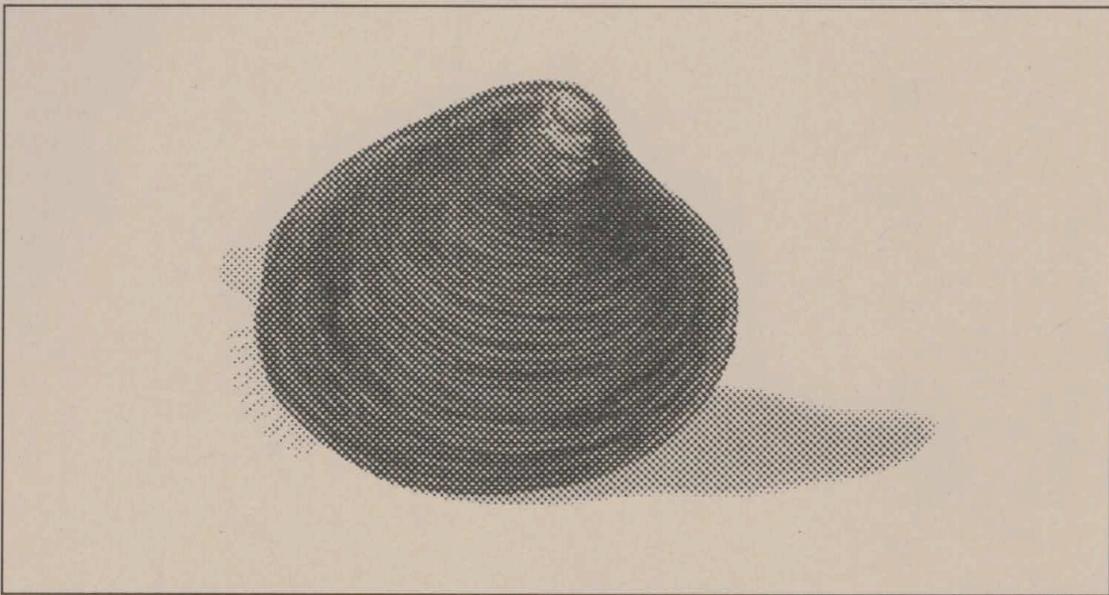


Schriften zur Malakozoologie

aus dem Haus der Natur - Cismar

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Notes on some species of Conidae and Cypraeidae from Indonesia with the description of *Conus impressae* sp. nov. (Mollusca: Gastropoda)

by FELIX LORENZ,
Giessen.

Abstract: Range extensions are reported for some species of Conidae and Cypraeidae to Indonesian waters. *Conus traillii* ADAMS has been found in Indonesia, this is the first ever ascertained locality-record for this species. *Conus impressae* sp. nov. is described from two Islands in Indonesia and compared with local forms of the similar *Conus boeticus* REEVE and the Japanese *Conus pauperculus* SOW.

Introduction

Great adventures full of discoveries and exciting experiences are possible even in our time. On board the comfortable dive boat MV Empress, a team of thirteen divers left Bali in early October 2001 to cruise eastward through the island world of Indonesia for three weeks, in search for untouched dive spots, wrecks, photographic motives and ... shells. The route went from Bali via Lombok and Sumbawa to the archipelagos south of Celebes, Taka Bonerate, Wangi Wangi and the Island of Batu Ata back south to Patar, Wetar and Moa, finally heading to Darwin, NT Australia. The scientific findings made during the expedition is a result of the pleasant cooperation with all participants. This paper is the first report summarizing some of the most important discoveries made.

A new species of Conidae (Mollusca: Gastropoda)

When staying on a dive boat, the available literature is limited and often shells turn up which no one has ever seen. When the first specimen of the *Conus* described here was found, the team of shell divers was certain that we had just made some sort of discovery. Subsequent study carried out after the trip would prove us right, and the new species is here named in honour of the MV EMPRESS and its owners, VIDAR and ALICE SKOGLIE.

Conus impressae sp. nov.

Material

Three freshly preserved shells, one of which being slightly juvenile but livecollected.

Holotype: 24,9 mm Sanana Kecil, PulauPulau Sabalana, Sea of Flores 6° 48' 47" S - 118° 0' 35" E, coll. Western Australian Museum

Paratype 1: 24,8 mm Batu Ata Island, south of Butung 6° 12' 96" S - 122° 41' 68" E, coll. LORENZ

Paratype 2: 17,1 mm Batu Ata Island, south of Butung 6° 12' 96" S - 122° 41' 68" E, coll. Naturkundemuseum Stuttgart

Description

Rather small, solid and heavy. Last whorl straight and conical, smooth except for three to five widely spaced, indistinct spiral ribs in the anterior columellar part. Spire slightly projecting, with a sigmoid

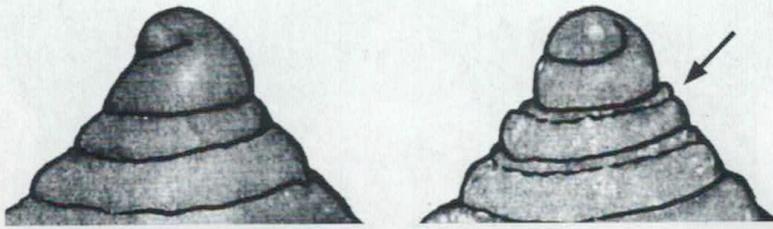
outline. Protoconch pointed, with two smooth larval whorls and the first three whorls of the teleoconch showing weak tubercles. The spiral suture is rather deep and narrow. The postnuclear sutural ramp shows four shallow spiral groves but no subsutural ridge. The aperture is narrow and straight. The shell's ground colour is white (all shells had a faint, quickly fading hue of pink when they were collected). The protoconch and the first four postnuclear whorls are white, the later whorls are rich purple to brown, without conspicuous streaks or blotches. The last whorl is tinted with pink to brown, with a paler greyish pink zone middorsally and anteriorly. The entire last whorl is covered with fine, evenly spaced brown transverse lines. Within the darker tinted areas of the shell, these lines are uninterrupted, whereas in the paler colored zones (in the mid-dorsal area and anteriorly) they are interrupted by short gaps, but there are no intermitted white dashes, the gaps are of the same greyish-pink colour as the background. The anterior basal part of the columella is white. The paratypes agree with this description.

Type locality, distribution and habitat

The fresh empty shells and the living specimen were collected under small blocks of dead coral in depths between 25 and 40 m, mostly in ledges along coral overgrown walls. In the same habitat, *Conus aurisiacus* LINNAEUS 1758, *C. circumciscus* BORN 1778, *C. nucleus* and *C. pertusus* HWASS in BRUGUIÈRE 1792 were the most common congeners. The living animal of Paratype 2 was brilliant red with tiny whitish dots on siphon and foot. The periostracum is thin, translucent, smooth and of brownish-yellow color. *Conus empressae* sp. nov. has only been found in two areas south of Sulawesi, forming the northern border of the Flores Sea: The archipelago Pulau Pulau Sabalana in the west and the isolate Batu Ata Island in the east. Adjacent areas were thoroughly investigated but no specimens of the new species were found.

Discussion

Conus empressae sp. nov. is most similar to certain color varieties of *Conus boeticus* REEVE 1843 from the same area and the Japanese *Conus pauperculus* SOWERBY 1834. Throughout the route of our trip we repeatedly found variations of *Conus boeticus*. Its granulose variant *Co. boeticus rivularis* REEVE 1849 was found alongside *Co. empressae* at Pulau Pulau Sabalana. It differs at first glance by being granulose, ovate, with a slightly coronate shoulder showing brown blotches between the elevations. By the ground colour being yellowing, with darker dashes of brownish yellow compared to the pinkish brown appearance of *Co. empressae*. By stronger dark brown transverse lines always interrupted by intermitted white dashes in *Co. boeticus rivularis*, and the larval shell being of the same yellow-orange colour as the last whorl. The spire outline of *Co. b. rivularis* is also more convex rather than sigmoid as in *Co. empressae*. Typical *Co. boeticus* were found in shallow water amongst weed and sand at Batu Ata Island where in deeper water *Co. empressae* was found. The shell of the classic Indonesian *Co. boeticus boeticus* differs from *Co. empressae* by their more ovate shape, by being darker brown, with an irregular, mottled whitish middorsal zone and indistinct brown transverse lines with conspicuous white intermitted dashes. The protoconch of *Co. boeticus* from Batu Ata is rather dark greyish brown instead of white as in *Co. empressae*. Generally, *Co. boeticus* and its formae differ from the new species by their first postnuclear whorls showing a prominent subsutural ridge absent in *Co. empressae* (see Text-fig. 1). *Conus empressae* also resembles the Japanese *Co. pauperculus*, which has a purple background colour and aperture. It has a ventricosely conical, broader last whorl with the spire being straight instead of sinoid. The more rounded shoulder of *Co. pauperculus* shows distinct darker dashes absent in *Co. empressae*, the transverse lines are interrupted by intermitted white dashes. The Indonesian shells of *Conus empressae* resemble closest a species repeatedly offered from the Philippines (mainly Palawan) as "*Co. pauperculus*" or "*Co. nitidus* REEVE 1843" (another synonym of *Co. boeticus*), samples of which are depicted as "species no. 30" in RÖCKEL et al. (1995) Pl. 73 fig. 11-13, despite being much larger and more ovate, this form might represent a Philippine population of *Co. empressae*.



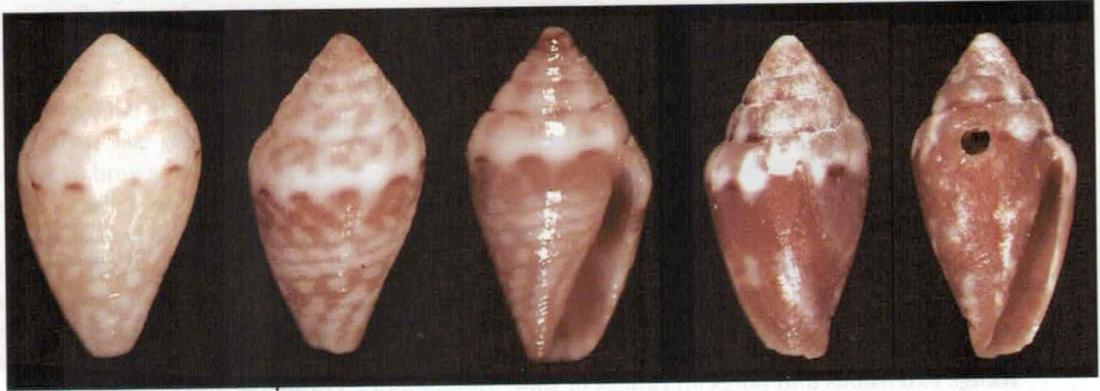
Text-fig. 1: The first postnuclear whorls in *Conus empressae* (left) and *Conus boeticus* (right). Note the prominent subsutural ridge (arrow).

Range extensions and notes on ranges of some Indonesian Cypraeidae and Conidae

Amongst the observations made there are a couple of noteworthy range extensions.

Cypraeidae: A fresh dead 25,1 mm specimen of *Erronea fernandoi* CATE 1969 was collected near a wreck at 46 m east of Gili Island, Lombok, Indonesia by HUGH MORRISON. The species was previously known only from Luzon and Samar, Philippines and a single specimen from the Solomon Islands. On the same spot, typical specimens of *Leporicypraea mappa mappa* (LINNAEUS 1758) and *Leporicypraea (mappa) geographica* SCHILDER & SCHILDER 1933 were found. The sympatric occurrence of these suggests that *mappa* and *geographica* are separate species with an overlap in their range in Indonesian waters and gives further evidence for the *mappa*-complex consisting of several valid species instead of subspecies or varieties of just one highly variable species (see also LORENZ 1998). Empty shells of *Purpuradusta hammondae raysummersi* SCHILDER 1960 were repeatedly collected on our trip, mainly around the Islands of Alor and Patar. The occurrence in this part of Indonesia was not well documented. *Notadusta punctata punctata* (LINNAEUS 1771) was a relatively common species. The gap in the distribution map leaving out parts of Indonesia in LORENZ & HUBERT (1993, 2000) is certainly incorrect. The specimens of *Erronea caurica* (LINNAEUS 1758) collected throughout the trip all belong to the nominate subspecies, not *caurica blaesa* IREDALE 1939 as indicated by LORENZ & HUBERT. Apparently, *blaesa* is restricted to the western Australian coast. Interestingly, *Erosaria beckii* (GASKOIN 1836), *E. labrolineata* (GASKOIN 1849) and *Pustularia margarita* (DILLWYN 1817) were the most abundant cowries encountered at depths ranging from 5 to 55 m in most places visited during the journey.

Conidae: Fresh fragments and one eroded specimen of *Conus crocatus* LAMARCK 1810 were collected at 3-10 m at Binogko Island 5° 58' 0" S - 123° 59' 21" E extending the known range of this species southwards. In the same area, two dead but typical specimens of *Conus cylindraceus* BRODERIP & SOWERBY 1830 were found whose occurrence in this area was poorly documented. *Conus nucleus* REEVE 1848 was a rather common shell in depths from 5 to 45 m between Pulau Pulau Sabalana and Alor. Its occurrence in Indonesia is not acknowledged by RÖCKEL et al. (1995). The range of *Conus aurisiacus* given in this book does not include the lesser Sunda islands where the species was found in fair numbers in a very specific habitat: under coral slabs, dug in sand, usually deep inside crevices along coral walls at depths ranging from 25 to 55 m. The species was found along the way from Latondu Is., Taka Bonerate, Batu Ata, Wangi Wangi, Karang Kaledupa, Koka Atoll, Batu Tara and Lapan Is. It does not occur as far west as Lombok and not as far southeast as Patar, judging from what we could find out. The most fascinating find was probably that of *Conus traillii* ADAMS 1855. This small species was formerly known only from the holotype and specimens taken from sand samples of unknown origin (LORENZ 1997). Several fresh dead shells were collected in 8 - 25 m amongst fine coral rubble at Sarege Island, Pulau Pulau Salabana 7° 3' 99" S - 118° 38' 67" E. Further dead samples were collected at depths ranging from 5 to 30 m at Koka Atoll, S.E. of Binogko Is. 6° 3' 640" S - 124° 23' 543" E. The specimens found during the trip finally give us some idea about the species' distribution and habitat. At the southern entrance of Kalabahi Harbour, Alor Is. a fresh specimen resembling *Co. traillii* but lacking the transverse banding of the last whorl was collected at 12 m on black volcanic rocks amongst crinoids. The specimen is still under study (Text-fig. 2).



Text-fig. 2: From left to right: three specimens of *Conus traillii*, Koka Atoll, largest shell 4,8 mm. *Conus* sp. cf. *traillii*, Kalabahi Harbour entrance, Alor, 5,5 mm.

Acknowledgements

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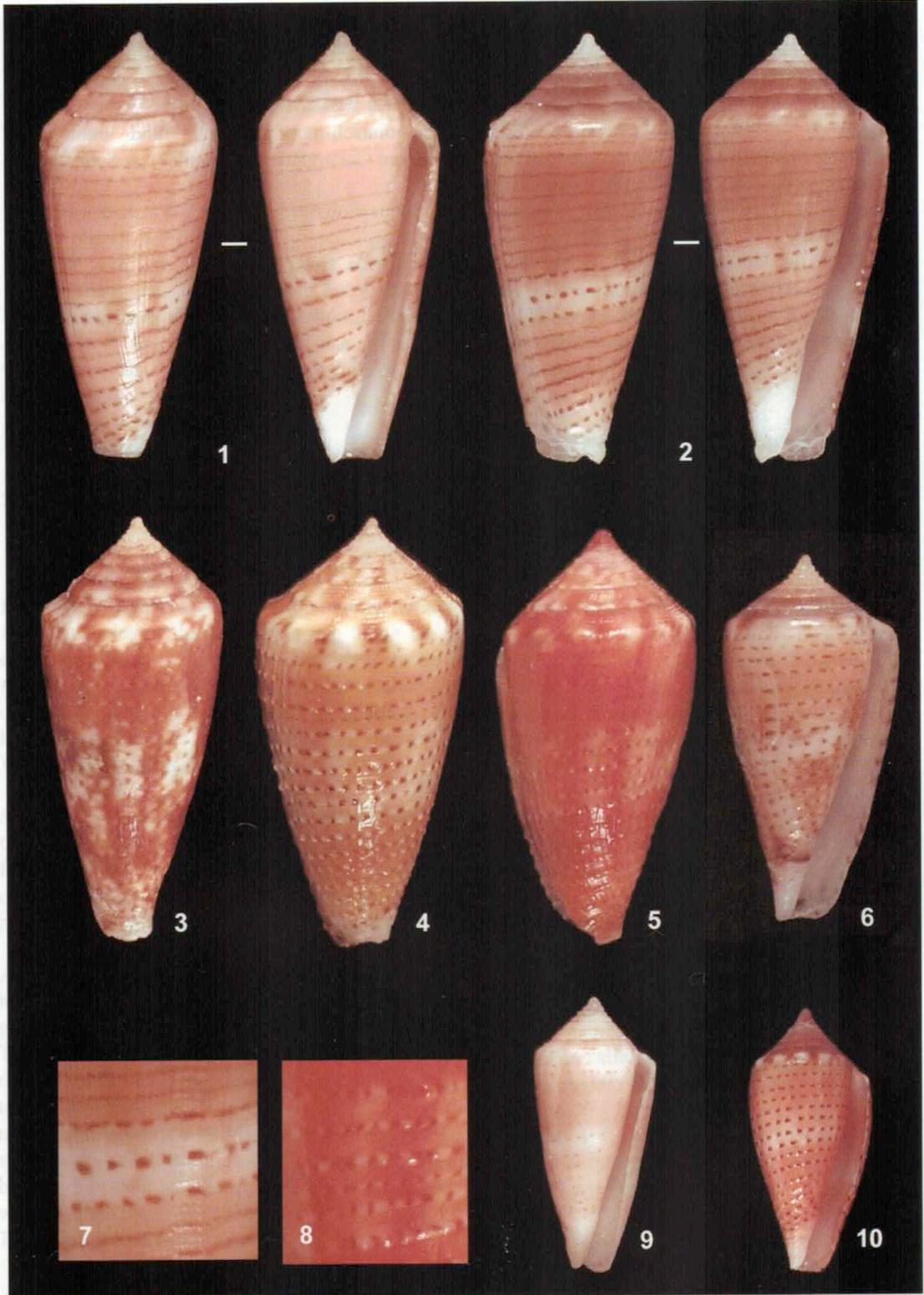
Explanations of Plate 2:

Fig. 1. *Conus empressae* sp. nov., holotype, dorsal and basal aspect.
 Fig. 2. *Conus empressae* sp. nov., paratype 1, dorsal and basal aspect

Fig. 3. *Conus boeticus*, typical shell from Batu Ata. 27, 4 mm.
 Fig. 4. *Conus boeticus rivularis*, granulose shell from PulauPulau Sabalana. 27,3 mm
 Fig. 5. *Conus boeticus rivularis*, dark reddish specimen from PulauPulau Sabalana. 22,9 mm
 Fig. 6. *Conus boeticus* variation, paler specimen from Taka Bonerate, Flores Sea. 23,5 mm

Details of transverse banding.

Fig. 7. *Conus empressae* sp. nov.: note the absence of white intermitted dashes as seen in *C. boeticus*
 Fig. 8. *Conus boeticus*
 Fig. 9. *Conus empressae* sp. nov., subadult paratype 2,
 Fig. 10. subadult specimen of *Conus boeticus rivularis* from Taka Borerate.



F. LORENZ: Some species of Conidae and Cypraeidae fr. Indonesia with *Conus empressae* sp. nov.

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