'. Pliocene gastropods and bivalve molluscs from Fialarang, W Timor, collected by Prof. A. Wichmann and some by H. Jonker. No figures)

Martinez Duran, P., P. Baillie, E. Carrillo & G. Duval (2020)- Geological development of the Timor Orogen. In: J.A. Hammerstein et al. (eds.) Fold and thrust belts: structural style, evolution and exploration, Geological Society, London, Special Publ. 490, p. 329-349. *(manuscript online at: https://www.researchgate.net/publication/334715360_Geological_Development_of_the_Timor_Orogen)*
(Timor Orogen comprises Timor island, a narrow offshore area to N and wider offshore fold-thrust belt to S. Orogen formed by jamming and subsequent collision of Banda Sea subduction system by Australian Plate.

Seismic interpretation of geological features on Australian continental crust include two regional NE–SW sinistral strike-slip faults, and prominent M Permian paleo-high (Timor Plateau). NE-trending strike-slip faults governed formation of W Timor and Cova-Lima sub-basins and contra structural style of Timor Orogen)

Martini, R.L., M. Zaninetti, J. Villeneuve, J.J. Cornee, L. Krystin, S. Cirilli, P. De Wever, P. Dumitrica & A. Harsolumakso (1999)- New sedimentological and biostratigraphic data on the Triassic of West Timor (Indonesia). 7th Congres Francais de Sedimentologie, Nancy 1999, 2p. *(Abstract only) (online at: www.researchgate.net/publication/311965160_New_sedimentological_and_Biostratigraphic_data_on_the_Triassic_of_West_Timor_Indonesia)*
(U Triassic Carnian- U Carnian/Rhaetian basinal carbonate series with radiolaria, ammonites and conodonts. 6 lithostratigraphic units: Units A-B Carnian with palynomorphs; Unit C Norian with Gliscopollis meyeriana and Granulatoperculatipollis rudis; Unit D with Norian dinocysts, Unit E with U Norian Monotis salinaria, radiolaria Livarella valida, etc.; Unit H of condensed limestone with ammonites and conodonts. In current state of knowledge, adherance of Allochthonous of Timor to Australian margin highly questionable)

Martini, R.L., M. Zaninetti, J. Villeneuve, J.J. Cornee, L. Krystin, S. Cirilli, P. de Wever, P. Dumitrica & A. Harsolumakso (2000)- Triassic pelagic deposits of Timor: palaeogeographic and sea-level implications. Palaeogeogr. Palaeoclim. Palaeoecology 160, p. 123-151.
(online at: https://www.researchgate.net/publication/223837336_Triassic_pelagic_deposits_of_Timor_Palaeogeographic_and_sea-level_implications)
(W Timor Triassic deposits in 'Parautochthonous Complex' and in Allochthonous Sonnebait series. Late Triassic at rear end of Kolbano thrust belt in W Timor shows deep water organic-rich Carnian shales overlain by Norian- Rhaetian radiolarian-bearing pelagic carbonates. Ammonites typical Tethyan, low paleolatitude. Carnian palynomorphs incl. rare Ovalipollis pseudoalatus. Triassic sedimentary evolution in Timor different from NW Australian margin, but similar to Banda Sea microcontinents like E Sulawesi, Buru, Seram. Data suggest Allochthonous complex, classically interpreted as tectonic melange of Banda Arc accretionary prism, is tectonically dismembered Triassic lithostratigraphic succession)

Maryanto, S. & A.K. Permana (2013)- Mikrofasies dan diagenesis batugamping berdasarkan data petrografi pada Formasi Nakfunu di daerah Timor Tengah Selatan. Jurnal Sumber Daya Geologi (JSDG) 23, 3, p. 143-157.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/87/81)
('Limestone microfacies and diagenesis based on petrographic data of the Nakfunu Formation in the area of South Central Timor'. Lower Cretaceous pelagic limestones from Kolbano foldbelt underwent cementation, replacement, silicification, recrystallization, dolomitization, compaction, fracturing and dissolution. Locally rich in radiolaria (also in Proc. HAGI-IAGI Convention 2017 (Malang))

Maryanto, S., A.K. Permana & J. Wahyudiono (2018)- Aspek petrografi batugamping di daerah Timor Tengah Selatan. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 19, 2, p. 83-97.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/396/340)
('Aspects of the petrography of limestones in the South Central Timor Area'. Petrography of limestones from N and E of Soe: Triassic Aitutu Fm (rich in phylloid algae (= Halobia-type bivalves?; HvG)), E Cretaceous Nakfunu Fm (rich in radiolaria), Late Cretaceous Menu Fm (with planktonic foraminifera) and Paleogene Ofu Fm (with benthic foraminifera and terrigenous material))

Masson, D., G.J. Milsom, A.J. Barber, N. Sikumbang & B. Dwiyanto (1991)- Recent tectonics around the island of Timor, eastern Indonesia. Marine and Petroleum Geology 8, 1, p. 35-49.
(online at: https://earthjay.com/earthquakes/20190624_indonesia/masson_etal_1991_banda_tectonics.pdf)
(Holocene deformation around Timor from GLORIA sidescan sonar system and single-channel seismic data)

McCartain, E. (2004)- A reconstructed stratigraphic succession for the Gondwana sequence of Timor-Leste, forming the type area of the Wailuli Formation. B.Sc. Thesis University of Western Australia, Perth, p. *(Unpublished)*

(Abstract in PESA Newsletter 73, 2004, p. 29. Wai Luli Fm type area clastics range in age from Late Permian-M Jurassic; paleoenvironments inner-outer neritic (commonly with turbidites= deeper marine? JTvG))

McCartain, E. (2014)- Stratigraphic studies on Timor-Leste. Reassessment of mechanisms that drove development of the Triassic succession, Timor-Leste: with a focus on the Babulu Group. Ph.D. thesis, University of Western Australia, Perth, p. 1-255. *(Unpublished) (online at: https://api.research-repository.uwa.edu.au/ws/portalfiles/portal/4461000/McCartain_Eujay_2014.pdf)*

McCartain, E., J. Backhouse, D. Haig, B. Balme & M. Keep (2006)- Gondwana-related Late Permian palynoflora, foraminifers and lithofacies from the Wailuli Valley, Timor Leste. Neues Jahrbuch Geologie Palaontologie, Abhandlungen 240, 1, p. 53-80.
(Palynomorphs from Cribas Fm turbidites from Wailuli Valley, E Timor, are latest Permian in age and of Gondwanan affinity. Diverse Dulhuntyispora assemblage with 6 species, incl. D. dulhuntyi, D. parvithola, etc., also Didecitrelites eriacanus, etc. Assemblage similar to Cape Hay Fm in Bonaparte Basin of NW Australia)

McCartain, E., M.J. Orchard, D. Mantle, D.W. Haig, A. Bertinelli, M. Chiari, F.S. Ferreira, Z. dos Santos, J. Backhouse et al. (2024)- Applying integrated Triassic biostratigraphy in Timor-Leste to unlock an under-sampled Gondwanan sector of the Tethys puzzle. J. Asian Earth Sciences 265, 106052, p. 1-29.
(online at: https://www.sciencedirect.com/science/article/pii/S1367912024000476)
(New integrated Triassic biostratigraphic microfossil database (conodonts, palynomorphs and radiolarians) for Timor-Leste, complimenting published foram data. Neogene collision of Banda Arc and Australia dismembered Triassic succession exposed in Timor-Leste into deformed, isolated and stratigraphically restricted outcrops. Strong similarities between Triassic endemic Australia NW Shelf palynomorph zonal scheme and Timor suggest it is applicable in Timor, despite overall more open marine setting. Provides paleobiogeographic support for deposition of Timor-Leste Triassic within SE Tethyan Gondwanan basin. Etc.)

Mei, S. & C.M. Henderson (2001)- Evolution of Permian conodont provincialism and its significance in global correlation and paleoclimate implication. Palaeogeogr. Palaeoclim. Palaeoecology 170, p. 237-260.
(Early Permian Gondwana Cool Water Province with Vjalovognathus in Canning, Carnarvon and W Timor. Permian conodont provincialism not distinct until Kungurian)

Meijer, H.J.M., S.K. Donovan & W. Renema (2009)- Major Dutch collections of Permian fossils from Timor amalgamated. Journal of Paleontology 83, 2, p. 313.
(Short note reporting that large collections of macrofossils from Permian, etc., of Timor, originally kept in Amsterdam, Delft and Leiden, are now combined in Naturalis Museum, Leiden, the Netherlands)

Milsom, J. & M.G. Audley-Charles (1986)- Post-collisional isostatic readjustment in the southern Banda Arc. In: M.P. Coward & C. Ries (eds.) Collision tectonics, Geological Society, London, Special Publ. 19, p. 353-364.
(Timor area considerable departures from isostatic equilibrium suggested by gravity. In some cases isostatic anomalies accords well with observed vertical movement. In other areas, such as N Timor and inner (volcanic) arc, uplift where gravity data suggest there should be subsidence. Possible explanation is contribution to high gravity made by cold, dense subducted slab now sinking after rupture near continental margin. Ruptured sinking slab no longer exerts downward pull on overlying lithosphere, freed to rebound isostatically)

Milsom, J. & A. Richardson (1976)- Implications of the occurrence of large gravity gradients in N Timor. Geologie en Mijnbouw 55, p. 175-178.
(online at: https://drive.google.com/open?id=0B7j8bPm9Cse0b3hDbTV1SUpySGs)
(Steep gravity gradient along N coast of Timor suggests dense rocks rose close to surface. Analogies can be drawn with large anomalies associated with ophiolitic thrusts in New Guinea and New Caledonia, where high gravity anomalies caused by concealed roots of exposed ultramafic masses. Timor may be built up of series of thrust slices, resting ultimately on continental basement)

Minato, M. & M. Kato (1965)- Waagenophyllidae. J. Faculty Science Hokkaido University, Sapporo, ser. 4, 12, 3-4, p. 1-241.
(online at: http://eprints.lib.hokudai.ac.jp/dspace/handle/2115/35941)
(Monograph on taxonomy and geographic distributions of Permian waagenophyllid colonial and solitary corals, widely distributed in tropical Tethyan (Cathaysian) region. Lonsdaleia frechi Volz 1904 from Bukit Bessi, Padang Highlands, W Sumatra, recombined as Polythecalis frechi. Waagenophyllids from M Permian of Timor: Lonsdaleiastraea vinassai, L. molengraaffi, Ipciphyllum timoricum (first described by Gerth 1921))

Molengraaff, G.A.F. (1912)- De jongste bodembewegingen op het eiland Timor en hunne beteekenis voor de geologische geschiedenis van den O.I. Archipel. Verslagen Koninklijke Akademie van Wetenschappen, Amsterdam, Vergadering Wis- en Natuurkundige Afdeeling, Juni 1912, p.
(Dutch version of English language paper below)

Molengraaff, G.A.F. (1912)- On recent crustal movements on the Island of Timor and their bearing on geological history of the East Indian Archipelago. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam 15, p. 224-235.
(online at: https://dwc.knaw.nl/DL/publications/PU00012969.pdf)
(After post-Eocene main folding event on Timor, horsts and grabens formed, in which Mio-Pliocene Globigerina limestones were deposited. Plio-Pleistocene coral reefs on Timor now elevated up to 1283m above sea level, proving significant young uplift of Timor)

Molengraaff, G.A.F. (1913)- Overschuivingen en overschuivingsbladen op de eilanden Timor en Letti. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap 30, p. 273-274.
('Thrusts and nappes on the islands of Timor and Leti'. Major post-Eocene and pre-Pliocene folding event on Timor. Ideas also presented at International Geological Congress, Toronto 1913 (Molengraaff, 1915))

Molengraaff, G.A.F. (1913)- Het eiland Timor. Natuurkundige Voordrachten 1912-1913, Maatschappij Diligentia, Van Stockum, The Hague, p. 23-32. *(online at: https://natuurwetenschappen-diligentia.nl//wp-content/uploads/2020/07/Diligentia_jaarboek_OR41.pdf*
('Timor Island'. Summary of a lecture at the Royal Society for Natural Sciences 'Diligentia' in The Hague)

Molengraaff, G.A.F. (1914)- De Fatoes van Timor. Verslagen Geologische Sectie, Geologisch Mijnbouwkundig Genootschap I, 1912, p. 117-119.
(The 'fatus' (limestone cliffs) of Timor. Summary of 1912 presentation for Dutch geological society on isolated limestone hills of W Timor, locally named fatus. Composed of different rock types, most commonly Triassic oolitic limestone, but also Permian crinoid limestone, serpentinite, Tertiary orbitoidal limestone or igneous rocks. Often rise from areas with different geology. One explanation may be intense folding of island, probably in 'young Miocene', with disharmonic response by more rigid and more thin-bedded, viscous rocks, followed by differential erosion. Major nappes may also be a factor)

Molengraaff, G.A.F. (1915)- Dekbladenbouw in den Timor archipel. Verslagen Geologische Sectie, Geologisch Mijnbouwkundig Genootschap 1, p. 140-141.
('Nappe structure in the Timor archipelago'. Brief, early report on Molengraaff- Brouwer theory on nappe tectonics as dominant structural style on Timor island)

Molengraaff, G.A.F. (1915)- L'expedition neerlandaise a Timor en 1910-1912. Archives Neerlandaise Sciences des Sciences Exactes et Naturelles, Ser. 3B (Sciences Naturelles), 2, p. 395-404.
(online at: https://www.delpher.nl/nl/tijdschriften/view?identifier=MMTEY01:179592002:00433)
('The Netherlands expedion to Timor in 1910-1912'. Summary in French of results of the Molengraaff/ De Marez Oyens expedition to Timor, Roti, Leti and other islands, to which Mijnwezen geologist H.A. Brouwer was seconded. Collected 12,000 rocks samples and 60 000 well-preserved fossils (including 1200 Permian crinoids and 8000 blastoids, Triassic Auloceratid and Jurassic caniculate belemnites, Permian- Jurassic brachiopods, etc. Permian-Mesozoic faunas many similarities and in open communication with Tethys geosyncline. Many Mesozoic sediments of Timor and Roti deep marine-abyssal/oceanic deposits with radiolaria. Late Triassic

Heterastrid limestones very similar to Hallstatt limestones in Northern Calcareous Alps of Austria, as wells as parts of the Himalayas (Salt Range). Major thrusting, with nappe development, directed towards the Australian continent, probably in or before Late Miocene). Permian terranes look like exotic elements in upper 'Fatu Nappe', overlying a deeper 'Tethys Nappe' of deepwater Triassic-Cretaceous deposits)

Molengraaff, G. (1915-1922)- Nederlandsche Timor-Expeditie 1910-1912. Jaarboek Mijnwezen Nederlandsch Oost-Indie, volumes I-III, p. 1-732.
(Vol. I- 1915- Letti island (online at: https://archive.org/details/nederlandschetim00mole)
(Vol. II - 1918- Molengraaff-Brouwer papers (online at: https://archive.org/details/nederlandschetim02mole)
(Vol. III- 1922- Gerth- Brouwer- Krumbeck- Broili papers
(online at: https://archive.org/details/nederlandschetim03mole)
('Netherlands Timor Expedition 1910-1912'. Reprint collection of 3 volumes with papers previously published as volumes of the 'Jaarboek van het Mijnwezen' between 1915-1922, about geology and paleontology of islands Timor, Leti, Roti, Moa, etc. Significant contributions by Brouwer on geology of Leti, Roti, etc., and paleontological papers by Gerth, Haniel, Broili, Krumbeck, etc.)

Molengraaff, G.A.F. (with H.A. Brouwer) (1915)- De geologie van het eiland Letti, Geographische en geologische beschrijving. Nederlandsche Timor-Expeditie 1910-1912, Vol. I, Jaarboek Mijnwezen Nederlandsch Oost-Indie 43 (1914), Verhandelingen 1, p. 1-87.
(Text online at: http://openlibrary.org/books/OL24343736M/Nederlandsche_Timor-expeditie_1910-1912)
also online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB21:040192000:00022)
('Geographic and geological description of the island Letti'. Detailed description of geology of Leti, E of Timor, showing many similarities with Timor geology. Isoclinally folded, mainly N-dipping Permian clastic sediments with thin crinoid-fusulinid limestones become gradually more metamorphic to North (first documentation of post-Permian metamorphism in Indonesia). Overlain in North by ultrabasics and melange mixture of rock types, including reworked Upper Cretaceous pelagic limestone with Globotruncana aff. linneana in latest Oligocene- E Miocene limestone breccia. With studies of Permian brachiopods by Broili, Permian ammonites by Haniel and Permian fusulinid foraminifera by Schubert)

Molengraaff, G.A.F. (1915)- Over mangaanknollen in Mesozoische diepzee-afzettingen van Borneo, Timor en Rotti, hun beteekenis en hun wijze van ontstaan. Verslagen Koninklijke Akademie van Wetenschappen, Amsterdam, Wis- Natuurkundige Afdeeling, 23, p. 1058-1073.
('On manganese nodules in Mesozoic deep-sea deposits of Borneo, Timor and Roti, their significance and mode of formation'. Dutch version of Molengraaff 1916, below)

Molengraaff, G.A.F. (1916)- On the occurrence of nodules of manganese in Mesozoic deep-sea deposits from Borneo, Timor and Rotti, their significance and mode of formation. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam 18, p. 415-430.
(online at: https://dwc.knaw.nl/DL/publications/PU00012518.pdf)
(Manganese nodules in Triassic and Jurassic deposits of C-E Kalimantan, Timor and Roti, often associated with radiolaria, interpreted as abyssal oceanic deposits, 'deposited in deepest parts of Mesozoic Tethys geosyncline')

Molengraaff, G.A.F. (1917)- De Timorexpeditie en hare palaeontologische resultaten. Handelingen 16th Nederlandsch Natuur- Geneeskundig Congres, 's-Gravenhage 1917, p. 245-256.
(online read only at: http://babel.hathitrust.org/cgi/pt?id=uc1.b3093405;view=1up;seq=885)
('The Timor Expedition and its paleontological results'. Summarizing results of expeditions by Molengraaff and Wanner 1911-1912 and H.G. Jonker in 1915. Collected well-preserved, rich, mainly shallow marine Permian faunas, particularly rich in crinoids and blastoids, and also ammonites. Also thin Triassic and Jurassic deep sea deposits on Timor and Roti with manganese nodules and radiolarians, formed in very deep water, very far from landmasses. Upper Triassic faunas remarkably similar to rocks from Alps and Himalyas)

Molengraaff, G.A.F. (1920)- Mangaanknollen in Mesozoische diepzee-afzettingen van Nederlandsch Timor. Verslagen Koninklijke Akademie van Wetenschappen, Amsterdam, Wis- en Natuurkundige Afdeeling, 29, p. 677-692.
('Manganese nodules in Mesozoic deep-sea deposits of Dutch Timor, etc. Dutch version of Molengraaff (1921))

Molengraaff, G.A.F. (1921)- On manganese nodules in Mesozoic deep-sea deposits of Dutch Timor with a preliminary communication on fossils of Cretaceous age in those deposits by L.F. de Beaufort. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 23, 7, p. 997-1012.
(Online at: https://dwc.knaw.nl/DL/publications/PU00014760.pdf)
(Several meters of deep-marine red clays with manganese nodules sampled by H.G. Jonker in 1916 from Noil Tobee river, 4.5 km ENE of Niki-Niki. Red clays conformably overlie thin-bedded Late Triassic limestone with Halobia. Partly dissolved Elasmobranchii shark teeth similar to English Chalk species, suggesting Cretaceous age (not clear if contact is tectonic or represents Jurassic hiatus in condensed deep water series; JTvG))

Moniz, C.C., K. Kawamura, M. Elias, G.G. Aparício de Oliveira & A.E. Alves (2023)- Characteristics of detailed lithology and large-scale landslides of the Bobonaro Melange (Bobonaro scaly clay) at Balibo- Leolima area, West Timor-Leste. Timorese Academic J. Science and Technology 5, p. 118-124.
(online at: http://fect.untl.edu.tl/tajst_article-97-tp.html)
((E Pliocene?) Bobonaro melange in E Timor prone to landslide hazards. In Balibo- Leolima area in W Timor-Leste Bobonaro generally overlain by (Pleistocene) Baucau Limestone). Not much new)

Morgan, R.F. (2015)- Three new species of *Deltoblastus* Fay from the Permian of Timor. PLoS One 10, 6, e0127727, p. 1-9.
(online at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4465186/)
(Review of 15 species of blastoid genus Deltoblastus, with introduction of 3 new species, based on material from Basleo, etc. (now in Waco and London museum collections))

Morrison, E.C. (2025)- Structural analysis of the Aileu Metamorphic Complex and the Laclo Fault of Timor Leste, Banda arc-continent collision. M.Sc. Thesis, Department of Geological Sciences, Brigham Young University, Provo, Utah, USA, Theses and Dissertations 10862, p. 1-173.
(online at: https://scholarsarchive.byu.edu/etd/10862/)
(Structural analysis of intensely deformed Aileu Metamorphics along N coast of Timor Leste. Protoliths likely M-L Permian Maubisse Fm, metamorphosed in Late Miocene? (much younger metamorphism than Lolotoi Metamorphics of Banda Terrane). High grade parts of Aileu Complex bound to S by Laclo fault (instrumental in exhumation of Aileu Complex by normal faults with top-down-to-S oblique slip). At ~12-10 Ma thrusting of Banda forearc nappe (Banda Terrane) over Aileu/Maubisse plateau, ~10-5 Ma opening of S Banda Basin, exhumation of Aileu metamorphic rocks by Laclo fault, simultaneous with thrusting of Aileu/Maubisse nappe over Gondwana and Passive margin sequences. Etc.))

Muhammad, F., I.G.B.E. Sucipta & M.G Sagara (2017)- Origin and tectonic emplacement of mylonitized peridotite in Hili Manu Area, Timor Leste. Proc. Joint Convention HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, p. 1-6.
(online at: https://www.researchgate.net/publication/368636978_Origin_and_Tectonic_Emplacement_of_Mylonitized_Peridotite_in_Hili_Manu_Area_Timor_Leste)
(Hili Manu oceanic peridotite body in N Timor Leste is spinel lherzolite peridotite with mylonitic structures. Geothermobarometry from exsolution lamellae of pyroxenes indicate peridotite formed at 1190°C and 8.5 kb (850 MPa). Rocks mylonitized at 964- 1092°C and 4.9-5.7 kb (490-570 MPa). Metamorphism of underlying Permian Aileu Fm increases toward base of peridotite (= metamorphic sole during peridotite emplacement))

Mulder, E. & J.W.M. Jagt (2019)- *Globidens(?) timorensis* E. Von Huene, 1935: not a durophagous mosasaur, but an enigmatic Triassic ichthyosaur. Neues Jahrbuch Geologie Palaontologie, Abhandlungen 293, 1, p. 107-116.

(Three isolated sauropsid tooth crowns described from Timor in 1935 by Erika von Huene, who tentatively attributed them to new species of Late Cretaceous mosasaurid Globidens(?) timorensis. However, these are not from Late Cretaceous mosasaurs, but from Triassic ichthyosaurian)

Mulhadiono & B. Simbolon (1988)- Preliminary account of the petroleum potential of Timor Island. Proc. 17th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, 1, p. 89-110.
(Overview of Timor geology, accepting Asian origin of Mutis-Palelo, Maubisse and N Coast thrust complexes. Main deformation phase between Late Eocene- earliest Miocene. 21 wells drilled in E Timor, Metai 1 and Taci with minor oil tests. Various source formations present, but reservoir quality may be poor)

Muller, S. (1844)- Bijdragen tot de kennis van Timor en enige andere naburige eilanden. In: Temminck, C.J. (ed.) Verhandelingen over de natuurlijke geschiedenis der Nederlandsche overzeesche bezittingen door de leden der Natuurkundige Commissie in Indie en andere schrijvers, 1, Land en Volkenkunde, Leiden, p. 129-320.
(online at: https://ia802907.us.archive.org/2/items/verhandelingeno00temm/verhandelingeno00temm.pdf)
('Contributions to the knowledge of Timor and some neighboring islands'. Early naturalist descriptions of West Papua from Muller's 1828-1830 Triton Expedition)

Munasri (1998)- Early Cretaceous radiolarian biostratigraphy of the Nakfunu Formation, the Kolbano area, West Timor, Indonesia. Ph.D. Thesis, University of Tsukuba, Japan, No. 1869, p. *(Unpublished)*
(Berriasian-Aptian cherts and mudstone from Kolbano area of SW Timor contain radiolarians from two different climates: (1) southern high latitudes and (2) low latitude/ tropics)

Munasri, T.R. Charlton, M. Guterres & D. Gandara (2024)- Late Jurassic and Early Cretaceous radiolarian age determinations from Timor-Leste. Berita Sedimentologi 50, p. 26-50.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/view/455/434)
(Radiolaria studied from two formations in Timor-Leste: (1) Late Jurassic (M Oxfordian- M Kimmeridgian) 'Tethyan' assemblage at base of Suai Loro-1 petroleum exploration well near Suai in SW corner of Timor-Leste (Timor Oil, 1971); (2) Early Cretaceous (late Valanginian-Hauterivian) radiolaria from outcrop of radiolarian cherts, sandstones and red shales in Caraulun river River, S of Samé in south-central Timor-Leste (assigned to Wai Bua Fm;, equivalent to Nakfunu Fm in West Timor))

Munasri & A.H. Harsolumakso (2020)- Late Cretaceous radiolarians from the Noni Formation, West Timor, Indonesia. Berita Sedimentologi 45, p. 5-18.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/view/426/401)
(Cenomanian-Turonian 'Tethyan' radiolarian fauna from chert sample of Noni Fm from Miomaffo District (generally viewed as part of allochthonous 'Banda Terrane' complex). Radiolarian faunas close resemblance to S Sulawesi and different from age-equivalent faunas in 'autochthonous' distal NW Australian margin deposits in southern foldbelt of West Timor (Kolbano accretionary complex) and Timor Leste (Viqueque), which contain common 'non-Tethyan', cooler water radiolaria)

Munasri & K. Sashida (1999)- Tethyan and non-Tethyan Early Cretaceous radiolarian fauna from West Timor, Indonesia. In: H. Darman & F.H. Sidi (eds.) Tectonics and sedimentation of Indonesia, FOSI-IAGI-ITB Regional Seminar to commemorate 50th anniversary of Van Bemmelen's Geology of Indonesia, Bandung 1999, p. 88-91.
(Radiolaria in E Cretaceous Nakfunu Fm of Kolbano accretionary complex of southern W Timor indicate trend of increasing number of Tethyan species, reflecting N-ward motion of N Australian continental slope: (1) Berriasian- E Valanginian mainly non-Tethyan taxa of Parvicingula, Crytocapsa, etc. (Circum-Antarctic cold-water faunas?); (2-3) Late Valanginian- E Barremian both Tethyan and non-Tethyan taxa; (4) E Aptian Tethyan taxa only (Dictyomitra pseudoscalaris, Stichomitra spp., etc.))

Munasri & K. Sashida (2018)- Tethyan and non-Tethyan Early Cretaceous radiolarian faunas from West Timor, Indonesia: paleogeographic and tectonic significance. Earth Evolution Sciences (University of Tsukuba) 12, p. 3-12.
(online at: https://tsukuba.repo.nii.ac.jp/record/45848/files/EES_12-3.pdf)

(Abundant and well-preserved E Cretaceous radiolaria in calcilutites and shales of Nakfunu Fm, Kolbano area, southern W Timor, in accretionary complex. Radiolarian faunas similar to ODP Leg 123- Site 785 from Argo Abyssal Plain. Four assemblages of Berriasian- E Aptian age, with trend from non-Tethyan to Tethyan affinities in progressively younger strata. Frequent and random repetition of radiolarian assemblages reflect imbrication of beds. Faunas derived from southerm paleolatitude origin, influenced by Circum-Antarctic current)

Nahar, R.N.F.A., A.J. Widiatama, L.D. Santy, W.E.M. Puteri, A. Damanik, Z. Zulfiah & R. Kapid ((2021)- Biostratigrafi nanofosil gampingan dan lingkungan pengendapan Formasi Ofu selama Neogen. J. Science and Application Technology (JSAT) 5, 2, p. 348-352.
(online at: https://journal.itera.ac.id/index.php/jsat/article/view/383/187)
('Post-collisional' Ofu marls in SW Timor with nannofossils of zones NN10-NN11 (Tortonian-Messinian) (older and younger beds not well defined? JTvG)

Nano, J., D.W. Haig, E.O. Fraga, M. Soares, I.S. Barros, E. McCartain & P. Baillie (2024)- Debris-slides, olistoliths and turbidites: keys to understanding the tectonostratigraphic affinities of a terrane block in a young orogenic belt, Timor-Leste. J. Geological Society, London, 181, 1, jgs2023-079, p. 1-17.
(Matebian Range one of largest mountains in Timor Leste orogenic belt, previously mapped as Lower Miocene Cablac Limestone and regarded as allochthonous Banda Terrane. New analyses show disjunct stratigraphy, from Lower Jurassic- lowest Miocene. Reconstruction of changes in provenance through time, mainly from identifications of clasts in conglomerates, suggests terrane progression from N margin of Gondwana to southern Sundaland margin (Asia) and then back to NW margin of Australian continent. Substantial episodes of uplift, particularly during M Eocene and Late Oligocene. Youngest unit (Late Oligocene-earliest Miocene) deposited adjacent to rapidly rising S Sundaland, very different from that on coeval Australian margin)

Nakazawa, K. & Y. Bando (1968)- Lower and Middle Triassic ammonites from Portuguese Timor (Paleontological study of Portuguese Timor 4). Memoirs Faculty of Science, Kyoto University, Ser. 4, Geology and Mineralogy, 34, 2, p. 83-114.
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/186548/1/mfskugm%20034002_083.pdf)
(First report on E-M Triassic (U Scythian- Lw Anisian) ammonites from Timor Leste. from cephalopod limestones in 3 localities: (1) in N (W of Manatuto; area of mixed Triassic and Permian 'Fatu Limestones', SE of area of amphibolites/ serpentinite); (2) in S (N and SE of Pualaca= near Nogami 1963 Permian fusulinid locality; with M and Late Triassic 'Fatu limestones') and (3) in E (Tutuala; Late Triassic). Sixteen species incl. Dieneroceras dieneri, Anasibirites multiformis, Meekoceras spp., Procarnites, Leiophyllites timorensis, etc. With listings of associated conodonts)

Nguyen, N., B.G. Duffy, J. Shulmeister & M.C. Quigley (2012)- Rapid Pliocene uplift of Timor. Geology (GSA) 41, 2, p. 179-182.
(online at: https://www.researchgate.net/publication/244989087_Rapid_Pliocene_Uplift_of_Timor)
(Palynology of 34 samples of Pliocene turbidites-marls from type section of 200m thick Viqueque Fm of E Timor. From ~4.5- 3 Ma palynomorphs mainly from Australia and New Guinea (Casuarina, Eucalyptus, etc.), with increasing swamp and mangrove elements from emerging proto-Timor. After ~3.1 Ma pollen and charcoal track rapid uplift of Timor with progressive appearance of montane and dry, lee-side floristic elements. E-M Pliocene uplift rates of 0.5-0.6 mm/yr increased to 2-5 mm/yr in latest Pliocene)

Nicoll, R.S. (1999)- Triassic conodont faunas from Australia and Timor. In: H. Yin & J. Tong (eds.) Proc. Int. Conf. Pangea and the Paleozoic- Mesozoic transition, Wuhan 1999, China University Geoscience Press, p. 140-141. *(Abstract only)*
(Conodonts at various horizons in Timor Triassic similar to Australia NW shelf margin)

Nicoll, R.S. & C.B. Foster (1998)- Revised biostratigraphic (conodont-palynomorph) zonation of the Triassic of Western and northwestern Australia and Timor. In: P.G. & R.R. Purcell (eds.) The sedimentary basins of Western Australia 2. Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, 2, p. 129-139.

(Studies of relationships between conodont faunas and spore-pollen and dinocyst palynofloras from W Australian margin and Timor have revised calibration of Australian Triassic palynomorph zones and stage terminology. Wombat-Timor Trough (newly defined) is axis of sedimentation on NW Shelf in Triassic)

Niermann, H.T. (1975)- Polycoeliidae aus dem Oberperm von Basleo auf Timor. Munstersche Forschungen Geologie und Palaontologie 37, p. 131-225.
('Polycoeliidae from the Upper Permian of Basleo on Timor'. Taxonomic revision of family of early Late Permian solitary rugose corals, based on 490 specimens collected by H. Ehrat in 1927, and building on Gerth (1921) and Koker (1924). 25 species (13 new), 10 new subspecies. No stratigraphy or locality information)

Nieuwenkamp, W.G.J. (1919)- Bezoek aan eenige slijkvulkanen op Kambang en Semaoe (West-Timor). Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap 36, p. 488-492.
(online at: https://resolver.kb.nl/resolve?urn=MMUBA13:001665001:pdf)
('Visit to some active mud volcanoes on Kambang and Semau, West Timor'. Over 150m high composite mud volcanoes. Nothing on rock inclusions)

Niko, S., T. Nishida & K. Nakazawa (2000)- Orthoconic cephalopods from the Lower Permian Atahoc Formation in East Timor. Paleontological Research (Palaeontological Society of Japan) 4, 2, p. 83-88.
(online at: www.palaeo-soc-japan.jp/download/PR/PR4-2.pdf)
(Three species of orthoconic cephalopods described from Lower Permian Atahoc Fm in Cribas area, E Timor (Mooreoceras sp., Atahococeras timorense), signifying Late Paleozoic non-ammonoid cephalopod fauna at N margin of Gondwana near Sakmarian-Artinskian boundary)

Nogami, Y. (1963)- Fusulinids from Portuguese Timor (Palaeontological study of Portuguese Timor 1). Memoirs Faculty of Science, Kyoto University, Series Geology and Mineralogy, B30, 2, p. 59-68.
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/258257/1/mcsuk-b_30_2_59.pdf)
(Four E Permian fusulinid species from two localities in Timor Leste:(1) yellowish linestone with basaltic fragmens at SE foot of Fatu Auveon, 2km NW of Pualaca in C East Timor, with Schwagerina nakazawae n.sp., Codonofusiella weberi and Parafusulina; (2) white bedded Iimestone N of Hato-Builico in W part of E Timor with poor Triticites sp, indet. Samples collected by Nakazawa in 1961)

Nogami, Y. (1968)- Trias-Conodonten von Timor, Malaysien und Japan (Palaeontological study of Portuguese Timor 5). Memoirs Faculty of Science, Kyoto University, Series Geology and Mineralogy, 34, 2, p. 115-136.
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/186547/1/mfskugm%20034002_115.pdf)
('Triassic conodonts from Timor, Malaysia and Japan'. Seven conodont faunas recognized in Triassic of Malaysia, Timor and Japan. Conodonts from Timor from samples collected by Nakazawa of ammonoid-bearing limestone of Lacon River, Manatuto District, Timor Leste, mainly Middle Triassic age. Includes description of new species Gondolella timorensis (now assigned to Chiosella; JTvG), a worldwide marker species for Lower Anisian (base of M Triassic). Malaysian material from Kodiang Lst probably all Late Triassic in age (specimen of Pl. 8, fig. 8 assigned to late Carnian Epigondolella primitia by Mosher (1973))

Nurhidayati, A.U. & B.H. Utomo (2021)- Sedimentation in syn-rift set of Austalia continent series in east part of West-Timor, East Nusa Tenggara. Proc. International Conference Ocean and Earth Sciences, Jakarta 2020, IOP Conference Series: Earth and Environmental Science 789, 012046, p. 1-10.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/789/1/012046)
(Rifting in W Timor basin in Late Permian-Jurassic, and initial sediments deposited in terrestrial facies; deepening to deep marine during Triassic and Jurassic. Post-rift in Cretaceous-Miocene, with deep marine sediment (wishing it was that simple; JTvG))

Nutzel, A. (2007)- Cephalopoden (Ammoniten, Nautiliden und *Aulacoceras*) aus der Trias von Timor (Indonesien). Freunde Bayerischen Staatssammlungen Palaontologie Historische Geologie, Munchen, Jahresbericht 2006 und Mitteilungen 35, p. 32-34.
('Cephalopods (ammonites, nautilids and Aulacoceras) from the Triassic of Timor, Indonesia')

Nutzel, A., A. Kaim, H. Bucher, R. Veit, M. Hautmann, H. Hagdorn & R. Jattiot (2014)- Late Early Triassic benthic communities from Timor and their significance for the recovery from the end-Permian mass extinction event. Proc. Conf. GeoFrankfurt 2014, 1p. *(Abstract only) (online at: www.researchgate.net/publication/268801514_Late_Early_Triassic_benthic_communities_from_Timor_and_their_significance_for_the_recovery_from_the_end-Permian_mass_extinction_event)*
(Neogene melange near Baun, W Timor, known for blocks of Triassic cephalopod limestones, very rich in well-preserved ammonites. Most are Late Triassic age (Norian) some E Triassic (Smithian, Spathian). E Triassic benthic fauna dominated by diverse gastropods (15 species), incl. naticopsids and bellerophontoids)

Orchard, M.J. (1994)- Conodont biochronology around the Early-Middle Triassic boundary: new data from North America, Oman and Timor. Memoires de Geologie (Lausanne) 22, p. 105-114.
(online at: https://www.unil.ch/files/live/sites/iste/files/shared/X.Library/Memoirs%20of%20Geology/22%20-%20Guex%20(1994%20-%20entire%20volume).pdf)
(Includes discussion of Triassic conodonts in matrix around ammonites from 'Hallstatt-facies' limestone block of Timor, from which Tozer (1994) described ammonites. Common Chiosella timorensis and fewer Gladiogondolella tethydis, suggest E Anisian (M Triassic) age. Simillar to assemblages from Oman and Chios (Base C. timorensis (Nogami) appears to be reliable conodont marker for E-M Triassic boundary; JTvG))

Ormeling, F.J. (1957)- The Timor problem: a geographical interpretation of an underdeveloped island. Wolters, Groningen, 284p.
(General geographic study of Timor)

Osberger, R. (1954)- Contribution to the geology of Timor. IV. Notes on Plio-Pleistocene corals of Timor. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 110, p. 80-82.
(On corals from uplifted Plio-Pleistocene reef terraces near Lalan Asu, collected by De Waard expedition. Material generally poorly preserved)

Ota, T. & Y. Kaneko (2010)- Blueschists, eclogites, and subduction zone tectonics: insights from a review of Late Miocene blueschists and eclogites, and related young high-pressure metamorphic rocks. Gondwana Research 18, 1, p. 167-188.
(Review of formation and exhumation of Late Miocene blueschist and eclogite belts, including Timor-Tanimbar blueschist belt and world's youngest coesite- bearing eclogite in PNG)

Pakuckas, C. & G. von Arthaber (1928)- Nachtrag zur Mittel- und Obertriadischen Fauna der Ammonoidea trachyostraca C. Dieners aus Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie VI, Jaarboek Mijnwezen Nederlandsch-Indie 56 (1927), Verhandelingen 2, p. 143-218.
(Addendum to Diener (1922) work on thousands of M- Late Triassic ammonites, by student and associate of C. Diener in Vienna. Ammonites collected from loose blocks in W Timor by the 1916 H.G. Jonker Timor expedition. Anisian- Carnian and probable Rhaetian assemblages, most of them similar to 'Halstatter Facies' of Mediterranean Province)

Panjaitan, S. & S. Hutubessy (1997)- Analisis tektonik berdasarkan paleomagnetik di daerah Timor-Timur. Jurnal Geologi dan Sumberdaya Mineral (JGSM), 7, 70, p. 19-27.
('Tectonic analysis of East Timor area based on paleomagnetic data'. Declination/ inclination results from 'allochthonous' and 'parautochthonous' outcrops mainly along traverse S of Dili rather variable: (1) Permian Aileu Fm 6°/-31° and 126°/48° (interpreted as deposited at latitude 29°N), (2) Late Permian Cribas Fm 150°/ 50 (deposited at 30.7°N), (3) Permian- Triassic Maubisse Fm 220°/44° (deposited at 25.7°N), (4) Late Triassic Aitutu Fm 295°/-54°(deposited at 34.5°S) and (5) Jurassic Wailuli Fm 18°/-22° (deposited at 11.4°S). In Late Triassic Timor was still close to Australian continent, in Jurassic already started to make move to N)

Panjaitan, S. & S. Hutubessy (2004)- Pembentukan formasi batuan di Pulau Timor ditinjau dari data paleomagnet dan gayaberat. Jurnal Sumber Daya Geologi (JSDG) 14, 1 (145), p. 55-68.

('Formation of Timor island rock formations as observed from magnetic and gravity data'. Contribution to Asian vs. Australian origin of Timor rock units: Permian Aileu Fm formed at paleolatitude 48º N, Cribas Fm at ~31º N, Maubisse Fm at 25º N, all far N of equator and at S edge of Asian continent. Plate moved S since Triassic to form thrust sheets in Timor Island. Triassic Aitutu Fm formed at ~34º S and Jurassic Wailuli Fm at ~11º S, both far S of equator and part of Australian continent. Collision between Allochthon and Para-Autochthon rocks seen on 150 mgal negative Bouguer anomaly, in which Australian continent plate with density of 3.0 gr/cm³ subducted and depressed under Banda Sea plate)

Park, S.I., H.J. Koh, S.W.Kim, Y.H. Kihm (2014)- The occurrence and origin of a syn-collisional melange in Timor. Economic and Environmental Geology (Korean Soc. Economic Environmental Geology). 47, 1, p. 1-15.
(online at: http://ocean.kisti.re.kr/downfile/volume/kseeg/JOHGB2/2014/v47n1/JOHGB2_2014_v47n1_1.pdf)
(In Korean, with English abstract. Bobonaro melange syn-collisional melanges formed during collision between Australian continental margin and Banda arc. In Suai area melange matrix of unmetamorphosed red-green clay with scaly texture, with allochthonous blocks. Melange classified into (1) diapiric; (2) tectonic; and (3) broken formation. Melange intruded all pre-collisional units including lower Australian margin unit (Gondwana megasequence) and Banda arc unit. Interpreted to be mainly formed as diapiric melange originated from Gondwana megasequence)

Park, S.I., S. Kwon & S.W. Kim (2014)- Evidence for the Jurassic arc volcanism of the Lolotoi complex, Timor: tectonic implications. J. Asian Earth Sciences 95, p. 254-265.
(SHRIMP U-Pb zircon ages from two andesitic metavolcanic rocks in Lolotoi complex, Timor Leste, yield permissible range of M Jurassic extrusion from 177-174 Ma (~late E Jurassic; Toarcian). Inherited grains age cluster of 242 ± 4 Ma (M Triassic) and oldest grain of 1848 Ma. Basaltic-andesitic metavolcanics products of prolonged oceanic crust and arc magmatism, respectively. Parts of Banda forearc basement are pieces of allochthonous oceanic basalts and Jurassic arc-related andesites accreted to Sundaland during closure of Mesotethys, and incorporated later into Great Indonesian Volcanic Arc system along SE margin of Sundaland (NB: suggests protoliths of Lolotoi Metamorphics younger than Permian-Triassic 'Gondwana sequence' of Timor; JTvG))

Partoyo, E., B. Hermanto & S. Bachri (1995)- Geological map of the Baucau Quadrangle, East Timor, 1:250,000. Geological Research Development Centre (GRDC), Bandung.
(Geologic map of NE part of Timor Leste. 'Para-autochthonous' with E Permian Maubisse and Atahoc and Late Permian Cribas as oldest units, and 'Autochthonous' units. No 'Allochthonous'.)

Peloschek, H.P. (1956)- Contributions to the geology of Timor. XI. Reports on magnetic observations and radioactive measurements in lndonesian Timor. Majalah llmu Alam Indonesia (Indonesian J. Natural Science) 112, p. 175-186.

Penecke, K.A. (1908)- Uber eine neue Korallengattung aus der Permformation von Timor. Jaarboek Mijnwezen Nederlandsch Oost-Indie 37, Wetenschappelijk Gedeelte, p. 657-659.
('On a new coral genus from the Permian of Timor'. Description of new genus of solitary rugose coral collected by Verbeek: Verbeekia permica n.gen., n.sp. from Ayer Mati, Basleo area. (genus Verbeekia renamed Verbeekiella by Penecke (1908b). Re-ranked as subgenus of Dibunophyllum by Gerth (1922); JTvG)

Permana, A.K., A. Kusworo & A.H. Prastian (2014)- Characteristics of the Triassic source rocks of the Aitutu Formation in the (West) Timor Basin. Indonesian J. on Geoscience (IJOG) 1, 3, p. 165-174.
(online at: http://ijog.bgl.esdm.go.id/index.php/IJOG/article/view/198/184)
(Triassic marine fine-grained clastics and carbonates of W Timor considered to be most promising source rocks in basin. Geochemical and petrographic data from Aitutu Fm carbonate outcrops in Niki-Niki and other localities near Kolbano show TOC up to 9.2% and kerogen dominated by Type II with minor Type III. Organic matter mainly oil and gas prone. Thermal maturity from Tmax, TAI and Vitrinite Reflectance shows immature-early mature stage. Biomarkers indicate mixed source facies of algal debris and higher plant terrestrial origin)

Permana, A.K., A. Kusworo & A.H. Prastian (2014)- Characteristics Triassic source rocks in the (West) Timor Basin. Proc. 43rd Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, PIT IAGI 2014-026, p. 1-6.
(Similar to Permana et al. 2014, above. Mainly study of two 22-27m thick outcrop sections of folded deeper marine limestones and shales of Triassic Aitutu Fm along Noil Fatu and Toeheum, Kolbano Area, SW Timor. With open marine bivalves Monotis salinaria (E Carnian-M Norian) and Halobia spp. Locally high TOC (up to 8.1%). Vitrinite reflectance of Noe Fatu section 0.67- 0.73% (early peak maturity for oil generation), Toeheum section 0.43- 0.57% (immature to early dry gas generation))

Permana, A.K. & A.H. Prastian (2013)- Fasies kipas bawah laut bawah laut pada batuan berumur Perem-Trias daerah Kekneno, Cekungan Timor. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 14, 4 (199), p. 3-18.
(online at: https://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/74)
('Submarine fan facies of the Permian-Triassic rocks in the Kekneno area, Timor basin'. Sedimentological study of Permian-Triassic turbiditic clastics in Kekneno area, Nenas, NW Timor. Permian Atahoc- Cribas Fms in slope submarine fan facies. Cribas Fm >300m thick, feldspathic litharenites with polycrystalline quartz, plagioclase and volcanic rock fragments. Triassic Niof Fm greywacke (400m) and Babulu Fm also with various submarine fan facies)

Petroconsultants (1992)- Timor Island. Southeast Asia basin opportunities. Petroconsultants (Far East) Pte. Ltd. Singapore, Non-exclusive Report. *(Unpublished)*

Peyrot, D., M. Keep, J. Scibiorski, E. McCartain, P. Baillie, J. Soares, D.W. Haig & A.J. Mory (2019)- The Foura Sandstone type section (*Samaropollenites speciosus* Zone, Carnian- early Norian; early Late Triassic), Timor-Leste: preliminary correlation between Timor and the Bonaparte Basin. Australasian Exploration Geoscience Conference (ASEG) 2019, Perth, Extended Abstracts, p. 1-4. *(Extended Abstract)*
(online at: https://www.tandfonline.com/doi/pdf/10.1080/22020586.2019.12073150)
(Triassic Foura Sst (Babulu Group) in Timor-Leste of Carnian- E Norian age (Samaropollenites speciosus Zone). Sandstones of turbidite origin, rich in plant debris and volcanic lithic grains. Palynological material variable preservation, suggesting complex pre-burial history and long distance transport. Presence of prasinophytes suggests anoxic depositional settings. Same age as Carnian- E Norian sandstones in wells from Sahul Shoals and Ashmore Reef areas of Bonaparte Basin (but do not elaborate on similarities/ differences))

Peyrot, D., D.W. Haig, D. Mantle, P. Baillie, A. Mory, M. Keep, J. Soares, J. Scibiorski & J. Backhouse (2025)- Palynology from the Foura Sandstone type section, Timor-Leste, and Late Ladinian-Carnian (Middle–Upper Triassic) vegetation reconstruction from NW Australia. Review Palaeobotany Palynology 338, 105346, p.
(manuscript text online at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5131955)
(Rich palynoloflora assemblages of volcaniclastic turbiditic Foura Sandstone Member in Babulu Fm in Timor-Leste. Correlates with U Ladinian- Carnian upper Staurosaccites quadrifidus–?lower Samaropollenites speciosus spore-pollen zones of Australia. High diversity conifer pollen indicates 'Onslow' paleobiogeographic floral belt (= rel. warm Tethyan margin Triassic assemblage)).

Pires, J., E.A. Subroto & A.H.P. Kesumajana (2024)- Studi geokimia organik batuan sedimen berumur Trias di Cekungan Maliana, Timor-Leste: tinjauan awal kemungkinan sebagai batuan induk. Lembaran Publikasi Minyak dan Gas Bumi (LPMGB) Lemigas, 58, 1, p. 26-36.
(online at: https://journal.lemigas.esdm.go.id/index.php/LPMGB/article/view/1614)
('Organic geochemical studies of Triassic sedimentary rocks in the Maliana Basin, Timor-Leste: a preliminary review of possible source rocks'. Source rock geochemistry of 136 samples from Triassic Babulu and Aitutu Fms in Maliana Basin, Bobanaro area, Timor Leste. Generally high level of maturity (>440°C for Tmax and 0.8% Ro (in 'oil window'). Babulu Fm TOC 0.5- 5.5%, Aitutu Fm 0.5-12.3%. Effective source rocks)

Poynter, S., A. Goldberg & D. Hearty (2013)- Sedimentary and structural features of the Plio-Pleistocene Timor accretionary wedge. In: M. Keep & S.J. Moss (eds.) The sedimentary basins of Western Australia IV, Proc. Petroleum Exploration Society Australia (PESA) Symposium, Perth, p. 1-23.

(ENI seismic interpretation of accretionary wedge offshore and onshore SW Timor Leste, at N side of Timor Trough (with 1975 Woodside-Burmah Oil well Mola 1). Thrust stack overlain unconformably by deep marine to alluvial syn-orogenic sediments of Plio-Pleistocene Viqueque Gp (~5.5-Recent) in multiple mini-basins/ depocenters. Basal decollement can be traced for 50 km below accretionary wedge on seismic data, which probably is around Aptian near frontal wedge and steps down to Jurassic mudstone-rich and likely overpressured Wailuli Fm towards S Timor coast (also observed in Banli 1 well in W Timor, at base of highly imbricated Kolbano Group with thicker thrust sheets of Mesozoic and Permian units below.Etc.)

Praptisih (1996)- Facies batugamping terumbu koral Kuarter di daerah Kupang dan sekitarnya, Timor. Proc. 25th Annual Conv. Indonesian Association Geologists (IAGI), Bandung, 2, p. 233-241.
('Quaternary coral reefal limestone facies in the Kupang area and surroundings, Timor')
(Facies of Quaternary coral reefal limestone in the area of Kupang and surroundings. See also Hantoro (1994))

Prasetyadi, C. (1995)- Structure and tectonic significance of the Aileu Formation, East Timor. Masters Thesis, West Virginia University, p. 1-144. *(Unpublished)*

Prasetyadi, C. & R.A. Harris (1996)- Structure and tectonic significance of the Aileu Formation, East Timor, Indonesia. Proc. 25th Annual Conv. Indonesian Association Geologists (IAGI), Bandung 1996, 3, p. 144-173.
(online at: https://geology.byu.edu/0000017e-45f2-d45c-affe-d5f2e3710000/1996-aileu-pras-harris-pdf)
Structural analysis of C Timor Aileu Fm, which is metamorphosed sandstone, shale, limestone and intrusives. In S transitional to unmetamorphosed Permian- Jurassic Maubisse Fm. Metamorphic grade increases from sub-greenschist in S to amphibolite along N coast. At least 3 deformation phases: (D1) Mesozoic?- extensional, (D2) tight folding, tied to arc-continent collision, (3) youngest: compressional stack cut down to N by normal faults along N coast of Timor)

Prastian, A.H., Y. Aribowo & A.K. Permana (2014)- Analisis fasies batuan Perm-Trias dan prospeksi batuan induk dan reservoir di cekungan Timor, Nusa Tenggara Timur. Proc. 43rd Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, PIT IAGI 2014-030, p. 1-17.
(online at: https://www.iagi.or.id/web/digital/6/2014_IAGI_Jakarta_Analisis-Fasies-Batuan.pdf)
('Facies analysis of Permian-Triassic rocks and prospecting of source rock and reservoir in the Timor basin, East Nusa Tenggara'. Permian and Triassic clastics in Kekneno- Nenas area mainly in deep marine fan facies. Kerogens of black shale of Niof Fm with high vitrinite (65-87%) and >95% gas-prone kerogens. Sandstones generally poor reservoir quality (porosity 2-6%))

Quigley, M. C., B. Duffy, J. Woodhead, J. Hellstrom, L. Moody, T. Horton, J. Soares & L. Fernandes (2011)- U/Pb dating of a terminal Pliocene coral from the Indonesian Seaway. Marine Geology 311-314, p. 57-62.
(Platygyra coral from exhumed syn-orogenic marine sediments on Timor (Late Pliocene turbiditic upper part of Viqueque Fm in Cuha River N of Viqueque) dated with U-Pb techniques as 2.66 ± 0.14 Ma. Age supported by 87Sr/86Sr chemostratigraphy and foraminiferal biostratigraphy. Onset of turbiditic deposition with Banda Terrane-derived detritus mark Timor's emergence from beneath waters of Indonesian Seaway is within planktonic foram zone N20, timed at ca. 3.35-2.66 Ma)

Ramos-Horta, J. & P. Vickers-Rich (2009)- O Mundo Perdido Timor-Leste. Monash University Science Center, Clayton, Melbourne, p. 1-32.
(online at: www.geosci.monash.edu.au/precsite/docs/educational/o-mundo-perdido-english.pdf)
('The Lost World of Timor-Leste'. Portuguese and English editions. Children's book on the geological history of Timor Leste)

Rau, J.L. (2002)- Mineral-hydrocarbon database and bibliography of the geology of East Timor. United Nations (UNESCAP), Bangkok, p. 1-284.
(online at: https://www.laohamutuk.org/OilWeb/RDTLdocs/ESCAP/Rau.pdf)
(Review of geology and mineral occurrences of Timor Leste, and 74-page bibliography on Timor and surrounding areas)

Reed, T.A., M.E.M. de Smet, B.H. Harahap & A. Sjapawi (1996)- Structural and depositional history of East Timor. Proc. 25th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, 1, p. 297-312.
(Summary of report of 1994 Mobil-GRDC fieldwork in E Timor. Propose mid-Eocene age for collision/ ophiolite obduction event of 'allochthonous' Banda terrane and Australian continent. Second pulse of thrusting and partial Australian Plate subduction latest Miocene- today)

Renz, C. (1906)- Uber Halobien und Daonellen aus Griechenland nebst asiatischen Vergleichsstucken. Neues Jahrbuch Mineralogie Geologie Palaontologie, 1906, 1, p. 27-40.
(online at: https://www.zobodat.at/pdf/Neues-Jb-Min-Geol-Palae_1906_0027-0040.pdf)
('On Halobia and Daonella from Greece, with comparison of Asian specimens'. Includes revisions of Rothpletz (1892, 1894) identifications of Triassic bivalves, and descriptions of Pseudomonotis and Daonella syriaca and D. cassiana from Roti (collected by Prof. A. Wichmann), and Daonella styriaca from Sumatra (collected by Volz 1899). Monotis salinaria of Rothpletz should be assigned to Pseudomonotis ochotica var. densistriata)

Renz, C. (1909)- Die Trias von Rotti und Timor im Ostindischen Archipel. Centralblatt Mineralogie Geologie Palaontologie, 1909, p. 355-361.
(online at: https://www.zobodat.at/pdf/Centralblatt-Mineral-Geol-Palaeont_1909_0355-0361.pdf)
('The Triassic of Roti and Timor in the East Indies archipelago'. U Triassic thin-bedded limestones on Roti island with common bivalve molluscs, incl. Monotis salinaria. Discussion on use of genus name Daonella vs. Halobia and Monotis. Halobia cassiana described by Rothpletz (1892) = Daonella styriaca. With illustrations of Daonella styriaca and D. wichmanni from Roti)

Retgers, J.W. (1895)- Mikroskopisch onderzoek van gesteenten uit Nederlandsch Oost-Indie, D.I. Gesteenten van Timor en onderhoorigheden. Jaarboek Mijnwezen Nederlandsch-Indie 1895, Wetenschappelijk Gedeelte, p. 139-148.
('Rocks from Timor and dependent areas'. Brief petrographic descriptions of rocks from Junilo District (serpentinite, andesite, diabase, gabbro, hornblende schist. Also similar rocks from other parts of W Timor. No locality maps, no plates)

Riding, R. & S. Barkham (1999)- Temperate water *Shamovella* from the Lower Permian of West Timor, Indonesia. Alcheringa 23, p. 21-29.
(Problematic sponge-like calcareous fossil generally called Tubiphytes is common in Permian- Triassic reefs. Here called Shamovella obscura and locally abundant in Late Sakmarian Hoeniti Mb of Maubisse Fm near Bisnain, eastern W Timor, associated with brachiopods of temperate water affinity)

Riedel, W.R. (1953)- Mesozoic and late Tertiary Radiolaria of Rotti. Journal of Paleontology 27, 6, p. 805-813.
(Re-examination of radiolarian fauna first described by Tan Sin Hok (1927) from calcareous sediments from Bebalain, Rotti (Rote) Island. Fauna was erroneously assigned a 'probably Pliocene 'age by Tan, but contains mostly Early Cretaceous taxa (Spongosaturnalis, Stylosphaera, Tricolocapsa, Stichomitra etc.) (NB: Cretaceous radiolaria species are not reworked: Cretaceous marls of Roti were erroneously lumped together by TSH with nearby Pliocene marls, which contain Pliocene- Pleistocene calcareous nannofossils; JTvG)

Ritsema, L. (1951)- Description de quelques Alveolines de Timor: resultat d'une elaboration de la methode des courbe d'indice de Reichel. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, B54, 2, p. 174-182.
('Description of some alveolinids from Timor'. Eocene Alveolina limestones, collected by F.P. van West in Miomaffo region, W Timor, in late 1930s. Five species identified)

Ritsema, A.R. (1956)- Gravity measurements on Timor Island. Indonesian J. Natural Science (Majalah Ilmu Alam untuk Indonesia) 112, 2, p. 171-174.
(Highest positive gravity anomalies in area of young volcanic rocks on N coast. Strip of small negative values in Central basin probably related to Nikiniki fault. Good correspondence of anomalies with geologic units)

Ritsema, A.R. (1956)- Two gravity profiles across Timor Island. Verhandelingen Kon. Nederlands Geologisch Mijnbouwkundig Genootschap, Geologische Serie 16 (Gedenkboek Brouwer), p. 380-385.
(Two N-S gravity profiles across W Timor: Kupang- Buan and Ocussi- Kolbano, Surveyed in 1954. All Bouguer anomalies of Timor island are positive, with highest values near N coast. Lowest and possibly negative Bouguer anomaly in narrow strip around Nikiniki and Central Depression)

Robba, E., S. Sartono, D. Violanti & E. Erba (1989)- Early Pleistocene gastropods from Timor (Indonesia). Memorie di Scienze Geologiche, Padova, 41, p. 61-113.
(Rich marine gastropod fauna (56 species) and foraminifera from E Pleistocene marl (Batuputih Fm) from Oe Sapi creek, Tinu, 1 km NE of Atambua town, W Timor, collected during 1954-1957 ITB expeditions. Lyellian percentage of living species 56%. Associated with rich marine foraminiferal fauna (85% planktonics, incl. Globorotalia tosaensis, but no G. truncatulinoides). Common Neogloboquadrina dutertrei and presence of Neogloboquadrina pachyderma suggesting upwelling of cold currents. Interpreted to be deposited in 150-250m of water, influenced by cold currents)

Rocha, A. Tavares & M. de Lourdes Ubaldo (1964)- Foraminiferos do Terciario Superior e do Quaternario da provincia Portuguesa de Timor. Memorias Junta de Investigacoes do Ultramar 51, Lisbon, p. 1-180.
('Foraminifera of the Late Tertiary and Quaternary of the Portuguese province of Timor'; in Portuguese)

Rocha, A. Tavares & M. de Lourdes Ubaldo (1964)- Contribuicao para o estudo foraminiferos do Terciario superior de Timor. Garcia de Orta: Revista da Junta de Investigacoes do Ultramar 12, 1, p. 153-158.
('Contribution to the study Late Tertiary foraminifera of Timor')

Romariz, C. (1962)- Notas sobre rochas sedimentares Portuguesas. V. Um cherte do 'complexo argiloso' de Timor. In: Estudos Oferecidos em homenagem ao Prof. J. Carrington da Costa, Junta Investigacoes do Ultramar, Lisbon, p. 287-290.
('Notes on Portuguese sedimentary rocks, V. On chert of the argillaceous complex of Timor')

Romariz, C. & J. de Azeredo Leme (1967)- Subsidios para a petrografia timorense. Calcarios de fato. Garcia de Orta: Revista da Junta de Investigacoes do Ultramar, Lisbon, 15, 1, p. 111-122.
('Contributions to Timor petrography: Fatu limestones')

Roniewicz, E. & G.D. Stanley (2009)- *Noriphyllia*, a new Tethyan Late Triassic coral genus (Scleractinia). Palaeontologische Zeitschrift 83, 4, p. 467-478.
(online at: www.researchgate.net/publication/225925693_Noriphyllia_a_new_Tethyan_Late_Triassic Etc.)
(Noriphyllia new genus of solitary coral, with two new E Norian and one Carnian species. Widely distributed in E Norian reef facies of Tethys region and present in Carnian of Timor. Noriphyllia monatutoensis n.sp. with type locality at Saututun, Manatuto, Timor Leste, in Carnian Babulu Fm limestone (exotic boulders?))

Roniewicz, E., G.D. Stanley, F. Da Costa Monteiro & J.A. Grant-Mackie (2005)- Late Triassic (Carnian) corals from Timor-Leste (East Timor): their identity, setting and biogeography. Alcheringa 26, 2, p. 287-303.
(online at: https://www.researchgate.net/profile/G-Stanley-Jr/publication/233345639_Late_Triassic_Carnian_corals_from_Timor-Leste_East_Timor_Their_identity_setting_ Etc.))
(Four coral taxa from Late Triassic limestone in Babulu Fm sst-shale sequence at Manatuto, E Timor N coast (incl. Paravolzei, Craspedophyllia, Margarosmilia confluens). Affinities to Carnian faunas from Italy. Previously, only Norian corals known from Timor Triassic. Carnian faunas help confirm paleogeographic affinities with W Tethys (NB: stratigraphically above Norian dinoflagellate Wanneria listeri (Da Costa Monteiro 2003 in Charlton et al. (2009), suggesting possible Norian age for these corals?; JTvG))

Roosmawati, N. (2005)- Long-term surface uplift history of the active Banda Arc-continent collision: depth and age analysis of foraminifera from Rote and Savu Islands, Indonesia. M Sc. Thesis, Brigham Young University, p. 1-120.
(online at: http://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=1558&context=etd.)
(Foraminifera documentation of Pliocene age and deep water facies of Batu Putih Fm marls on Rote and Savu)

Roosmawati, N. & R. Harris (2009)- Surface uplift history of the incipient Banda arc-continent collision: geology and synorogenic foraminifera of Rote and Savu Islands, Indonesia. Tectonophysics 479, p. 95-110.
(online at: www.academia.edu/13179907/Surface_uplift_history_of_the_incipient_Banda_arc_continent Etc.)
Synorogenic pelagic units of Rote and Savu show rapid uplift of Banda arc-continent collision in past 1.8 Myr. Synorogenic Batu Putih Fm unconformably over accreted units, aged N18- N22 (5.6- 1.0 Ma), deposited at depths of ~3000m and unconformably overlain by uplifted coral terraces. Highest coral terraces in Savu 300m above sea level; in Roti up to 200m. Collision of Australian margin with Banda Arc earlier in Timor, propagated W to Roti (initial stages of accretionary wedge emergence). Collision of Scott Plateau propagated SE from Sumba (2-3 Ma) to Savu (1.0- 0.5 Ma), then to Roti (0.2 Ma). Average uplift of Batu Putih Fm pelagics in past 2 Myr in Roti and Savu ~1.5 and 2.3 mm/yr. Rise of islands is clogging Indo-Pacific seaway)

Roosmawati, N., R.A. Harris, H. Nugroho et al. (2004)- Long-term surface uplift history of the active Banda arc-continent collision: depth and age analysis of foraminifera from Rote and Savu Islands, Indonesia. Abstract Geological Society of America (GSA) 2004 Denver Annual Meeting, Paper No. 152-15.
(Synorogenic deposits in W Roti outcrops are of Late Pliocene age (zone N21; 3.1-1.8 Ma) with paleowater depths deeper than 2500m. Banda arc-continent collision arrived in Roti after ~3 Ma, possibly later in Savu)

Rose, G. (1994)- Late Triassic and Early Jurassic radiolarians from Timor, Eastern Indonesia. Ph.D. Thesis, University of London, p. 1-384.
(online at: https://discovery.ucl.ac.uk/id/eprint/10080056/3/10080056_Rose_thesis.pdf)
Rich Upper Carnian- Rhaetian radiolarian faunas from Aitutu and Wai Luli Fms in River Meto sections, central W Timor. Additional material collected from presumed Triassic on Buton, Leti, Moa, Babar, but no radiolarians recovered. Timor Triassic radiolarian assemblages differ from European Tethys, Philippines and Japanese assemblages. E Jurassic assemblages closer to Japan than other areas. Apparent Late Rhaetian- E Sinemurian time gap at Triassic-Jurassic boundary (Carter 2007: Rhaetian radiolarian faunas from W Timor with some cosmopolitan taxa, but others have stronger affinities with those in Japan and Philippines)

Rosidi, H.M.D., S. Tjokosapoetro, S. Gafoer & K. Suwitodirdjo (1979)- Geologic map of the Kupang-Atambua Quadrangles, Timor, 1: 250,000. Geological Research Development Centre (GRDC), Bandung, p. 1-15.
(1:250,000 surface geology of westernmost Timor, and Roti and Savu islands; see also 2nd edition- 1996))

Rothpletz, A. (1891)- The Permian, Triassic and Jurassic formations in the East Indian Archipelago (Timor and Rotti). American Naturalist 25, p. 959-962.
(online at: https://www.jstor.org/stable/pdf/2451927.pdf)
(Early summary paper on 'new' Timor- Roti fossils, based on Wichmann collection. Timor Late Paleozoic fossils here regarded as Permian in age, not Carboniferous as previously thought (see also more extensive paper by Rothpletz (1892;and reprint of 1894))

Rothpletz, A. (1892)- Die Perm, Trias- und Jura-Formation auf Timor und Rotti im Indischen Archipel. Palaeontographica 39, 2-3, p. 57-106.
(online at: https://www.zobodat.at/pdf/Palaeontographica_39_0057-0106.pdf)
('The Permian, Triassic and Jurassic formation on Timor and Roti in the Indies Archipelago'. Descriptions of many new Permian- Jurassic macrofossils from Indonesia, mainly collected by Prof. A. Wichmann (Utrecht) in 1888-1889. Permian-Triassic material from mud Ayer Mati area, SE of Kupang, W Timor, includes Permian brachiopods (Spirifer spp., Productus spp., Spirigera, Lyttonia (=Leptodus), Rhynchonella), bivalve Atomodesma, coral Zaphrentis, ammonites Arcestes and Cyclolobus persulcatus and crinoids. From Roti some Permian fossils from mud volcano material. Also white-red thin-bedded limestones with 'alpine' U Triassic Monotis salinaria and Halobia spp. Also in mud volcano material: 'Tethyan' Early Jurassic ammonites Arietites spp. and Stephanoceras (Coeloceras) and M Jurassic Belemnites gerardi (This paper first established the E-ward continuation of the classic Mesozoic facies of the Mediterranean-Himalaya Tethys Ocean belt of Suess and others into the Indonesian region; JTvG)

Rothpletz, A. (1894)- Die Perm, Trias- und Jura-Formation auf Timor und Rotti im Indischen Archipel. Jaarboek Mijnwezen Nederlandsch Oost-Indie 23 (1894), Wetenschappelijk Gedeelte, p. 5-98.
('The Permian, Triassic and Jurassic formation on Timor and Roti in the Indies Archipelago'. Reprint of Rothpletz (1892) Palaeontographica paper. Descriptions of many new Permian- Jurassic macrofossils from Indonesia)

Rutten, L.M.R. (1927)- Geologie van Timor. In: L.M.R. Rutten (1927) Voordrachten over de geologie van Nederlandsch Indie, Wolters, Groningen, p. 679-704.
(online at: https://resolver.kb.nl/resolve?urn=MMKB02:000119126:pdf)
(Review of geology of Timor in Rutten's classic lecture series book)

Sahudi, K. & R.N. Baik (1993)- Play concept of hydrocarbon exploration in East Timor. Proc. 22nd Annual Conv. Indonesian Association Geologists (IAGI), Bandung 1993, 2, p. 913-924.
(online at: https://www.iagi.or.id/web/digital/53/22nd-Volume-2-(6-9-Des-1993)-311-322.pdf)
(In Indonesian. Brief overview of E Timor hydrocarbon exploration and plays. Exploration in E Timor since 1908. By mid-1970's 21 wells drilled. Oil tested in Matai 1 (180 BOPD) and Cota Taci (1974, 200 BOPD). Two main plays: (1) pre-collision thrusted anticlines, with reservoirs in Permian- Jurassic rocks; (2) post-collision: Late Miocene Viqueque sandstones in rollover anticlines and downthrown blocks of listric faults)

Sampurno & B. Brahmantyo (1991)- Geologi batuan marmer Gunung Fatufutik, Kabupaten Manatuto, Propinsi Timor Timur. Proc. 20th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, p. 591-604.
(online at: https://www.iagi.or.id/web/digital/49/20th-(10-12-Des-1991)-41.pdf)
('Geology of marble rocks at Fatu Futik Mountain, Manatuto District, Tmor Leste'. Mainly evaluation of quality and volumes of of marble deposit at Mt Futuputik, NE Timor Leste. Marble of ?Permian age (Aileu Fm), S-dipping, intercalated in other metasediments))

Sani, K., M.I. Jacobson & R. Sigit (1995)- The thin-skinned thrust structures of Timor. Proc. 24th Annual Conv. Indonesian Petroleum Association (IPA), p. 277-293.
(Amoseas fieldwork and Banli 1 well data. Kolbano foldbelt series of thrusts of Triassic-Tertiary Australian shelf sediment. Restorations suggest shortening of ~45 km (65%) mainly between 2.2- 1.6 Ma, after which main deformation jumped S to present-day Timor Trough. Total shortening, excluding shortening under Timor Trough, may be 208 km. Onset of collision probably ~3.7 Ma; subduction locked up ~1.6 Ma)

Santy, L.D. & A.J. Widiatama (2017)- Perbandingan provenance Formasi Babulu dan Formasi Oebaat Pulau Sabu, NTT. Proc. Joint Convention HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, p. 1-5.
('Comparison of provenance of the Babulu and Oe Baat Formations of Savu Island, NTT'. Sandstone petrography of (1) Late Triassic Babulu Fm (quartz 21-54%, feldspar 3-18%, and mainly metamorphic rock fragments 1-28%; recycled orogen) and earliest Cretaceous Oe Baat Fm (quartz 72-99%, feldspar 1-4%, rock fragments 0-5%; craton interior))

Sapiie, B., H. Tiranda, A.H. Harsolumakso, E. Reski, M. Hadiana, D. Danil, C.I. Abdullah & A. Rudyawan (2017)- New insight of fold-thrust belt evolution as implication of hydrocarbon prospect in the West Timor Island, Indonesia. AAPG Annual Convention Exhibition, Houston 2017, 1p. *(Poster Presentation)*
(online at: https://www.researchgate.net/publication/333309038_POSTER_TIMOR-ACE_AAPG_Houston_2017_New_Insight_of_Fold-Thrust_Belt_Evolution_as_Implication_of_Hydro Etc.)

Sarmento, O., N. Boavida, A. Lira, C. Cardoso, A. Araujo, A. Freitas, E. Afonso & K. Martins (2023)- Microfacies analysis and depositional environment of complex limestone along Southeastern edge of Matebian Range, Baguia-Timor Leste. Timorese Academic J. Science and Technology 6, p. 225-236.
(online at: http://fect.untl.edu.tl/tajst_article-138-tp.html)
(Somewhat disjointed discussion of deep and shallow marine limestones of Triassic-Jurassic, Upper Cretaceous, Eocene and Miocene ages in outcrops of SE Matebian Range of Timor Leste. No locality details)

Sartono, S. (1964)- Cretaceous foraminiferal fauna from the Kekneno tectonic unit of Bokon area in Timor, Indonesia.Proc. 22nd International Geological Congress, New Delhi 1964, 8, Palaeontology and Stratigraphy, p. 407-416.

Sartono, S. (1975)- The age of Kekneno Formation in Timor, Indonesia. Geologi Indonesia 2, 2, p. 29-37.
(Limestone samples from Bokon area, E of Ocussi in NE part of W Timor, from banded limestones and cherty shales in upper Kekneno Fm (= tectonically lowest 'para-autochthonous' unit; mainly Permo-Triassic clastics), with middle-upper Cretaceous planktonic forams (Globotruncana appeninica, Gumbelina, Ventilabrella). No evidence of Jurassic sediments here)

Sartono, S. (1980)- The Ofu Series in West Timor (East Indonesia). Buletin Departemen Teknik Geologi Institut Teknologi Bandung (ITB) 1, p. 1-10.

Sartono, S. & T. Djubiantono (1982)- Pengembangan potensi airtanah cekungnan Kuarter Atambua, Timor Barat. Riset Institut Teknologi Bandung (ITB) 1981-1982, p.
('Potential development of groundwater in the Quaternary Atambua basin'. Recognized four main Pleistocene river terraces in Atambua area)

Sartono, S. & M. Koesmono (1975)- Recognition of the geological units in Timor; a bimodal approach. Geologi Indonesia 2, 3, p. 29-34.
(Proposal for another mixed lithostratigraphic- tectonic scheme for geologic units of Timor)

Sartono, S., B. Suprapto, K. Poncomoyono & I. Hendrobusono (1992)- Kerangka tektonostratigrafi Timor, Indonesia Timur. Proc. 21st Annual Conv. Indonesian Association Geologists (IAGI), Yogyakarta, 2, p. 547-563.
(online at: https://www.iagi.or.id/web/digital/50/21th-Vol-II-(7-10-Des-1992)-177-194.pdf)
('Tectonostratigraphic framework of Timor, East Indonesia'. Timor situated in accretionary zone. Tectonic melange wedges formed during Laramide (= End Cretaceous) tectonization. Olistostromes of late E Miocene form largest part of island (Bobanaro scaly clay in Timor Leste= Sonnebait tectonic unit in West Timor). Eocene- E Miocene gravity tectonics important; normal sedimentary units from Late Miocene- Quaternary. Comparison tables of formation names and tectonic units in E and W Timor)

Sashida, K. (2001)- Status of Paleozoic and Mesozoic radiolarian study in Thailand and Timor Island, Indonesia. In: A. Matsuoka (ed.) Paleoceanography of the Panthalassa-Tethys, Invitation to global field science topics in paleontology, Paleontological Society Japan, 2, p. 25-30.

Sashida, K., S. Adachi, K. Ueno, Y. Kamata & Munasri (1998)- Triassic radiolarian faunas from West Timor, Indonesia. Abstracts Interrad VIII Conference, Paris, Radiolaria 16, 1p. *(Abstract only)*
(Allochthonous blocks of Aitutu Fm fine-grained radiolarian limestone in Bobonaro melange. Four different localities and radiolarian faunas: (A) Late Anisian, (B) Carnian, (C) Norian and (D) Rhaetian. All are Tethyan-Panthalassa faunas and suggest rel. warm water conditions in Triassic)

Sashida, K., S. Adachi, K. Ueno & Munasri (1996)- Late Triassic radiolarians from Nefokoko, west Timor, Indonesia. In: H. Noda & K. Sashida (eds.) Professor H. Igo Commemorative volume on Geology and Paleontology of Japan and Southeast Asia, Gakujyutsu Tosho Insatsu, Tokyo, p. 225-234.
(Siliceous bedded limestone block ('Aitutu Fm') embedded in Bobonaro melange in NW part of W Timor with radiolarians and conodonts interpreted as Carnian in age)

Sashida, K., Y. Kamata, S. Adachi & Munasri (1999)- Middle Triassic radiolarians from West Timor, Indonesia. Journal of Paleontology 73, 5, p. 765-786.
(Block of probably allochthonous Aitutu Fm radiolarian calcilutite from Bobonaro melange 3 km W of Kefamenau contains abundant E Ladinian typical low-latitude Tethyan forms, similar to European Tethys. Aitutu Fm deposited in warm-water, oceanic environment, far from land area, in low latitude Tethyan realm)

Sashida, K. & Munasri (1999)- Tethyan and non-Tethyan Early Cretaceous radiolarian faunas from the Nakfuna Formation, Kolbano area, West Timor, palaeogeographic and tectonic implication. In: H. Darman & F.H. Sidi (eds.) Proc. Tectonics and sedimentation of Indonesia seminar, Bandung 1999, Indonesian Sedimentologists Forum (FOSI), Special Publ. (Abstracts volume), 1, p. 88-91.

Sashida, K., Munasri, S. Adachi & Y. Kamata (1999)- Middle Jurassic radiolarian fauna from Rotti Island, Indonesia. J. Asian Earth Sciences 17, 4, p. 561-572.
(Folded 'Wai Luli Fm' calcareous shale near Baa at NW coast of Roti with Late Bajocian- Early Bathonian low-latitude 'Tethyan' radiolarian assemblage of Tricolocapsa plicarum Zone. Believed to be deposited in deep ocean, far from land. In same areas also Late Triassic and Early Cretaceous thin-bedded limestones with radiolarians Assemblage of 15 species of 7 genera, dominated by Tricolocapsa spp., Stichocapsa spp., Archaeodictyomitra spp. and Cyrtocapsa. New species Tricolocapsa multispinosa and T. matsuokai)

Sashida, K., Munasri, S. Adachi & K. Ueno (1996)- Early Cretaceous radiolarian faunas from the Nunleo area in southwest Timor, Indonesia. In: B. Ratanasthien & S.L. Rieb (eds.) Proc. Int. Symposium on Geology and Environment, Chiang Mai, Thailand, p. 223. *(Abstract only)*
(online at: http://library.dmr.go.th/Document/Proceedings-Yearbooks/M_1/1996/)
(Well-preserved E Cretaceous radiolaria assemblages in abyssal calcilutite of Nunleo area of Kolbano Complex, SW Timor: (1) late Berriasian- Valanginian, with non-Tethyan genera Parvicingula, Eucyrtis, Eusyringium and Spongocapsula (similar to NE Indian Ocean faunas); (2) Hauterivian- Barremian Dibolachras tytthopora assemblage, with Tethyan and non-Tethyan species)

Sawyer, R.K., K. Sani & S. Brown (1993)- The stratigraphy and sedimentology of West Timor, Indonesia. Proc. 22nd Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, 1, p. 533-574.
(Amoseas W Timor fieldwork, stratigraphy overview. Three main packages in Permian-Neogene outcrops on West Timor: (1) E Permian- E Pliocene sediments deposited on Gondwana and Australian continental- oceanic crust (Kekneno and Kolbano Sequences), (2) Neogene syn- and post-orogenic sediments (Viqueque Sequence) and (3) Lower Cretaceous-Neogene volcanic arc and forearc basin sediments of Banda Terrane. Age of Oe Baat Fm glauconitic sandstone of Kekneno seriesof SW Timor revised to Tithonian- Berriasian (equivalent of Flamingo Gp of NW Shelf, Buya Fm of Sula, Woniwogi Fm of W Papua, etc.))

Schneider, C.F.A. (1863)- Bijdrage tot de geologische kennis van Timor. Natuurkundig Tijdschrift voor Nederlandsch-Indie 25, p. 87-107.
('Contribution to the geological knowledge of Timor'; in Dutch. One of first geological descriptions of Timor (Kupang area), by German physician Schneider. Young coral limestone terraces, oolitic limestones, manganese beds, dark clays green sandstone-marl with brachiopods (Spririfer, Orthis, Terebratula, etc.), believed to be of Jurassic age. Also near Bakoelnassi bright-colored marls and sandstones with Gervillea and Trigonia, crinoid limestones, Cretaceous chalk, basaltic diorite near Tabeno, etc. According to locals, skeleton of giant fish was found near Ikafoti (= Ichthyosaurus?; JTvG). No maps or figures)

Schneeberger, W.F. (1950)- Notes on the oil prospects of Portuguese Timor. Bureau of Mineral Resources (BMR), Record 1950/46, p. 1-6.
(online at: https://d28rz98at9flks.cloudfront.net/9461/Rec1950_046.pdf)
(Unpublished review report. Two main geologic unit (1) The Fatu Complex (overthust; crystalline schists, Permian red crinoidal limestones, Triassoc- Eocene limestones and Miocene limestone; of no interest for oil and gas) and (2) The autochthonous Series (thick, intensely folded Permian- Triassic- Jurassic geosynclinal series; all major oi1- and gas seepages occur in thin series; unconfomably overlain by U Cretaceous-Eocene with block clays with older rocks. Etc.), Numerous oil-gas seeps in S part of island, presumably sourced by Triassic-Jurassic source rocks. Complioated structure of' entire Pre-Pliocene might be a detrimental factor to the formation of pools of large size. "Establishing commercial production would be a difficult task")

Schoor, D.I.E., S.K. Donovan & G.D. Webster (2020)- Platycrinitid (Monobathrida) crinoid columnals from the Permian of Timor: Form, function, protection and intimate associations. Proc. Geologists Association, London, 131, 6, p. 667-678.

(online at: https://www.researchgate.net/publication/343208224_Platycrinitid_Monobathrida_crinoid_columnals_from_the_Permian_of_Timor_Form_function_protection_and_intimate_associations)
(Specialist discussion of Permian platycrinitid crinoids from Artinskian-Roadian of Basleo area, West Timor)

Schoor, D.I.E., S.K. Donovan & G.D. Webster (2020)- *Camptocrinus* Wachsmuth & Springer or *Neocamptocrinus* Willink? Distinctive crinoid columnals from the Permian of Timor. Alcheringa 44, 1, p. 56-63.
(online at: https://www.researchgate.net/publication/335811578_Camptocrinus_Wachsmuth_Springer_or_Neocamptocrinus_Willink_Distinctive_crinoid_columnals_from_the_Permian_of_Timor)
(Discussion of generic attribution of Camptocrinus indoaustralicus Wanner from Tethyan Permian of Timor (possibly belongs to Neocamptocrinus Willink, 1980))

Schubert, R. (1915)- Die Foraminiferen des jungeren Palaozoikums von Timor. Palaontologie von Timor, Schweizerbart, Stuttgart, 2, 3, p. 47-60.
(online at: https://opac.geologie.ac.at/ais312/dokumente/Wanner_1925_Timor_II.pdf)
('The foraminifera of the younger Paleozoic of Timor'. Classic, first paper on Timor Permian fusulinid and smaller foraminifera from many West and East Timor localities, collected by Wanner, Molengraaff and Weber expeditions, all in or around 1911 (no maps) (here thought to be of Late Carboniferous age, but placed in Early Permian by later workers). Four species of fusullinids described. With Fusulina wanneri n.sp, (Parafusulina wanneri is type species of Monodiexodina; JTvG), Fusulina granum avenae, Fusulina molengraaffi n.sp, (later Eoparafusulina molengraafi), Fusulina weberi n.sp. (later workers assigned to Palaeofusulina and Landschichtites), Geinitzina chapmani n.sp.etc.)

Schubert, R. (1915)- Uber Foraminiferengesteine der Insel Letti. Jaarboek Mijnwezen Nederlandsch Oost-Indie 43 (1914), Verhandelingen 1, p. 169-187.
(online at: https://www.marinespecies.org/foraminifera/aphia.php?p=sourceget&id=473511)
(('On the foraminifera-bearing rocks of the island of Leti'. Abundant, rel. large elongate Permian fusulinids in loose limestone blocks, described as Doliolina lepida var. lettensis (Thompson 1948: small fauna of verbeekinids described here from Leti is different from Timor fusulinid assemblages). Includes Upper Cretaceous Globotruncana linneana-rich limestone, probably reworked into E Miocene. E Miocene Lepidocyclina and Heterostegina (= Spiroclypeus; JTvG))

Setyowati, T.P., M.B. Wiranatanagara, Y.P. Nusantara & J.S. Hadimuljono (2022)- Source rock evaluation and oil to source rock correlation of Atambuamalaka area, West Timor. Proc. 46th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA22-G-219, p. 1-10.
(Late Triassic-Early Jurassic Aitutu Fm marine carbonaceous shales in outcrop out in Atambua-Betun area near W Timor - Timor Leste border show poor-good source rock potential. Mainly Type I/II kerogens. Biomarkers suggest estuarine to open marine environment. Maturity peak to late mature based on vitrinite reflectance (0.7-1.3 % Ro). Outcrop samples geochemically similar to oil seep in Wemasa Beach, W Timor)

Shaylendra, Y., Q. Adlan & A.H.P. Kesumajana (2017)- Petroleum system play failure on Triassic source rock in the West Timor onshore area: basin modeling and oil to source rock correlation. Proc. 41st Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA17-253-G, p. 1-24.
(Lemigas study of Triassic Aitutu Fm rock samples from Kekneno area, W Timor. Modeling (using Charlton scenario) suggests Aitutu Fm source rock began to reach oil window in Late Triassic and reached gas window in M Jurassic. This source rock already expelled hydrocarbons for long time and likely not preserved in present day structures (N.B. This scenario is contradicted by rel. low vitrinite maturity values of 0.61- 0.94% Ro?; page 3; JTvG))

Shimizu, D. (1966)- Permian brachiopod fossils of Timor (Palaeontological study of Portuguese Timor, 3). Memoirs Faculty of Science, Kyoto University, Ser. B, Geology and Mineralogy, 32, 4, p. 401-427.
(online at: https://repository.kulib.kyoto-u.ac.jp/dspace/bitstream/2433/258739/1/mcsuk-b_32_4_401.pdf)
(17 brachiopod species from E Timor localities suggest Early Permian age. At some localities in part of autochthonous complex of reddish or purplish brown tuffaceous shale; in others associated with purplish

tuffaceous, occasionally argillaceous limestones and shales (characterized as 'Bitauni fauna' by Waterhouse (1973)= Artinskian?; JTvG). With Stenoscisma "purdoni" in 'overthrust complex' at Hato Dame)

Sieverts, H. (1933)- *Jouannetia cumingi* (Sowerby) aus den Pliocan von Timor nebst Bemerkungen uber andere arten dieser Gattung. Beitrage zur Palaeontologie des Ostindischen Archipels 6, Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 71, p. 267-307.
('Jouannetia cumingi from the Pliocene of Timor, with remarks on other species of this genus'. Detailed description of pholadid boring bivalve from Late Pliocene- Pleistocene raised coral reefs, now at 500-700m above sea level, in Basleo region of W Timor. This near-spherical shell species is known from Recent coral reefs of Indo-Pacific, drilling into coral bodies)

Simandjuntak, T.O., S. Aziz, Sukido & H. Samodra (1994)- Geological map of Indonesia, Kupang Sheet. 1: 1 million?, Geological Research and Development Centre, Bandung.

Simons, A.L. (1939)- Geological investigations in N.E. Netherlands Timor. Ph.D. Thesis University of Amsterdam, p. 1-110.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB21:038250000:00005)
(NE part of W Timor (S of Atapupu, W of Atambua) common serpentinites and associated amphibolite schists and undeformed Tertiary andesitic volcanics (incl. pillow lavas), overlain by Late Miocene and/or Pliocene 'Batu Putih' Globigerina marls with siliceous tuff interbeds near N coast. Permo-Triassic flysch, bathyal Mesozoic 'Sonnebait series' and massive Permian and Triassic 'Fatoe complex' limestones in S. Fig. 17 suggests serpentinites and diabase overlie Triassic Kekneno clastics, in turn overlain by Permo-Triassic Sonnebait and Fatoe limestones. Triassic sandstones rich in micas, tourmaline, zircon and garnet and derived from crystalline schists. Late Tertiary marly limestones with hornblende, augite, hyperstene, pointing to erosion of young volcanic deposits. Permian and Triassic in 3 different 'facies-tectonic associations'(thrust sheets?): Kekneno, Sonnebait and Fatoe. Folded pelagic Late Jurassic and Late Cretaceous sediments also present. Tectonic complexity and incomplete exposures prohibit stratigraphic colums or detailed cross-sections)

Simons, A.L. (1940)- Geological investigations in N.E. Netherlands Timor. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1937, 1, Noord Hollandsche Publ. Co., Amsterdam, p. 107-214.
(Same as Simons (1939), above)

Simamora, W.H. & M. Untung (1983)- Preliminary Bouguer anomaly gravity map of West Timor, 1:250,000. GRDC, Bandung.

Sinaga, S.H., R. Adiarsa, F. Al'ayubie, D. Aulia, I.A. Arindra, I.R. Sialagan & H. Tanjung (2011)- Geological observation of Soe, Kuanfatu, Kualin area and its implications for petroleum system of West Timor. Proc. 35th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, p. 1-16.
(Outcrop observations on W Timor. Some samples analyzed for geochemistry. Highest TOC 0.75-1.0% in Triassic-Jurassic Aitutu and Wailuli Fms)

Siwindono, T., B. Manumayoso, D. Priambodo & R.P. Yudantoro (1997)- Mesozoic exploration target in East Timor, Indonesia. 15th World Petroleum Congress, Beijing 1997, p. *(Abstract only*
(Suai-Betano block in S part of Timor Leste. Permian- E Miocene generally in thrust structures, post-collision M Miocene-Pleistocene sediment deposited in suspended basin pond. Bobonaro Fm melange deposits in many areas of Suai-Betano block, with exotic blocks of Permian age. Some nappe structures present. Between 1914-1974 23 exploration wells drilled in Timor Basin. Cota Taci-1 tested 200 BO/D and Matal-1 180 BO/D from Bobonaro exotic blocks. Suailoro-1 oil show (also in Bobonaro exotic block?). Many oil seeps in Mesozoic reservoirs: Fatuberliu oil seep (Wailuli Fm sst) and Bemetane oil seep (Waibua Fm sst))

Smith, J.P. (1927)- Permian ammonoids of Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie 1916, IV, Jaarboek Mijnwezen Nederlandsch-Indie 55 (1926), Verhandelingen 1, p. 1-58.

(Ammonoid material from 1916 Jonker expedition to Timor. Timor has richest Permian ammonoid fauna in world, in both species and abundance. Especially rich in Cyclolobidae and Medlicottiidae and rel. poor in Ceratitoidea. Successive Permian age faunas: (1) E Permian Somohole (common Marathonites, Gastrioceras, Paralegoceras, Pronorites), Bitauni (Perrinites, Agathiceras sundaicum, Paralegoceras spp.) and Basleo (with Waagenoceras, increase in Haloritidae); (2) Late Permian? Amarassi/ Ajer Mati fauna (still with Cyclolobus). Latest Permian faunas not seen in Timor)

Soares, M. (2023)- Petroleum potential onshore of Timor-Leste based on the altimetry gravity data. Timorese Academic J. Science Technology (TAJST) 6, p. 165-175.
(online at: http://fect.untl.edu.tl/tajst_article-132-tp.html)
(Satellite gravity data interpretation to delineate sedimentary basins in Timor-Leste onshore. At least three major low anomaly areas identified along center of country. Hydrocarbon seepages mostly in area of lowest gravity anomaly)

Sopaheluwakan, J. (1990)- Ophiolite obduction in the Mutis complex, Timor, eastern Indonesia. An example of inverted, isobaric, medium-high pressure metamorphism. Ph.D. Thesis Free University, Amsterdam, VU University Press, p. 1-226.
(Mutis and Miomaffo metamorphic complexes have inverted metamorphic gradients and formed by obduction of hot, young ophiolite over oceanic rocks in Early Cretaceous. K-Ar age of 37 Ma corresponds to cooling below 300° C of terrane after mild reheating, up from depth of 5-6 km, suggestings major uplift in Late Eocene. This is then interpreted as Eocene collision onto Australian craton (possibly Sundaland margin event?; JTvG))

Sopaheluwakan, J. (1991)- The Mutis metamorphic complex of Timor: a new view on the origin and its regional consequences. Proc. 20th Annual Conv. Indonesian Association Geologists (IAGI), Jakarta, p. 301-315.
(online at: https://www.iagi.or.id/web/digital/49/20th-(10-12-Des-1991)-20.pdf)
(Mutis and Miomaffo complexes metamorphics in W Timor formed from MOR Basalt and continent-derived greywacke. Structurally overlain by peridotite, with inverted metamorphic gradient (granulite near base of peridotite through amphibolite to greenschist- blueschist at base of sequence. Interpeted as metamorphic sole below ophiolite, formed during intra-oceanic thrusting. Crustal extension terminated Mutis Complex deformation. K-Ar age of ~37 Ma of mica in metapelite reflects Late Eocene cooling/uplift)

Sopaheluwakan, J., H. Helmers, S. Tjokrosapoetro & E. Surya Nila (1989)- Medium pressure metamorphism with inverted thermal gradient associated with ophiolite nappe emplacement in Timor. In: J.E. van Hinte et al. (eds.) Proc. Snellius II Symposium, Jakarta 1987, Netherlands J. of Sea Research 24, 2-3, p. 333-343.
(Mutis and Miomaffo Massifs metamorphosed pelitic and basic rocks associated with serpentinized peridotites. Decrease in metamorphic grades below and away from peridotites, with Mutis Massif slightly higher-grade metamorphism than Miomaffo. P-T-D plots of Mutis samples yield T gradient of 300 °C/·km in 1 km thick metamorphite below basal peridotite. Invertedly zoned metamorphites and other indications suggest Mutis and Miomaffo Massifs represent metamorphic aureoles below ophiolite slab)

Sorauf, J.E. (1978)- Original structure and composition of Permian rugose and Triassic scleractinian corals. Palaeontology 21, 2, p. 321-339.
(Study of Permian solitary coral structure based on exceptionally well-preserved material in Wanner collection from Guadalupian of Basleo 23 locality, SW Timor (Polycoelia angusta, Timorophyllum wanneri, Lophophyllidium spinosum))

Sorauf, J.E. (1983)- Primary biogenic structures and diagenetic history of *Timorophyllum wanneri*, Rugosa, Permian, Timor, Indonesia. Memoir Assoc. Australasian Palaeontologists (AAP) 1, Sydney, p. 275-288.

Sorauf, J.E. (1984)- Upper Permian corals from Timor and diagenesis. Palaeontogr. Americana 54, p. 294-302.
(Description of phraetic cements in well-preserved Permian rugosan fauna from Basleo, supposedly from blocks in 'Tertiary deep water wildflysch' (= 'Bobonaro melange')).

Sorauf, J.E. (2004)- Permian corals of Timor (Rugosa and Tabulate): history of collection and study. Alcheringa 28, 1, p. 157-183.
(History of collection and study of corals in Permian of Timor began in 1911 with Wanner, Molengraaff and Weber. Biostratigraphy of faunas uncertain, partly because of collection from tectonic melange sequence in Baun to Basleo region, and purchase of fossils from indigenous people. Permian corals from Timor need restudy from stratigraphic sequences in northern 'Fatu' belt of outcrops)

Sousa Torres, A. & J. Pires Soares (1952)- Quelques contributions geologiques sur le Timor portugais. Report 18th Session International Geological Congress, Great Britain, 1948, 13, p. 238-239.
('Some contributions to the geology of Portuguese Timor')

Spencer, C.J., R.A. Harris & J.R. Major (2016)- Provenance of Permian-Triassic Gondwana Sequence units accreted to the Banda Arc in the Timor region: constraints from zircon U-Pb and Hf isotopes. Gondwana Research 38, p. 28-39.
(online at: http://geology.byu.edu/Home/sites/default/files/2015_spencer_et_al_-_gr_-_timor_upbhf.pdf)
(Zircons from Permian-Triassic 'Gondwana sequence' of Timor yield age distribution peaks at 230-400 Ma and 1750-1900 Ma, similar to zircon age spectra from NE Australia and to terranes of N Tibet and Malaysia. 1750-1900 Ma zircon peak also very common in other terranes in SE Asia. Hf analysis of zircon from Aileu Complex in Timor and Kisar shows bimodal distribution at ~300 Ma, probably from bimodal magmatic event, and ties to presence of interbedded Permian mafic and felsic rocks. Similar rock types and isotopic signatures also in Permian-Triassic igneous units throughout Cimmerian continental block. Permian-Triassic of Timor region fill syn-rift intra-cratonic basins that successfully rifted in Jurassic to form NW margin of Australia. This margin first entered Sunda Trench in Timor region at ~7-8 Ma, causing Permo-Triassic rocks to accrete to edge of Asian Plate and emerge in young Banda collision zone)

Springer, F. (1918)- A new species of fossil *Pentacrinus* from the East Indies. In: Nederlandsche Timor-expeditie, II. Jaarboek Mijnwezen Nederlandsch Oost-Indie 45 (1916), Verhandelingen 1, p. 59-64.
(New crinoid species Pentacrinus rotiensis from Jurassic of Roti, collected by Brouwer in 1911 from grey shale-marl-limestone succession at Toempa Sili, NW of Bebalain)

Springer, F. (1926)- Unusual forms of fossil crinoids. Proc. United States National Museum 67, 5, p. 1-137.
(online at: https://repository.si.edu/handle/10088/15695)
(Includes discussions of Timor's diverse crinoid faunas with 189 named species by Wanner (1924). Many species abundant on Timor not known elsewhere. Most crinoid fossils broken up. Timor crinoids with remarkably reduced arms. Timorocrinus, most prominent crinoid of Timor with 11 species, now included in Familiy Poteriocrinidae)

Sprinkle, J. & J.A. Waters (2013)- New ridged, conical, fissiculate blastoid from the Permian of Timor. Journal of Paleontology 87, 6, p. 1071-1076.
(Recent collections in Permian of N slope of Sonmahole (Somohole) Mountain, 3.5 km NE of Manufui, NE part of W Timor, produced first new genus of blastoid described from Timor in 70 years. Corrugatoblastus savilli n.gen., n.sp, is ridged and furrowed, conical, fissiculate blastoid with unusual thecal morphology mimicking small, solitary, rugose coral. Placed in Family Codasteridae)

Standley, C.E. (2007)- Banda forearc metamorphic rocks accreted to the Australian continental margin: detailed analysis of the Lolotoi Complex of East Timor. M.Sc. Thesis, Brigham Young University, Utah, p. 1-137.
(online at: http://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=2303&context=etd)

Standley, C.E. & R.A. Harris (2006)- Banda forearc metamorphic rocks accreted to the Australian continental margin in Timor: detailed analysis of the Lolotoi Complex of East Timor. EOS Transactions AGU, 87, 52, Fall Meeting Suppl. *(Abstract only)*
(E Timor Lolotoi Complex part of group of thin metamorphic klippe, detached from Banda forearc and accreted to NW Australian margin during Late Miocene-Present arc-continent collision. Metamorphic protolith compositions similar to overlying unmetamorphosed tholeiitic basalt and andesite with oceanic arc affinities,

and turbidites conglomerates and limestone (=also same as underlying rock?; JTvG). Dominant structure low-angle folding/thrusting to SE. Metamorphic terrain in thrust contact with underlying Gondwana sequence rocks. Mostly unmetamorphosed volcanic and sedimentary cover units found locally in fault contact on edges of the klippen. Ar/Ar ages from amphibolite in W Timor yield ages of 34-39 Ma, interpreted as metamorphism age. Lolotoi Complex part of eastern Great Indonesian Arc, which collapsed in Eocene, incorporated into Banda Arc in Miocene, and accreted to Australian margin in Pliocene- Present)

Standley, C.E. & R.A. Harris (2009)- Tectonic evolution of forearc nappes of the active Banda arc-continent collision: origin, age, metamorphic history and structure of the Lolotoi Complex, East Timor. Tectonophysics 479, 1-2, p. 66-94.
(online at: http://geology.byu.edu/home/sites/default/files/2009-lolotoi-cmplx.pdf)
(Lolotoi metamorphic complex of E Timor part of Banda forearc, metamorphosed and exhumed in Eocene and accreted to NW Australian continental margin in Late Miocene-Present. Greenschist, graphitic phyllite, quartz-mica schist, amphibolite and pelitic schist-dominant metamorphics. Protoliths tholeiitic basalt and basaltic andesite with mixed MORB-oceanic arc affinities. Metapelite schist mostly metasedimentary units with volcanic arc provenance. Peak metamorphism at ~45.4 Ma indicated by Lu-Hf analyses of garnet. Detrital zircon U/Pb age spikes at 663, 120 and 87 Ma, typical of Great Indonesian Arc, distinct from Australian affinity units and indicating deposition and metamorphism after 87 Ma. Deformation phases: 1-4 pre-Oligocene, 5 and 6 related to latest Miocene- Pliocene nappe emplacement deformation. Lolotoi Complex in thrust contact with underlying Gondwana Sequence rocks. 'Asian' volcanic and sedimentary cover units mostly in normal fault contact with metamorphic rocks (core complex model?). Lolotoi Complex of Timor Leste correlative with Mutis Complex of W Timor, both part of Banda Terrane and dispersed fragments of E Great Indonesian Arc)

Stolley, E. (1929)- Uber Ostindische Jura-Belemniten. Palaontologie von Timor, Schweizerbart, Stuttgart, 16, 29, p. 91-213.
('On East Indies Jurassic belemnites'. Belemnites from Molengraaff, Jonker and Weber collections from Timor and Roti, with comparisons to belemnites from Misool, Sula Islands, Seram and Yamdena/ Tanimbar. Includes reports of Belemnopsis aucklandica from Timor (Ofu) and Roti (re-assigned to Belemnopsis uhligi-jonkeri group by Stevens, 1964; B. aucklandica from Yamdena, re-described as Belemnopsis stolleyi by Stevens, 1964)

Suardy, A., Mulhadiono & F. Hehuwat (1987)- Application of remote sensing for hydrocarbon exploration in Timor island, Indonesia. Proc. Asian Conference on Remote Sensing (ACRS 1987), Jakarta, 17, p. 1-15.

Sunarjanto, D. & M.B. Wismaya (1994)- Potensi sumberdaya mineral dan energi di Timor Timur. Proc. 23rd Annual Conv. Indonesian Association Geologists (IAGI), 2, Jakarta, p. 1118-1127.
(online at: https://www.iagi.or.id/web/digital/54/48.pdf)
(Potential for mining of minerals and energy in East Timor'. Brief review)

Suwitodirdjo, K. & S. Tjokrosapoetro (1975)- Geologic map of the Atambua Quadrangle, Timor, 1: 250,000. Geological Research Development Centre (GRDC), Bandung.
(See also second edition, 1996. Geologic map of eastern part of West Timor)

Swantry, N. (1989)- Geologi dan struktur geologi daerah Oeolo dan sekitarnya, Kecamatan Miomafo Barat, Kabupaten Timor Tengah Utara, NTT. Ph.D. Thesis, Institute of Technology Bandung (ITB), p. 1-253.
('Geology and geologic structure in the Oeolo and surrounding areas, W Miomafo, North central Timor')

Sy, E. (1958)- Die Gattung *Stromatoporidium* Vinassa de Regny aus der Obertrias der Insel Timor (Hydrozoa). Anzeiger Akademie Wissenschaften, Math.- Naturwissenschaftliche Klasse, October 1958, p. 163-168.
('The genus Stromatoporidium Vinassa de Regny from the Upper Triassic of Timor island (Hydrozoa)')

Tan Sin Hok (1926)- On a young Tertiary limestone on the isle of Rotti with coccoliths, calci and manganese peroxide spherulites. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 29, 8, p. 1095-1105.
(online at: https://dwc.knaw.nl/DL/publications/PU00015375.pdf)

(Early description of Late Tertiary calcareous nannofossils and radiolaria in pelagic limestone with radiolaria and small manganese nodules from S part of Roti island, collected by Brouwer (but radiolaria-manganese limstones probably Cretaceous; Riedel 1953))

Tappenbeck, D. (1939)- Geologie des Mollogebirges und einiger benachbarter Gebiete (Niederlandisch Timor). Ph.D. Thesis University of Amsterdam, p. 1-105.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046881000:00001)
(also in: H.A. Brouwer (ed.) (1940) Geological Expedition of the University of Amsterdam; see below)
('Geology of the Mollo Mountains and some adjacent areas'. Good documentation and map of 'Banda terrane' stratigraphy in Mollo mountains area, based on 1937 fieldwork. Pre-Upper Cretaceous crystalline schists mainly in greenschist facies, intensely folded and brecciated in higher parts. Overlying Palelo series Cretaceous 'flysch' (with basal conglomerate with schist fragments andesitic volcanics; sandstones are greywackes with common volcanic detritus) and Eocene Nummulites limestones with Pellatispira. NW of Mollo Metamorphic Massif, Permian-Triassic Kekneno series in flysch facies, probably sourced from metamorphic terrane. In SE part of Mollo Mts isoclinally folded 'Sonnebait Series' of Mesozoic marine sediments in bathyal facies, incl. U Cretaceous Globotruncana limestone and marls. Also Triassic 'Fatu Limestones', etc.)

Tappenbeck, D. (1940)- Geologie des Mollogebirges und einiger benachbarter Gebiete (Niederlandisch Timor). In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1940, 1, Noord Hollandsche Publ., Amsterdam, p. 1-105.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046046000:00009)
(Published version of Tappenbeck (1939) thesis)

Tate, G. (2014)- Structural deformation, exhumation and uplift of the Timor fold-thrust belt. Ph.D. Thesis, Princeton University, p. 1-251.
(online at: http://dataspace.princeton.edu/jspui/handle/88435/dsp01bk128d120)
(Thermochronology and micropaleontology reveal extreme heterogeneity in uplift and exhumation across Timor fold-thrust belt. Before synorogenic basins experienced uplift from >1 km below sea level at 3.4-3.0 Ma, other areas a few 10's of km away were emergent and exhuming rapidly. Balanced cross-sections document at least 326-362 km of shortening of Timor since at least 7.3-7.8 Ma, and 215-229 km of buoyant Australian continental margin subducted below Banda forearc)

Tate, G., N. McQuarrie, R.R. Bakker, D.J.J.van Hinsbergen & R.A. Harris (2010)- Active arc-continent accretion in Timor-Leste: new structural mapping and quantification of continental subduction. AGU 2010 Fall Meeting, San Francisco, Abstract T51A1996T, 1p. *(Abstract only)*
(New mapping in Timor-Leste provided view of structural repetition of 'Australian' continental sedimentary units below overriding Banda Arc material. Transect Laclo-Barique exposes deep erosional level, showing 3 regional NNE-striking thrust faults with ~3 km spacing, repeating Aitutu-Cribas stratigraphy. Jurassic Wailuli shales and Bobonaro melange act as upper decollement between this duplex and Lolotoi metamorphic basement of Banda Arc. New balanced structural cross-section produces minimum shortening of 320km)

Tate, G.W., N. McQuarrie, D.J.J. Hinsbergen, R.R. Bakker, R. Harris & H. Jiang (2015)- Australia going down under: quantifying continental subduction during arc-continent accretion in Timor-Leste. Geosphere 11, 6, p. 1860-1883.
(online at: https://pubs.geoscienceworld.org/gsa/geosphere/article/11/6/1860/132312/Australia-going-down-under-Quantifying-continental
(Timor island is uplifted accretionary complex of collision of Banda arc with Australian continental margin. Duplexing of 2-km-thick Australian continental strata built majority of structural elevation of Timor orogen. Balanced cross sections suggest 326-362 km of shortening across Timor and 215-229 km of subduction of continental lithosphere below Banda forearc, showing considerable amounts of continental lithosphere can be subducted while accreting only thin section of uppermost crust. Continental subduction may have been favorable because of fast subduction rates and old age of oceanic crust at Australian margin)

Tate, G.W., N. McQuarrie, D.J.J. Hinsbergen, R.R. Bakker, R. Harris, S. Willett, P.W. Reiners, M.G. Fellin, M. Ganerod & J.W. Zachariasse (2014)- Resolving spatial heterogeneities in exhumation and surface uplift in Timor-Leste: constraints on deformation processes in young orogens. Tectonics 33, 6, p. 1089-1112.
(online at: https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2013TC003436)
(In Timor-Leste exhumed metamorphic rocks and piggyback deepwater synorogenic basins only 10's of km apart. Foraminifera in two deepwater synorogenic basins suggest basin uplift from depths of 1-2 km to 350-1000m between 3.35 and 1.88 Ma. Thermochronologic sampling in mountains between these basins: (1) reset age of ~7.13 Ma in Aileu high-grade belt suggests ~9-16 km of exhumation since that time; (2) zircon (U-Th)/He samples reset ages in Aileu Complex 4.4- 1.5 Ma, suggesting exhumation rates of 1-3 mm/yr with 2.7-7.8 km of exhumation since these ages; (3) Apatite (U-Th)/He ages in Gondwana Sequence 5.5- 1.4 Ma, suggesting 1-2 km of exhumation. Distinct increase in amount of exhumation in E Timor, from ~1-2 km in south to 3-6 km in North. Variability in surface uplift and exhumation possibly caused by ongoing subsurface duplexing driven by subduction and underplating of Australian continental crust)

Tate, G.W., N. McQuarrie, H. Tiranda, D.J.J. Hinsbergen, R. Harris, W.J. Zachariasse, M.G. Fellin, P.W. Reiners & S.D. Willet (2017)- Reconciling regional continuity with local variability in structure, uplift and exhumation of the Timor orogen. Gondwana Research 49, p. 364-386.
(online at: https://sites.pitt.edu/~nmcq/Tate_etal_2017.pdf)
(New constraints on history of uplift, exhumation and shortening of W Timor. Foreland thrust stack of Jurassic-Miocene Australian margin strata and hinterland antiformal stack of Permo-Triassic Australian continental units duplexed below Banda Arc lithosphere. Piggyback Central Basin with deepwater synorogenic deposition from 5.57-5.53 Ma, uplift from lower-m bathyal depths at 3.35-2.58 Ma, and uplift from m-u bathyal at 2.58-1.30 Ma. Hinterland Permo-Triassic with apatite (U-Th)/He ages of 0.33-2.76 Ma, apatite FT ages of 2.19-3.53 Ma. Youngest or most reset in center of antiformal stack. Minimum of 300km of shortening including 210km of Australian continental subduction below Banda forearc. Timor-Leste similar timing of collision, etc.)

Tatzreiter, F. (1980)- Neue trachyostrake Ammonoideen aus dem Nor (Alaun 2) der Tethys. Verhandlungen Geologischen Bundesanstalt Wien 1980, 2, p. 123-159.
(online at: www.geologie.ac.at/filestore/download/VH1980_123_A.pdf)
('New trachyostrake ammonoids from the Norian of the Tethys'. New Late Triassic (columbianus Zone) ammonites from exotic, pink blocks of 'Hallstatt Limestone' from Bihati River Baun, SE of Kupang, W Timor)

Tatzreiter, F. (1981)- Ammonitenfauna und Stratigraphie im hoheren Nor (Alaun, Trias) der Tethys aufgrund neuer Untersuchungen in Timor. Denkschrift Akademie Wissenschaften, Math.-Naturwissenschaftliche Klasse, 121, p. 1-142.
(online at: www.landesmuseum.at/pdf_frei_remote/DAKW_121_0001-0142.pdf)
('Ammonite fauna and stratigraphy of the upper Norian (Alaun, Triassic) of the Tethys, based on new investigations in Timor'. Revision of abundant Norian ammonoids from blocks of condensed, pelagic U Triassic limestone in Bobonaro olistostrome at Bihati River, Baun, SW Timor. Common genera Arcestes, Rhacophyllites, Cladiscites, etc. Columbianus zone 1m thick. M Norian fauna 90 species, 29 genera. Two subzones: Himavites hogarti (Alaun2) and Halorites macer (Alaun 3). Looks like typical 'Hallstatt facies' of European Alps; probably seamount deposit)

Tatzreiter, F.R. (1983)- Die trachyostraken Ammonoideen der *Himavatites columbianus*-zone (hoheres Mittelnor) von Timor (Indonesien). Doct. Thesis, University of Wien, p. *(Unpublished)*
('The trachyostrace ammonoids of the Himavites columbianus Zone (upper M Norian) from Timor, Indonesia')

Taylor, R., J. Hulse, A. Belo & J. Soares (2023)- Recent exploration in the Timor-Leste frontier. Proc. 4th Australasian Exploration Geoscience Conference (AEGC), Brisbane 2023, ID 194, p. 1-11.
(online at: https://zenodo.org/records/7980580)
(Recently acquired seismic, gravity and data from three new wells support concept that Lolotoi Metamorphic Complex is remnant of allochthonous thrust unit from N, whose base is a major decollement. The allochthon sits above a complex of overthrusted Australian continental margin blocks, including deeper decollement that pre-dates active accretionary wedge at base of Timor Trough)

Teixeira, C. (1952)- Notas sobra la geologia e la tectonica de Timor. Estudios Coloniais, Revista Escola Superior Colonial, Lisbon, 3, p. 85-154.
('Notes on the geology and tectonics of Timor'. On geology of Portuguese Timor; in Portuguese)

Tesch, P. (1916)- Jungtertiare und quartare Mollusken von Timor- I. In: J. Wanner (ed.) Palaeontologie von Timor 5, Abhandlungen 9, Schweizerbart, Stuttgart, p. 1-70.
('Late Tertiary and Quaternary molluscs from Timor- part 1'. Mainly taxonomic descriptions of molluscs collected by Wanner, Molengraaff 1909, 1911 expeditions. Faunas dominated by gastropods, 113 species, 17 new. With table listing localities; no map)

Tesch, P. (1920)- Jungtertiare und quartare Mollusken von Timor-II. In: J. Wanner (ed.) Palaeontologie von Timor 8, 14, p. 41-121.
(online at: https://babel.hathitrust.org/cgi/pt?id=njp.32101054599152&seq=11)
('Late Tertiary and Quaternary molluscs from Timor- part 2'. Continuation of above monograph, species 114-233. In stratigraphic conclusions samples grouped in 3 categories: Late Miocene?-Early Pliocene, Late Pliocene- Early Pleistocene and Pleistocene)

Tesch, P. (1923)- Trilobiten aus der Dyas von Timor und Letti. Palaeontologie von Timor 12, 21, p. 123-132.
(Trilobites from the Permian of Timor and Leti'. Philipsia sp. and Neoproetus indicus n.sp., collected by Wanner, Molengraaff, Jonker et al. Trilobites relatively rare and poorly preserved in Timor Permian)

Tharalson, D.B. (1984)- Revision of the Early Permian ammonoid family Perrinitidae. Journal of Paleontology. 58, 3, p. 804-833.
(Includes descriptions of Timor Permian perrinitid ammonoids. Species described by De Roever from Timor as Perrinites waageni was renamed Properrinites deroeveri by Gerth (1950) here called Properrinites cumminsi (U Sakmarian). Also description of Artinskian Paraperrinites subcumminsi (Haniel) (originally Cyclolobus subcumminsi) from Bitauni)

'T Hoen, C.W.A.P. & L.J.C. van Es (1926)- De opsporingen naar delfstoffen op het eiland Timor. Jaarboek Mijnwezen Nederlandsch-Indie 54 (1925), Verhandelingen 2, p. 1-80.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046886000:00001)
(Multi-year mineral exploration project in W Timor since 1919. No economically viable mineral deposits identified, except some subeconomic copper associated with serpentinites, minor chromite in peridotites, gold near crystalline schists (Lalan Asu, Miomaffo) and manganese in deep marine pelagic sediments. Mud volcanoes, present across most of W Timor but most common in areas of Triassic flysch. Some cones up to 90m high and some with flammable gas seepage. Clasts in mud volcanoes include virtually all Timor formations, incl. Permian, Triassic, Jurassic and crystalline schists. Includes 1:250,000 geological overview map of W Timor by Van Es and petrographic descriptions by W.F. Gisolf. Swiss geologist F. Hunerwadel was also part of Timor field survey)

Thompson, M.L. (1949)- The Permian fusulinids of Timor. Journal of Paleontology 23, 2, p. 182-192.
(Fusulinid limestones collected by Brouwer expedition in 1937 in W Timor contain five species of fusulinids, incl. Schwagerina brouweri n. sp. All appear to indicate Early Permian, Leonardian or older age. Fusulinids of Timor not similar to widespread complex fusulinid faunas in other parts of E Hemisphere)

Thompson, S.J. (2011)- Geology and soils in Timor-Leste. p. 1-39. *(Unpublished)*
(online at: http://seedsoflifetimor.org/wp-content/uploads/2012/12/Geology-and-Soils-in-Timor-LesteA4.pdf)
(Review of geology of Timor Leste and associated soil types)

Tichy, G. (1979)- Gastropoden aus den Triassischen Hallstatterkalk-Blocken von West-Timor (Indonesien). Beitrage zur Palaontologie Osterreichs 6, p. 119-133.
(online at: https://www.zobodat.at/pdf/Beitr-Palaeontologie_6_0119-0133.pdf

('Triassic gastropods from the exotic Halstatt limestone blocks of Western Timor'. SW Timor Bihati River limestones with abundant ammonites and rare gastropods. Gastropods interpreted as deep water, of M-U Norian and Carnian ages. Incl. Pleurotomaria, Epulotrochus strobiliformis, Naticopsis, Hologyra, Neritopsis, Natica klipsteini and Allocosmia. Species identical to Hallstatt Limestone in Northern Calcarous Alps of Austria)

Tjia, H.D. (1961)- *Anatomites brochiiformis* Welter var. *rotundata*. Proceedings Institut Teknologi Bandung (ITB) 1, 1, p. 5-23.
(online at: http://journals.itb.ac.id/index.php/jmfs/article/view/9820/3778)
(Brief description of Carnian ammonite from Triassic cephalopod limestone of Basleo, ~5km NE of Niki-Niki)

Tjokrosapoetro, S. (1978)- Holocene tectonics on Timor Island, Indonesia. Bull. Geological Survey Indonesia 4, 1, p. 49-63.
(Active Holocene tectonism. Uplift at W end of island 1 mm/yr, higher in central part. >15 active mud volcano fields mapped in West Timor, mainly associated with young Central Basin or Kolbano Complex accretionary prism. Some mud volcanoes produce saline water, others have flammable gas)

Tjokrosapoetro, S. (1983)- Late volcanic activity in Timor Island. Geological Research Development Centre (GRDC), Bandung, p. 1-10.

Tjokrosapoetro, S. (1993)- Indication of initial stage of volcanic activity on Timor. Bull. Marine Geological Institute 8, 2, p. 23-44.
(Hot sulphuric smoke near Ajobaki (2 km NW of Kapan, 30 km N of Soe) in January 1983 and fumaroles and sulphuric hot springs may suggest early stage of volcanic activity. Timor is part of non-volcanic Outer Banda Arc, with last volcanic activity of inner Banda Volcanic Arc in Late Miocene (5.9-6.2 Ma). Eight million years from now Timor will probably be active volcanic island, due to subduction N of Wetar since 3 Ma)

Tjokrosapoetro, S. & H.D. Tjia (1978)- Gejala-gejala tektonik Kwarter di Timor. Geologi Indonesia 5, 1, p. 11-26.
('Quaternary tectonic activity on Timor')

Tobing, S.L. (1989)- The geology of East Timor. M. Phil. Thesis, London University, p. 1-129. *(Unpublished)*
(Mainly revised geologic map of E Timor, based on photogeologic studies)

Toifur, A., Z.F. Kunadi, S. Alawiyah & I. Gunawan (2023)- The correlation of land survey and satellite gravity data. Study case: Timor Leste Area. Proc. 4th SE Asian Conference on Geophysics (SEACG 2022), Bandung, 2022, IOP Conference Series: Earth and Environmental Science 1227, 012007, p. 1-6.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/1227/1/012007/pdf)
(Regional gravity anomaly map high compatibility with geological data)

Torre de Assuncao, C. (1956)- Notas da petrografia timorense. Garcia de Orta 4, 2, p. 265-278.
('Notes on the petrography of Timor'. In Portuguese)

Tozer, E.T. (1994)- Significance of Triassic stage boundaries defined in North America. In: J. Guex & A. Baud (eds.) Recent developments on Triassic stratigraphy. Memoires de Geologie (Lausanne) 22, p. 155-170.
(online at: https://www.unil.ch/files/live/sites/iste/files/shared/X.Library/Memoirs%20of%20Geology/22%20-%20Guex%20(1994%20-%20entire%20volume).pdf)
(Includes record and description of M Triassic (E Anisian) ammonites Keyserlingites angustecostatus, Paracrochordiceras welteri n.sp. and Leiophyllites from block of 'Hallstatt Limestone' facies in olistostrome on Timor (Fatoe Nefakoko near Soeli, collected by Molengraaff Timor Expedition 1911, now in Delft University collection) (first described by Welter 1915). Associated with conodonts Chiosella timorensis and Gladiogondolella tethydis (Orchard 1994))

Ueno, K. (2006)- The Permian antitropical fusulinoidean genus *Monodiexodina*: distribution, taxonomy, paleobiogeography and paleoecology. J. Asian Earth Sciences 26, p. 380-404. *(online at: https://www.academia.edu/15355494/The_Permian_antitropical_fusulinoidean_genus_Monodiexodina_Distribution_taxonomy_paleobiogeography_and_paleoecology)*
(Review of 'subtropical', late E Permian fusulinid genus Monodiexodina from 33 areas, incl. several Timor occurrences, all in middle part of Maubisse Fm. Type species of Monodiexodina is Schwagerina wanneri Schubert 1915 first described from Timor. Monodiexodina-bearing areas can be restored to either N or S middle latitudes, suggesting genus is paleobiogeographically anti-tropical taxon. Generally found in monotypic, crowded manner in sandy sediments with uni-directionally aligned shells. Long-ranging 'mid-Permian', Artinskian- E Midian (=Capitanian))

UN ESCAP (2003)- Geology and mineral resources of Timor-Leste. Atlas of Mineral Resources of the ESCAP region 17, United Nations, New York, p. 1-143.
(online at: https://repository.unescap.org/handle/20.500.12870/4789)
(General overview of East Timor geology and economic resources)

UN ESCAP (2003)- Geological map of Baucau, Dili and Kupang-Atambua quadrangles of Timor. Supplement to: Atlas of Mineral Resources of the ESCAP region 17, United Nations, New York.
(online at: https://repository.unescap.org/bitstream/handle/20.500.12870/4789/ESCAP-2003-MN-%20Geology-mineral-resources-Timor-Leste-map.pdf)
(Geological map of Timor Leste, a compilation of three geological maps (Baucau, Dili, Kupang-Atambua), published by Geological Research and Development Centre, Indonesia, in 1994-1996, during Indonesian annexation of 1975-1999)

Untung, M., Sudarwono & T. Padmawijaya (1991)- Gravity anomalies of Timor Island, Indonesia and the Australian continental margin. Proc. Annual Conv. Indonesian Association Geophysicists (HAGI), p.

Utoyo, H. & S. Permanadewi (1994)- Perbandingan pentarikhan K-Ar pada hornblende dan biotit dalam batuan malihan Formasi Aileu, Timor Timur. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 4, 32, p. 13-18.
(' Comparison of K-Ar dating results in hornblende and biotite from Aileu Fm metamorphic rocks, E Timor'. Radiometric dating of samples from Aileu Fm along coast E of Dili, E Timor. Age of peak metamorphism based on hornblende from amphibolite (3 samples) is 7.7 Ma. Age of biotite from biotite schist is 5.7 Ma, reflecting time of cooling)

Van Andel, T. (1948)- Some remarks on *Nummulites javanus* Verb. and *Nummulites perforatus* de Montf. Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 51, 8, p. 1013-1023.
(online at: https://dwc.knaw.nl/DL/publications/PU00018566.pdf)
(Study of Nummulites perforatus from Mollo, W Timor, collected by Tappenbeck. Nummulites javanus (Verbeek) considered to be younger synonym of N. perforatus)

Van den Boogaard, M. (1987)- Lower Permian conodonts from western Timor (Indonesia). Proc. Koninklijke Nederlandse Akademie van Wetenschappen, ser B, 90, 1, p. 15-39.
(Lower Permian conodonts from samples collected by Jonker expedition near Bitauni in 1916 and SW Mutis region by De Roever in 1937. Important constituent of fauna is Vjalovognathus shindyensis)

Van Doorninck, N.H. (1940)- Over een rapport van een exploratie in Portugueesch Timor. Geologie en Mijnbouw 2, 7, p. 145-148.
(online at: https://www.delpher.nl/nl/tijdschriften/view?identifier=MMSHCL02:017136007:00001)
('On a report of an exploration in Portuguese Timor'. Discussion of Allied Mining Corporation (1937) report on the 1936 expedition across all of East Timor, led by Belgian entrepreneur S.F. Wittouck (and in which current author participated). No figures, maps. Widespread Permian and Triassic Fatu limestones (parts of 'Tethys nappe' of Molengraaff), overthrust over widespread chaotic Permian-Triassic (-Liassic?) flysch formations. Large area of schists around Dili)

Van Es, L.J.C. (1921)- Inlandsche koperertsontginningen op Timor. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap 38, p. 808-810.
('Copper ore exploitation by natives on Timor'. Small occurrences of copper (native copper, cuprite) from red and grey shales and Cretaceous limestone in area of Noil Toko, several localities of Amanubang and in N Belu)

Van Eykeren, H. (1942)- *Microblastus* gen. nov. und einige andere neue permische Blastoideen von Timor. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage-Band 86B, p. 282-298.
('Microblastus new genus and other new Permian blastoids from Timor'. In German. New species of blastoids from the Brouwer/ University of Amsterdam Timor collection)

Van Gorsel, J.T. (2012)- Ophiolite obduction on Leti Island, as described by Molengraaff and Brouwer (1915): implications for age and genesis of metamorphic complexes in the Outer Banda Arc, Eastern Indonesia. Berita Sedimentologi 24, p. 24-38.
(online at: https://journal.iagi.or.id/index.php/FOSI/article/view/182/152)
(Descriptions of geology of Leti Island, NE of Timor by Molengraaff et al. (1915) suggest 'ophiolite obduction', (metamorphism of continental crustal material below ultrabasic mantle material in subduction zone). Folded E-M Permian sediments and basic volcanics in S of island gradually increase in metamorphic grade towards serpentinite massif in N. Serpentinite massif is overlain by Latest Oligocene shallow marine limestone with reworked serpentinite and metamorphics, suggesting metamorphism/ophiolite obduction on Leti island took place in post-Early Permian (therefore not Australian continental crust basement) but before latest Oligocene (i.e. too old to be connected with Late Neogene Banda arc- NW Australian continent collision). Metamorphic complexes on Timor and other islands of Outer Banda Arc may all have similar origin, possibly representing single, extensive Cretaceous-age collisional/ subduction zone, formed along Sundaland margin)

Van Marle, L.J. (1991)- Late Cenozoic palaeobathymetry and geohistory analysis of Central West Timor, Eastern Indonesia. Marine and Petroleum Geology 8, 1, p. 22-34.
(W Timor Central Basin with ~550m or more Mid-Pliocene- E Pleistocene deep marine clastics over E Pliocene pelagic calcilutites ('Batu Putih Fm'). E Pliocene paleo water depth probably ~2000m. Two uplift episodes: (1) 2.4- 1.6 Ma, corresponding to arrival of Australian continental slope in Timor subduction system; (2) Late Pleistocene- Recent larger uplift of 1500-2000m, reflecting arrival of Australian continental shelf at Outer Banda Arc thrust belt (and/or slab-breakoff?; JTvG))

Van Voorthuysen, J.H. (1940)- Geologische Untersuchungen im Distrikt Amfoan (Nordwest Timor). In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1937, 2, Noord Hollandsche Publ. Co., Amsterdam, p. 345-367.
(online at: (online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046047000:00009)
('Geological investigations in the Amfoan District, NW Timor'. Reports a.o. common dark grey Eocene limestone with Nummulites, unconformable on crystalline schists of Mosu and Nefoneu (incl. Eocene conglomerate with rounded schist and volcanic clasts), closely associated with widespread Eocene andesitic volcanics. Also blocks of Lower Miocene reefal limestone with Spiroclypeus and Miogypsina, always found in proximity to crystalline schists, and with clasts of schists and volcanics)

Van West, F.P. (1941)- Geological investigations in the Miomaffo Region, Netherlands Timor. Ph.D. Thesis University of Amsterdam, p. 1-130. *(also published in Brouwer (1941, below)*
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046880000:00001)
(Miomaffo Massif of W Timor structurally complex area, with 3 tectonic units: (1) 'Schist-Palelo Complex' of amphibolite-dominated metamorphics associated with ultrabasic lherzolites, serpentinites, gabbros, etc., overlain by Cretaceous 'Lower Palelo' radiolarian cherts (recently dated as most likely Cenomanian by Munasri and Harsolumakso, 2020), U Cretaceous U Palelo greywackes-volcanoclastics with pebbles of schists and serpentinite, E-M Eocene Alveolina-Nummulites limestones associated with volcanics, Late Eocene Pellatispira limestones without volcanics, unconformably overlain by E Miocene limestones with Spiroclypeus and Miogypsina (with basal conglomerate with metamorphics, etc.), Globigerina limestone and increasing volcanic rocks upsection (Schist-'Palelo' stratigraphy similar to SE Kalimantan, SW Sulawesi, Sumba; JTvG); (2) 'Fatu Complex' U Triassic reefal-oolitic limestones, some rich in Norian brachiopod Misolia aspera (with

conglomeratic beds with igneous rocks); (3) 'Sonnebait Series' Cretaceous pelagic Globotruncana limestones and radiolarian cherts. Young Tertiary Globigerina limestones and tuffs unconformable over all older formations. Large overhrusts formed in pre-Miocene time, with mountain-building forces peaking in Oligocene, but fault deformation continuing to recent time)

Van West, F.P. (1941)- Geological investigations in the Miomaffo Region, Netherlands Timor. In: H.A. Brouwer (ed.) Geological expedition of the University of Amsterdam to the Lesser Sunda Islands in the eastern part of the Netherlands East Indies 1937, III, p. 1-131.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046048000:00280)
(Same as Van West (1941) above)

Vicente, V.A.S., P. Dinis, E. Garzanti, A. Resentini, M. Barbarano, M.C. Pinto & J. Pratas (2025)- Arc-continent collision as recorded in modern stream sand from Oecusse (Timor Island). Sedimentary Geology 481, 106852, p. 1-15.
(online at: https://www.sciencedirect.com/science/article/pii/S0037073825000478)
(Small territory of Oecusse in NW Timor complex geology with exposures of sedimentary, volcanic and metamorphic units associated with lower plate Australian continental margin, upper plate Banda Terrane Eocene (Barique Fm) and thick Late Miocene Manamas Fm island arc volcanics, etc., and synorogenic Bobonaro melange and younger sediments. Study of components of modern stream samples)

Vicente, V.A.S., J.A.M.S. Pratas, F.C. Lopes & R. Harris (2025)- Lithostratigraphy and structural setting of the Banda Terrane and Gondwana Sequence on the Northeast of Oecusse Enclave, Timor-Leste. Comunicacoes Geologicas (Lisbon) 112, Especial I, p. 407-410.
(online at: https://www.lneg.pt/wp-content/uploads/2025/04/81_Vicente-et-al.pdf)
(New geological map and review of tectonostratigraphic units in NE part of Timor Leste Oecussi enclave in NE part of W Timor (mainly Banda terranes of Asian affinity)

Vicente, V.A.S., J.A.M.S. Pratas, F.C.M. Santos, M.V.G. Silva, P.J.C. Favas & L.E.N. Conde (2021)- Geochemical anomalies from a survey of stream sediments in the Maquelab area (Oecusse, Timor-Leste) and their bearing on the identification of mafic-ultramafic chromite rich complex. Applied Geochemistry 126, 104868, p. 1-13.
(Stream sediments in NW Oecusse enclave, (Timor-Leste, but in W Timor island) with elevated Cr, Ni and Co indicating new ultramafic complex with dunites, peridotites and serpentinites, also metamorphic rocks, mainly calc-silicate, basalts and gabbros, named Maquelab Complex)

Vilanova, V., T. Ohtani, S. Kojima, K. Yatabe & E. Moniz (2024)- Geochemical characteristics of modern river-sand and its bearing on the mineral exploration in the Manufahi area, Timor-Leste. Geosciences (MDPI) 14, 12, p. 1-27.
(online at: https://www.mdpi.com/2076-3263/14/12/338)
(Geochemical mapping of river sands in Manufahi area of S Timor-Leste identified four areas with high potential for deposits and mineralization anomalies of Cr, Cu, Ni and Ba (+ Zn))

Villeneuve, M., H. Bellon, R. Martini, A. Harsolumakso & J.J. Cornee (2013)- West Timor: a key for the eastern Indonesian geodynamic evolution. Bull. Societe Geologique France 184, 6, p. 569-582. *(online at: www.researchgate.net/publication/261985620_West_Timor_A_key_for_the_eastern_Indonesian_geodynamic_evolution)*
(W Timor not simple accretionary prism, but five superimposed structural units. Present-day structure result of three main tectonic events in Late Oligocene, Late E Pliocene and Late Pliocene-E Pleistocene. Geodynamic evolution: (1) block detached from Gondwana (unit 2) and drifted to Asiatic margin until Late Oligocene when it collided with Asiatic active margin (unit 3); (2) New block formed by units 2 and 3 drifted S in Miocene- E Pliocene until collision with Australian margin in Late E Pliocene; (3) Australian and Timor blocks moved together to NNE in Late Pliocene until collision with Banda fore-arc (unit 4); (5) In Pleistocene Timor island capped by 'autochthon' (unit 5) and (5) Quaternary? N thrusting of Banda volcanic arc over S Banda basin. Timor key area for building this geodynamical scenario of Indonesia)

Villeneuve, M., J.J. Cornee, A. Harsolumakso, R. Martini & L. Zaninetti (2005)- Revision stratigraphique de l'Ile de Timor (Indonesie orientale). Eclogae Geologicae Helvetiae 98, 2, p. 297-310.
(online at: https://www.e-periodica.ch/digbib/view?pid=egh-001:2005:98316)
('Stratigraphic revision of Timor island'; in French. Many stratigraphic scales proposed for Timor due to tectonic complexity and facies variability. Timor comprises 6 units, linked to episodes of geological history. Evolution starts with Jurassic break-up of block from Gondwana (para-allochthonous unit), followed by Oligo-Miocene collision with Asian volcanic arc (allochthonous and sub-autochthonous units). By Late Miocene this assemblage of blocks separated from Asia during S Banda Sea opening (sub-autochthonous unit), then collided with N Australian margin in M Pliocene (Australian platform and Kolbano Group). Since then Timor Island part of Australian N margin)

Villeneuve, M., J.J. Cornee, R. Martini & L. Zaninetti (2004)- Nouvelle hypothese sur l'origine des formations geologiques de l'ile de Timor (Sud-Est Asiatique). Comptes Rendus Geoscience 336, 16, p. 1511-1520.
(online at: https://comptes-rendus.academie-sciences.fr/geoscience/item/10.1016/j.crte.2004.09.011.pdf)
(Stratigraphy/ tectonics suggest Timor and S Sulawesi part of same continental block. Main deformation on Timor and Sulawesi is Oligocene. Timor separated in Late Miocene during opening of S Banda Basin and became part of Late Miocene arc that collided with Australia at end of E Pliocene, 3.5 Ma)

Villeneuve, M., A.H. Harsolumakso, J.J. Cornee & H. Bellon (1999)- Structure of West Timor (East Indonesia) along a north-south cross section. Geologie Mediterraneenne 26, 3-4, p. 127-142.
(online at: https://www.persee.fr/doc/geolm_0397-2844_1999_num_26_3_1653)
(Structural transect of C part of W Timor suggests tow main tectonic events: (1) Oligocene thrusting of allochton units over Australian continental margin; (2) E Pliocene collision between Banda island arc and previous Timor forearc units, and responsible for present imbricated structures. Two extensional periods: Late Oligocene or earliest Miocena and Late Pliocene)

Vinassa de Regny, P. (1915)- Triadische Algen, Spongien, Anthozoen und Bryozoen aus Timor. Palaontologie von Timor, Schweizerbart, Stuttgart, 4, 8, p. 75-118.
(Late Triassic algae (Solenopora), sponges (Molengraaffia regularis, Steinmannia), corals (incl. species of Thecosmilia, Isastraea, Montlivaltia), pachyporidae (Lovcenipora), calcareous algae (Solenopora triasina = Parachaetes according to Flugel 1975), stromatoporidae (Stromatoporidium) and bryozoa, mainly from reefal 'Fatu Limestones' from westernmost Timor and Pualaca area, E Timor (Nine coral species in common with alpine Zlambachschichten; Diener 1916 (=Rhaetian; JTvG))

Vita-Finzi, C. & S. Hidayat (1991)- Holocene uplift in West Timor. J. Southeast Asian Earth Sciences 6, 3-4, p. 387-393.
(Holocene uplift rates <0.3mm/yr, i.e. much lower than Late Pliocene rates, suggesting rapid, but short-lived uplift of Timor in Late Pliocene)

Vital, V. (2011)- Mapping and structure of the mineral resources of the Districts of Dili and Manatuto. Implications for genesis and exploitation. Master's Thesis, University of Evora, Portugal, p. *(Unpublished)*

Von Arthaber, G. (1926)- Ammonoidea leiostraca aus der oberen Trias von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie 1916 onder leiding van Dr. H.G. Jonker+, vol. V, Jaarboek Mijnwezen Nederlandsch-Indie 55 (1926), Verhandelingen 2, p. 1-173.
(online at: https://opac.geologie.ac.at/ais312/dokumente/Arthaber_1926_Ammonoidea%20Leiostraca.pdf)
('Leiostraca ammonites from the Upper Triassic of Timor'.110 species of Carnian- Norian ammonites described from Timor (66% endemic, 57 species in common with Mediterranean/ Tethys bioprovince). Mainly collected by Jonker 1916 2nd Timor expedition)

Von Bulow, E. (1915)- Orthoceren und Belemnitiden der Trias von Timor. In: J. Wanner (ed.) Palaontologie von Timor 4, 7, Schweizerbart, Stuttgart, p. 1-72.

('Orthocerids and belemnites from the Triassic of Timor'. Mainly on taxonomy of straight nautiloids (Orthoceras spp.) and belemnites (Carnian-Norian Aulacoceras, Atractites spp. and Dictyoconites spp.) from Molengraaff, Wanner 1909-1911 expeditions. Triassic belemnites known from Timor, Savu and Roti. Carnian-Norian belemnites in bright limestones, commonly with manganese coating)

Von Huene, F. (1931)- Ichthyosaurier von Seran und Timor. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 66, B, p. 211-214.
('Ichthyosaurs from Seram and Timor'. Triassic or Jurassic Ichthyosaurus vertebrae from Bula, E Seram, and Basleo, W Timor)

Von Huene, E. (1935)- Mosasaurier-Zahne von Timor. Zentralblatt Mineralogie Geologie Palaontologie, B, 10, p. 412-416.
('Mosasaurus teeth from Timor'. U Cretaceous Mosasaurus teeth Globidens? timorensis n.sp. from red clays above Triassic Halobia Limestone in Noil Tobe near Nikiniki (collected by Wanner) and Oe Batok II near Baoen (Baung, SW Timor (from Jonker 1916 Expedition collection Delft; not sure if correct; Oe Batok II is ~2m large block of Triassic cephalopod/ heterastrid limestone). Both from 'Niki Niki- Baung zone' of Wanner (1913). With Globidens? timorensis (these would be the only known Mosasaurus teeth from Indonesia, but Timor fossils more likely Triassic ichthyosaurian teeth; see E. Mulder & J. Jagt, 2019))

Von Huene, E. (1936)- Ichthyosaurierreste aus Timor. Zentralblatt Mineralogie Geologie Palaontologie 1935, B 8, p. 327-334.
('Ichthyosaur remains from Timor'. Description of ichthyosaur marine reptile remains from E-M Triassic of Noil Bunu, Basleo, W Timor, collected by Jonker Timor Expedition of 1916, named Mixosaurus sp. (possibly Cymbospondylus; Sander & Mazin 1993))

Von Koenigswald, G.H.R. (1967)- An Upper Eocene mammal of the family Anthracotheriidae from the island of Timor. Proc. Koninklijke Nederlandse Akademie van Wetenschappen B70, 5, p. 529-533.
(Description of Eocene Hippopotamus-like skull fragment and upper molar from W of Laharus, W Timor, named Anthracothema verhoeveni n. sp. Genus also known from Eocene of Birma, S China and W Borneo and is first indication of Eocene mammalian fauna in E Indonesia. (Belongs in genus Anthracotherium; Ducrocq 1996). It is of Asian affinity, suggesting proximity of this part of Timor to SE Asia/Sundaland in Eocene)

Von Schouppe, A. & P. Stacul (1955)- Die Genera *Verbeekiella* Penecke, *Timorphyllum* Gerth, *Wannerophyllum* n. gen., *Lophophyllidium* Grabau aus dem Perm von Timor. Palaeontographica, Supplement Band IV (Beitrage zur Geologie von Niederlandisch-Indien) 5, 3, p. 95-196. *(online at: https://dn720806.ca.archive.org/0/items/palaeontographica-supplementbaende_1955_4_3/palaeontographica-supplementbaende_1955_4_3.pdf)*
('The genera Verbeekiella Penecke, Timorphyllum Gerth, Wannerophyllum n. gen., Lophophyllidium Grabau from the Permian of Timor'.Descriptions of (late Middle and early Late?) Permian solitary corals, from 39 localities in Basleo area, E of Niki-Niki, and some from Amarassi, W Timor. The 12,000 specimens were collected by Ehrat in 1927, at direction of Prof. J. Wanner in Bonn. 17 species identified here, 10 new (Solitary rugosa assemblages like these now generally viewed as M Permian, 'anti-tropical', deeper water and cooler climate 'Cyathaxonia faunas' or 'Lytvolasma faunas' (Kossovaya, 2009); JTvG))

Von Schouppe, A. & P. Stacul (1959)- Saulchenlose Pterocorallia aus dem Perm von Indonesisch Timor (mit Ausnahme der Polycoelidae). Eine morphogenetische und taxonomische Untersuchung. Palaeontographica Supplement IV, Beitrage zur Geologie von Niederlandisch-Indien 5, 4, p. 197-359.
('Pillar-less Pterocorallia from the Permian of Indonesian Timor (with exception of of the Polycoelidae), A morphogenetic and taxonomic study'. Paleontological descriptions of Timor Permian solitary corals)

Wahyudiono, J., I. Safri, A. Sudradjat & H. Panggabean (2016)- Geokimi batuan gunungapi di Pulau Timor bagian Barat dan implikasi tektonikya. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 17, 4, p. 241-252.
(online at: http://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/24/21)

('Geochemistry of the volcanic rocks of West Timor and its tectonic implications'. Geochemistry of basaltic rocks from Fatu River (interfinger with Permian Maubisse Fm limestone) suggests Oceanic Island Basalt. Oligo-Miocene metabasalt from Mutis Complex calk-alkaline, island arc volcanics. Metan River and Atauro Island (Banda Arc) subalkaline/ tholeitic volcanics)

Wang, H.C. (1947)- Notes on some Permian rugose corals from Timor. Geological Magazine 84, 6, p. 334-344.
(Description of Permian solitary corals from four W Timor localities (Soempek, Neoepantoekak, Toenioen Eno, Basleo) in collection of British Museum of Natural History (Lytvolasma, Amplexicarina, Timorphyllum, Lophophyllidium, Verbeekiella, etc.) Timor corals of excellent preservation. Mainly review of works of Gerth, Koker, Schindewolf)

Wanner, C. (1922)- Die Gastropoden und Lamellibranchiaten der Dyas von Timor. In: J. Wanner (ed.) Palaeontologie von Timor, Stuttgart, 11, 18, p. 1-82.
('The gastropods and bivalves from the Permian of Timor'. Description of Permian bivalve material collected by Wanner and Molengraaff in 1909-1911, mainly from Basleo area. High diversity faunas (61 gastropod, 25 bivalve species), but low abundance compared to other fossil groups. Timor richest in Capulids of all known Permian faunas. Includes presence of Atomodesma spp. from various localities (genus often regarded as cold-water 'Gondwanan'; JTvG))

Wanner, C. (1940)- Neue Permische Lamellibranchiaten von Timor. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands 1937, 2, Noord Hollandsche Publ. Co., Amsterdam, p. 369-395.
('New Permian bivalves from Timor'. Addendum to 1922 paper, based on new material collected by Ehrat during private survey in in 1927 and Brouwer/ De Roever 1937 expedition, mainly from Basleo area, W Timor. Incl. Atomodesma in flysch W of Kasleo in Kekneno area)

Wanner, C. (1942)- Neue Beitrage zur Gastropoden fauna des Perm von Timor. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands, etc., 1937, 4, Noord Hollandsche Publ. Co., Amsterdam, p. 137-203.
(Permian gastropods from Timor 70 species, one of richest in world. Almost all new species, only 3 species known from elsewhere (Pakistan, Sicily, China))

Wanner, J. (1907)- Triaspetrefakten der Molukken und des Timorarchipels. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 24, p. 159-220.
(online at: http://mmtk.ginras.ru/pdf/Wanner_1907_Tr_Timor_HI.pdf)
('Triassic fossils from the Moluccas and Timor Archipelago'. Late Triassic molluscs, corals, ammonites faunas from Misool, Seram and Timor-Roti-Savu (generally deeper water facies, but potentially similar 'alpine' character with mainly Halobia, Daonella, but also 'Pacific' mollusc Pseudomonotis ochotica). Timor/Roti/ Savu Triassic reminiscent of N Sumatra Upper Triassic described by Volz, 1899. First author to recognize Alpine/ Tethyan affinities of the Late Triassic bivalves and ammonites of Seram and Timor)

Wanner, J. (1910)- Uber eine merkwurdige Echinodermenform aus dem Perm von Timor. Zeitschrift Induktive Abstammungs Vererbungslehre 4, p. 123-142.
('On a remarkable echinoderm from the Permian of Timor'. Detailed description of anatomy of Permian blastoids Timorechinus spp. from E of Nikiniki and comparison to Schizoblastus permicus)

Wanner, J. (1911)- Triascephalopoden von Timor und Rotti. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 32, p. 177-196.
(online at: http://mmtk.ginras.ru/pdf/Wanner_1911_Tr_Timor_Rotti_ocr.pdf)
('Triassic cephalopods from Timor and Roti'. Early paper on Upper Triassic ammonites (Meekoceras indoaustralicum n.sp., M. timorensis n.sp., Flemingites timorensis n.sp., Cladiscites) and ribbed belemnite Aulacoceras (A. timorense n.sp.))

Wanner, J. (1912)- *Timorocrinus* nov. gen. aus dem Perm von Timor. Centralblatt Mineralogie Geol. Palaontologie 19, p. 599-605.
(online at: https://www.zobodat.at/pdf/Centralblatt-Mineral-Geol-Palaeont_1912_0599-0605.pdf)
('Timorocrinus new genus from the Permian of Timor'. New genus name for Timorechinus miriabilis from Molengraaff Timor collection. No locality information, presumably Basleo)

Wanner, J. (1913)- Geologie von West Timor. Geologische Rundschau 4, 2, p. 136-150.
(online at: https://www.zobodat.at/pdf/Geologische-Rundschau_4_0136-0150.pdf)
(First overview of geology and stratigraphy of western part of West Timor, based on fieldwork by Wanner with doctorate students Welter and Haniel in 1909 and 1911. Probably first paper to suggest large-scale, Alpine-type overthrusting as dominant tectonic style on Timor (Molengraaff 1912? Suggested the same)

Wanner, J. (ed.) (1914-1929)- Palaontologie von Timor. Schweizerbart Verlag, Stuttgart, 16 vols.
('Paleontology of Timor'. Series of beautifully illustrated paleontological monographs on Timor fossils by German paleontologists, published over 15 year period. Some issues still available from original publisher)

Wanner, J. (1916)- Die permischen Echinodermen von Timor I. In: J. Wanner (ed.) Palaontologie von Timor 6, 11, Schweizerbart, Stuttgart, p. 1-329.
('The Permian echinoderms from Timor-1'. Major monograph on crinoids of Timor, collected in 1909 and 1911. Total 123 species (105 new) of 44 genera (28 new))

Wanner, J. (1920)- Ueber armlose Krinoiden aus dem jungeren Palaeozoikum. Verhandelingen Geologisch-Mijnbouwkundig Genootschap Nederland Kolonien, Geologische Serie 5, 2, p. 21-36.
('On arm-less crinoids from the Late Paleozoic'. Among rich Permian crinoid assemblages of Timor are 'armless' forms like Indocrinus, Sundacrinus, Embryocrinus, Hypocrinus, etc. Also one-armed species Monobrachiocrinus granulatus n.sp., with reconstruction model)

Wanner, J. (1920)- Ueber einige palaeozoische Seeigelstacheln (*Timorocidaris* gen. nov. und *Bolboporites* Pander). Proc. Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam, 22, 7-8, p. 696-712.
(online at: https://dwc.knaw.nl/DL/publications/PU00012020.pdf)
('On some Paleozoic sea urchin spines (Timorocidaris gen. nov. and Bolboporites Pander)'. In German. Timorocidaris material from Permian of Basleo, Timor)

Wanner, J. (1923)- Die permischen Krinoiden von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie 1916 onder leiding van Dr. H.G. Jonker+, vol. II, Jaarboek Mijnwezen Nederlandsch Oost-Indie 50 (1921), Verhandelingen 3, p. 1-348.
('The Permian crinoids of Timor'. Second of Wanner's major monographs on Timor crinoids. Number of species increased to 239 in 75 genera. Half of all crinoid species are poteriocrinids, with dominant genera Timorocrinus, Ceriocrinus, Parabursacrinus, etc. Most Timor crinoids are from reddish marls and red brown tuffs and interbedded limestones (=Maubisse Fm), with richest occurrences in M Permian of Basleo area near Niki-Niki. Different assemblages in Amarassi region of SW Timor suggesting slightly younger age)

Wanner, J. (1924)- Die permischen Echinodermen von Timor-II. Palaeontologie von Timor 14, 23, p. 1-81.
('The Permian echinoderms of Timor- II'. Monograph of Permian blastoids)

Wanner, J. (1924)- Die permischen Blastoiden von Timor. In: H.A. Brouwer (ed.) 2e Nederlandsche Timor-Expeditie onder leiding van Dr. H.G. Jonker+, vol. III, Jaarboek Mijnwezen Nederlandsch Oost-Indie 51 (1922), Verhandelingen, p. 163-233.
('The Permian blastoids of Timor'. Timor Permian blastoid faunas richest in world, both in species and numbers, with many species unknown elsewhere. Many localities, probably representing different stages of Permian. Character of faunas more European (Tethys) than American (NB: taxonomy of blastoids revised by Breimer & Macurda (1972); JTvG))

Wanner, J. (1926)- Die marine Permfauna von Timor. Geologische Rundschau 17a, Sonderband (Steinmann Festschrift), p. 20-48.
('The marine Permian fauna of Timor'. Timor Permian faunas richest of all known marine Permian faunas (~600 species) and of Tethyan affinity. Crinoids (191 species) and blastoids (32 species) particularly common. Corals dominated by solitary taxa (Timorphyllum, Verbeekiella), with rel. rare colonial taxa (Lonsdaleia, Zaphrentis, Polycoelia, Amplexus, Pachypora). Ammonites (37 species, incl. Agathiceras, Paralegoceras, Popanoceras) and brachiopods (49 species, incl. Productus, Spirigera, Retzia, Chonetes, Camarophoria, Lyttonia) mostly genera already known from elsewhere. Gastropods 60 species, bivalves 20 species, incl. Atomodesma. Four species of fusulinids, but no complicated types. Most of Permian faunas from red-brown crinoid limestones interbedded with diabase volcanic. No signs of Permian glaciations in faunas or sediments)

Wanner, J. (1929)- Neue Beitrage zur Kenntnis der Permischen Echinodermen von Timor. I. *Allagecrinus*, II. *Hypocrinites*. Dienst Mijnbouw Nederlandsch-Indie, Wetenschappelijke Mededeelingen 11, p. 1-116.
('New contributions to the knowledge of Permian echinoderms from Timor, I. Allagecrinus and II. Hypocrinites'. New crinoid species, mainly based on material from Basleo. First of long series; all in German)

Wanner, J. (1930)- Neue Beitrage zur Kenntnis der Permischen Echinodermen von Timor, III. Hypocrininae, *Paracatillocrinus* und *Allagecrinus*. Dienst Mijnbouw Nederlandsch-Indie, Wetenschappelijke Mededeelingen 13, p. 1-31.
('New contributions to the knowledge of Permian echinoderms of Timor 3- Hypocrininae, Paracatillocrinus and Allagecrinus'. New crinoid species from Ehrat 1927 collection from Basleo and Niki-Niki)

Wanner, J. (1930)- Neue Beitrage zur Kenntnis der Permischen Echinodermen Von Timor, IV. Flexibilia. Dienst Mijnbouw Nederlandsch-Indie, Bandung, Wetenschappelijke Mededeelingen 14, p. 1-61.
('New contributions to the knowledge of Permian echinoderms of Timor 4- Flexibilia'. New 'flexibilia'-group crinoid descriptions and species. In German)

Wanner, J. (1931)- Das Alter der permischen Basleo-Schichten von Timor. Zentralblatt Mineralogie Geologie Palaontologie, B, p. 539-549.
('The age of the Permian Basleo beds of Timor'. Basleo beds believed to be Upper Permian (later authors more commonly view Basleo fauna as ~Mid Permian; JTvG). With map of fossil localities)

Wanner, J. (1931)- Neue Beitrage zur Kenntnis der permischen Echinodermen von Timor, V. Poteriocrinidae, Pt. 1, VI. Blastoidea. Dienst Mijnbouw Nederlandsch-Indie, Wetenschappelijke Mededeelingen 16, p. 1-77.
('New contributions to the knowledge of Permian echinoderms of Timor 5- Poteriocrinidae part 1')

Wanner, J. (1931)- Neue Beitrage zur Kenntnis der Permischen Echinodermen von Timor. VII. Die Anomalien der Schizoblasten. Dienst Mijnbouw Nederlandsch-Indie, Wetenschappelijke Mededeelingen 20, p. 5-37.
('New contributions to the knowledge of the Permian echinoderms of Timor- VII. The anomalies of the Schizoblasts')

Wanner, J. (1932)- Zur Kenntnis der permischen Ammonoideen-fauna von Timor. Beitrage Palaeontologie des Ostindischen Archipels III, Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 67, B, p. 257-278.
('On the knowledge of the Permian ammonoid fauna from Timor. Descriptions of Permian ammonites from Basleo, W Timor, collected by Ehrat, Molengraaff, etc. No stratigraphy, biogeography)

Wanner, J. (1932)- Anisische Monophylliten von Timor. Beitrage Palaeontologie des ostindischen Archipels IV, Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 67, B, p. 279-286.
('Anisian Monophyllites from Timor'. New species of M Triassic ammonite Monophyllites from Oe Masih, Basleo area, from Ehrat 1927 Wanner-funded collection trip)

Wanner, J. (1937)- Neue Beitrage zur Kenntniss der permischen Echinodermen von Timor VIII- XIII. Palaeontographica, Supplement IV, Beitrage zur Geologie von Niederlandisch-Indien IV, 2, p. 57-212.

(‘New contributions to the knowledge of Permian echinoderms of Timor 8-13’. Systematic descriptions of 19 new genera and 43 new species of crinoids)

Wanner, J. (1940)- Neue Beitrage zur Kenntnis der permischen Echinodermen von Timor XIV. Poteriocrinidae, 3 Teil. Palaeontographica, Supplement 4, Beitrage zur Geologie von Niederlandisch-Indien IV, 3, p. 213-242.
(*‘New contributions to the knowledge of Permian echinoderms of Timor 14’. More systematic descriptions of new species of crinoids)*

Wanner, J. (1940)- Neue Blastoideen aus dem Perm von Timor, mit einem Beitrag zur Systematik der Blastoiden. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands, vol. 1, Noord Hollandsche Publ. Co., Amsterdam, p. 215-277.
(online at: https://www.delpher.nl/nl/boeken/view?identifier=MMKB31:046046000:00009)
(‘New blastoids from the Permian of Timor, with a contribution to the systematics of the blastoids'. New Permian blastoid species, mainly from De Marez Oyens and Brouwer 1937 collections from Basleo, W Timor. Basleo area contains commeon microblastoids and microcrinoids. Of the 13 Permian blastoid genera known from Timor only two or three (Schizoblastus, Orbitremites) also occur outside Timor (But: Timoroblastus and Deltoblastus also in North Oman; Webster 2007; JTvG)

Wanner, J. (1940)- Neue Permische Lamellibranchiaten von Timor. In: H.A. Brouwer (ed.) Geological Expedition of the University of Amsterdam to the Lesser Sunda Islands, etc., 1937, 2, Noord Hollandsche Publ. Co., Amsterdam, p. 370-395.
(online at: www.delpher.nl/nl/boeken/ Etc.) (https://resolver.kb.nl/resolve?urn=MMKB31:046047000:pdf)
(Permian bivalves collected by Ehrat in 1927 and Brouwer1937 expedition. Most from Basleo area, and are species of Atomodesma, already known from earlier Timor papers)

Wanner, J. (1941)- Neue Beitrage zur Kenntnis der permischen Echinodermen von Timor XV. Echinoidea. Palaeontographica, Supplement 4, Beitrage zur Geologie von Niederlandisch-Indien IV, 5, p. 295-314.
(‘New contributions to the knowledge of the Permian echinoderms of Timor 15- echinoids')

Wanner, J. (1941)- Neue Beitrage zur Kenntnis der permischen Echinodermen von Timor XVI. Poteriocrinidae 4 Teil. Palaeontographica, Supplement 4, Beitrage zur Geologie von Niederlandisch-Indien V, 1, p. 297-314.
(‘New contributions to the knowledge of the Permian echinoderms of Timor 16- Poteriocrinidae part 4')

Wanner, J. (1942)- Beitrage zur Palaontologie des Ostindischen Archipels XIX, Die Crinoidengattung *Paradoxocrinus* aus dem Perm von Timor. Zentralblatt Mineralogie Geologie Palaontologie, B, 7, p. 201-214.
(‘Contributions to the paleontology of the East Indies Archipelago 19- The crinoid genus Paradoxocrinus from the Permian of Timor'. In German)

Wanner, J. (1951)- Uber die Crinoidengattung *Timorocidaris*. Neues Jahrbuch Geologie Palaontologie, Monatshefte 1950, 12, p. 360-370.
('On the crinoid genus Timorocidaris')

Wanner, J. (with F. Weber) (1956)- Zur Stratigraphie vom Portuguesisch Timor. Zeitschrift Deutsche Geol. Gesellschaft 108, p. 109-140.
(‘On the stratigraphy of Portuguese Timor’. Comprehensive discussion of Permian and Triassic facies in 'pseudoautochthonous’(flysch facies) and in nappe complexes (limestones, basic volcanics) of Timor Leste. Jurassic marine marls and limestones (with Buchia malayomaorica in nappe complex?).)

Wanner, J. & H. Sieverts (1935)- Zur Kenntnis der permischen Brachiopoden von Timor. 1. Lyttoniidae und ihre biologische und stammesgeschichtliche Bedeutung. Beitrage Palaeontologie des ostindischen Archipels 12, Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band 74, B, p. 201-281.
('On the knowledge of the Permian brachiopods of Timor: 1. Lyttoniidae and their biological and evolutionary significance'. Descriptions of Lyttoniidae (incl. Leptodus, Oldhaminella, Poikilosakos) from Permian of Timor

(mainly Basleo), and reconstruction of lifestyle (mostly attached to other fossils, like crinoid stems, etc.). With Lyttonia catenata n.sp., Paralyttonia transiens n.gen., n.sp., P. permica n.sp, Paralyttonia girtyi, etc.))

Ware, P. & L.O. Ichram (1997)- The role of mud volcanoes in petroleum systems: examples from Timor, the South Caspian and the Caribbean. In: J.V.C. Howes & R.A. Noble (eds.) Proc. Int. Conference Petroleum Systems of SE Asia and Australasia, Indonesian Petroleum Association (IPA), Jakarta, p. 955-970.
(Main mud volcano fields on Timor-Roti associated with Bobonaro Complex which consists of matrix of extruded scaly clays derived from Kekneno Series. Mud volcanoes common in front of thrust zones)

Warwick, D.J. (1970)- The Mesozoic geology of the area between the Ira Bere and Namalutun Rivers, Portuguese Timor. Timor Oil Ltd. Report, p. 1-11.
(Brief report on S coast of East Timor mapping; some photos, but no maps in report ?)

Wasson, R.J., A.L. Amaral, J. Rouwenhorst, K. Fifield, N. Chauhan, T. Pietsch, D.M. Alongi, F. Tirendi & A.K. Singhvi (2024)- Timor-Leste: preliminary assessment of a rapidly eroding landscape in the Coral Triangle. Marine and Freshwater Research 75, MF24156, p. 1-16.
(online at: https://www.publish.csiro.au/mf/MF24156)
(Reduction in vegetation cover for agriculture and timber cutting in Timor Leste increased sediment yield up to 120x, mainly by landsliding. Large amount of sediment moved to delta and offshore from river-channel change)

Waters, J.A. (1990)- The palaeobiogeography of the Blastoidea (Echinodermata). In: W.S. McKerrow & C.R. Scotese (eds.) Palaeozoic palaeogeography and biogeography, Geological Society, London, Memoir 12, p. 339-352.
(Permian blastoids widespread, but most diverse in SE Asia (Timor) and Australia. Timor faunas Sakmarian-Asselian and Kazanian, and most diverse and abundant. Paleoecology and stratigraphy poorly understood. Some common species between Timor and Australia, but others conspicuously absent: Angioblastus, Deltoblastus not in Australia; Australoblastus not in Timor. Reasons for local endemism unclear. Kazanian Timor fauna is last successful blastoid community before going extinct)

Webster, G.D. (1998)- Distortion in the stratigraphy and biostratigraphy of Timor; a historical review with an analysis of the crinoid and blastoid faunas. In: G.R. Shi, N.W. Archbold & M. Grover (eds.) Strzelecki Int. Symposium Permian of Eastern Tethys: biostratigraphy, palaeogeography and resources. Proc. Royal Society of Victoria 110, 1-2, p. 45-72.
(Rich Permian Timor fossils poorly constrained stratigraphically. Two-thirds of Timor crinoid and blastoid genera unknown outside Timor)

Webster, G.D. (1998)- Palaeobiogeography of Tethys Permian crinoids. In: G.R. Shi, N.W. Archbold & M. Grover (eds.) Strzelecki Int. Symposium on Permian of Eastern Tethys: biostratigraphy, palaeogeography and resources, Proc. Royal Society of Victoria 110, 1-2, p. 289-308.
(No Permian crinoid fauna in world as diverse and abundant as Timor. Five horizons between Sakmarian-Wuchiapingian. Australian faunas generally considered as cooler water faunas, >35°S. Timor warm-water shelf. In Artinskian greater similarity beween W Australia and Timor than between W and E Australia)

Webster, G.D. (2012)- A canted-cup Permian crinoid *Exotikocrinus* n. gen. (Crinoidea, Dichocrinidae) from Timor with comments on canted or inclined radial summits. Palaeoworld 21, p. 64-68.
(New canted-cup crinoid from W Timor described as Exotikocrinus dochmos n.gen. and n.sp.)

Webster, G.D. & S.K. Donovan (2012)- Revision of two species of ?*Ulocrinus* and a new pelecocrinid crinoid from West Timor. Palaeoworld 21, 2, p. 108-115.
(Two cladid crinoid species of ?Ulocrinus described by Wanner (1924, 1937) reinterpreted as cladid crinoid and renamed as Katerocrinus indicus n. gen., n. comb. and Dochmocrinus conoideus n. gen., n. comb.)

Webster, G.D. & S.K. Donovan (2012)- Before the extinction- Permian platyceratid gastropods attached to platycrinitid crinoids and an abnormal four-rayed *Platycrinites* s.s. *wachsmuthi* (Wanner) from West Timor. Palaeoworld 21, 3-4, p. 153-159.
(Examples of parasitic gastropods attached to Permian platycrinitid camerate crinoids from W Timor (not sure what it has to do with extinction))

Webster, G.D. & S.K. Donovan (2015)- Review and revision of the West Timor Permian *Graphiocrinus* species of Johannes Wanner. Palaeoworld 24, p. 497-522. *(online at: https://www.researchgate.net/publication/284104590_Review_and_revision_of_the_West_Timor_Permian_Graphiocrinus_species_of_Johannes_Wanner)*
(26 species of crinoid Graphiocrinus described from Permian of Timor by Wanner (1916-1949), but 12 belong to other genera, many others considered indeterminate members of several families. New taxa introduced)

Wei, X., X. Luan, F. Meng, Y. Lu, H. He, J. Qiao, J. Yin, Y. Wang & Y. Xue (2023)- Deformation feature and tectonic model of the Timor Trough: new interpretation of the evolution and mechanism of Banda arc-continent collision. Tectonophysics 862, 5, 229958, p. 1-15.
(Tectonic model of arc-continent collision and plate coupling in area of Timor/Timor Trough. CNPC 2005 2D seismic and other data suggest subsidence of Timor Trough and uplift of Timor Island began at ~3.3 Ma. Arc-continent collision two phases (1) earliest phase uplifted and closed forearc basin since ~6 Ma, and (2) second phase of regional deformations at ~3.3 Ma represented by development of backarc thrust, cessation of volcanism, uplift of Banda arc and subsidence of Timor Trough. Deformation of Timor Trough region shows as flexing of elastic plate. Tearing oceanic crust provides window for development of backarc thrust to SE (authors focused on Timor Trough and ignore significance of exotic terranes on Timor island; JTvG)

Weiler, W. (1932)- Uber Fischreste aus der Kreide von Timor. Neues Jahrbuch Mineralogie Geologie Palaontologie, Beilage Band B, 67, p. 287-304.
('On fish remains from the Cretaceous of Timor'. Shark teeth, believed to be of Late Cretaceous age, from red clays above Triassic Halobia Limestone in Noil Tobee, collected by H. Ehrat. Incl. Strophodus, Lamna, Scapanorhynchus raphiodon, Odontapsis constrictus, etc. Branson (1937) suggested possible Permian elements?)

Wells, N. (2005)- Redefining the Lolotoi Formation, Timor-Leste. PESA News, 12/2004, p. 36 *(Abstract only; Geology in Timor Symposium)*
(Greenschist-epidote facies metamorphism in E Timor Lolotoi Fm. Mafic precursor basalts oceanic crust? Three stages of ductile deformation and three types of brittle deformation. Fault trends 100º, 050º and N-S. Basal contact of Lolotoi Fm is >100m fault gouge with underlying Eocene units. Ductile shear zone separates Lolotoi Fm from overlying Cablac Fm. Lolotoi Fm significantly deformed prior to juxtaposition with Cablac Fm. Slivers of Lolotoi Fm involved in ductile shear zone and intercalated with base Cablac Fm suggest these two units were structurally juxtaposed. Lolotoi Fm and Aileu Fm metamorphics not related, but Mutis Complex of West Timor broadly similar to Lolotoi metamorphics in East)

Welter, O.A. (1914)- Die Obertriadischen Ammoniten und Nautiliden von Timor. In: J. Wanner (ed.) Palaeontologie von Timor, Schweizerbart, Stuttgart, 1, 1, p. 1-258.
(online at: http://mmtk.ginras.ru/pdf/welter1914_t3_timor.pdf)
('The Upper Triasic ammonites and nautiloids from Timor'. Monograph of ammonites collected by Molengraaff 1910-1912, Wanner 1911 and Weber 1911 W Timor expeditions. Rich assemblages with 205 Carnian-Norian species, mainly from blocks of 'Halstatter Facies' red limestone (~2m thick fossil accumulation without terrigenous sediment) from S half of W Timor. Incl. Sirenites malayicus n.sp. Some ammonites with black manganese staining. Remarkable similarities to Mediterranean and Himalayan ammonites. In N of Timor age-equivalent Norian 'Fatu' coral limestones (Both these U Triassic carbonate facies considered part of 'allochthonous' nappe complex by Wanner 1956 and others; JTvG))

Welter, O.A. (1915)- Die Ammoniten und Nautiliden der Ladinischen und Anisischen Trias von Timor. In: J. Wanner (ed.) Palaontologie von Timor 5, 10, Schweizerbart, Stuttgart, p. 71-136.

('The ammonites and nautiloids from the Ladinian and Anisian Triassic of Timor'. Rich assemblage of Middle Triassic ammonites (>27 genera) from blocks of thin, reddish, bathyal Triassic cephalopod limestones called 'Halstatt Facies' from various Timor localities, collected by Wanner and Molengraaff 1909-1911 expeditions. Associated with white tuffs and ammonites commonly with black iron-manganese coating. Ammonite assemblages more 'Alpine' than 'Asian' in character)

Welter, O.A. (1922)- Die Ammoniten der unteren Trias von Timor. In: J. Wanner (ed.) Palaeontologie von Timor 11, 19, Schweizerbart, Stuttgart, p. 83-154.
('The ammonites from the Lower Triassic of Timor'. Monograph on high-diversity (26 genera, 71 species) Lower Triassic ammonites from various Timor localities, collected by Wanner and Molengraaff 1909-1911 expeditions. Oldest horizon is yellow Meekoceras limestone from Kapan and Nifoekoko near Niki-Niki (overlying dark red Permian limestone). Other blocks are limestones with Owenites egrediens from Bihati, Anasiberites multiformis from Noil Saban and Ophiceras crassecostatum from Fatu Toekoenenu. All blocks of condensed 'Hallstatt facies' with tuffs and black manganese coating. Many similarities with Himalayan-Mediterranean Triassic faunas. No locality maps)

Welter, O.A. (1922)- Nachtrag zu den obertriadischen Ammoniten von Timor. In: J. Wanner (ed.) Palaeontologie von Timor 11, 19, Schweizerbart, Stuttgart, p. 155-159.
('Supplement to the Upper Triassic ammonites from Timor'. Descriptions of 4 additional Early Triassic ammonoid species. Genus Amarassites first described from Timor now also found in Alps. Timor 'Bihati C' fauna has more Mediterranean than Asian elements)

Wensink, H. & S. Hartosukohardjo (1990)- The paleomagnetism of Late Permian- Early Triassic and Late Triassic deposits on Timor: an Australian origin? Geophysical J. International 101, p. 315-328.
(Paleomagnetic work on non-recrystallized Permian Maubisse Fm red limestones from Kelamenanu and Suanae suggest paleolatitude of ~39° (averages of two localities 37.7° and 43.2°) and 55° clockwise rotation. Late Triassic Aitutu radiolarian calcilutites from Maubesi River and Sabau with Halobia and quartz arenites: paleolatitude ~33° and clockwise rotation of 25°. Results suggest presence of displaced terrane of Australian origin on Timor island)

Wensink, H. & S. Hartosukohardjo (1990)- Paleomagnetism of younger volcanics from Western Timor, Indonesia. Earth Planetary Science Letters 100, 1-3, p. 94-107.
(Eocene Metan volcanics in Mutis Massif, W Timor (= allochthonous Banda Terrane), formed at ~17°N, possibly on continental fragment that broke away from Gondwana in Mesozoic, shifted to SE Asia, broke away in Eocene and collided with Australia at ~3 Ma. Late Miocene obducted Manamas Fm of NW coast (=Oecussi volcanics?) pillow lavas/ arc volcanics suggest 8° paleolatitude and 45° CCW rotation of Timor in last 3 My)

Wensink, H., S. Hartosukohardjo & K. Kool (1987)- Paleomagnetism of the Nakfunu Formation of Early Cretaceous age, western Timor, Indonesia. Geologie en Mijnbouw 66, 2, p. 89-99.
(online at: https://drive.google.com/file/d/0B7j8bPm9Cse0V3liNFNEeW9NdDg/view)
(Early Cretaceous (Albian?) Nakfunu Fm bathyal red clays in S Central Timor Kolbano accretionary prism probable paleolatitude of ~19-21°, probably in S Hemisphere. Today at 10°S, suggesting original site of deposition of Nakfunu sediments were 10° S of present position on Timor and sediments moved ~1200 km N since deposition in an oceanic environment. but Australian NW Shelf was closer to 30-40° S at that time, so probably formed well N of Australian Shelf)

Wichmann, A. (1882)- Gesteine von Timor nach Sammlungen von Macklot, Reinwardt und Schneider. Sammlungen Geologischen Reichs-Museums Leiden, Ser. 1, 2, E.J. Brill, Leiden, p. 1-172.
(online at: www.repository.naturalis.nl/document/552382)
(Also reprinted in three parts in Jaarboek Mijnwezen 1882, Wetenschappelijk Gedeelte, p. 181-252, 1884, Wetenschappelijk Gedeelte, p. 231-284 and 1887, Wetenschappelijk Gedeelte, p. 46-93)
('Rocks from Timor and some adjacent islands' Descriptions of rocks collected by Macklot, Reinward and Schneider)

Wichmann, A. (1884)- Gesteine von Timor nach Sammlungen von Macklot, Reinwardt und Schneider, Vervolg (1). Jaarboek Mijnwezen Nederlandsch-Indie 13, Wetenschappelijk Gedeelte, Batavia, p. 231-284.
(without maps) (online at: https://ia600704.us.archive.org/0/items/jaarboekvanhetm04gebigoog/jaarboekvanhetm04gebigoog.pdf)
('Rocks from Timor from the collections of Macklot, Reinward and Schneider'. 2. Rocks from Oicussi and Sutrana, along N coast (metamorphic rocks), 3. Ptitti area (foyaite, diabase, andesite, schists,:Globigerina limestone), 4. Amarassi area (serpentinite, chert, basalt conglomerate, sandstone, foraminifera clay))

Wichmann, A. (1887)- Gesteine von Pulu Samauw und Pulu Kambing. Sammlungen Geologischen Reichs-Museums Leiden, Ser. 1, 2, E.J. Brill, Leiden, p. 173-182.
(also in Jaarboek van het Mijnwezen 1887, Wetenschappelijk Gedeelte, p. 94-103)
(online at: www.repository.naturalis.nl/document/552401)
('Rocks from Samauw and Kambing Islands'. Small islands W of Kupang, W Timor. Pulau Kambing hill composed of sandstone and mud volcano Samauw also with sandstones, Tertiary limestones and also small mud volcanoes. No maps, figures)

Wichmann, A. (1887)- Gesteine von der Insel Kisser. Sammlungen Geologischen Reichs-Museums Leiden, Ser. 1, 2, E.J. Brill, Leiden, p. 183-208.
(online at: www.repository.naturalis.nl/document/552441)
('Rocks from Kisar Island'. Petrographic descriptions of rocks from Kisar NE of Timor, sampled by Reinwardt in 1821, Kisar island has core of metamorphic rocks (phyllite, mica schist, amphibolite), surrounded by uplifted Quaternary limestone terraces)

Wichmann, A. (1887)- Gesteine von der Insel Kisser. Jaarboek Mijnwezen Nederlandsch Oost-Indie 1887, Wetenschappelijk Gedeelte 3, p. 104-128.
('Rocks from Kisar Island', NE of Timor. Same as paper above)

Wichmann, A. (1892)- Bericht uber eine im Jahre 1888-89 im Auftrag der Niederlandischen Geographischen Gesellschaft ausgefuhrte Reise nach dem Indischen Archipel, part 4, Timor. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap ser. 2, 9, p. 161-221.
(online at: https://www.delpher.nl/nl/tijdschriften/view identifier=MMUBA13:001625001:00163)
(Part 3 of Wichmann geographic narrative of 1888-1889 trip for KNAG (Royal Netherlands Geographic Society) to Timor. Mainly geographic descriptions, with some of earliest observations on Timor geology. First significant collection of Permian- Jurassic fossils from E Indonesia (Timor, Roti), described by A. Rothpletz 1891, 1892. Also report of crystalline schists from Lakan, which Wichmann believed to be part of belt of metamorphic rocks that continues to islands of Kisar, Leti, Babar, etc. to Buru (p. 217))

Wichmann, A. (1892)- Bericht uber eine im Jahre 1888-89 im Auftrag der Niederlandischen Geographischen Gesellschaft ausgefuhrte Reise nach dem Indischen Archipel, part 5. Rotti. Tijdschrift Koninklijk Nederlands Aardrijkskundig Genootschap, ser. 2, 9, p. 222-276.
(online at: https://www.delpher.nl/nl/tijdschriften/view identifier=MMUBA13:001625001:00163)
(Final part of Wichmann geographic narrative of 1888-1889 trip for KNAG (Royal Netherlands Geographic Society), covering islands Roti, Kambing and Samau)

Wichmann, A. (1892)- Die Insel Rotti. Petermanns Geographische Mitteilungen 38, p. 97-103.
(online at: https://zs.thulb.uni-jena.de/receive/jportal_jpvolume_00146676)
('The island Rotti'. Early geographic and geological observations of Roti island, SW of Timor. Geologically Roti is relatively simple, and mainly a clump of Triassic, covered by Neogene foraminifera marl. Triassic sandstones overlain by Upper Triassic limestone with 'alpine' Monotis salinaria, Halobia spp. (described by Rothpletz 1891). Mud volcanoes on Landu Peninsula in NE Roti with sedimentary rock clasts and Permian, Triassic and E-M Jurassic macrossils (Arietites, Harpoceras, Belemnites gerardi))

Wichmann, A. (1892)- Over het voorkomen van Alpine Trias op Timor (volgens fossielen verzameld door H.F.C. ten Kate). Natuurkundig Tijdschrift voor Nederlandsch-Indie 51, p. 446-447.

('On the occurrence of Alpine Triassic on Timor (according to fossils collected by H.F.C. ten Kate)'. Brief note on discovery of Triassic Halobia mollusc limestone from Timor, in float from Halemea River or Mota Muruk, Fialarang, SSE of Atapupu, collected by Ten Kate. With abundant thin Monotis salinaria, a characteristic species of Norian stage in Alpine Triassic (= Tethys Ocean) (= first record of Triassic sediments in Indonesia?))

Widiatama, A.J., H.C. Natalia, R. Ikhram, L.D. Santy, J. Wahyudiono, L.R.S. Wiguna & S. Faranabila (2021)- Various sources of rare earth element enrichment at Manamas volcanic rock, Timor Island. In: Int. Seminar on Mineral and Coal Technology, Bandung 2021, IOP Conference Series: Earth and Environmental Science 882, 012044, p. 1-9.
(online at: https://iopscience.iop.org/article/10.1088/1755-1315/882/1/012044/pdf)
(Late Miocene-Pliocene Manamas Fm volcanic rocks exposed in Bihati River, Baun, SW Timor two types of basalts: alkaline (OIB pattern) and sub alkaline (N-MORB patterns). Thorium and uranium enrichment due to contamination of sediment or continental crust or directly from asthenosphere due to magma upwelling. Two distinctive patterns interpreted due to slab tear beneath Timor during Australia oceanic plate subduction and recycled oceanic crust beneath Banda Arc)

Widiatama, A.J. & L.D. Santy (2023)- Karakteristik Formasi Menu di Pulau Rote. J. Geosains dan Teknologi (UNDIP) 6, 1, p. 27-37.
(online at; https://ejournal2.undip.ac.id/index.php/jgt/article/view/17759)
('Characteristics of the Munu Formation on Rote Island'. Cretaceous Menu Fm is bathyal pelagic limestone (equivalent of part of Kolbano series in SW Timor). With radiolaria, bivalvia, calcareous nannofossils, spiculite and foraminifera. LowerMenu Fm earliest Cretaceous (Berriasian-Valanginian) age based on appearance of Cyclagelosphaera brezae. Middle Menu Fm grayish white marl with chert nodules, grading into into red limestone. Upper Menu Fm Albian or younger (presence of Cyclagelosphaera reinhardtii))

Widiatama, A.J., L.D. Santy, H.C. Natalia, J. Wahyudiono & R. Ikhram (2021)- Karakteristik geokimia basal alkali Formasi Manamas di Sungai Bihati, Baun, Pulau Timor. Eksplorium 42, 1, p. 1-12.
(online at: https://ejournal.brin.go.id/eksplorium/article/view/8075/6189)
('Geochemical characteristics of alkaline basalt Manamas Formation in the Bihati River, Baun, Timor Island'. Manamas Fm basalt from SW Timor of alkaline affinity with enrichment pattern of Rare Earth elements identical to Ocean Island Basalt (OIB) (N.B. No discussion of age of basalts. Type Manamas Fm is Late Miocene-Pliocene basalt pile near N coast of Timor;but basalts at Bihati River in SW Timor more likely Permian Maubisse Fm?- JTvG)

Widiatama, A.J., L.D. Santy, J. Wahyudiono, S. Widyastuti & L.F. Rahmatillah (2021)- Karakteristik geokimia basalt busur gunungapi tholeitik Formasi Manamas di Sungai Metan, Baun, Timor. Jurnal Geologi dan Sumberdaya Mineral (JGSM) 21, 3, p. 149-156.
(online at: https://jgsm.geologi.esdm.go.id/index.php/JGSM/article/view/449)
('Geochemical characteristics of the tholeitic volcanic arc basalt of the Manamas Formation in the Metan River, Baun, Timor'. Geochemistry of pillow basalts in SW Timor, formed in tholeitic volcanic arc (not clear if age is Neogene or Permian?; JTvG))

Widiatama, A.J., L.D. Santy, R.N.F.A. Nahar, Zulfiah, W.E.M. Puteri, A. Damanik & R. Kapid (2021)- Calcareous nanofossil of Post-Gondwana sequence in Southern Banda Arc, Indonesia. J. Geoscience Engineering Environment Technology (JGEET) 6, 2, p. 86-93.
(online at: https://journal.uir.ac.id/index.php/JGEET/article/view/6287/3294)
(Cretaceous-Neogene calcareous nannofossils in Kolbano and Viqueque sequences of Timor (Miocene), Rote (E Cretaceous) and Savu (M Eocene))

Wijanarko, E., I. Arisbaya, P. Sumintadireja, Warsa & H. Grandis (2022)- Basin study in Atambua, West Timor, Indonesia from gravity data. J. Mathematical Fundamental Sciences (ITB) 54, 1, p. 138-150.
(online at: https://journals.itb.ac.id/index.php/jmfs/article/view/17701/5943)

(Bouguer gravity survey shows two main Neogene basins along SW-NE trend: Central Basin and Atambua Basin. A proposed model (alternative models possible?; JTvG) shows Bobonaro melanges and Neogene Viqueque sequences dominate and overlie 'syn-rift' (Permian-Jurassic Kekneno sequences) and post-rift (Kolbano) with varying lithology. Underlying basement may be protruding pre-Permian Australian crust)

Wijanarko, E., I. Arisbaya, P. Sumintadireja, Warsa & H. Grandis (2022)- Magnetotellurics study of Atambua area, West Timor, Indonesia. Vietnam J. Earth Sciences 45, 1, p. 67-81.
(online at: https://vjs.ac.vn/index.php/jse/article/view/17581/2543254827)
(Results of magnetotelluric survey in central parts of W Timor))

Winkler Prins, C.F. (2008)- Some spiriferid brachiopods from the Permian of Timor (Indonesia). In: G.R. Shi et al. (eds.) A memorial issue in honour of Professor Neil W. Archbold, Proc. Royal Society of Victoria 120, 1, p. 389-400.
(online at: http://repository.naturalis.nl/document/544734)
(Revision of Permian neospiriferine and spiriferidine brachiopods from Timor in Naturalis-Leiden collections, Spirifer (Crassispirifer) timorensis Martin 1881 and Crassispirifer broilii Waterhouse 2004. New species Latispirifer archboldorum (ex-Spirifer fasciger) from near Niki-Niki. New genus Archboldiella based on aberrant species Spirifer basleoensis Hayasaka & Hosono 1951)

Wittouck, S.F. (1937)- Exploration of Portuguese Timor. Report of Allied Mining Corporation to Asia Investment Company, Ltd., Asia Investment Company, Ltd., Kolff & Co., Batavia, p. 1-107.
(online at: https://nla.gov.au/nla.obj-51222414)
(Monograph on geography, geology, minerals and oil and agricultural prospects of East Timor, by Belgian entrepreneur Dr. Ir. Serge F. Wittouck (1903-1940), President of Allied Mining Co. of Manila. Report presumably printed for shareholders. Large-scale expedition in 1936, with 7 field parties with three geologists (incl. Dutch Ir. N.H. van Doorninck), three mining engineers and a group of Philippino surveyors and assayors. With 22 full-page maps and sketch-maps and two 1:250,000 scale maps of topography and geology. Fatu limestone cliffs are oolitic-coral limestones, Late Triassic and Early Jurassic in age, blocks lying in all directions, often brecciated at base. Chromite in serpentinites in Manu Hill district, gold in Manufai District, copper, manganese in Mesozoic shales, oil seeps along S coast in Aliambata, Suete, Pualaca, etc.)

Wittouck, S.F. (1938)- Exploration of Portuguese Timor. The Geographical Journal 92, 4, p. 343-350.
(Mainly geographic summary of Timor Leste, compiled during 1936-1937 survey by team of Belgian financier/ promotor/ engineer and Philippines gold mine owner Serge F. Wittouck. Oil and gas seeps in S coast area in Aliambata, Iriamo, Suete and Suai districts)

Xavier-Conceicao, F.A. (2022)- Geophysical characterization and modelling of metamorphic and sedimentary units in East Timor: insight into tectonic, basin evolution, and implications to hydrocarbon and ore minerals. Masters Earth Science thesis, The University of Auckland, New Zealand, p. 1-183.
(online at: https://researchspace.auckland.ac.nz/handle/2292/61692)
(Interpretation of recently acquired aeromagnetic, radiometric, and aerogravity data to explore distribution and structure of metamorphic and sedimentary units in East Timor. Bebe-Susu Metamorphic Complex is association of Banda and Gondwana blocks emplaced onto Australian Continental Margin during arc-continent collision. Aileu Metamorphic Complex is association of Banda and Gondwana blocks, including metasediments of underthrust Gondwana Megasequence that propagated into forearc in N before backthrusted onto Australian Continental Margin. Both metamorphic complexes can be geophysically distinguished from underlying Gondwana sedimentary rocks and Passive Margin sedimentary rocks.(Overthrust Terrane Association composed of (1) Gondwana blocks (Sula spur block of pre-Permian metamorphic rock and overlying Maubisse Fm, and Argo block of pre-Permian metamorphic rock) and (2) Banda blocks (Bebe-Susu Massif). Etc.).

Xavier-Conceicao, F.A., M. da Costa, J. de Sousa, J. Eccles, L. Strachan & B. Duffy (2023)- Integrated geological and geophysical interpretation of the complex Timor Orogen: Insights into the tectonic and basin evolution. Third Int. Meeting for Applied Geoscience and Energy (IMAGE 23), SEG-AAPG, Houston, OnePetro, p. 816-820.

(Geological and geophysical integration study of central part of onshore Timor-Leste favors overthrust model, where upper plate is interpreted as terrane association between Asian and Australian rock affinities, while lower plate is the Australian Continental Margin. Complex geology resulted from pre-Cenozoic and Cenozoic tectonic developments, and Miocene/Pliocene collision between Banda Arc and Australian plate. This interpretation now proven with recent Lafaek-1 well in onshore Timor-Leste,which penetrated hydrocarbon bearing sedimentary rocks beneath metamorphic complex)

Yabumoto, Y. & P.M. Brito (2016)- A new Triassic coelacanth, *Whiteia oishii* (Sarcopterygii, Actinistia) from West Timor, Indonesia. Paleontological Research (Palaeontological Society of Japan) 20, 3, p. 233-246.
(New species of small coelacanth fish, Whiteia oishii, from marine (Late?)Triassic beds in W Timor. Type locality not exactly known, probably in area of Noe Bihati in SW. Differs from other species of Whiteia by presence of 5-10 long ridges on scales, 9 rays on first dorsal fin, etc. First coelacanth occurrence from SE Asia. Most other known Whitea coelacanth fossils in world from Early Triassic, along coasts of Pangea)

Yamagiwa, N. (1963)- Some Triassic corals from Portuguese Timor (Palaeontological study of Portuguese Timor, I). Memoirs Osaka University, Liberal Arts Education, B (Natural Science) 12, p. 83-87.
(Short paper on U Triassic corals collected in 1961 from Fatu Laculequi near Pualaca in C Timor Leste)

Yang, X.Z., Y. Zeng, J.A. Liu, G.G. Chen & C. Liu (2014)- An analysis of metal mineral resource potential and mining investment. Environment in East Timor. Geological Bulletin of China 33, p. 334-341. *(in Chinese, with English summary)*
(online at: http://en.cgsjournals.com/zgdzdcqkw-data/dztb/2014/2-3/PDF/2014020319.pdf)
(Metallogenic geological condition of East Timor fairly favorable, with many types of mineral resources. Chromite mineralization in Manatuto, Manufahia and Baucau provinces, hosted in ultramafic rocks (Hili Manu district podiform chromites with Cr2O3 grade 36- 51%). Manganese mineralization in marine strata mainly in Baucau, Viqueque and Manatuto provinces. Copper mineralization in Baucau, Viqueque, Covalima, Manufahi, Manatuto and Lautem province, hosted in ophiolite suite. Also prospects of gold placers. Etc.

Yensusnimar, D., J. Setyoko & L. Ginting (2017)- Biomarker characterization of mud volcano seepage (oil seep) and sediment samples from Atambua Field. Proc. Joint Convention HAGI-IAGI-IAFMI-IATMI (JCM 2017), Malang, 2p. *(Extended Abstract)* *(online at: https://www.iagi.or.id/web/digital/5/2017_IAGI_Malang_Biomarker-Characterization-of-Mud-Volcano.pdf)*
(Lemigas paper on biomarker compositions of oils from Masin Lulik mud volcano seep and surface sediments from Atambua area, onshore Timor, With signatures of marine source facies (Pr/Ph 1.30- 1.83, absence of land plant biomarker signatures such as bicadinanes and oleananes). Low thermal maturity of oils (early mature) and surface sediments (immature). No data on sample locations or ages of rocks (also, there is no Atambua oil field))

Zobell, E.A. (2007)- Origin and tectonic evolution of Gondwana sequence units accreted to the Banda Arc: a structural transect through Central East Timor. M.Sc. Thesis Brigham Young University, p. 1-83. *(Unpublished)*
(online at: http://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=1897&context=etd)
(Petrographic analyses of Permian- Jurassic 'Gondwanan sequence' in E Timor. Detrital zircons from 'Asian' Banda unit as young as 80 Ma. Zircons from Triassic 'Gondwana sequence' no younger than ~234 Ma and with peak ages at 301 Ma and 1873 Ma, also some Archean ages. QFL ratios of Triassic greywacke of Timor suggest proximal, syn-rift, intracratonic or recycled orogen source, from NE. Mount Isa region to E has most similar peak U/Pb zircon ages, but extension of this terrane to W, which would have rifted away during Jurassic breakup, is required to account for immaturity of sandstones)

Zobell, E.A. (2007)- New insights into the stratigraphic and structural evolution of the active Banda orogen. GSA Rocky Mountain Section, 59th Annual Meeting 2007, p. *(Abstract only)*
(Banda arc-continent collision comprised of Australian passive margin cover sequences and portions of uplifted Banda forearc. Uplifted Banda forearc units indicate Asian affinity with maximum age of 80 Ma. Detrital zircons from sandstones of Australian continental margin sequences have peak ages at 237-353 Ma and 1788-1895 Ma. Provenance analysis of Triassic Australian-affinity greywacke consistent with proximal syn-rift

intracratonic or recycled orogen source, probably from N. Structural measurements indicate N-NW to S-SE vergence direction and 30-40% shortening. Banda forearc is 200 km wide N of Savu, and completely over ridden by retro-wedge thrusting north of E Timor. Structural models constructed to test different geometries)

VII.5. Timor Sea (Timor Trough), Indonesian Sahul Platform

Akutsu, T. (2009)- Abadi gas field, Masela PSC block, West Arafura Sea, Indonesia. SEAPEX Exploration Conference, Singapore 2009, p.

Ambrose, G.J. (2004)- The ongoing search for oil in the Timor Sea, Australia. In: G.K. Ellis et al. (eds.) Timor Sea Symposium Darwin 2003, Northern Territory Geological Survey, p. 3-22.

Aswan, A., Y. Zaim, K. Kihara & K. Hadianto (2012)- Depositional facies of Plover Formation in the Abadi Field, Eastern Indonesia based on core sedimentology. AAPG Int. Conv. Exhib., Singapore 2012, Search and Discovery Art 50729, p. 1-6. *(Extended Abstract)*
(online at: www.searchanddiscovery.com/documents/2012/50729aswan/ndx_aswan.pdf)
(Summary of poster on core sedimentology study of M Jurassic Plover Fm gas reservoirs of Abadi Field. Cores quartzoze sandstone, siltstones, and claystones, generally rich in ichnofossils. Estuarine- shoreface facies)

Audley-Charles, M.G. (1966)- The age of the Timor Trough. Deep Sea Research 13, 4, p. 761-763.
(Timor Trough persisted as deep water zone between Timor and Australia since Lower Eocene)

Baillie, P.W., G. Duval & C. Milne (2013)- Geological development of the western end of the Timor Trough. Proc. SE Asia Petroleum Exploration Society (SEAPEX) Conference, Singapore 2013, p. 1-46.
(Abstract + Presentation) (online at: www.seapex.org/im_images/pdf/Simon/11%20Peter%20Baillie%20Timor%20Trough%20SEC2013.pdf)
(Examples of regional seismic lines over W Timor Trough, here interpreted as foredeep produced by loading following arrival of Banda Arc and is topographic expression of down-flexed/ thrust-loaded Australian margin, not subduction trench. 'Accretionary prism' of S Timor/ N Timor Trough explained as gravitational collapse)

Baillie, P.W., T.H. Fraser, R. Hall & K. Myers (2004)- Geological development of eastern Indonesia and the northern Australia collision zone: a review. In: G.K. Ellis et al. (eds.) Timor Sea Symposium, Darwin 2003, Northern Territory Geological Survey, p. 539-550.
(online at: https://www.academia.edu/27527223/Geological_development_of_Eastern_Indonesia_and_the_northern_Australia_collision_zone_a_review)
(N margin Australia divergent margin over most of time. Continental fragments separated in E. Devonian (opening of Paleo-Tethys), late E Permian (opening of Meso-Tethys) and Late Triassic- Late Jurassic (opening of Ceno-Tethys ocean). Passive margin, facing open ocean since end-Jurassic. Late Triassic Carnian-Norian succession of NW Shelf was deposited following regionally extensive period of tectonism, erosion and uplift along edges of craton (Fitzroy Movement), related either to breakup events along Gondwanan margin or to docking of continental blocks along New Guinea subduction margin)

Baillie, P. & C. Milne (2014)- New insights into prospectivity and tectonic evolution of the Banda Arc: evidence from broadband seismic data. Proc. 38th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, IPA14-G-100, p. 1-5.
(On new seismic data from Timor Trough, S of Timor island. Timor Trough is merely a recently downflexed Australian continental margin)

Barber, P.M., P.A. Carter, T.H. Fraser, P. Baillie & K. Myers (2003)- Palaeozoic and Mesozoic petroleum systems in the Timor and Arafura seas, Eastern Indonesia. Proc. 29th Annual Conv. Indonesian Petroleum Association (IPA), p. 485-500.
(On hydrocarbon prospectivity in Paleozoic- Mesozoic S of Babar- Tanimbar. New seismic links Australian gas discoveries of Sunrise and Evans Shoal with Abadi accumulation and open acreage in Indonesian waters. Malita and Calder Grabens charge kitchens from mature E-M Jurassic Plover Fm source rocks. Paleozoic Basins could contain mature oil-prone source rocks of Cambrian, Devonian and Carboniferous age)

Barber, P.M., P.A. Carter, T.H. Fraser, P. Baillie & K. Myers (2004)- Under-explored Palaeozoic and Mesozoic petroleum systems of the Timor and Arafura Seas, northern Australian continental margin. In: G.K. Ellis et al. (eds.) Timor Sea Symposium, Darwin 2003, Northern Territory Geological Survey, p. 143-154.
(Similar to Barber et al. (2003), above)

Bolli, H.M. (1977)- Paleontological-biostratigraphical investigations, Indian Ocean Sites 211-269 and 280-282, DSDP Legs 22-29. In: J.R. Heirtzler et al. (eds.) Indian Ocean geology and biostratigraphy, AGU Special Publ. 9, Chapter 13, p. 325-338.
(Review of 73 papers on biostratigraphy of six DSDP holes in SE Indian Ocean/ Timor Sea)

Brooks, D.M., A.K. Goody, J.B. O'Reilly & K.L. McCarty (1996)- Bayu/Undan gas-condensate discovery: western Timor gap zone of cooperation, Area A. Australian Petroleum Production Exploration Association (APPEA) J. 1996, p. 142-160.

Brown, S. (1992)- The Mesozoic stratigraphy of the Timor Gap and its bearing on the hydrocarbon potential of Eastern Indonesia. Proc. 21st Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, 1, p. 553-574.
(Discussion of Timor Gap Mesozoic stratigraphy and comparisons to E Indonesia islands stratigraphy. Not much detail)

Butler, A. (2023)- Chuditch gas discovery, offshore Timor-Leste. Proc. 2023 Southeast Asia Petroleum Exploration Society (SEAPEX) Conference, Singapore, p. 1-13. *(Abstract + Presentation)*
(Chuditch-1 drilled by Shell (1998) in 64m water on Bonaparte Shelf, NW Australalia, but now in 'Timor Gap' license area. Discovered gas in Jurassic Plover sandstone reservoirs. Current remapping/ reappraisal by SundaGas/ Baron Oil)

Butler, A., C. Murray, R. Herries, D. Gandara & B. Gusmao (2024)- Technical overview and development status of the prolific Middle Jurassic Plover Formation gas fairway: Timor-Leste, Australia and Indonesia. Proc. GESGB-SEAPEX Asia Pacific Conference, Exploring Asia Pacific's Energy Future, London 2024, p. 6-7.
(Abstract + Presentation)
(N Bonaparte Basin (Australia- Timor Leste- Indonesia) estimated to hold 30 TCF gas in M Jurassic Plover Fm sandstones)

Castillo, D.A., D.J. Bishop & M. de Ruig (2001)- Fault seal integrity in the Timor area: prediction of trap failure using well-constrained stress tensors and fault surfaces interpreted from 3D seismic. Proc. 28th Annual Conv. Indonesian Petroleum Association (IPA), Jakarta, p. 261-288.
(In Laminaria High and Nancar Trough areas many hydrocarbon traps underfilled or breached. Ability of fault to behave as seal controlled in part by the principal stress directions and magnitudes and fault geometry. Regional stress analysis indicates non-uniform strike-slip stress regime, with orientation of maximum principal horizontal stress (SHmax) varying from N-S compression in N to NE-SW farther S)

Castillo, D.A., R.R. Hillis, K. Asquith, M. Fischer (1998)- State of stress in the Timor Sea area, based on deep wellbore observations and frictional failure criteria: application to fault-trap integrity. Proc. The sedimentary basins of Western Australia II, Petroleum Exploration Society Australia (PESA), p. 325-340.
(SHmax stress direction NE-SW to N-S, subparallels convergence direction between Australia and Indonesia)

Ciftci, N.B. & L. Langhi (2012)- Evolution of the hourglass structures in the Laminaria High, Timor Sea: implications for hydrocarbon traps. J. Structural Geology 36, p. 55-70.
(Hourglass structure is older horst block with superimposed younger graben. Bounding faults of horst and graben blocks separate conjugate fault systems formed by two episodes of extension: (1) Late Jurassic- Early Cretaceous and (2) M Miocene- Pliocene)

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(Late Miocene-to-Recent collision of NW Australian shelf with Banda Island Arc results in downward flexing of Australian lithosphere toward arc. Vertical extent of normal faulting on shelf from SW of Timor to S of Tanimbar indicates collision began W of Timor in Late Miocene, progressed E during Pliocene, and continues eastward. Normal faults W of 124.5°E terminate vertically in Miocene section. Normal faults from 124.5°E to 125.5 °E terminate at Miocene-Pliocene boundary. from 125.5°E to 128°E, faults terminate in E Pliocene, from 128°E to 131°E terminate at or near sea floor)

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(Examples of seismic lines across Timor-Tanimbar Trough, showing subducting Australian Plate and Banda forearc accretionary wedge complexes)

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(Review of geology of the Timor Trough. Timor Trough S of Savu does not mark the trace of subduction zone; trace of old subduction zone presently buried under rapidly developing fold-thrust belt. Timor Trough not shelf edge, but down-warp of continental shelf, resulting from loading of Timor fold thrust belt. Best explained as foredeep located within Australian continent, rather than continuation of active subduction zone along plate boundary that defines N limit of Australian Plate)

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(Oil-filled fluid inclusions at quartz overgrowth/ detrital quartz boundaries and in fractures cutting quartz grains used as evidence of paleo-oil columns in Triassic- Late Jurassic. Other indications of paleo-oil include sample fluorescence, elevated resistivity and reservoir diagenesis. Structures in Timor Sea have undergone more than one phase of oil entrapment and leakage, with each oil phase potentially from different oil source)

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(Fault reactivation related to late Tertiary collision of Australian continent with Banda Arc responsible for common occurrence of breached hydrocarbon traps in Timor Sea. Two stages of collision at Timor: (1) Late Miocene (8 Ma) when transitional Australian continental crust reached subduction system; (2) true continental crust entered subduction system in M Pliocene, and Timor Trough evolved as foredeep basin in response to imbricate thrust loading on Australian margin)

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(Oil inclusions in Bayu 1 Jurassic sandstones suggest paleo-oil column of at least 20m below 46-53m paleo-gas cap (currently 155m gas column). FI oil from marine-influenced, less clay-rich source rock. FI oil maturity mid-oil window (Ro ~0.75%), condensate higher maturity (~0.9%). Compositions and maturity data consistent with early expulsion from marine organic matter in Echuca Shoals Fm, followed by expulsion of condensate from more terrestrial Elang/ Plover Fms)

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(Oil-bearing fluid inclusions in gas-bearing Jurassic reservoir sandstones from Bayu-1 (N Bonaparte Basin, Timor Sea) suggest Bayu gas-condensate field originally had paleo-oil column beneath thick paleo-gas cap)

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(Neogene deformation in Timor Sea flexure-dominated in NE, transtension-dominated to SW. Cretaceous and Upper Jurassic ductile shales and claystones cause detachment of basement from Neogene. Two major and one minor Neogene structural reactivation events: Earliest Miocene (25-23 Ma; rel. minor; = New Guinea collision?), Late Miocene (11- 5.5 Ma; related to Sumba collision/ uplift or New Guinea collision/ folding; 8 Ma seems widespread Indo-Australian event) and late E Pliocene (~3 Ma- present-day; =Timor collision). Late Miocene event widespread, with synchronous deformation through Indo-Australian plate. Dominantly right-lateral transpression in Browse, left-lateral transtension in Timor Sea)

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(Abadi area of Timor Sea tectonostratigraphic elements oriented NNW-SSE in Paleozoic, NNE-SSW in Upper Triassic- Jurassic and NE-SW in Upper Jurassic-Cretaceous. Main sediment supply in Triassic-Jurassic from N

of Abadi field, with major turnover of direction E Cretaceous due to continental breakup. U Triassic- Jurassic syn-rift sequences in rift basins with NE-SW trend (Malita Graben to SW) or NNE-SSW trend (Calder Graben))

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(In Japanese, with English summary. Coastal to shallow-water Plover Fm sandstone in Abadi gas-field reservoir now in deep water. Plover Fm M Jurassic (partly lowermost U Jurassic), subdivided into upper and lower sandstones by Bathonian MFS. Upper unit main reservoir. Plover Fm two remarkable, rapid deepening events in Late Cretaceous (thick, muddy deltaic succession) and Pleistocene (deepening of Timor Trough))

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(Palynology of latest Bathonian- E Oxfordian uppermost Plover, Elang and Lower Frigate Fms in Bayu-Undan field. 96 spore-pollen and 32 dinoflagellate (Microdinium-Voodooia) species)

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(Continuation of Mantle 2009 above. Descriptions of 55 dinoflagellate species (Rigaudella to Woodinia), 17 acritarch, and prasinophyte phycomata taxonomy, Jurassic biostratigraphy, sequence stratigraphy, and paleoenvironments. Elang Fm three 3rd-order sequences. Systems tracts with distinctive palynomorph or palynodebris assemblages. Microphytoplankton diversity increases through transgressive systems tracts to peak diversity at maximum flooding surface. Ternia balmei, Meiourogonyaulax group, Ctenidodinium group and

Rigaudella group represent approximate gradation from very nearshore to offshore environments or possibly an increase in salinities from euryhaline to stenohaline conditions)

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(Late Pliocene- Holocene calcareous pelagic sediments of Site 262, S of SW Timor, 442m thick and rel. rich in organic matter (up to 1.5% TOC) of mixed marine- continental origin. Progressive uphole increase of TOC and of terrigenous vascular plant material. Biogenic methane probably present as solid methane hydrate)

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(On hydrocarbon prospectivity of M Jurassic 'Plover Fm' sub-thrust play in Timor Trough (Bena Deep, Kolbano Deep), S of West Timor)

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(Review of Outer Banda Arc area from E Timor to Tanimbar Island, surrounding Inpex Babar Selaru PSC in Timor-Tanimbar Trough, N of Abadi Field. Part of N margin Australian continent and affected by: (1) Jurassic- E Cretaceous N-S extension, with opening of Tethys Ocean; overlain by Cretaceous- Paleogene deposits of thermal subsidence phase; (2) deepening of Timor Trough and thrusting in Pliocene, characterized by onlapping sequence onto Top Late Miocene horizon; (3) Today thrusts common in N and N-dipping normal faults dominant in S of Trough)

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(Tectono-stratigraphic framework for Babar Selaru and Masela blocks in Timor-Tanimbar Trough/ N Bonaparte Basin. Normal fault-dominated domain in S formed by extension on Australian continental margin, and S-vergent Pliocene-Recent thin-skinned fold-thrust belt in N (= accretionary prism of Outer Banda Arc))

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(On hydrocarbon prospectivity in accretionary prism thrust structures in Timor Sea S of Babar)

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(online at: https://www.researchgate.net/publication/304160906_3D_Seismic_Geomorphology_Interpretation_of_Cenozoic_Carbonate_Succession_in_Offshore_Tanimbar_Region_Eastern_Indonesia)
(Offshore SW Tanimbar region of S Banda Outer Arc with prograding Australian passive margin sequences. Paleo-depositional environment in Babar Selaru Block SW of Yamdena interpreted from 3D seismic data as basinal- slope facies during Paleocene- Eocene, shallowing to shelf environment in Oligocene- Miocene. Possible Late Miocene reefal facies also in frontal thrust of Banda Outer Arc)

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(Probable Miocene pinnacle reef on INPEX 3D seismic of Babar Selaru Block, Timor Sea off SW Tanimbar)

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(online at: www.deepseadrilling.org/27/volume/dsdp27_37.pdf)
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