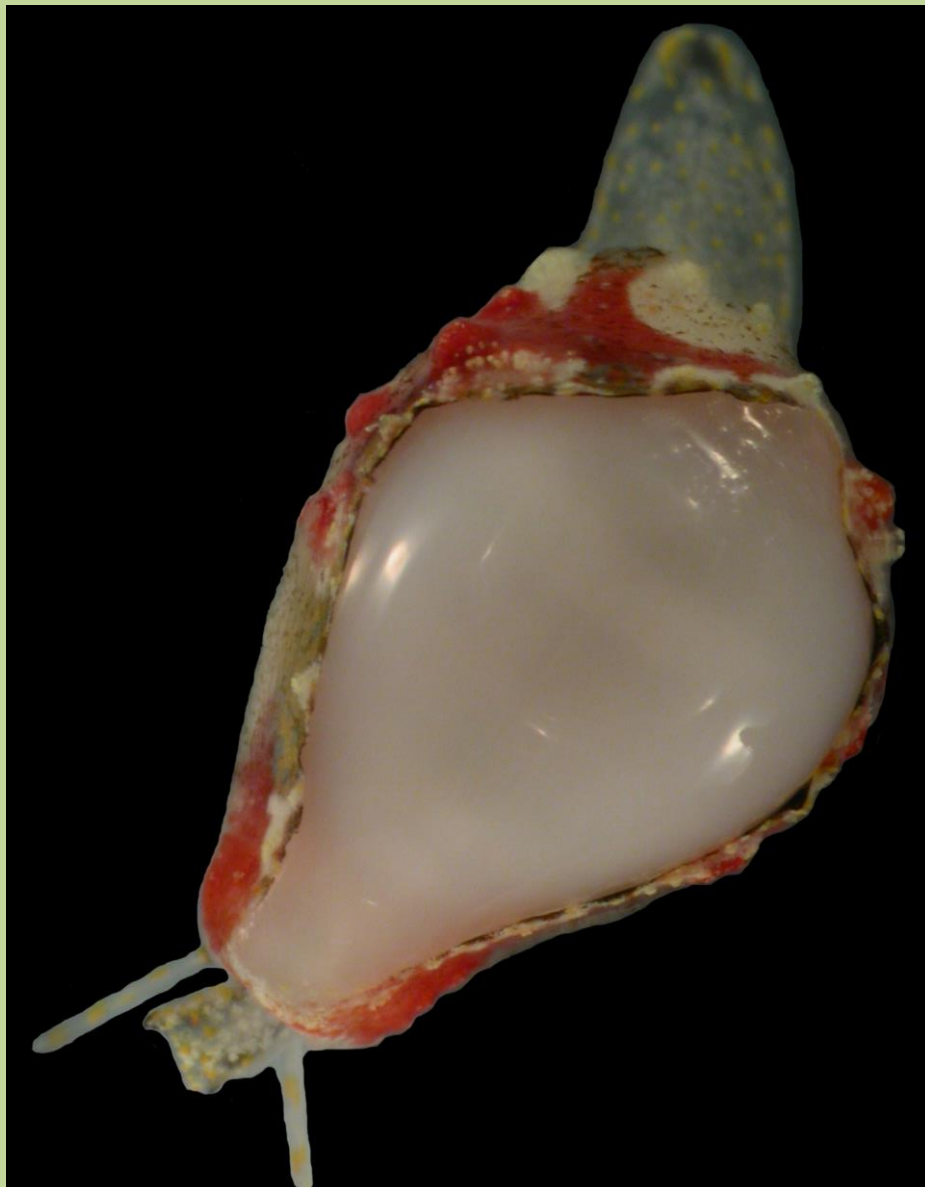


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- Front cover: *Cypraeerato margarita* Fehse, 2018: holotype. W coast of Malo Island, Vanuatu.
- Back cover: *Xenophora pallidula* (Reeve, 1842) with different attachments. Leyte, Philippines.

Layout: Frank Nolf

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Terebrid (Gastropoda: Conoidea) attachments of *Xenophora pallidula* (Reeve, 1842)

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Received: December 2017

Keywords: TEREBRIDAE, Philippines, *Xenophora pallidula*, attachments

Xenophora pallidula (Reeve, 1842) can be considered “a shell collector out of necessity”. Although the species is apparently known throughout the Indian Ocean and Indo-Pacific (Kreipl & Alf, 1999), specimens from the Philippines, where they are abundant in certain areas, portray a strong affinity towards attaching elongated objects to their shell, most certainly on the mature whorls. They are attached in a radial way, presumably for the same functionality of the digitation as seen in for example *Stellaria solaris* (Linnaeus, 1758): motion stability on a muddy bottom and/or camouflage.

Nowhere is this more true than in specimens found in a number of deeper water habitats (120-300 m) in the Philippines, notably: off Balicasag (S off Panglao, Bohol), off Aliguay Island (Mindanao), off Ormoc (W Leyte), off Siquijor (E off S Negros) and off Sogod (S Leyte). Whether these habitats are graveyards of a large number of elongated shells (or other objects such as sea urchin spines, wood, coral, glass sponges etc...) or whether *X. pallidula* has a particular preference for these for some reason or another remains an open issue. These elongated shells mostly consist of a limited number of groups of molluscs such as cones, turrids, dentaliums and terebrids; either as a whole or a weathered segment.

The present photographic collection illustrates the high diversity of the terebrid assemblage (attached to *X. pallidula*) at these depths in the Philippines. Most species are rarely recorded (not as attachment) and even more rarely caught alive (dredged in tangle nets). A similar high, and rarely recorded, diversity is found in the E and S China Sea.

Thus *X. pallidula* gives us great insight into the deeper water terebrid fauna and gives an opportunity to study the morphological variability of a number of otherwise rarely collected and even unknown species such as *Cinguloterebra cumingii* (Deshayes, 1857).

All specimens figured (Pls 1-3) of *X. pallidula* are from the author's collection. Sizes for both *Xenophora* and *Terebra* are approximate only, identification of the terebrids is in many cases very tentative due to the cryptic nature of the species often with only poor discriminative features remaining. Taxonomy largely follows Terryn (2007).

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Terryn, Y., 2007. *Terebridae, a Collectors Guide*. Conchbooks, Hackenheim, Germany & NaturalArt, Gent, Belgium. 57 pp. + 65 colour pls.

CAPTIONS

Plate 1

Fig. A. *Xenophora pallidula* (Reeve, 1842), Philippines, off Siquijor, in tangle net at 180 m, 107 mm with 12 terebrid attachments

Fig. 1: *Terebra* aff. species 1, 19.8 mm.

Fig. 2: *Terebra* species 1, 21.9 mm.

Fig. 3: *Terebra* aff. species 1, 17.2 mm.

Fig. 4: *Terebra* aff. species 1, 17.4 mm.

Fig. 5: *Terebra* species 1, 22.3 mm.

Fig. 6: *Triplostephanus* aff. *torquata* (A. Adams & Reeve, 1850), 24.1 mm.

Fig. 7: *Cinguloterebra mamillata* (Watson, 1886), 32.8 mm.

Fig. 8: *Terebra* species 1, 14.0 mm.

Fig. 9: *Terebra* aff. *fijiensis* (E. A. Smith, 1873), 33.0 mm.

Fig. 10: *Terebra* species indet, 9.4 mm.

Fig. 11: *Clathroterebra* species, 29.5 mm.

Fig. 12: *Cinguloterebra* aff. *cumingii* (Deshayes, 1857), 28.3 mm.

Plate 2

Fig. B: *Xenophora pallidula* (Reeve, 1842), Philippines, off Siquijor, in tangle net at 180 m, 119 mm, with 5 terebrid attachments.

Fig. 13: *Terebra* species 2, 16.2 mm.

Fig. 14: *Terebra* species 3, 18.1 mm.

Fig. 15: *Cinguloterebra* aff. *cumingii* (Deshayes, 1857), 26.6 mm.

Fig. 16: *Terebra* species 2, 17.9 mm.

Fig. 17: *Clathroterebra* species, 53.5 mm.

Fig. C. *Xenophora pallidula* (Reeve, 1842), Philippines, off Balicasag Island, in tangle net at 150-250 m, 108 mm, with 12 terebrid attachments.

Fig. 18: *Cinguloterebra* aff. *mamillata* (Watson, 1886), 36.0 mm.

Fig. 19: *Clathroterebra* species, 31.1 mm.

Fig. 20: *Cinguloterebra* aff. *mamillata* (Watson, 1886), 25.3 mm.

Fig. 21: *Terebra swobodai* Bratcher, 1981, 23.8 mm.

Fig. 22: *Cinguloterebra* aff. *cumingii* (Deshayes, 1857), 19.5 mm.

Plate 3

Fig. D: *Xenophora pallidula* (Reeve, 1842), Philippines, off Ormoc, Leyte, in tangle net at 250-300 m, 117 mm, with 5 terebrid attachments.

Fig. 23: *Terebra swobodai* Bratcher, 1981, 31.6 mm.

Fig. 24: *Cinguloterebra* aff. *mamillata* (Watson, 1886), 23.4 mm.

Fig. 25: *Terebra* species 4, 24.4 mm.

Fig. 26: *Cinguloterebra* aff. *cumingii* (Deshayes, 1857), 25.4 mm.

Fig. 27: *Terebra swobodai* Bratcher, 1981, 24.9 mm.

Plate 1



Plate 2

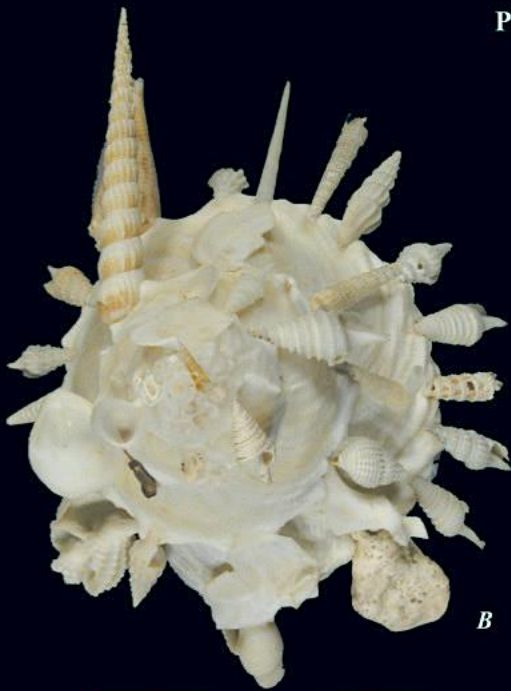


Plate 3



23



24



25



26



27

Contributions to the knowledge of the Eratoidae. XIV. New Eratoids from Papua New Guinea including Kavieng, New Ireland

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Keywords: MOLLUSCA, GASTROPODA, ERATOIDAE, recent, new species, Papua New Guinea.

Abstract: The Papua Niugini Marine Biodiversity Project and the Kavieng Marine Biodiversity Project of the MNHN join in the discovery of two new spectacular ERATOIDAE of the genera *Alaerato* C.N. Cate, 1977 and *Eratoena* Iredale, 1935. The new taxa are briefly discussed and compared with similar species.

Introduction: The Eratoid fauna of Papua New Guinea is to a great extent unknown. Recently, I have had the chance to examine the huge MNHN expedition material. The fauna has affinities with the Philippines (eleven taxa) but also with Hawaii (one species) and French Polynesia (one species). However, the number of species is much smaller than in the Philippines with more than twenty taxa. The following species could be identified *Alaerato palawanica* Fehse, 2011 (unusual range extension as well as not uncommon at Kavieng), *Alaerato angistoma* (G.B. Sowerby I, 1832) (quite rare) and the following more common taxa *Cypraeerato stalagmia* (C.N. Cate, 1975), *Eratoena corrugata* (Hinds, 1844), *Eratoena gemma* (Bavay, 1971), *Eratoena grata* (T. Cossignani & V. Cossignani, 1997), *Eratoena nana* (G.B. Sowerby I, 1859), *Eratoena septrionalis* (C.N. Cate, 1977) and *Sulcerato pagoboi* (T. Cossignani & V. Cossignani, 1997). The following two species were found to be quite rare, too: *Eratoena sandwichensis* (G.B. Sowerby I, 1859) – usually known from Hawaii – and *Eratoena gourgueti* Fehse, 2010 – described from Tahiti. A more complete analysis is in preparation. Several years ago I could help Robert Moolenbeek from the former RGM (now RMNH) with the sorting and identification of his Trivioidea material from Indonesia. I discovered a tiny species similar to *E. gemma* in this material, but the dorsal colour pattern is conspicuously red. The MNHN material confirmed the distinguishing features resulting in a justified description as *Eratoena moolenbeeki* n. sp. A further spectacular species could be discovered within the genus *Alaerato* C.N. Cate, 1977. I have already known this taxon from single specimens but the MNHN material now allows me to describe it as *Alaerato fedosovi* n. sp.

Abbreviations:

DFB - collection Dirk Fehse, Berlin, Germany.
FL - collection Dr. Felix Lorenz, Buseck, Germany.
MNHN - Muséum national d'Histoire naturelle, Paris, France.
RGM - Rijksmuseum van Geologie en Mineralogie, Leiden, The Netherlands (now RMNH).
RMNH - Naturalis, Leiden, The Netherlands (Rijksmuseum van Natuurlijke Historie).

LT - number of labral teeth
CT - number of columellar teeth

SUPERFAMILY: TRIVIOIDEA Troschel, 1863

FAMILY: ERATOIDAE Gill, 1871
SUBFAMILY: ERATOINAE Gill, 1871
GENUS: *Alaerato* C.N. Cate, 1977

Type species: *Lachryma bisinventa* Iredale, 1931, by original designation

***Alaerato fedosovi* n. sp.**

(Plate 1, Figs 1a-c to 3a-c)

Type material: Holotype: MNHN IM-2000-33356. Length: 2.7 mm; width: 2.0 mm; height: 1.8 mm; LT 20; CT 20.

Paratype 1: from PB45 MNHN IM-2000-33357. Length: 2.4 mm; width: 1.7 mm; height: 1.6 mm; LT 16; CT –.

Paratype 2: from KB12 MNHN IM-2000-33358. Length: 3.1 mm; width: 2.3 mm; height: 2.0 mm; LT 19; CT 17.

Paratype 3: from KS05 MNHN IM-2000-33359. Length: 2.8 mm; width: 2.0 mm; height: 1.8 mm; LT 19; CT 16.

Type locality: Papua Niugini Marine Biodiversity Project 2012, sta. PB05: inside the Bay of Kranket Island, 05° 11.7' S – 145° 49.4' E, Papua New Guinea; dived at 20 m.

8 further paratypes in coll. DFB + 26 further paratypes in coll. MNHN: 2 from MNHN sta. PD10; 1 from MNHN sta. PB11; 1 from MNHN sta. PS15; 3 from MNHN sta. PS12; 1 from MNHN sta. PD62; 1 from MNHN sta. PB45; 3 from MNHN sta. PD31; 1 from MNHN sta. PD12; 1 from MNHN sta. PD04; 2 from MNHN sta. PB10; 2 from MNHN sta. PB15; 4 from MNHN sta. PD26; 3 from MNHN sta. PD27; 1 from MNHN sta. KB12; 1 from MNHN sta. KS05; 1 from MNHN sta. BS10.

Distribution:

Papua Niugini Marine Biodiversity Project 2012:

MNHN sta. PB10, inner reef of Bilbil Island, 05° 17.9' S – 145° 46.7' E, Papua New Guinea; dived at 10 m.

MNHN sta. PB11, Kranket Island, Cape Jantzen, 05° 12.5' S – 145° 49.1' E, Papua New Guinea; dived at 13 m.

MNHN sta. PB15, inner slope of N Sek Island, 05° 04.7' S – 145° 48.9' E, Papua New Guinea; dived at 5 m.

MNHN sta. PB45, Sinub Island, 05° 07.9' S – 145° 48.9' E, Papua New Guinea; dived at 8 m.

MNHN sta. PD04, Madang, E of airport, 05° 12.6' S – 145° 47.8' E, Papua New Guinea; dived at 5 to 18 m.

MNHN sta. PD10, W Kranket Island, 05° 11.7' S – 145° 48.8' E, Papua New Guinea; dived at 16 to 28 m.

MNHN sta. PD12, in front of Madang Resort, 05° 12.4' S – 145° 48.5' E, Papua New Guinea; dived at 15 to 25 m.

MNHN sta. PD26, Sek Island, 05° 05.9' S – 145° 49.1' E, Papua New Guinea; dived at 18 to 22 m.

MNHN sta. PD27, W Sek Island, 05° 05' S – 145° 48.7' E, Papua New Guinea; dived at 30 to 35 m.

MNHN sta. PD31, Alexishafen, 05° 05.3' S – 145° 48.1' E, Papua New Guinea; dived at 1 to 6 m.

MNHN sta. PD62, N Banap Damon Point, 05° 09.8' S – 145° 48.4' E, Papua New Guinea; dived at 1 to 3 m.

MNHN sta. PS12, S Megas Islet, 05° 05.332' S – 145° 48.569' E, Papua New Guinea; dived at 6 m.

MNHN sta. PS15, N Dubushek Island, 05° 05.8' S – 145° 48.2' E, Papua New Guinea; dived at 12 m.

Kavieng Marine Biodiversity Project 2014:

MNHN sta. KB12, Kavieng Lagoon, NW corner of Manne Island, 02° 41.2' S – 150° 41.2' E, Kavieng, New Ireland, Papua New Guinea; dived on dead coral slope at 4 m.

MNHN sta. KS05, Kavieng Lagoon, E of Usien Island, 02° 38.1' S – 150° 46.4' E, Kavieng, New Ireland, Papua New Guinea; dived on slope with rubble and silt at 11 m.

N/O "Alis" Campagne SUVA 2:

MNHN sta. BS10, S Viti Levu lagoon, 18° 11.8' S – 178° 30.4' E, Fiji; dredged at 123 m.

Description: Shell length between 2 to 4 mm, obliquely pear-shaped, inflated, completely wrinkled, with a blunt, knob-like spire. Protoconch and subsequent whorls covered with thick, opaque callus and pustules. Suture visible. Junction with teleoconch distinct. Body whorl almost 70% of total height, roundly shouldered adapically, with the maximum diameter one third from the adapical suture, roundly tapered below and only slightly constricted at the ventrum. Dorsum angularly and highly elevated, constricted and angled towards anterior terminal collar. Dorsal sulcus deeply incised. Dorsal shell surface covered with thick, wrinkled callus. Ventral callus thick, opaque, wrinkled. Aperture defines total shell length, slightly sinuous, posteriorly curved and quite narrow. Posterior terminal tip blunt, anterior indented. Labrum inflected, slightly thickened, wrinkled, posteriorly rounded and anteriorly declivous, inner margin, with fine, partly coarse, sometimes fused, irregular denticles. Denticles extending onto the labrum as fine folds, especially on the declivous part. Outer labral margin anteriorly ridged. Siphonal canal extended, funnel-like. Anal canal funnel-like widened, indented, framed by walls formed by callus. Columella concave, widened with a developed inner carinal ridge and a callused and edged parietal lip. Posterior inner longitudinal carinal ridge with a prominent denticle. Columellar denticles fine, close-set, slightly irregular and posteriorly slightly obscured. Almost all anterior columellar denticles extending onto ventrum as folds. Ventral folds fine, short, four to six in number. Fossula concave, obscured, not delimited from the columella. Terminal ridge obscured. Dorsum, spire and terminal tips light yellowish brown. Ventrum, labrum, columella, fossula and suture white.

Variation: Spire more or less elevated, occasionally defining the shell length. Labral denticles vary from somewhat coarse to fine. Columellar denticles sometimes posteriorly obscured (paratype 1). Mature shells are distinctively, wrinkly callused.

External morphology and radula: No information is available on external morphology and radula. The animal might be black or dark brown coloured, judging from the dried animal observed in the holotype and paratype 1.

Comparison: This species is quite unique and cannot be mistaken for any other Eratoid species. The wrinkled surface is already observable on the ventrum in subadult specimens. Species of the genus *Eratœna* Iredale, 1935 are pustulated or sometimes covered with short wrinkles but the character of the wrinkles in *A. fedosovi* clearly differs from those. The new species is the first completely sculptured taxon within the genus *Alaerato*.

The holotype contains the dried animal and could be used for the DNA research.

Etymology: Named in honour for Alexander Fedosov (A.N. Institute of Ecology and Evolution, Russian Academy of Sciences, Moscow) who was a participant in the Madang and Kavieng expeditions during which the new species was discovered.

GENUS: *Eratœna* Iredale, 1935

Type species: *Ovulum corrugatum* Hinds, 1844, by original designation

***Eratœna moolenbeeki* n. sp.**

(Plate 2, Figs 1a-c & 3a-c; Plate 3, Figs 1a-c; Plate 4, Figs 1, 2)

Type material: Holotype: MNHN IM-2000-33335. Length: 2.5 mm; width: 1.7 mm; height: 1.6 mm; LT 18; CT 20.

Paratype 1 (juvenile): From DB20 MNHN IM-2000-33336. Length: 2.6 mm; width: 1.8 mm; height: 1.5 mm; LT 20; CT 20.

Paratype 2: From KB08 MNHN IM-2000-33337. Length: 2.4 mm; width: 1.6 mm; height: 1.5 mm; LT 22; CT 23.

Paratype 3: From KB08 MNHN IM-2000-33338. Length: 2.4 mm; width: 1.6 mm; height: 1.4 mm; LT 20; CT 21.

Paratype 4: From KB08 MNHN IM-2000-33338. Length: 2.4 mm; width: 1.6 mm; height: 1.4 mm; LT 20; CT 21.

356 further paratypes in the MNHN collection:

17 paratypes from Kavieng: 1 from KB22, 1 from KB60, 1 from KB68, 1 from KPR07, 5 from KPS03, 1 from KPS08, 1 from KPS09, 4 from KPS17, 1 from KR57, 1 from KS51.

113 paratypes from Lifou: 3 from sta. 1410, 1 from sta. 1413, 4 from sta. 1420, 1 from sta. 1421, 2 from sta. 1422, 3 from sta. 1423, 3 from sta. 1425, 11 from sta. 1429, 5 from sta. 1434, 7 from sta. 1435, 12 from sta. 1436, 3 from sta. 1441, 2 from sta. 1444, 3 from sta. 1448, 4 from sta. 1449, 17 from sta. 1450, 13 from sta. 1451, 6 from sta. 1453, 1 from sta. 1454, 4 from sta. 1456, 6 from sta. 1457, 1 from sta. 1459, 1 from sta. 1460.

23 paratypes from New Caledonia: 2 from sta. 1269, 1 from sta. 1270, 2 from sta. 1273, 6 from sta. 1318, 5 from sta. 1319, 2 from sta. 1321, 3 from sta. 1352, 2 from sta. 1354.

17 paratypes from the Philippines: 1 from B13, 1 from B23, 1 from B39, 1 from B41, 3 from L76, 3 from P4, 1 from S4, 1 from S8, 4 from S13, 1 from S21.

67 paratypes from Papua New Guinea: 1 from PB05, 1 from PB06, 6 from PB18, 3 from PB21, 6 from PB28, 1 from PB29, 1 from PB32, 1 from PB35, 1 from PB38, 8 from PB47, 1 from PB49, 1 from PB51, 1 from PD52, 1 from PD73, 1 from PS03, 2 from PS04, 2 from PS07, 1 from PS12, 1 from PS22, 6 from PS23, 2 from PS29, 3 from PS33, 1 from PS37, 4 from PS40, 4 from PS41, 1 from PS42, 6 from PS43.

119 paratypes from Vanuatu: 1 from DB01, 5 from DB08, 8 from DB12, 4 from DB20, 1 from DB26, 1 from DB29, 5 from DB48, 3 from DB58, 11 from DB63, 3 from DB65, 1 from DB67, 2 from DB69, 6 from DB71, 2 from DB75, 1 from DB77, 1 from DB80, 1 from DB86, 1 from DS31, 2 from DS43, 1 from DS49, 1 from DS59, 5 from DS101, 3 from DS102, 2 from DS104, 2 from FB43, 1 from FB52, 2 from FB56, 1 from FB64, 1 from FB68, 1 from FB72, 1 from FB83, 4 from FB92, 1 from FS54, 1 from FS67, 1 from LS17, 2 from NB2, 3 from NS36, 1 from VM69, 7 from ZB06, 7 from ZB09, 3 from ZB13, 2 from ZB16, 2 from ZB20, 1 from ZS22, 1 from ZS25, 1 from ZS27.

45 further paratypes in coll. DFB:

9 in coll. DFB, No. 8644, from Kalimantan, NE-side of Kakaban Island, Berau Isls., Java, Indonesia; 1 in coll. DFB, No. 10833, from SW Kri Island, Papua, Indonesia; 4 in coll. DFB, No. 11377, from Turtle Reef, Kavieng, New Ireland; 1 in coll. DFB, No. 11378, from NE Lembah Island, NE Sulawesi, Indonesia; 8 in coll. DFB, No. 11379, from Bermuda Drop, Kavieng, New Ireland, Papua New Guinea; 3 in coll. DFB, No. 11723, from S Unembo Island, Papua New Guinea; 1 in coll. DFB, No. 11724, from N Sek Island, Papua New Guinea; 1 in coll. DFB, No. 11725, from Off Balicasag Island, S Bohol, Philippines; 9 in coll. DFB, No. 12051, from NE Bay of Santal near Cila, Lifou; 1 in coll. DFB, No. 12052, from NE Urélapa Island, Vanuatu; 3 in coll. DFB, No. 12053, from N Tutuba Island, Vanuatu; 3 in coll. DFB, No. 12054, from E Kranket Island, Papua New Guinea; 1 in coll. DFB, No. 12055, from S Baudison Island, Kavieng Lagoon, Papua New Guinea; 2 in coll. DFB, No. 12056, from N Bilbil Island, Papua New Guinea.

Further paratypes in coll. FL, RMNH & ZSM

Type locality: Expedition Santo Marine Biodiversity Survey 2006: sta. ZB06: NE Urélapa Island, 15° 36.7' S – 167° 02.0' E, Vanuatu; collected at 18 to 30 m.

Distribution: For detailed information of the MNHN cruises and expeditions I refer to <http://rpsl.mnhn.fr/form>. Following are only the station numbers because details would be out of proportion.

Kavieng Marine Biodiversity Project 2014: **Kavieng:** Baudisson Island, sta. KPS09; Kavieng Lagoon, sta. KB08, KB22, KB60, KB68, KPS03, KR57, KS51; Manne Island, sta. KPR07, KPS08; SW New Ireland, sta. KPS17.

Lifou Marine Biodiversity Project: **Lifou**, sta. 1410, 1413, 1420, 1421, 1422, 1423, 1425, 1429, 1434, 1435, 1436, 1441, 1444, 1448, 1449, 1450, 1451, 1453, 1454, 1456, 1457, 1459, 1460.

Montrouzier Marine Biodiversity Project 1993: **New Caledonia:** sector Touho, sta. 1269, 1270, 1273; sector Koumac, sta. 1318, 1319, 1321; sector Nouméa, sta. 1352, 1354.

Panglao Marine Biodiversity Project 2005-2006: **Philippines:** Balicasag Island, sta. B23, B41; Bohol Island, sta. B13, S13, S21; Panglao Island, sta. B39, L76, P4, S4, S8.

Papua Niugini Marine Biodiversity Project 2012: **Papua New Guinea:** Bilbil Island, sta. PB29, PB51; Hargun Island, sta. PB21; Kranket Island, sta. PB05, PB28, PB47, PD52, PS03; Megas Islet, sta. PS12; Paeowa Island, sta. PS07; Sek Island, sta. PB18, PB35, PB40, PB49, PS23; Tab Island, sta.

PB06, PS04, PS29; Tadwai Island, sta. PS22; Urembo Island, sta. PS41, PS42, PS43; Wonad Island, sta. PB32, PS33, PB38; Yabob Island, sta. PB38; Yomba Island, sta. PD73.

Santo Marine Biodiversity Project 2006: Vanuatu: Aésé Island, sta. DB58, DB63, DS59; Aoré Island, sta. DB08, DB12, ZB16, ZS22; Bruat Channel, sta. DB26, DB80; Elia Island, sta. FB72; Espiritu Santo, sta. DB65, DB69, DB77, DS43, FB43, ZB20; Kalokilikili, sta. FB52; Malo Island, sta. DB29, DB48, DB86, DS49, ZB09; Matewulu, sta. DB75; Mavéa Island, sta. DB67; Segond Channel, sta. DS31, FS54, LS17, NS36, ZS25, ZS27; Tangisi Island, sta. FB56; Tangoa Island, sta. FB64, FB68, FS67; Turtle Island, sta. DB71; Tutuba Island, sta. DB01, DS101, DS102, DS104, FB83, FB92, NB43, VM69; Urélapa Island, sta. DB20, ZB06, ZB13.

More material from Java and Papua, Indonesia.

Description: Shell length 2.2 to 3.2 mm, elongated pear-shaped, covered with short wrinkles, with a short, knob-like spire. Protoconch and subsequent whorls covered with a thin callus and pustules as well as short wrinkles. Suture visible. Junction with teleoconch distinct. Body whorl almost 80% of total height, roundly shouldered adapically, with the maximum diameter less than one third from the adapical suture, roundly tapered below and only slightly constricted at the ventrum. Dorsum roundly elevated, constricted towards anterior terminal collar. Dorsal sulcus broad and deepened. Shell surface covered with a thin, glossy, translucent callus. Aperture defines shell length, straight and narrow. Posterior terminal tip blunt, anterior indented. Labrum inflected, slightly thickened, smooth, left half-flattened and slightly sloping into the aperture, right half rounded, outer margin roundly callused, labral shoulder roundly edged at mid-section, ridged anteriorly and posteriorly, ridged at inner margin, with fine, close-set denticles. Denticles extending onto the labrum as fine folds. Siphonal canal elongated, funnel-like. Anal canal simple. Columella concave, flattened, with a developed inner carinal ridge. Posterior part of the longitudinal carinal ridge covered by labrum. Parietal lip ridged and projected. Columellar denticles fine and close-set. Anterior columellar denticles extended onto ventrum as folds. Ventral folds fine, short, seven to nine in number. Fossula concave, obscured, not delimited from the columella. Terminal ridge obscured.

Shell colour white. Spire red. Dorsum with two red patches, one along the suture of the teleoconch and one at mid-dorsum. Anterior tip olive.

Variation: Shells conspicuously uniform in shape and colouration. Only the inflation is somewhat variable.

External morphology: Mantle lobes white with transparent patches and red dots as well as wart-like white papillae. Foot quite narrow, colouration similar to mantle lobes. Cephalic tentacles short, transparent with white and red dots. Siphon short, white with red dots.

Radula: No information is available.

Comparison: I had already discovered this tiny species during sorting and identifying the Indonesian material of Robert Moolenbeek from the RMNH. Unfortunately, only subfossil specimens were available back then and I refrained from describing the taxon. Now well-preserved specimens could be discovered within the MNHN material from the Philippines, Papua New Guinea, Vanuatu, Lifou and New Caledonia. The living animal of one fully mature specimen was photographed and it is still preserved within the shell. This specimen was used as a holotype although it comes from Vanuatu and not from the original location Indonesia.

Eratoena moolenbeeki n. sp. can only be compared with *Eratoena gemma* (Bavay, 1917) comb. nov. Till now, the latter has usually been assigned to the genus *Cypraeerato* F.A. Schilder, 1933 (type species: *Erato bimaculata* Tate, 1878) (e.g. Cate, 1979: 353). This was inspired by the triangular shell outline with obscured spire. In the meantime I could study the type specimens of all the taxa assigned to the genus *Cypraeerato* by Schilder & Schilder (1971: 13). It became apparent that all true fossil and recent *Cypraeerato* are smooth except for a fine pustulation around the spire. Completely wrinkled and/ or pustulated taxa are only observed within the genus *Eratoena*. In comparison the height of the spire is not a decisive feature for assignment to a certain genus. Consequently, the new species as well as *E. gemma* are hereby assigned to the genus *Eratoena*. This opinion is confirmed by the similar colouration of recent *Eratoena* species.

The large number of *E. gemma* and *E. moolenbeeki* found in the MNHN material confirmed the continuity of the distinguishing features. Shells of *E. gemma* are mainly green, but they are occasionally red-coloured, like the lectotype. Such specimens are mainly found around New

Caledonia, but outside of this area the specimens appear more and more greenish while the shell morphology remains constant. Outside of New Caledonia *E. moolenbeeki* is quite easily distinguishable from *E. gemma* by its reddish shells that are already perceptible with the naked eyes. But also similarly coloured shells are distinguishable when juvenile, subadult and mature. Shells of *E. gemma* are essentially more inflated and stocky whereas *E. moolenbeeki* is elongated. The inner longitudinal carinal ridge is always visible through the aperture and is not covered by the labrum. The new species appears more brilliantly red within a group of similarly coloured *E. gemma*. Also the shell size distinguishes both. *Eratoena gemma* is usually larger (2.6 to almost 4 mm in *gemma* vs. 2.2 to 3.2 mm in *moolenbeeki*). Their animals differ, too: the mantle lobes of *E. gemma* are mainly brown to blackish brown in colour and their foot is rather transparent. Contrary, the mantle lobes and the foot in *E. moolenbeeki* are rather white.

Etymology: Named for Robert Moolenbeek who supported my studies on Trivioidea.

Acknowledgements: The Madang and Kavieng expeditions involved many participants, many funders and many institutional partners (<http://expeditions.mnhn.fr/campaign/papuanugiuni>; <https://expeditions.mnhn.fr/campaign/kavieng2014/leg/2>). Therefore, it is difficult to provide acknowledgements that will include everyone. However, I thank all the participants, funders and institutional partners in general which enabled the discovery of the new species. Special thanks to Dr. Philippe Bouchet and his team as well as the MNHN that supplied the huge MNHN expedition material of their Papua Niugini and Kavieng Marine Biodiversity Project to the author for sorting and identification and support to my studies on Trivioidea. David Monsecour (Aarschot, Belgium) carefully corrected the English text.

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Plate 1

a – dorsal view, b – lateral view, c – ventral view

Alaerato fedosovi n. sp.

- 1a-c. Holotype. Length: 2.7 mm; width: 2.0 mm; height: 1.8 mm. MNHN IM-2000-33356.
- 2a-c. Paratype 1. Length: 2.4 mm; width: 1.7 mm; height: 1.6 mm. MNHN IM-2000-33357.
- 3a-c. Paratype 3. Length: 2.8 mm; width: 2.0 mm; height: 1.8 mm. MNHN IM-2000-33359.

Plate 2

a – dorsal view, b – lateral view, c – ventral view

Eratoena moolenbeeki n. sp.

- 1a-c. Holotype. Length: 2.5 mm; width: 1.7 mm; height: 1.6 mm. MNHN IM-2000-33335.
- 3a-c. Paratype 4. Length: 2.4 mm; width: 1.6 mm; height: 1.4 mm. MNHN IM-2000-33339.

Eratoena gemma (Bavay, 1917)

- 2a-c. Lectotype. Length: 3.4 mm; width: 2.1 mm; height: 2.0 mm. MNHN IM-2000-24941.

Plate 3

a – dorsal view, b – lateral view, c – ventral view

Eratoena moolenbeeki n. sp.

- 1a-c. Paratype 1, juvenile. Length: 2.6 mm; width: 1.8 mm; height: 1.5 mm. MNHN IM-2000-33336.

Eratoena gemma (Bavay, 1917)

- 2a-c. Juvenile. Kavieng, sta. KB22. Length: 3.1 mm; width: 2.0 mm; height: 1.7 mm. MNHN coll.
- 3a-c. Vanuatu, sta. ZB13. Length: 2.8 mm; width: 1.9 mm; height: 1.7 mm. MNHN coll. (living animal in pl. 4, fig. 3).

Plate 4

Eratoena moolenbeeki n. sp.

- 1. Holotype. Length: 2.5 mm; width: 1.7 mm; height: 1.6 mm. MNHN IM-2000-33335. (Photo: © MNHN-PNI-IRD/Our Planet Reviewed/Delphine Brabant).
- 2. Paratype 1, juvenile. Length: 2.6 mm; width: 1.8 mm; height: 1.5 mm. MNHN IM-2000-33336. (Photo: © MNHN-PNI-IRD/Our Planet Reviewed/Delphine Brabant).

Eratoena gemma (Bavay, 1917)

- 3-4. Vanuatu, sta. ZB13. Length: 2.8 mm; width: 1.9 mm; height: 1.7 mm. MNHN coll. (Photo: © MNHN-PNI-IRD/Our Planet Reviewed/Delphine Brabant).

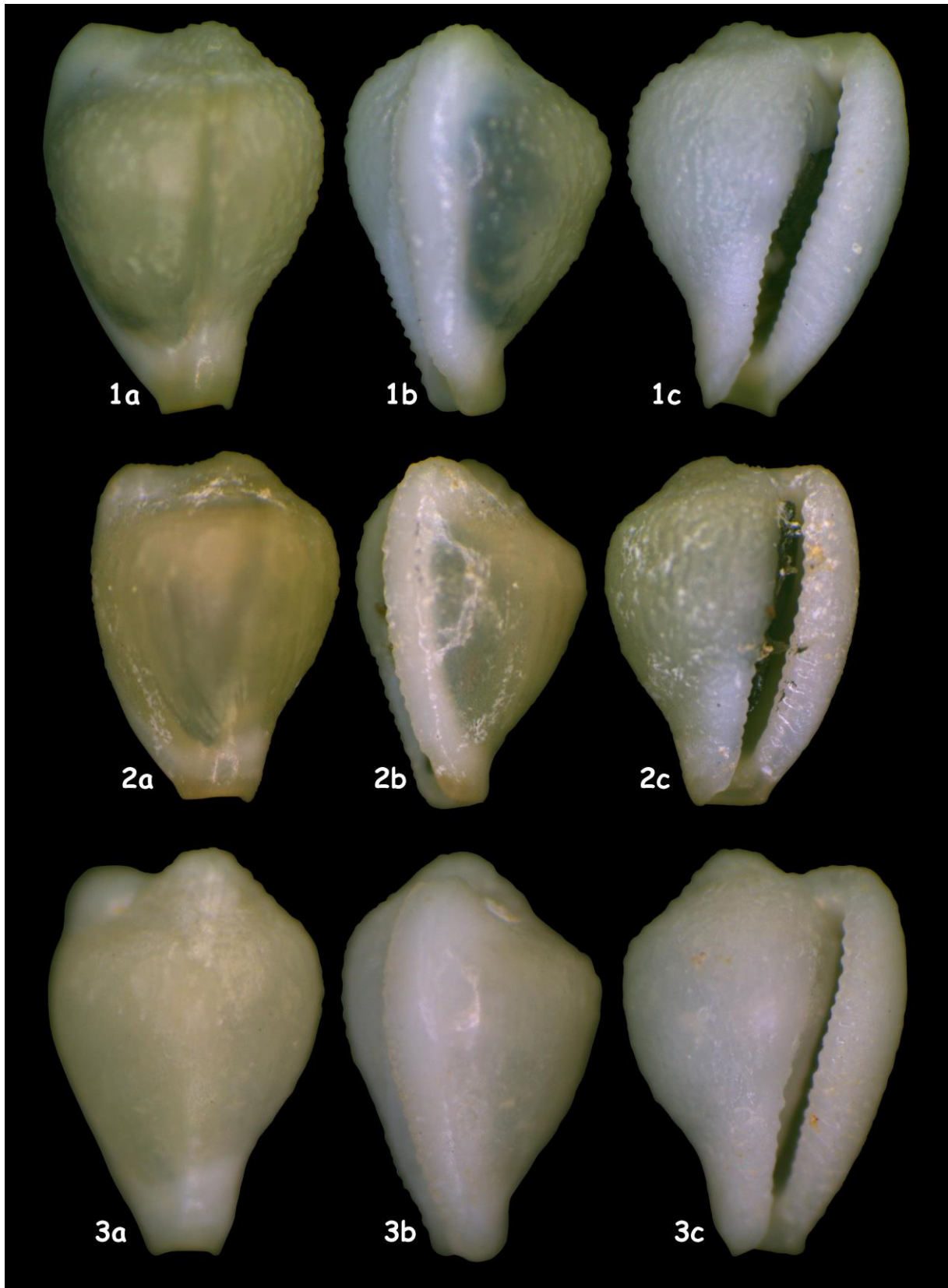


Plate 1

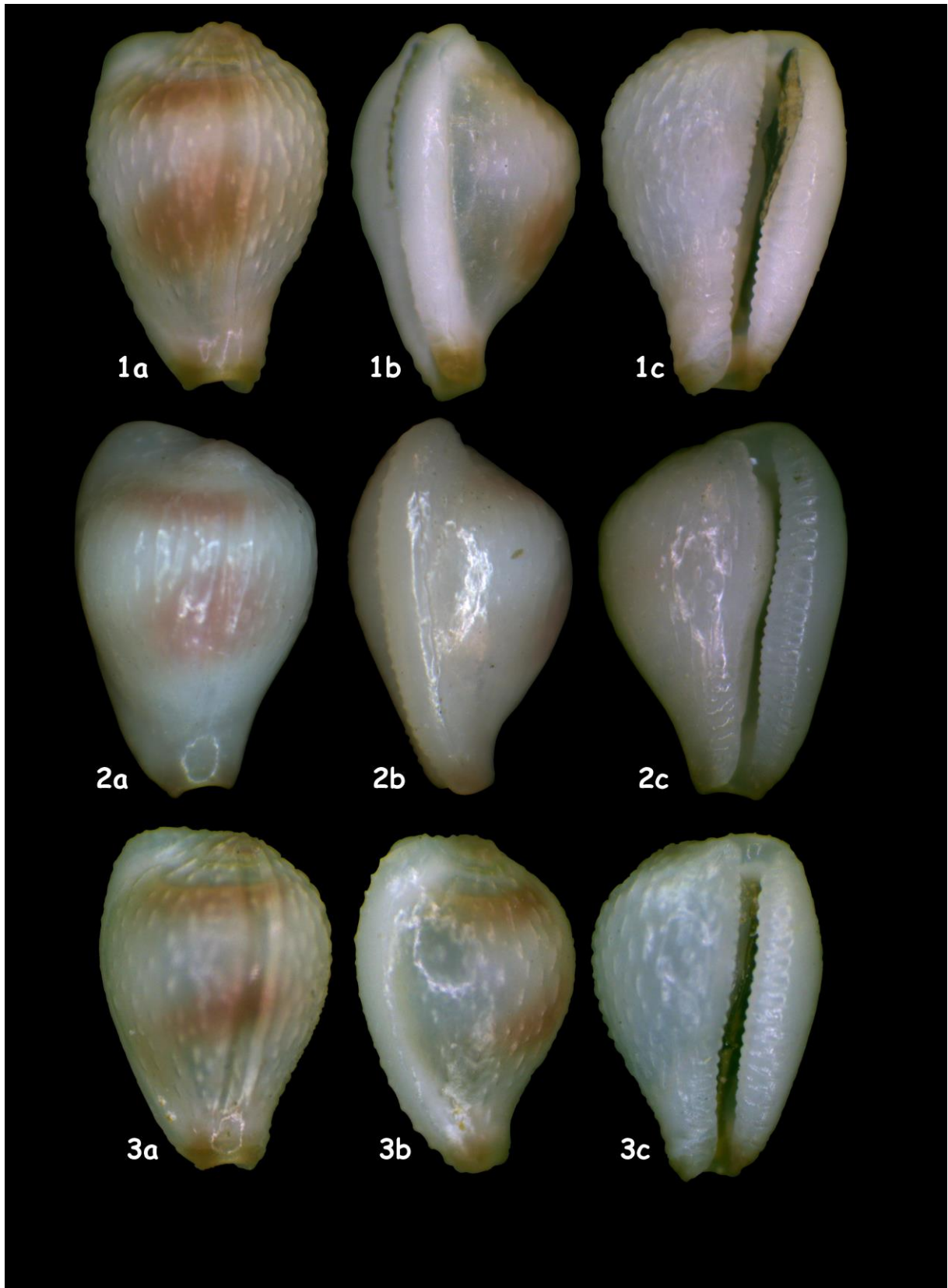


Plate 2

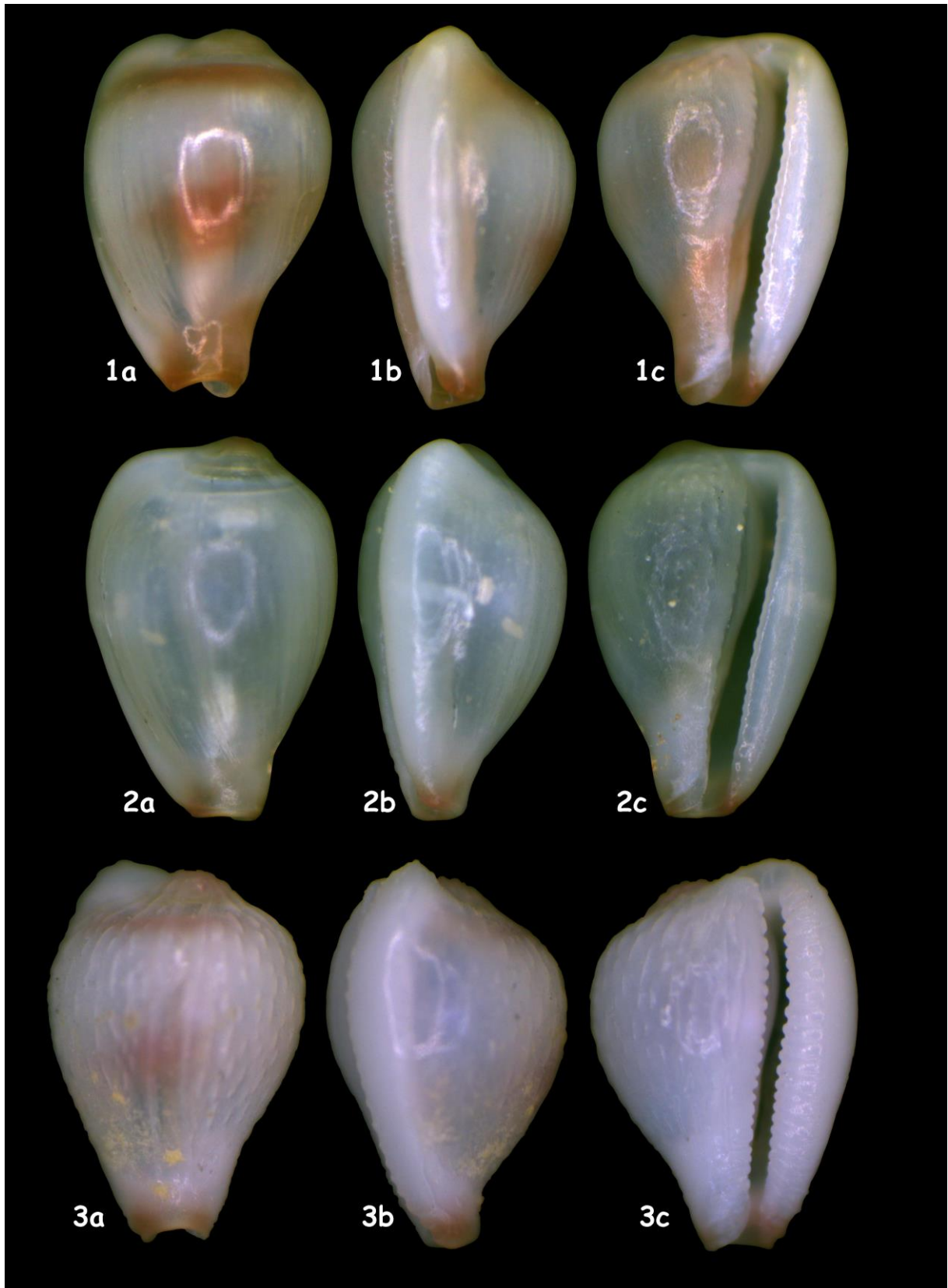


Plate 3



Plate 4

Contributions to the knowledge of the Eratoidea.

XV. New species from Vanuatu.

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Keywords: MOLLUSCA, GASTROPODA, ERATOIDEA, recent, new species, Vanuatu.

Abstract: The Santo Marine Biodiversity Survey of the MNHN enabled the discovery of two new Eratoid taxa in the genera *Alaerato* C.N. Cate, 1977 and *Cypraeerato* F.A. Schilder, 1933. Both are briefly discussed and compared with similar species.

Introduction: Recently, the gap in the knowledge of the Trivioidea from the Vanuatu archipelago could be slightly closed with the examination of the Triviidae (Fehse, 2017). Twenty-six species in six genera could be identified. Now it is possible to study the second family – the Eratoidea – within the Trivioidea. The MNHN expedition material consists of 435 specimens. A complete analysis will follow but in the meantime two outstanding Eratoid taxa are described herein. One new taxon is found in the genus *Alaerato* C.N. Cate, 1979 and is named *Alaerato maestratii* n. sp. The second species is assigned to the genus *Cypraeerato* F.A. Schilder, 1933. The genus was not well understood but the new species – described as *Cypraeerato margarita* n. sp. – helps to clarify the real identity of taxa within the genus.

Abbreviations:

DFB - collection Dirk Fehse, Berlin, Germany.
MNHN - Muséum national d'Histoire naturelle, Paris, France.
LT - number of labral teeth
CT - number of columellar teeth

SUPERFAMILY: TRIVIOIDEA Troschel, 1863

FAMILY: ERATOIDEA Gill, 1871

SUBFAMILY: ERATOINAE Gill, 1871

GENUS: *Alaerato* C.N. Cate, 1977

Type species: *Lachryma bisinventa* Iredale, 1931, by original designation

***Alaerato maestratii* n. sp.**

(Plate 2, Figs 1a-c to 3a-c)

Type material: Holotype: MNHN IM-2000-33381. Length: 4.6 mm; width: 3.1 mm; height: 2.6 mm; LT 22; CT 22.

From MNHN sta. DS108:

Paratype 1: MNHN IM-2000-33383. Length: 4.0 mm; width: 2.7 mm; height: 2.2 mm; LT 18; CT 17.

From MNHN sta. DS103:

Paratype 2: MNHN IM-2000- 33385. Length: 5.2 mm; width: 3.2 mm; height: 2.8 mm; LT 22; CT 21.

From MNHN sta. AT116:

Paratype 3: MNHN IM-2000- 33387. Length: 4.5 mm; width: 3.0 mm; height: 2.5 mm; LT 20; CT 18.

Type locality: Santo Marine Biodiversity Survey 2006: MNHN sta. DS99: NW Tutuba Island, 15° 32.5' S – 167° 16.9' E, Vanuatu; dredged at 100 to 105 m.

17 further paratypes in coll. MNHN from Vanuatu: 1 from type locality; 1 from MNHN sta. DS108; 1 from MNHN sta. DS103; 1 from MNHN sta. AT41; 1 from MNHN sta. AT76; 1 from MNHN sta. EP22; 11 from the SE corner of Santo, Vanuatu.

1 further paratype in coll. MNHN from Fiji: from MNHN sta. BS10.

Distribution:

MNHN sta. AT41: Santo Marine Biodiversity Survey 2006, E Urélapa Island, 15° 36.7/37.0' S – 167° 02.7/02.8' E, Vanuatu; dredged at 88 to 118 m.

MNHN sta. AT76: Santo Marine Biodiversity Survey 2006, NW coast of Malo Island, 15° 38.7' S – 167° 03.6' E, Vanuatu; dredged at 105 to 135 m.

MNHN sta. AT116: Santo Marine Biodiversity Survey 2006, W Tutuba Island, 15° 32.9' S – 167° 16.2' E, Vanuatu; dredged at 153 to 196 m.

MNHN sta. DS103: Santo Marine Biodiversity Survey 2006, W Tutuba Island, 15° 34.1' S – 167° 16.0' E, Vanuatu; dredged at 70 to 80 m.

MNHN sta. DS108: Santo Marine Biodiversity Survey 2006, NW Tutuba Island, 15° 33.2' S – 167° 16.6' E, Vanuatu; dredged at 100 m.

MNHN (mixed illegible or confused labels): Santo Marine Biodiversity Survey 2006, SE corner of Santo, Vanuatu; dredged in deep water.

MNHN sta. BS10: SUVA 2 campaign, S Viti Levu lagoon, 18° 11.8' S – 178° 30.4' E, Fiji; dredged at 123 m.

Description: Shell length between 4 to 6 mm, obliquely pear-shaped, slightly inflated, smooth, with a blunt, knob-like spire. Protoconch and subsequent whorls pustulated and covered with thin, translucent callus. Suture visible, slightly incised. Junction with teleoconch distinct. Body whorl almost 80% of total height, roundly shouldered adapically, with the maximum diameter one third from the adapical suture, roundly tapered below and slightly constricted at the ventrum. Dorsum roundly and highly elevated, slightly shouldered, constricted towards anterior terminal collar. Dorsal sulcus obscured represented by obsolete dimples behind anterior extremity and above the suture of the teleoconch in fully adult specimens. Dorsal shell surface covered with a thin, glossy, translucent callus. Ventral callus thick, opaque, glossy. Aperture defines total shell length, sinuous, posteriorly curved, narrow. Posterior terminal tip indented, anterior blunt. Labrum inflected, less thickened, smooth, curved, rounded, anteriorly declivous, outer margin roundly callused, ridged at inner margin, with fine, irregular denticles. Denticles extending onto half of the labrum as fine folds. Outer labral margin anteriorly ridged. Siphonal canal short, tubular. Anal canal funnel-like widened, indented, framed by walls formed by callus. Columella concave, widened with a developed inner carinal ridge and a callused and edged parietal lip. Columellar denticles anteriorly and posteriorly coarse, close-set, slightly irregular, obscured at mid-section. Almost all anterior columellar denticles extending onto ventrum as folds. Ventral folds coarse, short, slightly obscured, six to nine in number. Fossula concave, obscured, not delimited from the columella. Terminal ridge obscured.

Shell colour white with a golden-brown cloud at mid-dorsum. Two narrow, slightly obscured, golden-brown bands encircling posteriorly and at mid-section. Spire and terminal tips rich yellowish brown. Fossula with a golden-brown patch.

Variation: Spire more or less elevated, occasionally defining the shell length. Otherwise, the shells are rather uniform in appearance. Paratype 1 is slenderer than the other type shells. Paratype 3 is either albinistic or bleached due to its subfossil condition.

External morphology and radula: No information is available on the external morphology and radula because all type specimens were dead collected.

Comparison: The funnel-like anal canal and the rather obscured ventral folds as well as the golden-brown dorsal cloud easily distinguish *Alaerato maestratii* n. sp. from *Alaerato amamioshima* C.N. Cate, 1977, *A. angulifera* (G.B. Sowerby I, 1859), *A. gallinacea* (Hinds, 1844), *A. mactanica* (T. Cossignani & V. Cossignani, 1997) and *A. palawanica* Fehse, 2011. Only *Alaerato atomaria* Fehse, 2017 possesses a similar anal canal but this species is smaller (2 to 4 mm in *atomaria* vs. 4 to 6 mm in *maestratii*) and quite different in its whole shell morphology especially concerning the quite narrow and posteriorly curved aperture, the finer labral denticles, the finer and more close-set labral folds, the shorter ventral folds, the more declivous labrum and the broader spire. *Alaerato maestratii* is also more colourful.

Etymology: Named for Philippe Maestrati from the MNHN who photographed many living specimens and who kindly supported my studies.

GENUS: *Cypraeerato* F.A. Schilder, 1933
Type species: *Erato bimaculata* Tate, 1878, by monotypy

***Cypraeerato margarita* n. sp.**
(Plate 1, Figs 1a-c to 3a-c)

Type material: Holotype: MNHN IM-2000-33377. Length: 5.0 mm; width: 3.3 mm; height: 3.0 mm; LT 18; CT 17.

From MNHN sta. DB33:

Paratype 1: MNHN IM-2000-33378. Length: 4.9 mm; width: 3.2 mm; height: 2.8 mm; LT 20; CT 17.

From MNHN sta. DB63:

Paratype 2: MNHN IM-2000- 33379. Length: 4.6 mm; width: 3.0 mm; height: 2.7 mm; LT 17; CT 15.

From MNHN sta. DS59:

Paratype 3: MNHN IM-2000- 33380. Length: 4.3 mm; width: 3.0 mm; height: 2.7 mm; LT 18; CT 15.

4 further paratypes from Waigeo, Wai Island, W Papua, Indonesia, in coll. DFB, No. 7935, 12021, 12022.

Type locality: Santo Marine Biodiversity Survey 2006: MNHN sta. ZB09: W coast of Malo Island, 15° 40.6' S – 167° 05.1' E, Vanuatu; 5 to 7 m.

Distribution:

MNHN sta. DB33: Santo Marine Biodiversity Survey 2006, E Aoré Island, 15° 34.7' S – 167° 13.8' E, Vanuatu; 14 to 25 m.

MNHN sta. DB63: Santo Marine Biodiversity Survey 2006, SE Aésé Island, 15° 26.9' S – 167° 15.8' E, Vanuatu; 21 m.

MNHN sta. DS59: Santo Marine Biodiversity Survey 2006, Aésé Island, 15° 24.6' S – 167° 14.3' E, Vanuatu; 6 to 43 m.

Description: Shell length between 4 to 6 mm, obliquely pear-shaped, translucent. Spire rounded, of low profile, sparsely pustulated. Protoconch and subsequent whorls covered with a thin callus. Suture visible. Junction with teleoconch distinct. Body whorl almost 80% of total height, roundly shouldered adapically, with the maximum diameter one third from the adapical suture, evenly tapered below and only slightly constricted at the ventrum. Dorsum roundly elevated, constricted towards anterior terminal collar. Dorsal sulcus obscured, represented by an obsolete dimple behind anterior extremity in fully adult specimens. Shell surface covered with a thin, glossy, translucent callus. Aperture defines shell length, slightly sinuous and narrow. Posterior terminal tip indented, anterior blunt. Labrum inflected, slightly thickened, rounded, smooth, anteriorly slightly declivous, outer margin roundly callused, ridged at inner margin, with coarse denticles. Denticles irregular, extending onto the labrum as short, coarse folds. Anal and siphonal canal short, funnel-like widened. Columella broad, inner margin covered by labrum, concave, rounded, with a developed inner carinal ridge. Parietal lip roundly callused, somewhat projected. Columellar denticles coarse, slightly irregular and rather obscured. Anteriormost columellar denticles extended onto ventrum. Ventral folds coarse, three to four in number. Fossula concave, obscured, not delimited from the columella. Terminal ridge obscured.

Dorsum glossy, opaque white. Spire and anterior terminal tip light olive.

Variation: The inflation of the shell varies. Dentition irregular. Anal canal often turned to the right.

External morphology: Mantle lobes red with larger and smaller white and light brown patches and dark brown dots, covered with large, wart-like papillae of different colouration. Foot translucent with opaque white spots and bright yellow dots. Cephalic tentacles undulated, opaque white with yellow dots. Siphon short, opaque, with white and yellow dots as well as black-brown spots.

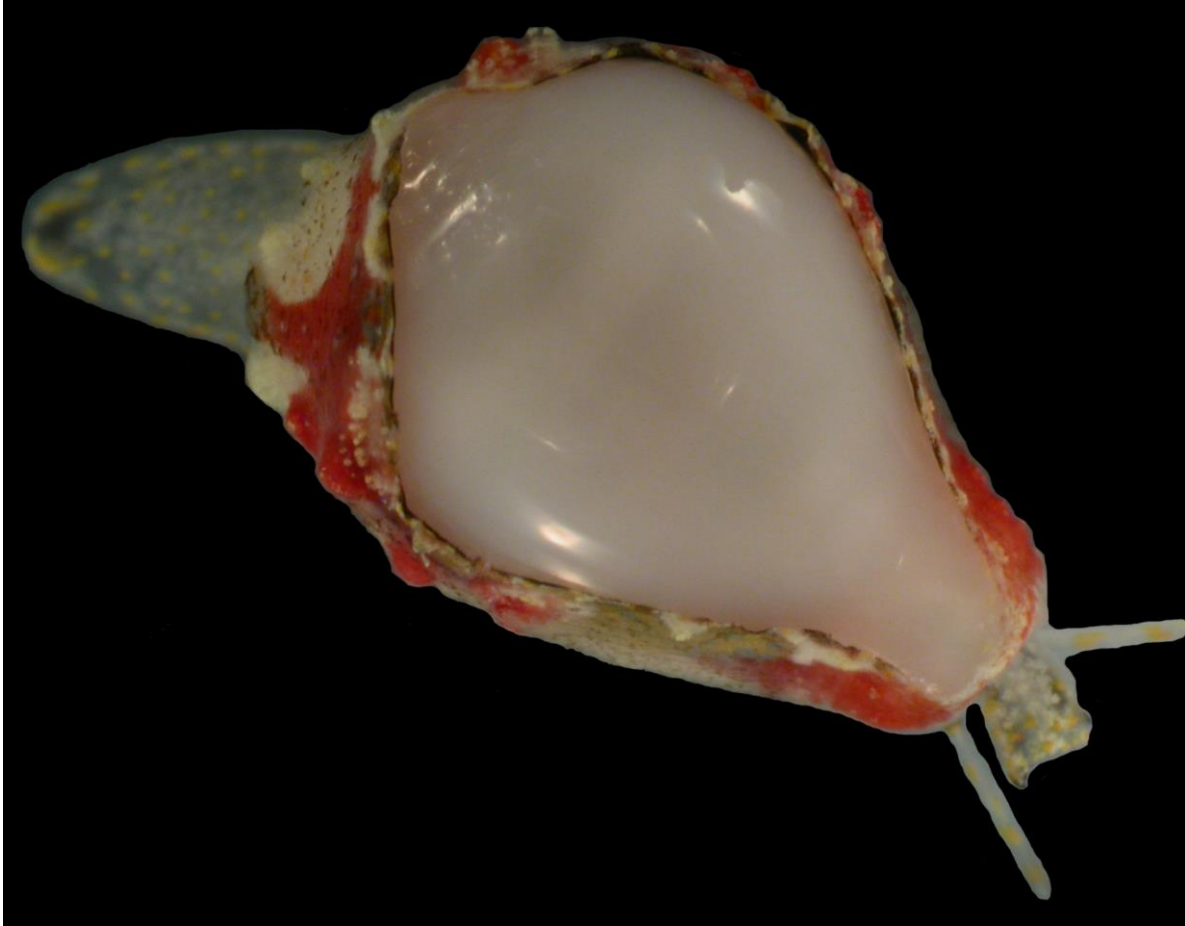


Fig. 1: *Cypraeerato margarita* n. sp. Holotype. (Photo: © MNHN-PNI-IRD/Our Planet Reviewed/Delphine Brabant).

Radula: No information is available.

Comparison: Similar sized recent species of this genus are *Cypraeerato bimaculata* (Tate, 1878) and *Cypraeerato gerialia* (C.N. Cate, 1977) comb. nov. restricted to Australia. Shells of both taxa are characterised by white shells with bright red terminal tips. These red tips immediately distinguish both from *Cypraeerato margarita*.

Similar white coloured species are *Cypraeerato boucheti* (Drivas & Jay, 1986) known from Reunion and *Cypraeerato rangiroa* Fehse, 2012 seemingly endemic to Rangiroa. However, both taxa are tiny species not exceeding 3 mm whereas the new species is at least one millimeter larger but *C. margarita* is also easily distinguishable from *C. boucheti* and *C. rangiroa* by the developed dentition.

Other similar sized species are only the fossil *Cypraeerato badenica* Fehse & Grego, 2012 and *Cypraeerato yolandae* Fehse & Grego, 2012 from the middle Miocene of the Paratethys. The fossil taxa are not only distinguished by the large stratigraphic distance but also by the shape of the anal canal, the apertural dentition and the shape of the ventral folds. So far nothing is known about the colouration of the fossil species but it is supposed that it is white. *Cypraeerato margarita* is thought to be closely related to the Miocene species but there is a large gap between the three taxa. Hopefully finds in the Pliocene of the Indo-Pacific will close the gap in the future.

Etymology: From the Latin noun, *margarita*, meaning pearl because of the bright white shell that reminds of a white pearl.

Acknowledgements: Many thanks to all organizers and supporters who enabled the Santo Marine Biodiversity Survey in 2006 that allowed the discovery of the new species. David Monsecour (Aarschot, Belgium) carefully corrected the English text.

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Fehse, D., 2017. Contributions to the knowledge of the Eratoidae. XIII. New species from the Philippines. – *Neptunea*, **14**(2): 24-35, pls. 1-5.

Plate 1

a – dorsal view, b – lateral view, c – ventral view

Cypraeerato margarita n. sp.

1a-c. Holotype. Length: 5.0 mm; width: 3.3 mm; height: 2.8 mm. MNHN IM-2000-33377.

2a-c. Paratype 1. Length: 4.9 mm; width: 3.2 mm; height: 2.8 mm. MNHN IM-2000-33378.

3a-c. Paratype 2. Length: 4.6 mm; width: 3.0 mm; height: 2.7 mm. MNHN IM-2000-33379.

Plate 2

a – dorsal view, b – lateral view, c – ventral view

Alaerato maestratii n. sp.

1a-c. Holotype. Length: 4.6 mm; width: 3.1 mm; height: 2.6 mm. MNHN IM-2000-33381.

2a-c. Paratype 1. Length: 4.0 mm; width: 2.7 mm; height: 2.2 mm. MNHN IM-2000-33383.

3a-c. Paratype 3. Subfossil, bleached. Length: 4.5 mm; width: 3.0 mm; height: 2.5 mm. MNHN IM-2000-33387.

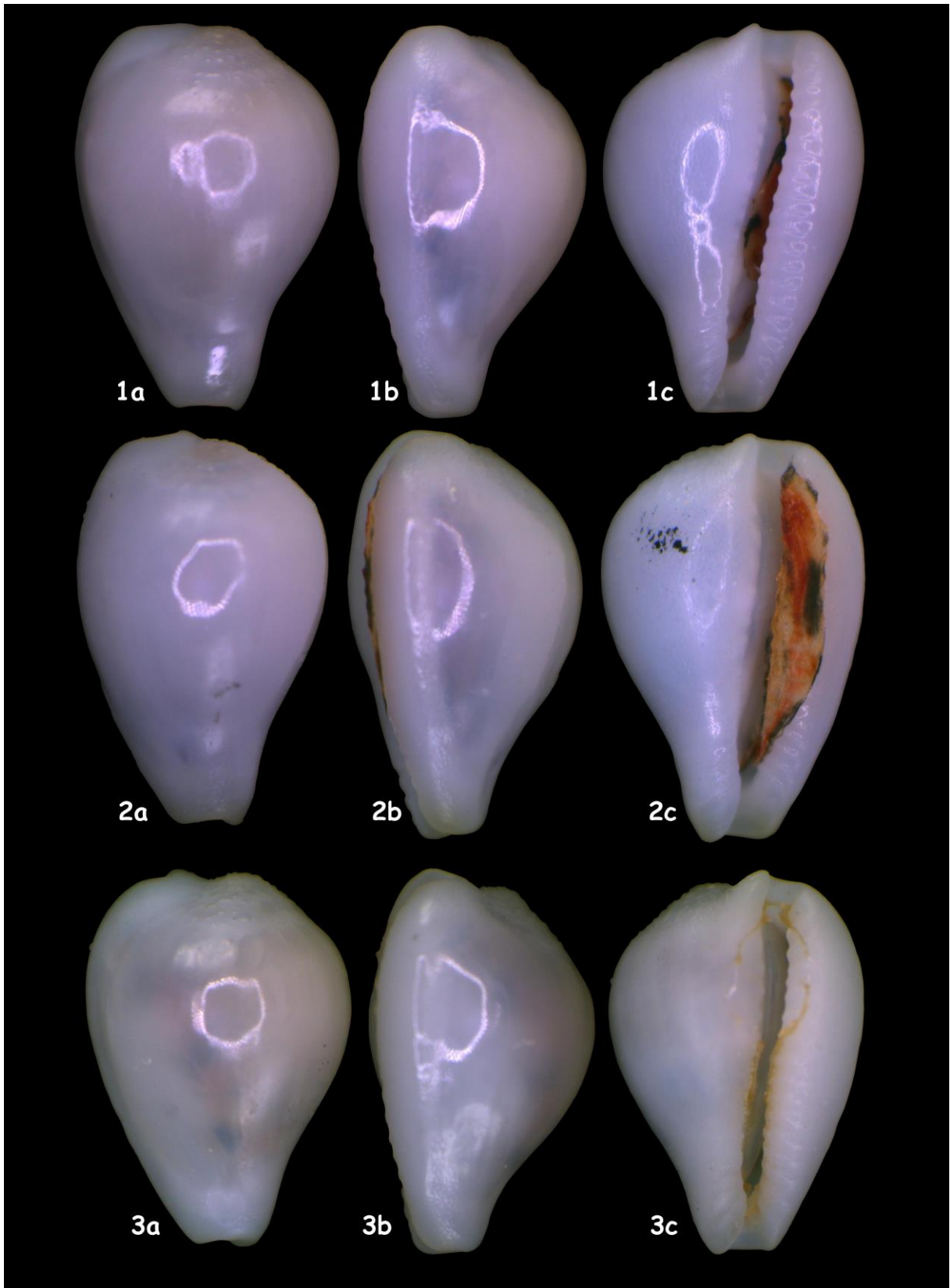


Plate 1

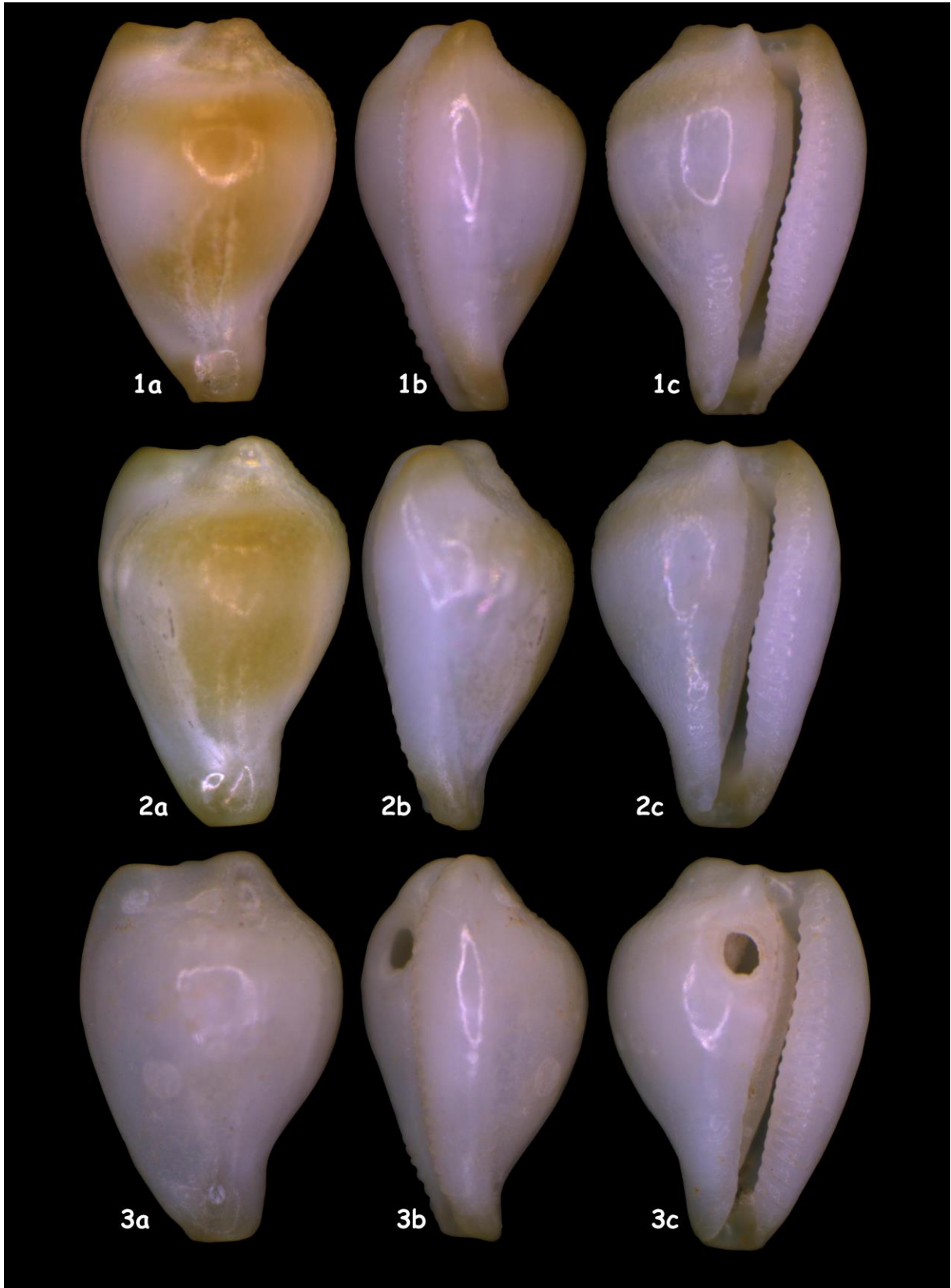


Plate 2

Contributions to the knowledge of the Eratoidae. XVI. New species from New Caledonia and Lifou.

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Keywords: MOLLUSCA, GASTROPODA, ERATOIDAE, recent, new species, New Caledonia, Lifou.

Abstract: The various expedition of the MNHN to New Caledonia resulted in the description of two new species within the Eratoidae. One is assigned to the genus *Alaerato* C.N. Cate, 1977 and the second to *Cypraeerato* F.A. Schilder, 1933. They are compared with similar species.

Introduction: Great affinities between the Triviid fauna of New Caledonia and the Philippines was already confirmed by Fehse (2017). Not all benthic Eratoidae could be studied at this moment. The remaining material confirms that New Caledonia and the Philippines share the same affinities in the Eratoid fauna. Seventy percent of the New Caledonian Eratoidae are also found in the Philippines. Yet, New Caledonia is not a similar centre of Eratoid diversity as the Philippines: more than twenty species are found in the Philippines but only eleven in New Caledonia. One of the species – *Eratoena schmeltziana* (Crosse, 1867) – usually known from French Polynesia is well represented in New Caledonia. A detailed analysis of the Eratoidae found in the MNHN material is in preparation. In the meantime two species are described as new to science: *Alaerato fusconubecula* n. sp. and *Cypraeerato nitida* n. sp.

Abbreviations:

MNHN - Muséum national d'Histoire naturelle, Paris, France.

LT - number of labral teeth

CT - number of columellar teeth

SUPERFAMILY: TRIVIOIDEA Troschel, 1863

FAMILY: ERATOIDAE Gill, 1871

SUBFAMILY: ERATOINAE Gill, 1871

GENUS: *Alaerato* C.N. Cate, 1977

Type species: *Lachryma bisinventa* Iredale, 1931, by original designation

***Alaerato fusconubecula* n. sp.**

(Plate 1, Figs 1a-c to 3a-c; Plate 2, Figs 1a-c to 3a-c)

Type material: Holotype: MNHN IM-2000-33414. Length: 5.0 mm; width: 3.3 mm; height: 2.6 mm; LT 23; CT 22.

From type locality:

Paratype 1: MNHN IM-2000-33415. Length: 5.1 mm; width: 3.3 mm; height: 2.6 mm; LT 22; CT 21.

From MNHN sta. 1268:

Paratype 2: MNHN IM-2000- 33416. Length: 4.8 mm; width: 3.2 mm; height: 2.5 mm; LT 21; CT 19.

From MNHN sta. DW203:

Paratype 3: MNHN IM-2000- 33417. Length: 4.6 mm; width: 3.1 mm; height: 2.5 mm; LT 22; CT 20.

From MNHN sta. DW666:

Paratype 4: MNHN IM-2000- 33419. Length: 3.6 mm; width: 2.3 mm; height: 1.9 mm; LT 22; CT 17.

From MNHN sta. DW666:

Paratype 5: MNHN IM-2000- 33418. Length: 4.3 mm; width: 2.8 mm; height: 2.3 mm; LT 21; CT 17.

Type locality: Montrouzier Marine Biodiversity Survey 1993: MNHN sta. 1260: channel NE of Touho Bank, 20° 44' S – 165° 14' E, New Caledonia; dredged at 49 to 59 m.

11 further paratypes from New Caledonia: 1 from MNHN sta. 830 (= DW830); 1 from type locality; 1 from MNHN sta. 1309; 1 from MNHN sta. 1237; 1 from MNHN sta. 1265; 1 from MNHN sta. 1347; 1 from MNHN sta. DW150; 2 from MNHN sta. DW666; 1 from MNHN sta. 729 (= DW729); 1 from MNHN sta. DW1235.

Distribution:

MNHN sta. 666: BATHUS 1 Marine Biodiversity Survey, East coast, 20° 57' S – 165° 34' E, New Caledonia; dredged at 105 to 110 m.

MNHN sta. 729 (= DW729): ORSTOM Marine Biodiversity Survey, Canala section, 21° 19' S – 165° 54' E, New Caledonia; dredged at 42 to 45 m.

MNHN sta. 830 (= DW830): ORSTOM Marine Biodiversity Survey, Poindimie section, 20° 49' S – 165° 19' E, New Caledonia; dredged at 105 to 110 m.

MNHN sta. 1237: Montrouzier Marine Biodiversity Survey 1993, Bay of Touho, 20° 46.9' S – 165° 13.8' E, New Caledonia; found at 0 to 1 m, fine sand and plant shelters.

MNHN sta. 1265: Montrouzier Marine Biodiversity Survey 1993, lagoon of the Grand Récif Mengalia, 20° 40.8' S – 165° 14.2' E, New Caledonia; found at 15 to 30 m, medium sand and coral blocks.

MNHN sta. 1268: Montrouzier Marine Biodiversity Survey 1993, nearby Thiem, 20° 45.2' S – 165° 08.0' E, New Caledonia; found at 9 to 11 m, fine sand.

MNHN sta. 1309: Montrouzier Marine Biodiversity Survey 1993, lagoon nearby Kendec islet, 20° 40.5' S – 164° 13.4' E, Koumac section, New Caledonia; found at 18 m, grey sand.

MNHN sta. 1347: Philippe Bouchet collection 1993, Grand Récif Aboré, 22° 23.6' S – 166° 20.1' E, Nouméa section, New Caledonia; found at 10 m, sandy vase on slabs.

MNHN sta. DW150: MUSORSTOM 4 Marine Biodiversity Survey, N.O. "Vauban", 19° 07' S – 163° 22' E, New Caledonia; dredged at 110 m.

MNHN sta. DW203: MUSORSTOM 4 Marine Biodiversity Survey, N.O. "Vauban", 22° 36' S – 167° 05' E, New Caledonia; dredged at 105 to 110 m.

MNHN sta. DW1235: Bouchet & Richer de Forges-IRD collection, Cap N'Doua, 22° 22.1' S – 166° 55.5' E, New Caledonia; found at 51 to 52 m.

Description: Shell length between 3.5 to 5.2 mm, obliquely pear-shaped, slightly inflated, smooth, with a slightly pointed, less elevated spire. Protoconch and subsequent whorls pustulated (holotype slightly subadult: the callus and pustules are not yet developed) and covered with thin, translucent callus. Suture visible, slightly incised. Junction with teleoconch distinct. Body whorl almost 70% of total height, roundly shouldered adapically, with the maximum diameter at one fifth from the adapical suture, roundly tapered below and slightly constricted at the ventrum. Dorsum roundly and highly elevated, slightly shouldered, sharply constricted towards anterior terminal collar. Dorsal sulcus obscured, represented by dimples behind anterior extremity and above the suture line of the teleoconch in fully adult specimens. Dorsal shell surface covered with thin, glossy, translucent callus. Ventral callus thick, opaque, glossy, continued to the ventral margin. Aperture almost straight, narrow,

slightly widened at the fossular section. Posterior terminal tip deeply indented, anterior less so. Labrum inflected, less thickened, smooth, curved, rounded, inner half sloping slightly into aperture, outer margin roundly callused, ridged at inner margin, with fine, almost regular denticles. Denticles only extending onto sloping half of the labrum as fine folds. Siphonal canal short, tubular. Anal canal funnel-like widened, indented, framed by walls formed by callus. Columella concave, constricted towards fossula, rounded with a developed inner carinal ridge and a callused and ridged parietal lip. Columellar denticles anteriorly fine, close-set, posteriorly coarse, somewhat obscured, slightly irregular, obscured at mid-section. All developed anterior columellar denticles extending onto ventrum as folds. Ventral folds coarser than labral folds, short, restricted on declivous part of the parietal lip, five to seven in number. Fossula concave, inner margin slightly projected not delimited from the columella. Terminal ridge obscured.

Shell colour white with two light brown clouds on both dorsal margins and a darker brown line on dorsal shoulder. The line is surrounded by a light brown cloud. Spire olive-brown with white suture line. Both tips light brown.

Variation: All studied shells are rather uniform in shell morphology. Sometimes the aperture is slightly sinuous. The dwarf paratype 4 has a blunt spire and coarser ventral folds than the other type specimens.

External morphology and radula: No information is available.

Comparison: The holotype was chosen because of the preserved animal although the shell is slightly subadult and the callus on the spire has not been developed yet. The holotype can be used for DNA research.

The new species is similar to *Alaerato amamioshima* C.N. Cate, 1977 from Japan but the latter has finer labral folds reaching the outer labral margin and finer ventral folds extending to the ventral margin. Unfortunately, the holotype of *A. amamioshima* is beached and the labral and ventral folds have been grinded. *Alaerato fusconubecula* is also distinguished from the Japanese species by the constricted inner carinal ridge and the inflated shell. However, it seems that both species seem to have a common origin.

Alaerato gallinacea (Hinds, 1844) essentially differs from the new species by the extended labral and ventral folds, the blunt and rounded spire, the narrower, more sinuous aperture, the differently shaped anal canal, the less shouldered dorsum, the roundedly constricted dorsum towards the anterior terminal.

Alaerato palawanica Fehse, 2011 is a larger species (5.5 to 8 mm for *palawanica* vs. 3.5 to 5.2 mm for *fusconubecula*) and the whole shell morphology as well as the shell colouration distinguishes both.

The second related species is seems to be *Alaerato virginiae* Fehse, 2013 from SE Africa. However, the latter has a more pointed spire, the ventral folds are more extended, the labral shoulder is edged, the dimples are more strongly developed, the posterior tip is less indented and the anal canal is less developed.

Etymology: From the Latin adjective, *fuscus*, meaning brown and the Latin noun, *nubecula*, meaning little cloud. Named for the light brown dorsal clouds.

GENUS: *Cypraeerato* F.A. Schilder, 1933
Type species: *Erato bimaculata* Tate, 1878, by monotypy

***Cypraeerato nitida* n. sp.**
(Plate 3, figs 1a-c to 3a-c; plate 4, figs 1a-c to 4a-c)

Type material: Holotype: MNHN IM-2000-33393. Length: 2.8 mm; width: 1.9 mm; height: 1.8 mm; LT (10); CT.

From MNHN sta. 1354:

Paratype 1: MNHN IM-2000-33394. Length: 2.4 mm; width: 1.6 mm; height: 1.4 mm; LT —; CT.

From MNHN sta. DW161:

Paratype 2: MNHN IM-2000- 33395. Length: 2.8 mm; width: 1.9 mm; height: 1.7 mm; LT (15); CT.

From MNHN sta. ZB09:

Paratype 3: MNHN IM-2000- 33396. Length: 2.9 mm; width: 1.9 mm; height: 1.8 mm; LT (15); CT.

12 further paratypes from New Caledonia: 2 from MNHN sta. 1269; 1 from MNHN sta. 1271; 3 from MNHN sta. 1319; 3 from MNHN sta. 1354.

1 further paratype from Vanuatu, MNHN sta. DS99.

4 further paratypes from Lifou: 1 from MNHN sta. 1420; 1 from MNHN sta. 1435; 1 from MNHN sta. 1450; 1 from MNHN sta. 1456.

Type locality: MUSORSTOM 4 Marine Biodiversity Survey: MNHN sta. DW431: N.O. "Alis", near Ile Beautemps Beaupre, 20° 22' S – 166° 10' E, New Caledonia; 21 m.

Distribution:

New Caledonia:

MNHN sta. 1269: Montrouzier Marine Biodiversity Survey 1993, Récif Doiman, Touho section, 20° 35.1' S – 165° 08.1' E, Touho, New Caledonia; external slope at 15 to 20 m.

MNHN sta. 1271: Montrouzier Marine Biodiversity Survey 1993, Haut-Fond de Tié, Touho section, 20° 52.7' S – 165° 19.5' E, Touho, New Caledonia; slops, sand on slabs, 5 to 25 m.

MNHN sta. 1319: Montrouzier Marine Biodiversity Survey 1993, Passe Deverd, Koumac section, 20° 44.7' S – 164° 15.5' E, Koumac, New Caledonia; slab at 15 to 20 m.

MNHN sta. 1354: Grand Récif Aboré, 22° 22.3' S – 167° 15.9' E, New Caledonia; external slope at 27 to 37 m.

MNHN sta. DW161: MUSORSTOM 4 Marine Biodiversity Survey, N.O. "Vauban", N of Ile Art, 18° 39' S – 163° 11' E, New Caledonia; dredged at 550 m.

Santo Marine Biodiversity Survey 2006:

MNHN sta. DS99: NW Tutuba Island, 15° 32.5' S – 167° 16.9' E, Vanuatu; dredged at 100 to 105 m.

MNHN sta. ZB09: W coast of Malo Island, 15° 40.6' S – 167° 05.1' E, Vanuatu; 5 to 7 m.

Atelier LIFOU, Iles Loyaute:

MNHN sta. 1420: harbour of Chépénéhé, Bay of Santal, 20° 47.7' S – 167° 09.35' E, Lifou; slab covered with sediment at 4 to 5 m.

MNHN sta. 1435: Point of Lefèvre (= Nem), Bay of Santal, 20° 55.2' S – 167° 00.7' E, Lifou; vertical slops and overhangs at 5 to 30 m.

MNHN sta. 1450: N of Cap Aimé Martin (Acadro), Bay of Santal, 20° 45.8' S – 167° 01.65' E, Lifou; brushes at 27 to 31 m.

MNHN sta. 1456: NE of the Bay at the level of Cila, Bay of Santal, 20° 49.3' S – 167° 10.4' E, Lifou; slope at 25 to 30 m.

Description: Shell length between 2 to 3.5 mm, obliquely pear-shaped, translucent. Spire rounded, of low profile, sparsely pustulated. Protoconch and subsequent whorls covered with thin callus. Suture visible. Junction with teleoconch distinct. Body whorl almost 80% of total height, roundly shouldered adapically, with the maximum diameter at one third from the adapical suture, evenly tapered below and only slightly constricted at the ventrum. Dorsum roundly elevated, roundly constricted towards anterior terminal collar. Dorsal sulcus obscured. Shell surface covered with a thin, glossy, translucent callus. Ventrums less callused, posteriorly wrinkled and pustulated, with reflected anterior terminal. Aperture defines shell length, slightly sinuous and quite narrow. Posterior terminal tip protruded, anterior indented. Labrum inflected, slightly thickened, rounded, smooth, anteriorly deeply declivous, outer margin roundly callused, ridged at inner margin, with fine, quite irregular denticles restricted to the mid-section. Denticles anteriorly and posteriorly absent, restricted to labral margin. Anal canal short, funnel-like widened. Siphonal canal deeply indented, tubular. Columella broad, inner margin covered by labrum, convex, rounded, with a less developed inner carinal ridge. Parietal lip edged, somewhat projected. Columellar denticles obscured. Ventral folds weakly developed, almost obscured, two to four in number. Fossula concave, obscured, not delimited from the columella. Terminal ridge obscured. Shell glossy white. Anterior terminal tip light olive.

Variation: The shells are almost uniform in appearance although the shell inflation, the elevation of the spire and the projection of the posterior apertural part varies.

External morphology and radula: No information is available.

Comparison: The new species is assigned to a group of three similar appearing taxa consisting of *Cypraeerato boucheti* (Drivas & Jay, 1986) restricted to Reunion in the S Indian Ocean, *Cypraeerato rangiroa* Fehse, 2012 endemic to Rangiroa, French Polynesia from the Central Pacific and *Cypraeerato nitida* n. sp. from Lifou (26 available specimens), New Caledonia (centre of distribution with 146 specimens) and Vanuatu (2 available specimens). The shells of this group are white and simple in their morphology with obscured or obsolete dentition and less developed ventral folds.

Cypraeerato rangiroa is easily distinguishable by its slender and elongated shell with well developed ventral folds (compare Fehse, 2012). The new taxon differs from *C. boucheti* by the inflated shell, the sinuous aperture, the obscured ventral folds and the finer labral dentition restricted to the inner margin.

Etymology: From the Latin adjective, *nitida*, meaning glossy.

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Plate 1

a – dorsal view, b – lateral view, c – ventral view

Alaerato fusconubecula n. sp.

1a-c. Holotype. Length: 5.0 mm; width: 3.3 mm; height: 2.6 mm. MNHN IM-2000-33414.

2a-c. Paratype 1. Length: 5.1 mm; width: 3.3 mm; height: 2.6 mm. MNHN IM-2000-33415.

3a-c. Paratype 2. Length: 4.8 mm; width: 3.2 mm; height: 2.5 mm. MNHN IM-2000-33416.

Plate 2

a – dorsal view, b – lateral view, c – ventral view

Alaerato fusconubecula n. sp.

1a-c. Paratype 3. Length: 4.6 mm; width: 3.1 mm; height: 2.5 mm. MNHN IM-2000-33417.

2a-c. Paratype 4. Length: 3.6 mm; width: 2.3 mm; height: 1.9 mm. MNHN IM-2000-33418.

3a-c. Paratype 5. Length: 4.3 mm; width: 2.8 mm; height: 2.3 mm. MNHN IM-2000-33419.

Plate 3

a – dorsal view, b – lateral view, c – ventral view

Cypraeerato nitida n. sp.

1a-c. Holotype. Length: 2.8 mm; width: 1.9 mm; height: 1.8 mm. MNHN IM-2000-33393.

2a-c. Paratype 3. Length: 3.0 mm; width: 1.9 mm; height: 1.8 mm. MNHN IM-2000-33396.

3a-c. Paratype 6. From Lifou, MNHN sta. 1420. Length: 2.8 mm; width: 1.9 mm; height: 1.8 mm. MNHN IM-2000-33399.

Plate 4

a – dorsal view, b – lateral view, c – ventral view

Cypraeerato nitida n. sp.

1a-c. Paratype 5. From Lifou, MNHN sta. 1435. Length: 2.8 mm; width: 1.9 mm; height: 1.7 mm. MNHN IM-2000-33398.

2a-c. Paratype 1. Length: 2.4 mm; width: 1.6 mm; height: 1.4 mm. MNHN IM-2000-33394.

3a-c. Paratype 2. Length: 2.8 mm; width: 1.9 mm; height: 1.7 mm. MNHN IM-2000-33395.

4a-c. Paratype 4. From Vanuatu, MNHN sta. DS99. Length: 2.6 mm; width: 1.7 mm; height: 1.6 mm. MNHN IM-2000-33397.

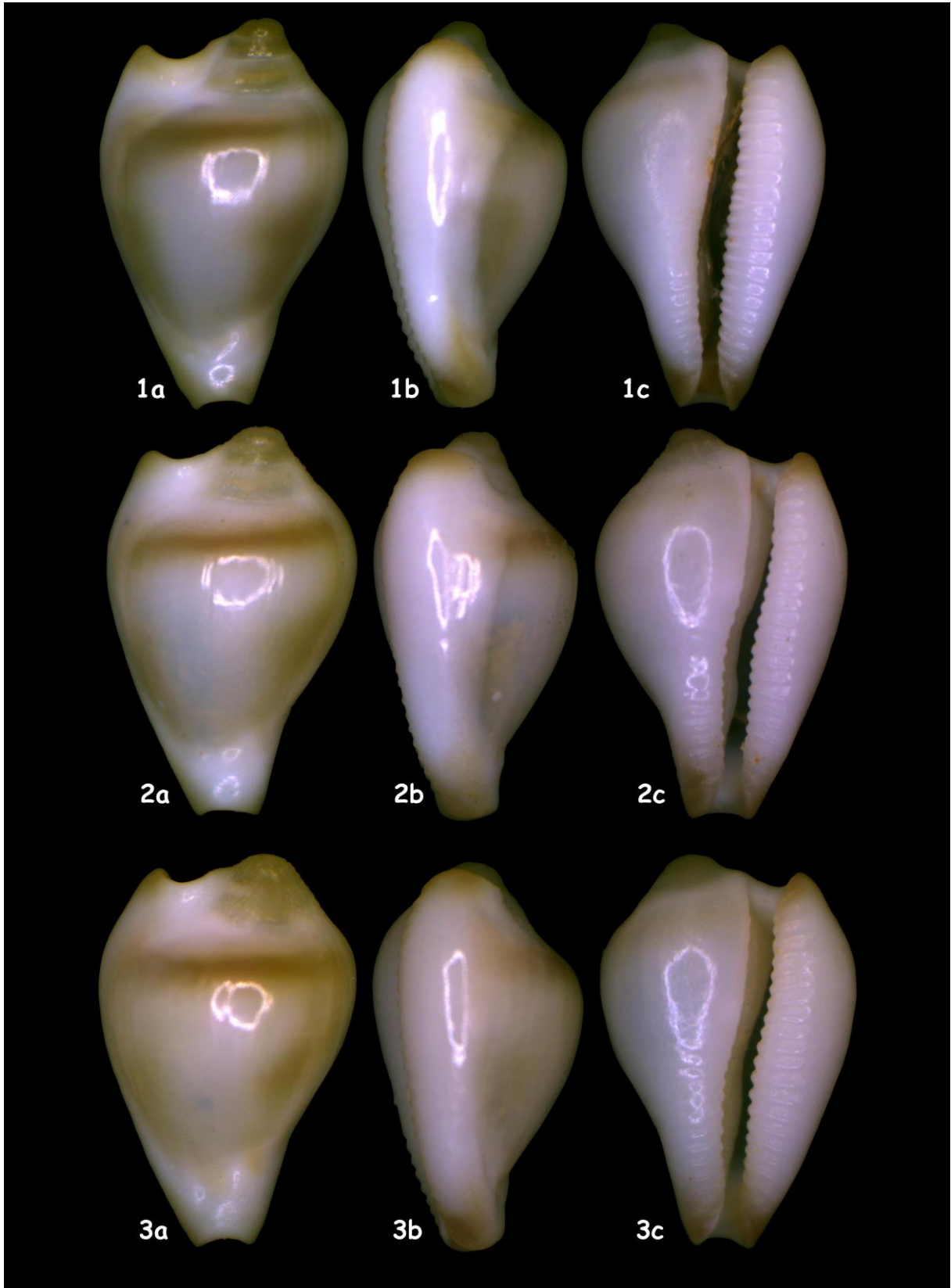


Plate 1

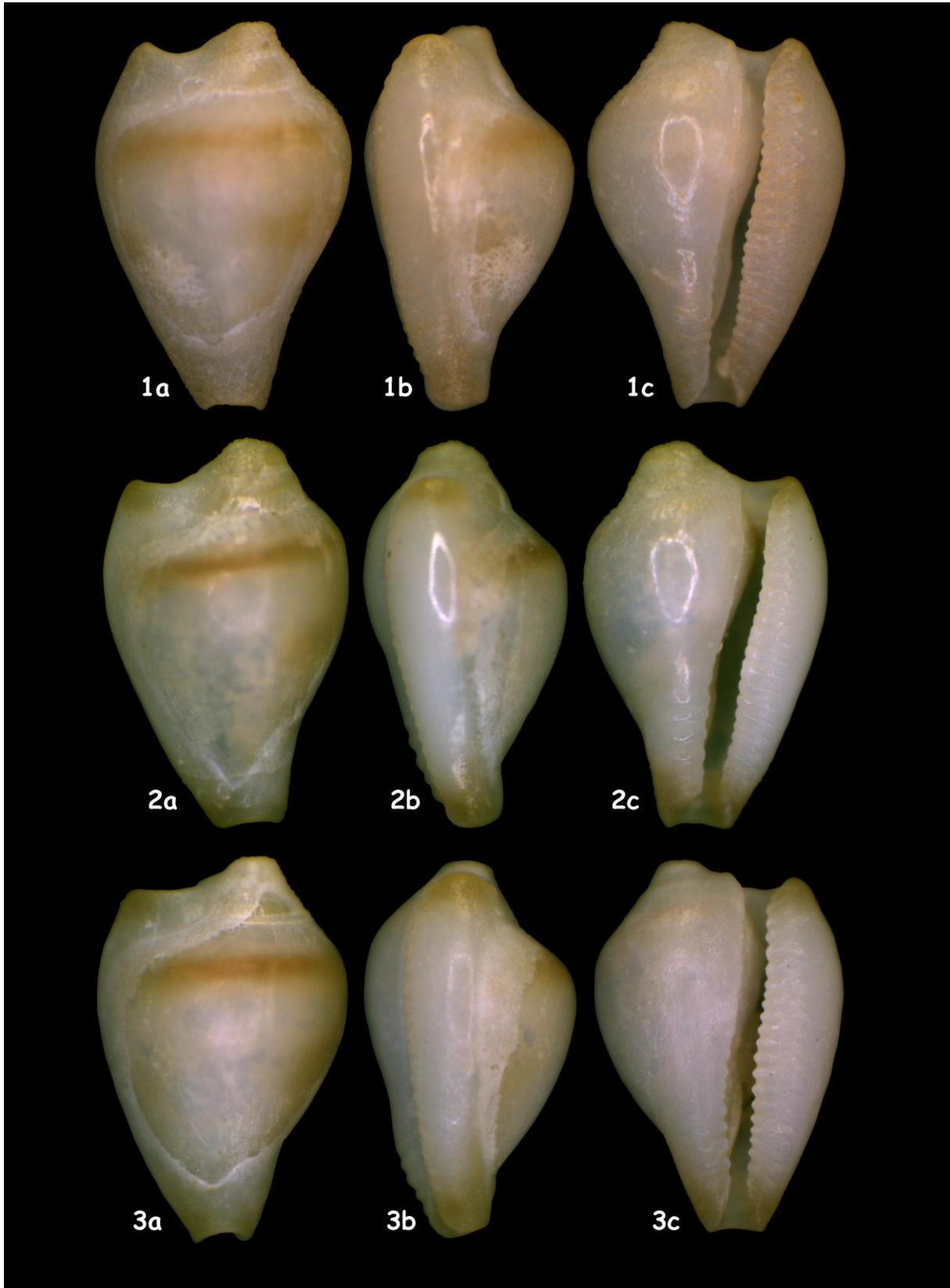


Plate 2

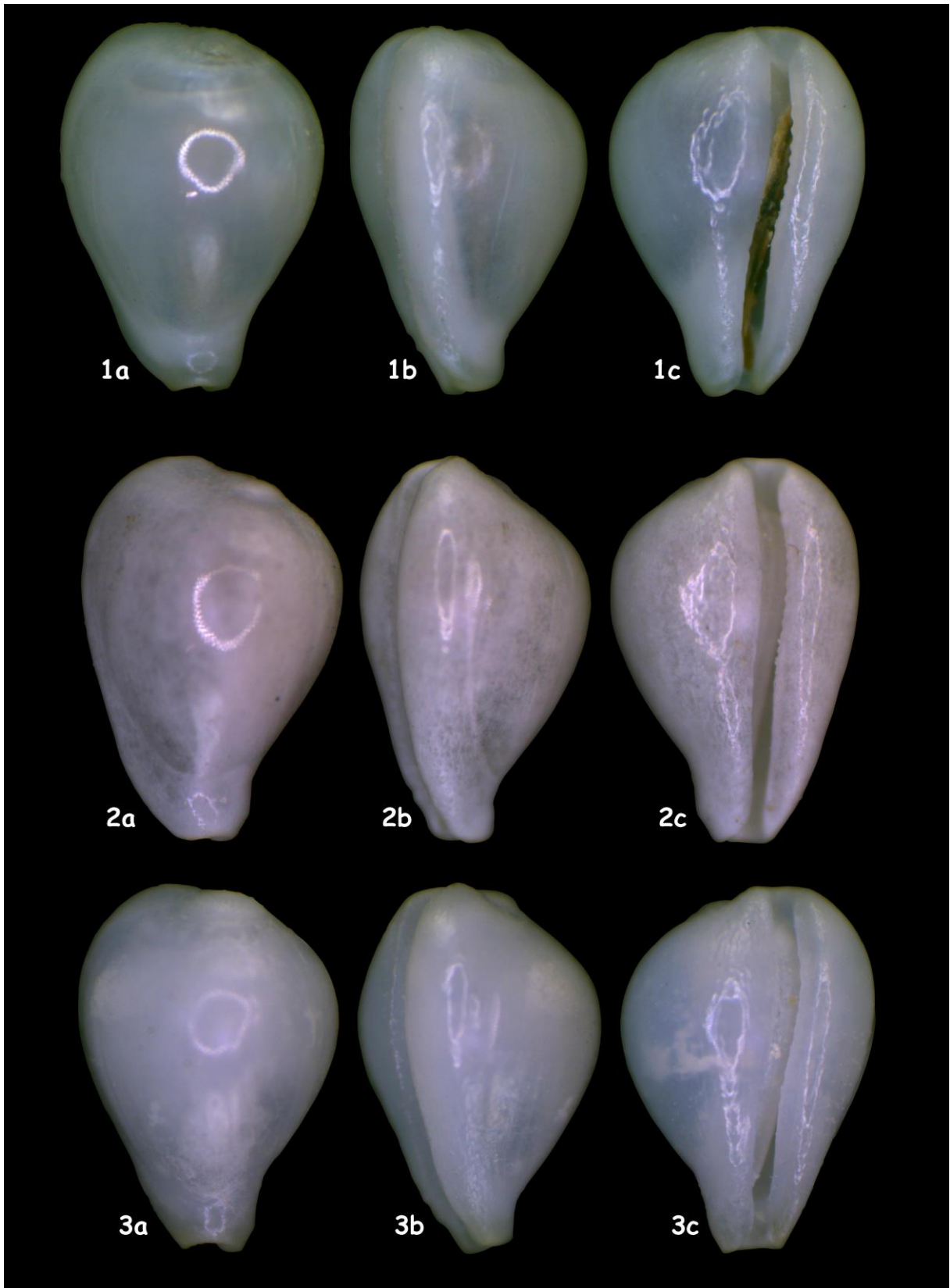


Plate 3

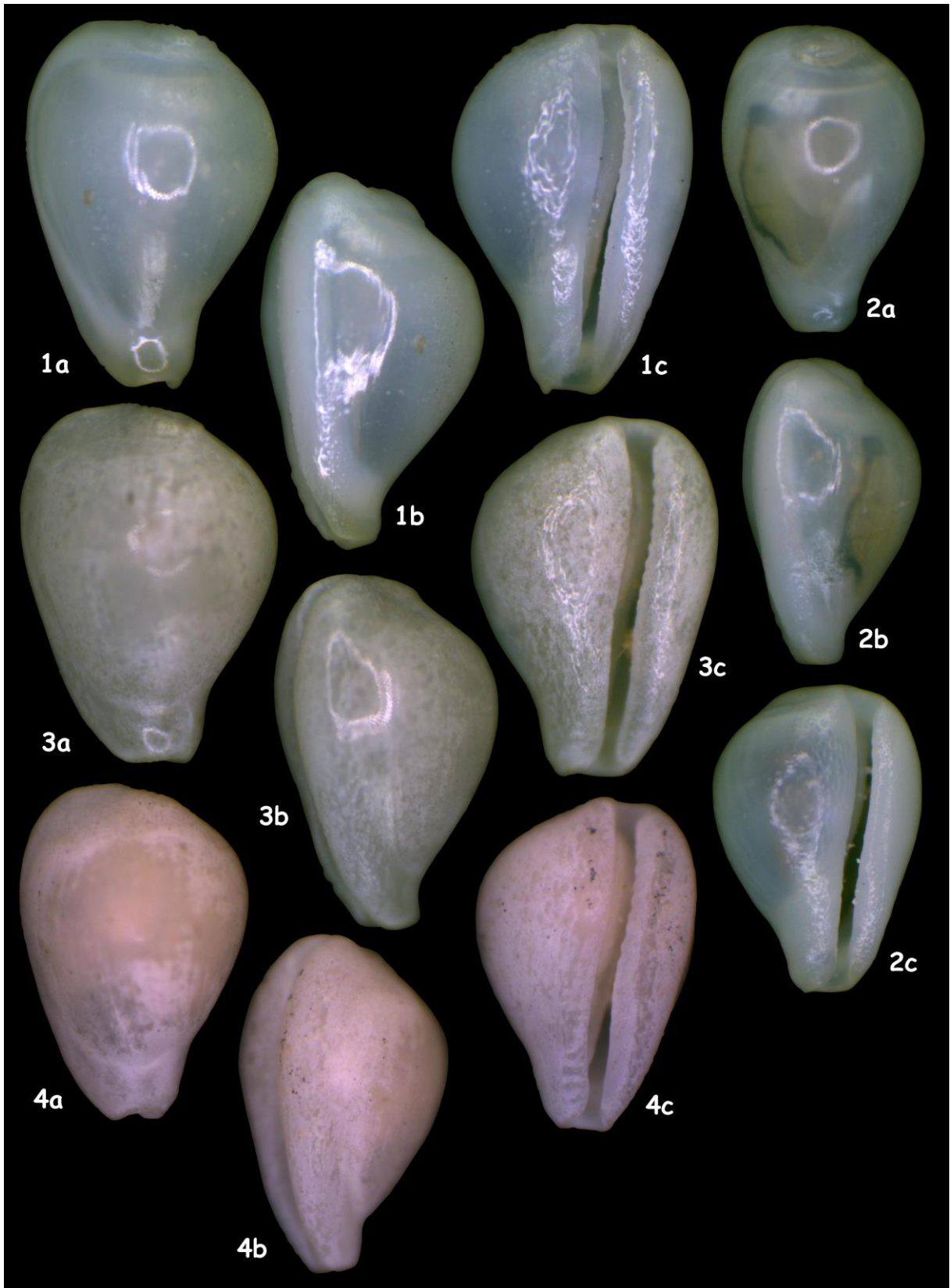


Plate 4

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The following pages should be divided into sections under short headings. Whenever possible the text should be arranged as follows: **Abbreviations** (grouped in alphabetical sequence), **Introduction, Type material, Type locality, Measurements, Materials and Methods, Description, Derivation of name, Habitat, Geographic range, Results, Discussion, Conclusions, Acknowledgements and References**. Please, refer to a recent issue of 'Neptunea' for the lay out. All articles should be aimed at a general audience and authors should include definitions for technical terms or abbreviations.

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