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THE
PROSOBRANCHIA OF THE SIBOGA EXPEDITION
PART III
GYMNOGLOSSA

Siboga-Expedition
XLIX^{1c}

THE PROSOBRANCHIA OF THE SIBOGA
EXPEDITION

BY

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Bosch en Duin near Utrecht (Holland)

PART III

GYMNOGLOSSA

With 1 plate

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P A R T III

GYMNOGLOSSA

This third part, containing the *Gymnoglossa* of the Siboga Expedition, is much less bulky than its predecessors, containing only 32 species, of which a few are new to science. It is a very difficult group, and I am much obliged to Mr. J. COSMO MELVILL for his liberal assistance in naming and classifying the doubtful specimens and for procuring specimens for comparison.

I wish here to express my acknowledgement to the library of Teyler's Institution at Haarlem and its librarian, who has in the most obliging manner facilitated the use of the conchological books, represented there in an unusual abundance.

The classification of some specimens remained still a little doubtful, f. i. in the only *Eulimella* and in one species of *Elusa*, even after making use of the papers of DALL and BARTSCH, who have recently made a special study of this section of mollusks. I have repeated the descriptions of the new species of *Mucronalia* and *Stilifer*, from my monograph with Dr. NIERSTRASZ, in order to render this part more complete, than it would have been, by simply quoting them. For these species I have to thank Dr. J. THIELE for the loan of specimens from the Zoological Museum of Berlin.

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Section GYMNOGLOSSA Gray.

Fam. EULIMIDAE.

Eulima Risso.

1. *Eulima Martinii* A. Adams

ADAMS. Sow. Thes. Conch. Vol. II, p. 795, Pl. 169, fig. 5.

REEVE. Conch. Ic. Vol. XV, Eulima, fig. 6.

TRYON. Man. of Conch. Vol. VIII, p. 266, Pl. 68, fig. 90.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidæ, p. 4, Pl. 1, fig. 10.

Stat. 33. Bay of Pidjot, Lombok. 22 M. Mud, coral and coralsand. 1 Spec.

The specimen though rather small (about 18 Mill.) is sufficiently characterized by its numerous whorls, agreeing with the upper whorls of a Japanese specimen.

2. *Eulima arcuata* Sowerby.

SOWERBY. Reeve Conch. Ic. Vol. XV, Eulima, fig. 14.

TRYON. Man. of Conch. Vol. VIII, p. 266, Pl. 68, fig. 94 (*major* var.).

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidæ, p. 18, Pl. 4, fig. 6.

Stat. 78. Lumu-Lumu-shoal, Borneo-bank. 34 M. Coral and coralsand. 1 Spec.

3. *Eulima polygyra* A. Adams.

ADAMS. Sow. Thes. Conch. Vol. II, p. 799, Pl. 169, fig. 36.

REEVE. Conch. Ic. Vol. XV, Eulima, fig. 24.

TRYON. Man. of Conch. Vol. VIII, p. 270, Pl. 68, fig. 18.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidæ, p. 24, Pl. 5, fig. 4.

Stat. 51. Madura-bay. 69—91 M. Fine grey sand, coarse sand with shells. 1 Spec.

Stat. 162. Between Loslos and Broken-islands, West coast of Salawatti. 18 M. Coarse and fine sand with clay and shells. 1 Spec.

Both specimens have lost their apical whorls, and were consequently of rather uncertain identification, so I asked the assistance of Mr. MELVILL, who wrote that the specimen from Stat. 162 is more typical than that from Stat. 51.

4. *Eulima acuta* A. Adams.

ADAMS. Proc. Zool. Soc. Lond. 1851, p. 276.

— Sow. Thes. Conch. Vol. II, p. 797, Pl. 169, fig. 29, 30.

REEVE. Conch. Ic. Vol. XV, Eulima, fig. 15.

TRYON. Man. of Conch. Vol. VIII, p. 268, Pl. 68, fig. 3.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 10, Pl. 2, fig. 9.

Stat. 240. Banda. 9—45 M. Black sand, coral. 1 Spec.

The specimen sufficiently agrees with fig. 30 of the Monograph of ADAMS in SOWERBY'S Thes. Conch. (l. c.), less so with the other quoted figures. Mr. MELVILL wrote about the Siboga-specimen: "Does not exactly agree, but comes near it". The specimen is perhaps more hyaline, the margin of the outer lip, can scarcely be called straight. As even the figures in the Thesaurus Conch. are considerably different, so much that they can scarcely be considered to belong to one and the same specimen and one might consequently conclude, that the species be slightly variable, I have left this single specimen without a new name.

5. *Eulima aciculata* Pease.

PEASE. Proc. Zool. Soc. Lond. 1860, p. 438.

REEVE. Conch. Ic. Vol. XV, Eulima, fig. 36.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 19, Pl. 4, fig. 11.

Stat. 43. Pulu Sarassa, Postillon Islands. Up to 36 M. Coral. 1 Spec.

As far as I am aware, this species has only been recorded from the Sandwich-isles, but if it be the same as *E. acicula* Gould, it seems to be more widely spread, at least I have received specimens under this latter name from Mauritius.

6. *Eulima attenuata* Sowerby.

SOWERBY. Reeve. Conch. Ic. Vol. XV, Eulima, fig. 46.

TRYON. Man. of Conch. Vol. VIII, p. 282, Pl. 70, fig. 97.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 3, Pl. 1, fig. 6.

Stat. 52. $9^{\circ} 3' .4$ S., $119^{\circ} 56'.7$ E. Savu Sea. 959 M. Globigerine ooze. 2 Spec.

Stat. 178. $2^{\circ} 40'$ S., $128^{\circ} 37'.5$ E. Ceram Sea. 835 M. Blue mud. 1 Spec.

The specimens don't agree in every respect with the description, a. o. I see no faint band at the suture, the mouth of one of the specimens from Stat. 52, seems to be more effuse, but comparing it with the specimen from Stat. 178, I think this may be caused by its being slightly damaged. So I think it is preferable, not to describe a new species on such slight differences.

7. *Eulima vitrea* A. Adams.

A. ADAMS. Sow. Thes. Conch. Vol. II, p. 799, Pl. 169, fig. 35.

REEVE. Conch. Ic. Vol. XV, Eulima, fig. 19.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 10, Pl. 2, fig. 7.

Stat. 74. $5^{\circ} 3' .5$ S., $119^{\circ} 0'$ E. Makassar Strait. 450 M. Globigerine ooze. 1 Spec.

Exactly agreeing with the quoted descriptions.

8. *Eulima* sp.

Stat. 95, 5° 43' S., 119° 40' E. Sulu Sea. 522 M. Stony bottom. 1 Spec.

This specimen resembles the figure of *E. attenuata* in REEVE's Conch. Ic., but is still different, the aperture is too much broken for identification, the columella being partly lost.

9. *Eulima Melvilli* n. sp. Pl. XVII, fig. 5.

Stat. 99. North-Ubian, Sulu Archipelago. 16—23 M. Lithothamnion-bottom. 1 Spec.

Shell conical, scarcely distorted to the right, thin, semipellucid, smooth, white. Nucleus wanting; remaining whorls about $6\frac{1}{2}$, moderately convex, slightly angular just below the deep suture, which seems to be margined interiorly, at least I see a margin shining through the shell; sculpture consisting of very faint, often irregular growth-striae and a few varices, which seem to be often faint, but of which 3, higher on the spire, are more conspicuous, on what is now the left side of the ventral face of the shell; last whorl rather elongate, without angle. Aperture oval, angular above, its outer margin regularly curved, rather blunt, thickened interiorly by a layer of shelly matter, basal margin rounded, columellar margin nearly straight, but thickened a little about the middle and slightly reflected over what may scarcely be named an umbilical slit.

Alt. $8\frac{1}{6}$, diam. $3\frac{1}{2}$; apert. alt. $2\frac{1}{2}$, lat. $1\frac{1}{4}$ Mill.

This new species is unlike any described form. It is characterized by its comparatively short, inflated shape. With a few of the preceding species it might perhaps be placed by some authors in the genus *Subularia*. I have restricted that group to the species named *Leiostraca* by ADAMS.

Subularia Monterosato.1. *Subularia bicittata* H. & A. Adams.

H. & A. ADAMS. Genera of recent Mollusca, Vol. I, p. 239.

ADAMS. Sow. Thes. Conch. Vol. II, p. 804, Pl. 170, fig. 18, 19.

REEVE. Conch. Ic. Vol. XV, Leiostraca, fig. 6.

TRYON. Man. of Conch. Vol. VIII, p. 279, Pl. 70, fig. 70.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 41, Pl. 8, fig. 3.

Stat. 319. 6° 16' S., 114° 37' E. Java Sea. 82 M. Fine yellowish-grey mud. 1 Spec.

CLESSIN (l.c.) says: "Vaterland?", though ADAMS (Thes. Conch.) and TRYON (l.c.) quote: "Sooloo Sea". The Siboga-specimen has been dredged considerably more southwards.

2. *Subularia? circumstriata* n. sp. Pl. XVII, fig. 6.

Stat. 208. 5° 39' S., 122° 12' E. Banda Sea. 1886 M. Solid green mud. 1 Spec.

Shell fusiform, thin, white (probably bleached) nucleus slightly worn, but apparently heterostrophe, postnuclear whorls about 5, those forming the spire, a little convex, separated by a deep, channelled suture. Last whorl elongated, narrow below. Sculpture consisting of fine

growth-striae, slightly stronger at irregular intervals, rendering the surface folded, but forming no ribs, and a few indistinct varices; spiral sculpture: a fine raised line at some distance below the suture, a few distant, impressed striae at the lower part of each whorl and very fine microscopic striae on the whole surface; last whorl with about 16 impressed striae, beginning a little above the periphery, becoming stronger near the base. Aperture strongly broken, part of the outer and even of the columellar margin wanting. Outer margin probably thin, regularly curved, columellar margin rather straight above, tortuous below, reflected towards the left. Shape of aperture, as far as may be judged, elongate, acutely angular above.

Alt. $8\frac{3}{4}$ (but may have been more), lat. 3; apert. alt. $4\frac{1}{4}$ Mill.

A very puzzling specimen, and were it not for its peculiar characters, I should not have named and described it; in shape it resembles *S. Metcalfei* A. Ads., but it is more ventricose than my specimens of that species from Lifu, with a much longer last whorl, a different suture, nay, differing in every particular. Its spiral striation is an exceptional feature in the genus, and it is much to be regretted, that the base of columella is wanting, for if this were present, it might prove to be bent towards the left and backwards, which would locate the species in the genus or subgenus *Bacula* H. and A. Adams (1863) containing *Arcuella mirifica* Nevill (Journ. Beng. Soc. Vol. 43, 1874, Pl. 1, fig. 10, copied by TRYON Man. of Conch. Vol. VIII, Pl. 70, fig. 70) which latter species is also spirally striated, with a distinct subsutural zone; but though the columella is tortuous below and so it might be that it would terminate in an angle of the same construction as that of *B. mirifica*; this seems to be too bold a supposition, to locate it in that genus. Until fresh or at least complete specimens have been collected, this species will remain one of the numerous enigmas amongst the difficult *Gymnoglossa*. If it has really lived at the great depth of 1886 M., the probability of getting more materials, will not be very great.

Niso Rissö.

1. *Niso venosa* Sowerby.

SOWERBY. Proc. Mal. Soc. Lond. Vol. I, 1895, p. 279, Pl. 18, fig. 10, 11.

Stat. 4. Djangkar (Java). 9 M. Coarse sand. 1 Spec.

Stat. 51. Madura-bay, 69—91 M. Fine grey sand, coarse sand with shells and stones. 1 Spec.

Both specimens are very young and it is only by comparison with a specimen from the original locality, received from the author, that I was able to identify them. The smallest specimen, from Stat. 51, has only a length of $5\frac{1}{2}$ Mill. and but very faint traces of "the bright reddish-brown, vein-like lines which here and there cross the whorls". Indeed I see but one brown line at the upper part of the aperture and two short lines below the suture of the last whorl, the upper whorls being uniformly white, with the spiral, supra-sutural line, which even is wanting on the uppermost whorls. However this is also the case in the typical specimens, as far as may be judged after one specimen that has lost its nuclear whorls. The specimen from Stat. 4 is a slightly bleached shell. CLESSIN seems not to have noticed this species though his monograph has been published in 1902.

2. *Nivo Smithi* n. sp. Pl. XVII, fig. 7.

Stat. 51. Madura-bay. 60—91 M. Fine grey sand, coralsand with shells and stones. 1 Spec.
 Stat. 153. 0° 3.8 N., 130° 24.3 E. Bougainville Strait. 141 M. Fine and coarse sand with dead shells. 1 Spec.

Shell pyramidal, solid, smooth, porcellaneous, white, umbilicated. Whorls 14, slowly increasing, slightly convex, separated by a conspicuous suture; last whorl angulated at the periphery, by a slightly cordlike keel: base convex, with a strong keel bordering the umbilicus, this latter is pervious, funnel-shaped, with a rather strong keel interiorly along its wall; this keel is crenulated by rounded crenules, about 10 in last whorl, considerably diminishing the width of the umbilicus. Practically I see no sculpture, but a few growth-striae, which are for the majority very faint and rarely have the character of very indistinct varices.

Aperture elongately subrhombic, protracted below, with an acute angle above, a thin, regularly arched outer margin, scarcely angulated by the peripheral keel: base strongly angular by the terminating of the keel bordering the umbilicus, columellar margin curved, concave, a little reflected, scarcely angulated by the umbilical keel.

Alt. 12, lat. 5 $\frac{1}{2}$; apert. alt. (obl.) 3, lat. 2; entrance of umbilicus 2 Mill.

This new species has a superficial resemblance with *N. candidula*, but is much smaller and that species has a rounded last whorl, it resembles in shape *N. goniostoma*, but that species is still larger, more elongated and quite different in colour. I have named it in honour of Mr. EDGAR A. SMITH, the well-known keeper of the mollusca in the British Museum.

Mucronalia A. Adams.

1. *Mucronalia gracilis* Pease.

PEASE. American Journ. of Conch. Vol. III, p. 295, Pl. 24, fig. 27.

TRYON. Man. of Conch. Vol. VIII, p. 284, Pl. 70, fig. 4.

SCHIEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition, Leiden, 1909, p. 2.

Stat. 131. Beo, Karakelang-islands. 13 M. 1 Spec. on *Echinothrix diadema* L.

The only specimen seems to be still young, it agrees very well with the figure of TRYON, which is a copy of the original one, but it is smaller, being only about 3 instead of 4 Mill., the number of whorls (about 7) agrees with that of the description, but an adult specimen in my collection, has a larger number of whorls.

2. *Mucronalia philippinarum* Sowerby.

SOWERBY. Proc. Mal. Soc. Lond. Vol. IV, p. 127, Pl. 11, fig. 5.

SCHIEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition. Leiden, 1909, p. 3.

Stat. 220. Pasir Pandjang, west coast of Binongka. Reef. 1 Spec. on *Heterocentrotus mammilatus* Lin.

The specimen agrees as well with SOWERBY's description and figure, as with a specimen

from Cebu received from the author, though it is slightly smaller than the latter; this may depend on age, but the general aspect and the particulars of the suture are the same.

3. *Mucronalia eburnea* Deshayes.

DESHAYES. Moll. du Réunion, p. 57, Pl. 7, fig. 25.

TRYON. Man. of Conch. Vol. VIII, p. 290, Pl. 71, fig. 43.

KÜKENTHAL. Abh. Senckenb. Gesellsch. 1898, p. 1, Tf. 1, fig. 2, 3; Tf. 3, fig. 14.

SCHEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition, Leiden, 1909, p. 3.

Stat. 254. $5^{\circ}40' S.$, $132^{\circ}26' E.$ Arafura Sea. 310 M. 1 Spec. on *Ophiothrix deposita* Koehler.

Unfortunately the only specimen was broken, consequently the identification slightly doubtful, however the upper whorls and texture of shell agree with the numerous specimens I have seen. DESHAYES and TRYON (l. c.) have described the species as a *Stilifer*. The Siboga-specimen is provided with an operculum.

4. *Mucronalia Mittrei* Petit.

PETIT. Journ. de Conch. Vol. II, 1851, p. 27, Pl. 2, fig. 8, 9.

TRYON. Man. of Conch. Vol. VIII, p. 290, Pl. 71, fig. 42.

SCHEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition, Leiden, 1909, p. 3.

Stat. 312. Saleh-bay, North coast of Sumbawa. 274 M. 1 Spec. on *Ophiothrix crassispina* Koehler.

By its shape, especially by that of the penultimate whorl, which is uncommonly developed, I cannot distinguish the shell from the species described by PETIT as *Stylifer Mittrei*, only the Siboga-specimen is much smaller. PETIT had only one specimen, without exact indication of locality, and he did not know if it were a parasite; probably the operculum was wanting, at least PETIT does not mention it. With a view on the preceding species it is not strange that this species should be referred to the genus *Mucronalia*, on account of the operculum in the Siboga-specimen. Moreover its other conchological characters, sufficiently agree with those of the species dealied with sub 2 and 3, to unite them in the same group. It may be even the question, if after all so many species will stand, when more materials will have been collected. Length of shell 6 Mill., breadth 4 Mill.

5. *Mucronalia parva* Schepman. Pl. XVII, fig. 1.

SCHEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition, Leiden, 1909, p. 4.

Stat. 312. Saleh-bay, North coast of Sumbawa. 274 M. 3 Spec. with the preceding species.

Shell small, elongated-oval, imperforate, white, smooth; whorls about 6 of which the two apical ones are mucronate, the other whorls are broader, strongly convex, with a deep suture, last whorl less convex. Aperture ovate, with an acute angle above, right margin thin, considerably flexuous, columella arched; a thin layer of enamel on the body whorl. Operculum thin, horny.

Long. $3\frac{1}{2}$, lat. $1\frac{1}{4}$, apert. alt. $1\frac{1}{2}$ Mill.

This species has some resemblance with the preceding one, but is much more slender, it is not the juvenile state, for it should never reach the breadth of that species, if it proved to be the male, this would be an extraordinary case of dimorphism in Mollusca; only the circumstance that it has been found on the same animal, is a reason to be cautious. *Mucronalia exaratus* Melv. (Proc. Mal. Soc. Lond. VI, p. 163, fig. 13) is also a species, similar by its size and shape, but with cylindrical whorls.

6. *Mucronalia varicosa* Schepman. Pl. XVII, fig. 2.

SCHEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition, Leiden, 1900, p. 4.

Stat. 164, $1^{\circ}42'5$ S., $130^{\circ}47'5$ E. Near New Guinea. 32 M. 2 Spec. on *Astrochaleis tuberculosa* Kochler, 1 loosened one and 4 specimens without exact locality, perhaps from the same station.

Shell small, oval, imperforate, white, rather smooth, with very fine growth-striae and a few riblike varices on the last whorl. Whorls about 6, of which the two apical ones are mucronate, the other whorls are convex with a deep marginate suture. Aperture subovate, its upper angle moderately acute, right margin thin, slightly expanded, regularly flexuous, stronger so near the upper part, columellar side slightly arched, a little thickened near the base, with a thin layer of enamel on the bodywhorl. Operculum thin, horny.

Long. 4, lat. $2\frac{1}{2}$ to $2\frac{3}{4}$; apert. alt. $2\frac{1}{4}$ Mill.

The species varies slightly in shape, some specimens being more swollen than others, which may depend on sex; the varixlike striae on the last whorl are remarkable, they remind those of *Stilifer variciferus* Hedley (Mem. Austral. Museum, Vol. III, p. 411, fig. 5), but that is quite another shell, belonging to the section of *exaratus*. These varices probably result of former margins, which by being expanded, caused these riblike processes.

After this description was written I found a fine specimen from Stat. 164, amongst the *Eulimidae*, but this was loosened and consequently not immediately recognized as a parasite. Its length is $5\frac{1}{2}$ Mill. and it has the varices very well developed.

Stilifer Broderip.

The description of the soft parts or animal of *Stilifer* are rather different from each other; if one compares the description of *Stilifer Turtoni* Brod. by JEFFREYS (British Conchology, Vol. IV, p. 195) and his figures of the animal (l.c. Pl. 3, fig. 2), with that of *Stilifer celebensis* Kükenthal (Abh. Senckenb. Gesellsch. Band 24, 1898, p. 6, Pl. 1, fig. 6; Pl. 3, fig. 16) one would scarcely think that the authors deal with the same genus.

1. *Stilifer* sp.

SCHEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition, Leiden, 1900, p. 5.

Stat. 300, $10^{\circ}48'.6$ S., $123^{\circ}23'.1$ E. Timor Sea. 918 M. 2 Spec. on *Aspidodiadema tonsum* Agass.

Unfortunately both specimens are defective, the spire of the shells being wanting; as they have a very fragile appearance, I was not able to observe them sufficiently, to give even a provisional description, nor could I identify them with any of the known species of *Stilifer* or *Mucronalia*. On account of the lobes I have located the species in the genus *Stilifer*.

2. *Stilifer sibogae* Schepman. Pl. XVII, fig. 3, 4.

SCHEPMAN, in Schepman & Nierstrasz. Parasit. Prosobranch. d. Siboga-Expedition, Leiden, 1909, p. 5.

Stat. 153. $0^{\circ} 3' .8$ N., $130^{\circ} 24'.3$ E. Bougainville Strait. 141 M. 1 Spec. on *Salmacis Dussumiéri* Agass.

Stat. 164. $1^{\circ} 41'.5$ S., $130^{\circ} 47'.5$ E. Near New Guinea. 32 M. 4 Spec. on *Pleurechinus maculatus* Mort.

Stat. 178. $2^{\circ} 40'$ S., $128^{\circ} 37'.5$ E. Ceram Sea. 835 M. 1 Spec. on *Prionechinus sagittiger* Agass.

Shell small, oval, imperforate, white, smooth, with very fine growth-striae and traces of still much finer spiral striae; whorls about 6, of which the two apical ones are mucronate and in some specimens of a brown tinge, in others white (bleached?); the subsequent whorls are more or less convex and separated by a deep, margined suture. Aperture broadly ovate, with a sharp angle above, right margin thin, regularly arched if seen in the aperture, nearly straight if seen laterally, columellar margin strongly curved, thin, running without angle into the basal margin, with a thin layer of enamel on the bodywhorl. The aperture is placed very oblique on the axis of the shell. No operculum.

Long. $3\frac{1}{2}$, lat. $2\frac{1}{2}$; apert. alt. $1\frac{1}{2}$, lat. about $1\frac{1}{4}$ Mill.

Though the depth on which the specimens have been caught, varies considerably. I have found no reason to describe more than one species, those from Stat. 164 are smaller and have white nuclear whorls, but I find no other characters to separate them; the convexity of the whorls and consequently the more a less elongated shape of the shell, may depend on sex.

Fam. PYRAMIDELLIDAE.

Pyramidella Lamarck.

1. *Pyramidella dolabrata* Linné.

LINNÉ. Syst. Nat. Ed. X, p. 760, N° 522.

KIENER. Coq. Viv. Vol. IX, Pyramidella, p. 3, Pl. I, fig. 2 (*terebellum*).

ADAMS. Sow. Thes. Conch. Vol. II, p. 805, Pl. 171, fig. 1, 2, 3.

REEVE. Conch. Ic. Vol. XV, Pyramidella, fig. 13.

TRYON. Man. of Conch. Vol. VIII, p. 300, Pl. 72, fig. 71—74.

CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 48, Pl. 11, fig. 1.

Stat. 93. Pulu Sanguisiapo, Tawi-Tawi-islands, Sulu Archipelago. 12 M. Lithothamnion-bottom, sand and coral. 2 Spec.

Stat. 274. $5^{\circ} 28'.2$ S., $134^{\circ} 53'.9$ E. Near Aru Islands. 57 M. Sand and shells, stones. 1 Spec.

v. MARTENS who quotes the species, with the name *terebellum* from Mauritius and Indian

Ocean (Nicobars, Ceylon, Malay Archipelago) (Moll. Mauritius, p. 301), says: "Es ist mir nicht möglich, west- and ostindische Exemplare bestimmt zu unterscheiden". The Siboga-specimens, in accordance with this view, are more like *dolabrata*, the name mainly taken for the West Indian specimens, than like *terebellum*.

2. *Pyramidella (Milda) ventricosa* Quoy & Gaimard.

QUOY and GAIMARD, Voy de l'Astrol. Zool. Pl. 65, fig. 37.
 KIENER, Coq. Viv. Vol. IX, Pyramidella, p. 4, Pl. 1, fig. 1.
 ADAMS, Sow. Thes. Conch. Vol. II, p. 806, Pl. 171, fig. 13, 15.
 REEVE, Conch. Ic. Vol. XV, Pyramidella, fig. 15.
 TRVON, Man. of Conch. Vol. VIII, p. 299, Pl. 72, fig. 63, 64.
 CLESSIN, Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 55, Pl. 13, fig. 2.

Stat. 47. Bay of Bima, near South fort. 55 M. Mud with patches of fine coralsand. 1 Spec.
 Stat. 86. Dongala, Palos-bay, Celebes. 36 M. Fine grey mud (rivermud). 1 Spec.

The specimens are very young. Many authors quote GUERIN as the author of this species. As I was not able to settle the question, I followed the recent opinion of DALL and BARTSEN (Synopsis of the Genera etc. of the Fam. Pyramidellidae, in Proc. Biol. Soc. Washington Vol. XVII, p. 4), who quote however only the name of QUOV.

3. *Pyramidella (Lonchaeus) turrata* A. Adams.

ADAMS, Sow. Thes. Conch. Vol. II, p. 807, Pl. 171, fig. 17.
 REEVE, Conch. Ic. Vol. XV, Pyramidella, fig. 3.
 TRVON, Man. of Conch. Vol. VIII, p. 301, Pl. 72, fig. 84, 85.
 CLESSIN, Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 55, Pl. 13, fig. 1.

Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 10 Spec.

The quoted localities I find, are: Albrochos Island, North Australia (ADAMS, REEVE, CLESSIN, l. c.), New Caledonia (TRVON, l. c.), Lifu (MELVILL and STANDEN, Cat. Hadf. Coll. of shells from Lifu and Uvea, Journ. Conch. 1895, p. 122), Funafuti (HEDLEY, Mem. Austr. Mus. Vol. III, 1899, p. 412), Queensland (HEDLEY, Proc. Lin. Soc. New South Wales, 1907, Vol. 32, p. 482); though these localities are all Australian, it is not strange to find the species also near Sumbawa, in the Southern part of the Malay Archipelago.

4. *Pyramidella (Otopleura) auriscati* Chemnitz.

CHLMNITZ, Conch. Cab. Vol. XI, p. 20, Pl. 117, fig. 1711, 12.
 KIENER, Coq. Viv. Vol. IX, Pyramidella, p. 5, Pl. 1, fig. 4 (*plicata*).
 ADAMS, Sow. Thes. Conch. Vol. II, p. 812, Pl. 172, fig. 1, 2.
 REEVE, Conch. Ic. Vol. XV, Pyramidella, fig. 21.
 TRVON, Man. of Conch. Vol. VIII, p. 305, Pl. 73, fig. 95.
 CLESSIN, Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 70, Pl. 14, fig. 5.

Stat. 37. Sailus ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 3 Spec.
 Stat. 313. East of Dangar Besar, Saleh-bay. Up to 36 M. Sand, coral and mud. 1 Spec.

Syrnola A. Adams.1. *Syrnola elegans* A. Adams.

A. ADAMS. Sow. Thes. Conch. Vol. II, p. 808, Pl. 171, fig. 19.
 REEVE. Conch. Ic. Vol. XV, Pyramidella, fig. 2.
 TRYON. Man. of Conch. Vol. VIII, p. 306, Pl. 73, fig. 7.
 CLESSIN. Martini-Chemn. Conch. Cab. Ed. II, Vol. I, Eulimidae, p. 60, Pl. 11, fig. 2.

Stat. 104. Sulu-harbour, Sulu-island. 14 M. Sand. 1 Spec.

The only specimen is not intact, the spire and aperture being slightly damaged. I owe the identification to Mr. J. C. MELVILL.

2. *Syrnola* sp.

Stat. 66. Bank between islands of Bahuluwang and Tambolongan, south of Saleyer. 8—10 M. Dead coral, Halimeda, Lithothamnion. 1 Spec.

This specimen is too bad for identification or description, the nuclear whorls are wanting, the mouth is severely damaged.

3. *Syrnola* sp.

Stat. 178. $2^{\circ} 40' S.$, $128^{\circ} 37' S.$ E. 835 M. Blue mud. 1 Spec.

Same observation as for the preceding species, the shell is really only a fragment.

Elusa A. Adams.1. *Elusa subcarnea* n. sp. Pl. XVII, fig. 8.

Stat. 37. Sailus ketjil, Paternoster-islands. Up to 27 M. Coral and coralsand. 1 Spec.

Shell subulate, gradate, solid, light flesh-coloured, rather shining. Nucleus wanting, subsequent whorls about 8, at first rapidly increasing in breadth, than subequal, rendering the shell subcylindrical; the whorls are separated by a conspicuous suture and are angular just below it. Sculpture consisting of broad, slightly convex ribs, with distinct intermediate grooves, number of ribs about 20 on last whorl, moreover there are very fine growth-striae, last whorl elongately rounded. Aperture oval, angular and even canaliculate above, rounded below, with a blunt, only slightly arched outer margin; columellar margin arched with a rather strong plait in its upper part, columellar and outer margins connected by a thick layer of enamel on the body-whorl. Interior of aperture with rather coarse lirae, terminating at some distance from the outer margin. Columellar margin slightly reflected over an umbilical slit.

Alt. $9\frac{1}{2}$, lat. $2\frac{1}{2}$; apert. alt. $1\frac{3}{4}$, lat. 1 Mill.

I know no species to which this new one is nearly allied; it is remarkable for its subcylindrical shape and flesh-colour.

2. *Elusa*? *dubia* n. sp. Pl. XVII, fig. 9.

Stat. 52. $9^{\circ}3'4''$ S., $119^{\circ}56'7''$ E. Savu Sea. 959 M. Globigerine ooze. 5 Spec.

Shell subulate, rather solid, yellowish-brown, shining. Nuclear whorls eroded, subsequent whorls about 8, separated by a conspicuous suture in a rather broad channel, caused by the contraction of the whorls just below and still stronger above the suture; the whorls are nearly flat, but slightly convex towards their base. Sculpture consisting of broad, flat ribs on the upper whorls, becoming faint on the fourth whorl and nearly disappearing on the subsequent ones, with the exception of a few occasional ribs; moreover the shell is covered with very fine growth-striae and extremely fine spiral striae, only visible under a strong lens; last whorl with an obtuse angle near the base and in some specimens a few stronger spiral striae below the angle. Aperture ovate, angular above, rounded below, with a thin, nearly straight outer margin, columellar margin regularly curved, slightly reflected, no umbilical slit; the margins are connected by a moderately thick layer of enamel; interior of aperture smooth.

Alt. 10, lat. $2\frac{1}{4}$; apert. alt. $2\frac{1}{4}$, lat. $1\frac{1}{4}$ Mill.

Alt. 11, lat. $2\frac{3}{4}$; apert. alt. $2\frac{3}{7}$, lat. $1\frac{1}{4}$ Mill.

A very puzzling species, externally resembling an *Elusa* but without columellar plait. I have sent two specimens to Mr. MELVILL, who writes about it: "I incline to *Elusa* if not a large abnormal *Eulimella*; the longitudinal riblets of the apical whorls are like *Elusa* but there is no columellar plait visible, the apex seems heterostrophe, the brown colour is like *Elusa* also". As to the plait, I have opened three whorls of a specimen, but could not detect traces of a plait. Should we consider the species as an abnormal *Elusa*, or as an abnormal *Eulimella*, or as a representative of a new group? In accordance with Mr. MELVILL's predominant view, I have followed the first method, without being quite certain, that it will prove to be the right manner.

Eulimella Forbes.1. *Eulimella*? *sibogae* n. sp. Pl. XVII, fig. 10.

Stat. 52. $9^{\circ}3'4''$ S., $119^{\circ}56'7''$ E. Savu Sea. 959 M. Globigerine ooze. 1 Spec.

Shell rather large for the genus, subulate, smooth, yellowish-white. Nuclear whorls a little eroded, subsequent whorls $7\frac{1}{2}$, slightly convex, separated by a distinct suture. Sculpture consisting of fine and coarser growth-striae, which latter form however no distinct ribs, crossed by very indistinct spiral striae, scarcely perceptible on many parts of the shell; last whorl elongately-rounded. Aperture (not quite intact) ovate, angular above, outer margin thin, regularly arched, base probably rounded, but subangular, (perhaps by the partly broken margin); columellar margin straight, slightly reflected, nearly covering a trace of an umbilical slit. Interior of aperture smooth.

Alt. 10, lat. $3\frac{1}{2}$; apert. alt. $2\frac{3}{4}$, lat. $1\frac{3}{4}$ Mill.

This is also a very dubious species, it is nearly too bad for description, in so difficult a group, but still in too good condition, to be neglected. So it may be located here, until further investigation will clear up its somewhat obscure position in the system.

Turbonilla Risso.

1. *Turbonilla subcylindrica* n. sp. Pl. XVII, fig. 11.

Stat. 102. $6^{\circ}4'.1$ N., $120^{\circ}44'$ E. Sulu Sea. 535 M. Fine, yellow sand. 1 Spec.

Shell rather large, subcylindrical, attenuate towards the spire, white, with a faint yellowish-brown band at the upper part of the whorls, upper whorls more brown. Nuclear whorls bulbous, smooth, abruptly turned to the left, consisting of a little more than one lateral volution; postnuclear whorls about $11\frac{1}{2}$, with a deep suture, making the shell subgradate, especially the upper whorls. Sculpture consisting of substraight ribs (about 21 on last whorl), which are rather broad and are separated by large interstices, about as broad as the ribs, but not deep; moreover I see a microsculpture consisting of very fine growth-striae and still finer spiral striae, and traces of a slight contraction in the upper part of each whorl, especially of the upper ones, scarcely appreciable in the lower whorls. Last whorl elongate, rounded below. Aperture oval, with an angle in its upper part, a thin, subsinuous outer margin, and arched columellar margin, with an oblique plait above the middle, and is reflected below. No traces of an umbilical slit.

Alt. $10\frac{1}{4}$, lat. 2; apert. alt. $1\frac{1}{2}$, lat. $\frac{5}{6}$ Mill.

This new species is allied to *Turbonilla templaris* Melv., but it is much larger, even than a specimen which I owe to the liberality of the author (long $6\frac{1}{2}$ Mill.) more cylindrical and less contracted at some distance below the suture, moreover that species is uniformly glassy white, whereas the new species is faintly banded.



PLATE XVII.

- Fig. 1. *Mucronalia parva* Schepman.
Fig. 2. *Mucronalia varicosa* Schepman.
Fig. 3. *Stilifer sibogae* Schepman juv.
Fig. 4. *Stilifer sibogae* adult specimen on *Salmacis Dussumieri* Ang.
Fig. 5. *Eulima Melvilli* n. sp.
Fig. 6. *Subularia circumstriata* n. sp.
Fig. 7. *Niso Smithi* n. sp.
Fig. 8. *Elusa subcarnea* n. sp.
Fig. 9. *Elusa dubia* n. sp.
Fig. 10. *Eulinella sibogae* n. sp.
Fig. 11. *Turbonilla subcylindrica* n. sp.

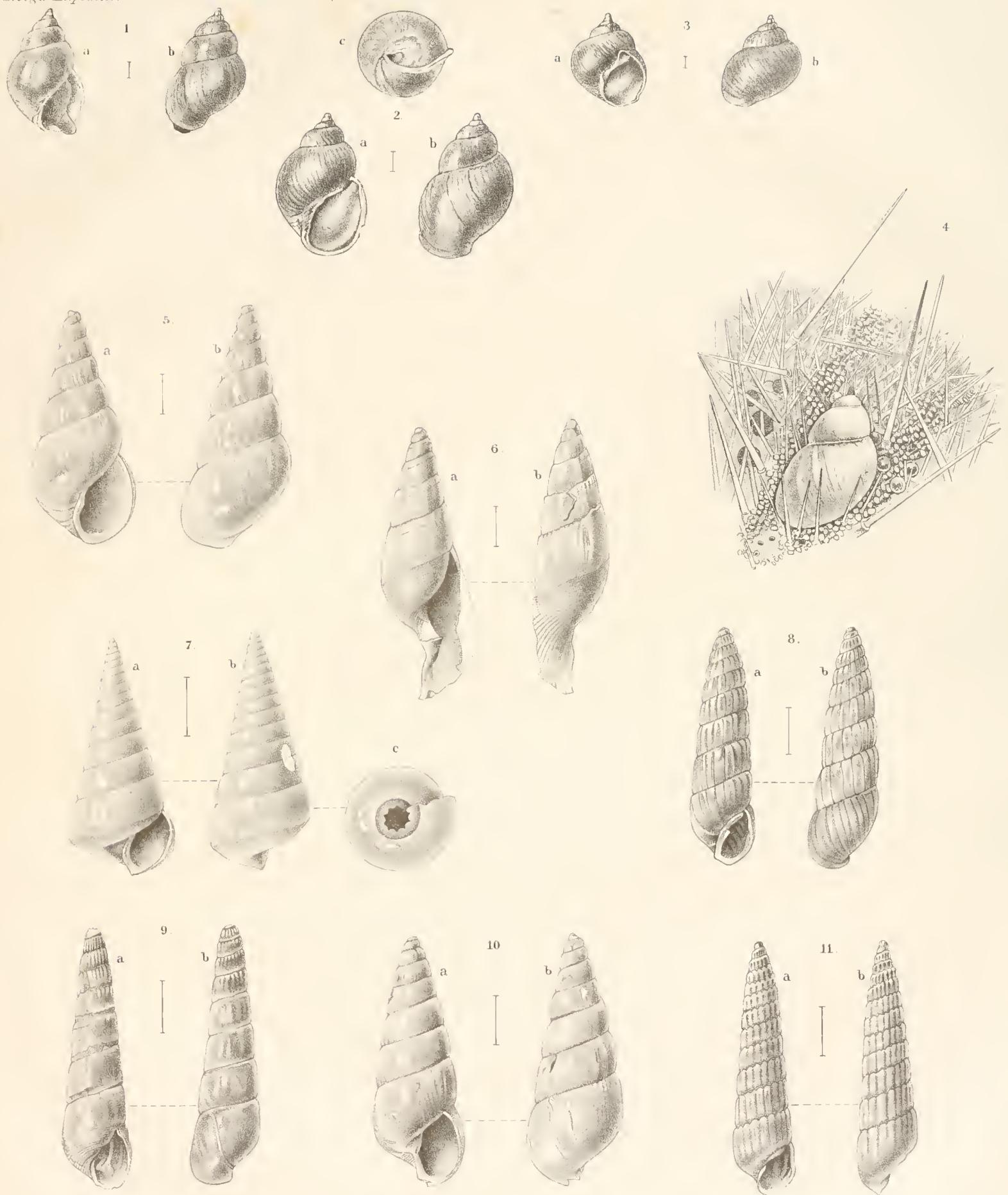


Fig. 1-3 H. W. de Graaf, 4 J. Frijs, 5-11 Ch. Dumont del.

Fa P. W. M. Trap impr.

RÉSULTATS DES EXPLORATIONS
ZOOLOGIQUES, BOTANIQUES, OCÉANOGRAPHIQUES ET GÉOLOGIQUES
ENTREPRISES AUX
INDES NÉERLANDAISES ORIENTALES en 1899—1900,
à bord du SIBOGA
SOUS LE COMMANDEMENT DE
G. F. TYDEMAN
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MAX WEBER
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THE PROSOBRANCHIA OF THE SIBOGA EXPEDITION

BY
M. M. SCHEPMAN
Bosch en Duin near Utrecht (Holland)

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GYMNOGLOSSA

With 1 plate

Monographie XLIX^{1)c} of:

UITKOMSTEN OP ZOOLOGISCH, BOTANISCH, OCEANOGRAPHISCH EN GEOLOGISCH GEBIED

verzameld in Nederlandsch Oost-Indië 1899—1900

aan boord H. M. Siboga onder commando van
Luitenant ter zee 1^e kl. G. F. TYDEMAN

UITGEGEVEN DOOR

Dr. MAX WEBER
Prof. in Amsterdam, Leider der Expeditie

(met medewerking van de Maatschappij ter bevordering van het Natuurkundig
Onderzoek der Nederlandsche Koloniën)

BOEKHANDEL EN DRUKKERIJ

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LEIDEN



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