

## Revision of J. Hervier's type-specimens of Mitracea (Mollusca, Gastropoda) from the Loyalty Islands

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**Abstract.** — Sixteen taxa of the families Mitridae and Costellariidae described by J. HERVIER in 1897 from the Loyalty Islands, SW Pacific, have been evaluated on the basis of the original descriptions, illustrations and extant type specimens. Up to date synonymies and illustrations of the type-specimens are appended.

**Résumé.** — J. HERVIER a décrit en 1897 seize taxa de Mitridae et Costellariidae des îles Loyauté (Ouest Pacifique). Leur identité est discutée sur la base du matériel-type et des descriptions et illustrations originales. Pour chaque espèce, une synonymie complète et une nouvelle figuration des types sont présentées.

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### INTRODUCTION

Father Jean HERVIER (1847-1900), a procurator of the Mission for the Société de Marie in Oceania, amassed a molluscan collection rich in species from New Caledonia and the Loyalty Islands mainly due to the collecting efforts of missionaries such as fathers GOUBIN, MONTROUZIER and LAMBERT. Most of this material came from beach-drift and contained a large proportion of minute molluscs, but many of these were in a very worn and faded condition. Between the years 1896 to 1899, HERVIER described 116 "species" of Columbellidae (some taxa are now assigned to the Turridae), 82 of Turridae, 33 of Triphoridae, 15 of Costellariidae and 1 of Mitridae. It is only the last two families which are dealt with in this paper.

The 16 species of Mitracea have been described in the "Journal de Conchyliologie" and usually 1-2 syntypes have been deposited in the Journal's type-collection which is now housed in the Muséum national d'Histoire naturelle, Paris. Other syntypes have found their way into the DAUTZENBERG collection at the Institut Royal des sciences naturelles de Belgique, Brussels, while other syntypes may be extant in other collections. I have been able to examine type-specimens of 13 of HERVIER's species from the "Journal de Conchyliologie" collection, but the types of 3 species, i.e. *Mitra ochracea*, *M. lanceolata* and *M. loyaltiensis* are not among them and were already missing when FISCHER-PIETTE compiled the type-catalogue in 1950. Types of these three species are also absent from the DAUTZENBERG collection in Brussels and they could still be in HERVIER's collection in Lyon (Dr P. BOUCHET, *in litt.*). In addition to the type specimens of the "Journal

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de Conchyliologie" collection, I have also examined HERVIER's syntypes extant in the DAUTZENBERG collection and have sifted through accumulations of beachdrift collected by the Rev. William HADFIELD during the end of the last century on Lifu, Loyalty Islands.

HERVIER gave either a single measurement or a range of measurements for his new species but did not indicate the actual "holotype" in either the original publication or on the labels accompanying any of the extant types. Theoretically all existing syntypes are eligible for lectotype selection, but because HERVIER's description appeared in the "Journal de Conchyliologie", it is only logical to select lectotypes from the existing type-material preserved in the Journal's collection. The usage by FISCHER-PIETTE (*op. cit.*) of the term "holotype" (not marked so by HERVIER) for three of HERVIER's species, does not constitute a valid lectotype selection. It will be found, however, that the same specimens have been formally selected by me as lectotypes in the body of the text. Out of the 16 described taxa, 7 are considered valid species, 1 remains a species inquirenda, 5 are definite synonyms and 3 tentative synonyms; one of the tentative synonyms is also a primary homonym. The reason for the tentative synonyms and species inquirenda is the absence of the three types and the extremely bad state of preservation of HERVIER's types which makes the elucidation of some species, in the absence of salient diagnostic features difficult.

#### ABBREVIATIONS

The three measurements given in the text indicates the length x width x height of aperture expressed in millimeters (mm), and a single measurement indicates the length only. Abbreviations for Institutions are : BMNH, British Museum (Natural History), London; IRSN, Institut Royal des sciences naturelles de Belgique, Brussels, and MNHN, Muséum d'Histoire naturelle, Paris.

### SYSTEMATIC PART

#### Family MITRIDAE

#### **Mitra (Nebularia) amauro** Hervier, 1897

(Pl. I, 1)

*Mitra amauro* Hervier, 1897 : 60; HERVIER, 1898 : 230, pl. IX, fig. 4, 4a, b; FISCHER-PIETTE, 1950 : 164.

*Mitra (Chrysame) amauro* : DAUTZENBERG & BOUGE, 1923 : 113.

*Mitra (Nebularia) amauro* : CERNOHORSKY, 1976 : 439, col. pl. 257, fig. 19, 20, pl. 388.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Papua New Guinea to the Tonga Islands.

TYPE MATERIAL : One syntype (here designated as the lectotype) in MNHN : 22.3 × 8.6 × 10.3 mm. Sculptured with weak, irregular axial ribs, columella with 4 folds, colour

brown, narrow presutural band yellowish, aperture bluish-white. Two other syntypes in IRSN : 16.4 mm and 16.4 mm. A total of 10 specimens were examined by HERVIER (leg. MONTROUZIER, LAMBERT and GOUBIN).

REMARKS : This is an uncommon species which lives in the coral zone of shore reefs.

Family COSTELLARIIDAE

**Vexillum (Costellaria) rufobalteatum** (Hervier, 1897)

(Pl. I, 2)

*Mitra turriger* Reeve, 1845 : pl. 32, sp. 262.

*Mitra (Costellaria) rufobalteata* Hervier, 1897 : 60 ; HERVIER, 1898 : 231, pl. 9, fig. 5, 5a-c ; DAUTZENBERG & BOUGE, 1923 : 216.

*Mitra rufobalteata* : FISCHER-PIETTE, 1950 : 164.

*Vexillum (Costellaria) turrigerum* : CERNOHORSKY, 1972 : 175, pl. 52, fig. 4.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Madagascar to the Tonga Islands.

TYPE MATERIAL : One syntype (here designated as the lectotype) in MNHN :  $10.0 \times 4.1 \times 5.1$  mm. Whorls  $5 \frac{1}{2} +$ , apex missing, 14 axial ribs and 4 short grooves on the penultimate and 15 ribs and 9 grooves on the body whorl, siphonal fasciole with 6 cords, columella with 4 folds ; white with faded orange-brown bands. One other syntype in IRSN : 9.0 mm. A total of 5 specimens have been examined by HERVIER (leg. GOUBIN).

REMARKS : *Mitra rufobalteata* Hervier is a synonym of *Vexillum (Costellaria) turrigerum* (Reeve, 1845). HERVIER's very worn syntypes are the banded form of the species and are represented by REEVE's two syntypes, while his third syntype is uniformly creamy-white. In *V. (C.) militaris* (Reeve), which HERVIER compared to his *rufobalteata*, the presutural ramp of the body whorl does not slope at  $45^{\circ}$  or steeper and the siphonal fasciole has 3-4 extremely granulose cords.

**Vexillum (Costellaria) pagodula** (Hervier, 1897)

(Pl. I, 3)

*Mitra (Costellaria) pagodula* Hervier, 1897 : 61 ; HERVIER, 1898 : 233, pl. 9, fig. 6, 6a ; DAUTZENBERG & BOUGE, 1923 : 214.

*Mitra pagodula* : FISCHER-PIETTE, 1950 : 164.

*Pusia pagodula* : CERNOHORSKY, 1967 : 184, pl. 45, fig. 329.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Marianas Islands to Papua New Guinea and the Fiji Islands.

TYPE MATERIAL : Two syntypes in MNHN : larger syntype (here designated as the lectotype)  $7.4 \times 3.3 \times 3.2$  mm ; smaller syntype 5.8 mm.  $6 \frac{1}{2}$  whorls +, 9 axial ribs

and 15 spiral threads on the penultimate and 8 ribs and 25 threads on body whorl, siphonal fasciole with 8 oblique cords, macroscopic axial striae present, columella with 4 folds; white in colour with a narrow orange band at sutures and a broad band on body whorl. One other syntype in IRSN : 6.5 mm. A total of 8 specimens were examined by HERVIER (leg. GOUBIN).

REMARKS : This rarely encountered species has no synonyms. Live taken specimens have darker reddish-brown zones.

**Vexillum (Costellaria) humilis** (Hervier, 1897)

(Pl. I, 4)

*Mitra turriger* Reeve, 1845 : pl. 32, sp. 262.

*Mitra (Costellaria) humilis* Hervier, 1897 : 62; HERVIER, 1898 : 234, pl. 10, fig. 1, 1a; DAUTZENBERG & BOUGE, 1923 : 210.

*Mitra humilis* : FISCHER-PIETTE, 1950 : 164.

*Vexillum (Costellaria) turrigerum* : CERNOHORSKY, 1972 : 175, pl. 52, fig. 4.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Madagascar to the Tonga Islands.

TYPE MATERIAL : One syntype (here designated as the lectotype) in MNHN :  $7.4 + \times 2.8 \times 3.0$  mm. 5 whorls +, 11 axial ribs on the penultimate and 12 ribs on the body whorl, interspaces with spiral threads, columella with 4 folds; white in colour, some syntypes with an indication of a band in interspaces. Two other syntypes in IRSN : 10.0 mm and 8.6 mm. A total of 5 specimens were examined by HERVIER (leg. GOUBIN).

REMARKS : HERVIER compared his species to *V. (C.) turrigerum* (Reeve), and this is exactly what *Mitra humilis* is, a synonym of REEVE'S species. One of HERVIER'S syntypes in the IRSN has a concave-angulate presutural ramp.

**Vexillum (Costellaria) diamesa** (Hervier, 1897)

(Pl. I, 6)

*Mitra corbicula* Sowerby, 1870 : 258; SOWERBY, 1874 : 33, pl. 24, fig. 538.

*Mitra (Costellaria) diamesa* Hervier, 1897 : 62; HERVIER, 1898 : 236, pl. 10, fig. 2,2 a; DAUTZENBERG & BOUGE, 1923 : 202.

*Mitra diamesa* : FISCHER-PIETTE, 1950 : 164.

*Vexillum (Costellaria) corbicula* : CERNOHORSKY, 1979 : 112, pl. 37, fig. 8.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Madagascar to the Marianas Islands and New Caledonia.

TYPE MATERIAL : Two syntypes in MNHN : smaller, immature syntype (here designated as the lectotype)  $13.8 \times 6.0 \times 6.6$  mm; larger syntype  $15.6 \times 6.3 \times 7.2$  mm.

8 whorls inclusive of protoconch, 16 axial ribs and 6 spiral cords on the penultimate and 16 ribs and 14 cords on body whorl and 6 additional cords on siphonal fasciole, columella with 5 folds; cream in colour with brown spots at suture. One other syntype in IRSN : 15.0 mm. A total of 5 specimens were examined by HERVIER (leg. GOUBIN).

REMARKS : HERVIER compared *Mitra diamesa* with *M. corbicula* Sowerby and *M. lubens* Reeve (= *modestum* Reeve) and DAUTZENBERG & BOUGE (1923) made a similar comparison. HERVIER's *diamesa* is conspecific with *V. (C.) corbicula* (Sowerby), and this species, as presently understood, differs from *V. (C.) modestum* (Reeve) in the concave presutural ramp which is angulate on the second or third spiral cord, and the considerably coarser, stronger spiral sculpture. *V. (C.) corbicula* is not known to live farther east than New Caledonia and KAY's (1979) record of this species from the Hawaiian Islands is a brightly coloured *V. (C.) modestum* (Reeve), a species I have seen from several Hawaiian localities. Although frequently plain creamy-white with a tinge of pink, many specimens of *V. (C.) modestum* throughout its range are suffused or banded with rose-pink and also have brownish sutural spots.

**Vexillum (Costellaria) ochracea** (Hervier, 1897)

(Pl. II, 7)

*Mitra (Costellaria) ochracea* Hervier, 1897 : 63; HERVIER, 1898 : 238, pl. 10, fig. 3, 3a; DAUTZENBERG & BOUGE, 1923 : 212.

TYPE LOCALITY : New Caledonia.

TYPE MATERIAL : Not located. HERVIER examined 3 specimens (leg. MONTROUZIER). Given dimensions 10.0 × 4.0 mm.

REMARKS : HERVIER compared his species to *Mitra fulvosulcata* Melvill (= *infaustum* Reeve), and his type-figure shows a somewhat immature individual which could be conspecific with a worn *Vexillum (Pusia) infaustum* (Reeve, 1845). This suggested synonymy must remain tentative until a type-specimen of *Mitra ochracea* is located. Examination of the HADFIELD collection shows that *V. (C.) infaustum* is common in beach-drift from Lifu.

**Vexillum (Costellaria) albotaeniatum** (Hervier, 1897)

(Pl. I, 5)

*Mitra (Costellaria) albotaeniata* : Hervier, 1897 : 63; HERVIER, 1898 : 239, pl. 10, fig. 4, 4a; DAUTZENBERG & BOUGE, 1923 : 189.

*Mitra albotaeniata* : FISCHER-PIETTE, 1950 : 164.

*Vexillum (Costellaria) albotaeniatum* : CERNOHORSKY, 1970 : pl. 9, fig. 9; CERNOHORSKY, 1972 : 176, pl. 52, fig. 7.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Known only from the Loyalty Islands, New Caledonia and the Fiji Islands.

TYPE MATERIAL : One syntype (here designated as the lectotype) in MNHN :  $13.9 \times 5.2 \times 5.8$  mm. Very worn, with  $7 \frac{1}{2}$  whorls inclusive of protoconch, 15 axial ribs on the penultimate and 14 on the body whorl, spire whorls with 4 spiral grooves, 4-5 livid lines on the penultimate and 11 on the body whorl, siphonal fasciole with 5 granulose cords, columella with 5 folds ; white livid lines and a fawn band on the body whorl. One other syntype in IRSN : 14.0 mm. A total of 6 specimens have been examined by HERVIER (leg. GOUBIN).

REMARKS : The species appears to be extremely rare since I was able to examine only a single, live-collected specimen from NW Rabi Island, Fiji Islands (specimen in USNM). The species rarity might not reflect the true distributional boundaries.

**Vexillum (Costellaria) lanceolatum** (Hervier, 1897)

(Pl. II, 8)

*Mitra (Costellaria) lanceolata* Hervier, 1897 : 64 ; HERVIER, 1898 : 240, pl. 10, fig. 5, 5a ; DAUTZENBERG & BOUGE, 1923 : 210 (non Philippi, 1836).

TYPE LOCALITY : Lifu, Loyalty Islands.

TYPE MATERIAL : Not located. HERVIER examined 3 specimens (leg. GOUBIN). Given dimensions  $15.0 \times 4.5$  mm.

REMARKS : The species has not been listed by FISCHER-PIETTE (*op. cit.*) and no type material has been found in the MNHN (Dr P. BOUCHET, *in litt.*), nor in the DAUTZENBERG collection at the IRSN, Brussels. HERVIER compared his species to *Mitra subulata* Lamarck, 1811 (= *Vexillum (Costellaria) costatum* Gmelin, 1791) and the specimen illustrated in the type figure certainly has a great resemblance to small, worn individuals of *V. (C.) costatum*. This synonymy is only tentative pending discovery of type material, but the name can be disposed of as a primary homonym of *Mitra ebenus* var. *lanceolata* Philippi, 1836.

**Vexillum (Costellaria) verecundulum** (Hervier, 1897)

(Pl. II, 9-10)

*Mitra (Costellaria) verecundula* Hervier, 1897 : 68 ; HERVIER, 1899 : 212, pl. 10, fig. 5 ; DAUTZENBERG & BOUGE, 1923 : 219.

*Mitra verecundula* : FISCHER-PIETTE, 1950 : 164.

TYPE LOCALITY : Lifu, Loyalty Islands.

TYPE MATERIAL : Two syntypes in MNHN : larger syntype (here designated as the lectotype)  $9.1 \times 3.2 \times 3.7$  mm ; smaller syntype  $7.2 \times 2.9 \times 3.3$  mm. Sculptured with 14 axial ribs and 7 spiral grooves on the penultimate and 11 ribs and 18 grooves on the body whorl, siphonal fasciole with 4 oblique cords, columella with 4 folds ; white in colour,

with a peripheral row of faded brown spots in interspaces. One other syntype in IRSN : 7.7 mm, with a broad, faded pink basal band. A total of 10 specimens have been examined by HERVIER (leg. GOUBIN).

REMARKS : The three syntypes examined are all badly worn and the real identity of the species is in doubt. DAUTZENBERG & BOUGE (1923) remarked that *V. (C.) verecundulum* looked like a miniature *Mitra lubens* Reeve (= *V. (C.) modestum* Reeve), and their relationship is indeed very close. Because of the uncertainty as to its real identity, *V. (C.) verecundulum* remains a species inquirenda.

**Vexillum (Pusia) aubryanum** (Hervier, 1897)

(Pl. II, 11)

*Turricula (Costellaria) fortiplicata* Pease, 1868 : 213, pl. 15, fig. 3.

*Mitra (Pusia) aubryana* Hervier, 1897 : 64 ; HERVIER, 1898 : 242, pl. 10, fig. 6 6a ; DAUTZENBERG & BOUGE, 1923 : 221.

*Mitra aubryana* : FISCHER-PIETTE, 1950 : 164.

*Vexillum kewaloensis* J. Cate, 1963 : 26, pl. 5, fig. 1-5.

*Vexillum (Costellaria) fortiplicatum* : CERNOHORSKY, 1972 : 176, pl. 52, fig. 6 ; KAY, 1979 : 320, fig. 107E.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Marianas Islands to New Caledonia, the Hawaiian Islands and the Tuamotu Archipelago.

TYPE MATERIAL : Two syntypes in MNHN : larger syntype (here designated as the lectotype) 10.4 × 3.8 × 7.3 mm ; smaller syntype 7.3 mm. 8 ½ whorls inclusive of protoconch, 24 axial ribs and 8 very short grooves on the penultimate and 24 ribs and 15 cords on the body whorl followed by 4 granulose cords and 7 oblique plain cords on the siphonal fasciole, columella with 5 strong folds ; shining brown in colour, axial ribs whitish. Another syntype in IRSN : 9.0 mm. A total of 10 specimens were examined by HERVIER (leg. GOUBIN).

REMARKS : *V. (P.) aubryanum* is a synonym of *V. (P.) fortiplicatum* (Pease). The species is rarely collected since it is known to live in a depth of 200 m to 300 m.

**Vexillum (Pusia) loyaltiesensis** (Hervier, 1897)

(Pl. II, 12-13)

*Mitra (Pusia) loyaltiesensis* Hervier, 1897 : 65 ; HERVIER, 1898 : 243, pl. 10, fig. 7, 7a ; DAUTZENBERG & BOUGE, 1923 : 232, pl. 2, fig. 3-4.

TYPE LOCALITY : Lifu, Loyalty Islands.

TYPE MATERIAL : Not located. HERVIER examined 3 specimens (leg. GOUBIN). Given dimensions 12.0 — 13.0 mm × 5.0 — 5.5 mm.

REMARKS : The species has not been listed by FISCHER-PIETTE (*op. cit.*) and no type material has been found at either the MNHN (Dr P. BOUCHET, *in litt.*) or the IRSN, Brussels. HERVIER compared his species with *V. (P.) microzonias* (Lamarck) and *V. (P.) aemulum* (E. A. Smith), and his description is extremely good. DAUTZENBERG & BOUGE (*op. cit.*) considered HERVIER's colouring of the type-figure of *V. (P.) loyaltyensis* unsatisfactory and described the colour as "greyish-brown". Only recently has a live-taken specimen of *V. (P.) loyaltyensis* been recovered from Punta Engano, Cebu, Philippines, in 200 m, which offers the opportunity for a short diagnosis of the species. The shell has 6 whorls apart from a missing protoconch, 21 axial ribs and 13 fine short grooves on the penultimate and 17 ribs and 17 grooves on the body whorl, base of body whorl with 8 nodulose cords, columella with 4 folds, first two and one-half post-embryonic whorls with indistinct sutural beads; greyish-brown in colour, protoconch yellowish, spire whorls with an extremely faint, thin pale line and a row of small black spots in interspaces posteriorly to the sutures, body whorl with 2 yellowish spiral lines and 2 rows of small black spots.

**Vexillum (*Pusia*) rhodochroa** (Hervier, 1897)

(Pl. II, 14)

*Tiara rubra* Broderip, 1836 : 196.

*Mitra (Pusia) rhodochroa* Hervier, 1897 : 66; HERVIER, 1898 : 245, pl. 10, fig. 8, 8a.

*Vexillum (Pusia) rubrum* : CERNOHORSKY, 1979 : 115, pl. 40, fig. 1; KAY, 1979 : 331, fig. 110E.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Madagascar to the Hawaiian Islands and the Tuamotu Archipelago.

TYPE MATERIAL : Two syntypes in MNHN : smaller syntype (here designated as the lectotype) 5.8 × 2.5 × 3.0 mm; larger syntype 5.9 mm. 5 whorls plus 2 embryonic whorls of part protoconch, 11 axial ribs and 6 fine grooves on the penultimate and 11 ribs and 15 grooves on the body whorl, base with 5 nodulose cords, columella with 5 folds; base colour pink with an orange band and a brown line. Numerous other specimens (? syntypes) in IRSN. HERVIER examined 20 specimens (leg. MONTROUZIER, LAMBERT and GOUBIN).

REMARKS : *V. (P.) rhodochroa* is another of several synonyms of *V. (P.) rubrum* (Broderip). DAUTZENBERG & BOUGE (*op. cit.*) correctly assigned *rhodochroa* to the synonymy of *rubrum*.

**Vexillum (*Pusia*) roseotinctum** (Hervier, 1897)

(Pl. III, 15-18)

*Mitra (Pusia) roseotincta* Hervier, 1897 : 66; HERVIER, 1898 : 247, pl. 10, fig. 9, 9a; DAUTZENBERG & BOUGE, 1923 : 242; DAUTZENBERG & BOUGE, 1933 : 187.

*Mitra roseatincta (sic)* : FISCHER-PIETTE, 1950 : 164.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Madagascar to the Tuamotu Archipelago.

TYPE MATERIAL : Two syntypes in MNHN : larger syntype (here designated as the lectotype)  $6.6 \times 2.8 \times 3.4$  mm ; smaller syntype  $5.2 +$  mm.  $5 \frac{1}{4}$  whorls +, 13 axial ribs and 3-5 spiral striae on the penultimate and 13 ribs and 6-8 spiral threads on body whorl, base with 5 nodulose cords, ribs slightly constricted to form obsolete sutural nodules, columella with 4 folds ; faded in colour with greenish-brown bands. A total of 5 specimens were examined by HERVIER (leg. GOUBIN).

REMARKS : The existing syntypes are very worn and of little aid to identification. Illustrated is a specimen from Madagascar.

**Vexillum (Pusia) goubini** (Hervier, 1897)

(Pl. III, 19)

*Mitra (Pusia) goubini* Hervier, 1897 : 67 ; HERVIER, 1899 : 209, pl. 10, fig. 3 ; DAUTZENBERG & BOUGE, 1923 : 227 ; DAUTZENBERG & BOUGE, 1933 : 170.

*Mitra goubini* : FISCHER-PIETTE, 1950 : 164, 165.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Madagascar to the Tuamotu Archipelago.

TYPE MATERIAL : Two syntypes in MNHN : smaller syntype (here designated as the lectotype)  $6.0 + \times 2.5 \times 2.8$  mm ; larger syntype 6.5 mm. Upper spire whorls missing, 13 axial ribs and 9-10 fine grooves on the penultimate and 14-18 ribs and 20 grooves on body whorl, base with 7 nodulose cords, columella with 3-4 folds ; white with a pale, broad violet-brown band at sutures and an adjoining row of small brown spots on body whorl, centre of body whorl with a faint brown band bordered by 2 orange-brown lines and axial streaks in interspaces. One other syntype in IRSN : 7.6 mm. A total of 10 specimens were examined by HERVIER (leg. GOUBIN).

REMARKS : In his original description HERVIER described the species as having 8-9 whorls and a protoconch comprising  $1 \frac{1}{2}$  embryonic whorls. All the syntypes examined lack the protoconch and the 2 syntypes in the MNHN have only  $4 \frac{1}{2}$  and  $5 \frac{1}{2}$  whorls respectively, and the original type-figure, one assumes the best example available, shows only 6 whorls. None of the existing syntypes reach a length of 8.0 mm as given by HERVIER, the closest being the syntype in the IRSN which measures 7.6 mm.

**Vexillum (Pusia) plurinotatum** (Hervier, 1897)

(Pl. III, 20-21)

*Mitra (Pusia)* var.  $\beta$  *plurinotata* Hervier, 1897 : 67 ; HERVIER, 1899 : 210, pl. 10, fig. 3 a.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Mozambique Channel to New Caledonia.

TYPE MATERIAL : Two syntypes in MNHN : larger syntype (here designated as the lectotype)  $4.8 \times 1.8 \times 2.7$  mm ; smaller syntype 4.5 mm. 5 whorls plus part of a broken protoconch, 11 axial ribs and 7 fine short spiral striae on the penultimate and 12 ribs and 12 spiral striae on body whorl, siphonal fasciole with 6 cords, axial ribs slightly constricted subsuturally ; pale gold coloured bands on a white background, spire whorls with 2 rows of small brown spots in interspaces and body whorl with 4 rows. A total of 10 specimens have been examined by HERVIER (leg. GOUBIN).

REMARKS : The taxon *plurinotata* was originally described as a variant of *V. (P.) goubini* (Hervier). None of the existing syntypes reaches the given size of 6.0 mm listed by HERVIER in the original description. The form *plurinotata* is only tentatively synonymized with *V. (P.) goubini*. A typical example of the *plurinotata* form from West of Glorieuses Islands, Mozambique Channel, has been examined (specimen 4.5 mm in MNHN) and this individual has  $4 \frac{1}{2}$  whorls of the teleoconch and  $3 \frac{1}{4}$  embryonic whorls, which is considerably more than the  $1 \frac{1}{2}$  embryonic whorls given by HERVIER for *V. (C.) goubini*. More comparative material is needed in order to elucidate the relationship of *V. (P.) goubini* and its form *plurinotata*.

**Vexillum (Costellaria) diutenerum** (Hervier, 1897)

(Pl. III, 22-23)

*Mitra (Pusia) diutenera* Hervier, 1897 : 68 ; HERVIER, 1899 : 211, pl. 10, fig. 4 ; DAUTZENBERG & BOUGE, 1923 : 227.

*Mitra diutenera* : FISCHER-PIETTE, 1950 : 164, 165.

*Mitra eruda* « Dall MS », J. Cate, 1963 : 28 (nomen nudum).

*Vexillum moana (pars)* J. Cate, 1963 : 28, pl. 5, fig. 10 only.

*Vexillum (Costellaria) diutenerum* : CERNOHORSKY, 1979 : 112, pl. 37, fig. 9.

*Vexillum (Costellaria) diutenera* : KAY, 1979 : 319, fig. 108F.

TYPE LOCALITY : Lifu, Loyalty Islands.

DISTRIBUTION : Madagascar to the Hawaiian Islands and the Tuamotu Archipelago.

TYPE MATERIAL : Two syntypes in MNHN : larger syntype (here designated as the lectotype)  $6.7 + \times 2.5 \times 2.6$  mm ; smaller syntype  $4.7 +$  mm.  $5 \frac{1}{4}$  whorls, protoconch missing, 15 axial ribs and 7 spiral threads on the penultimate and 15 ribs and 12 threads on body whorl, siphonal fasciole with 6 oblique cords, ribs subangulate at sutures, columella with 4 folds ; white in colour, sutures with a moderately broad reddish-brown band and another broader band towards the base of the body whorl. A total of 10 specimens have been examined by HERVIER (leg. GOUBIN).

REMARKS : Once again HERVIER's description of 10 whorls in *V. (C.) diutenerum* is at variance not only with his existing syntypes which have only  $5 \frac{1}{4}$  whorls, but also with known specimens which do not exceed  $5 \frac{1}{2}$  whorls of the teleoconch. The type figure and the existing syntypes have a missing protoconch. The species is found exclusively in subtidal waters and is moderately frequent in waters around Madagascar. The

holotype of *Vexillum moana* J. Cate, 1963, is conspecific with *V. (C.) leucozonias* (Deshayes in Bélanger) but the 7 minute paratypes ex-lot USNM 333027 are the species *V. (C.) diutenerum* (Hervier).

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PLATE I

1. — *Mitra amauro* Hervier. Lectotype 22.3 mm.
2. — *Vexillum (Costellaria) rufobalteatum* (Hervier). Lectotype 10.0 mm.
3. — *V. (C.) pagodula* (Hervier). Lectotype 7.4 mm.
4. — *V. (C.) humilis* (Hervier). Lectotype 7.4 mm.
5. — *V. (C.) albotaeniatum* (Hervier). Lectotype 13.9 mm.
6. — *V. (C.) diamesa* (Hervier). Lectotype 13.8 mm.

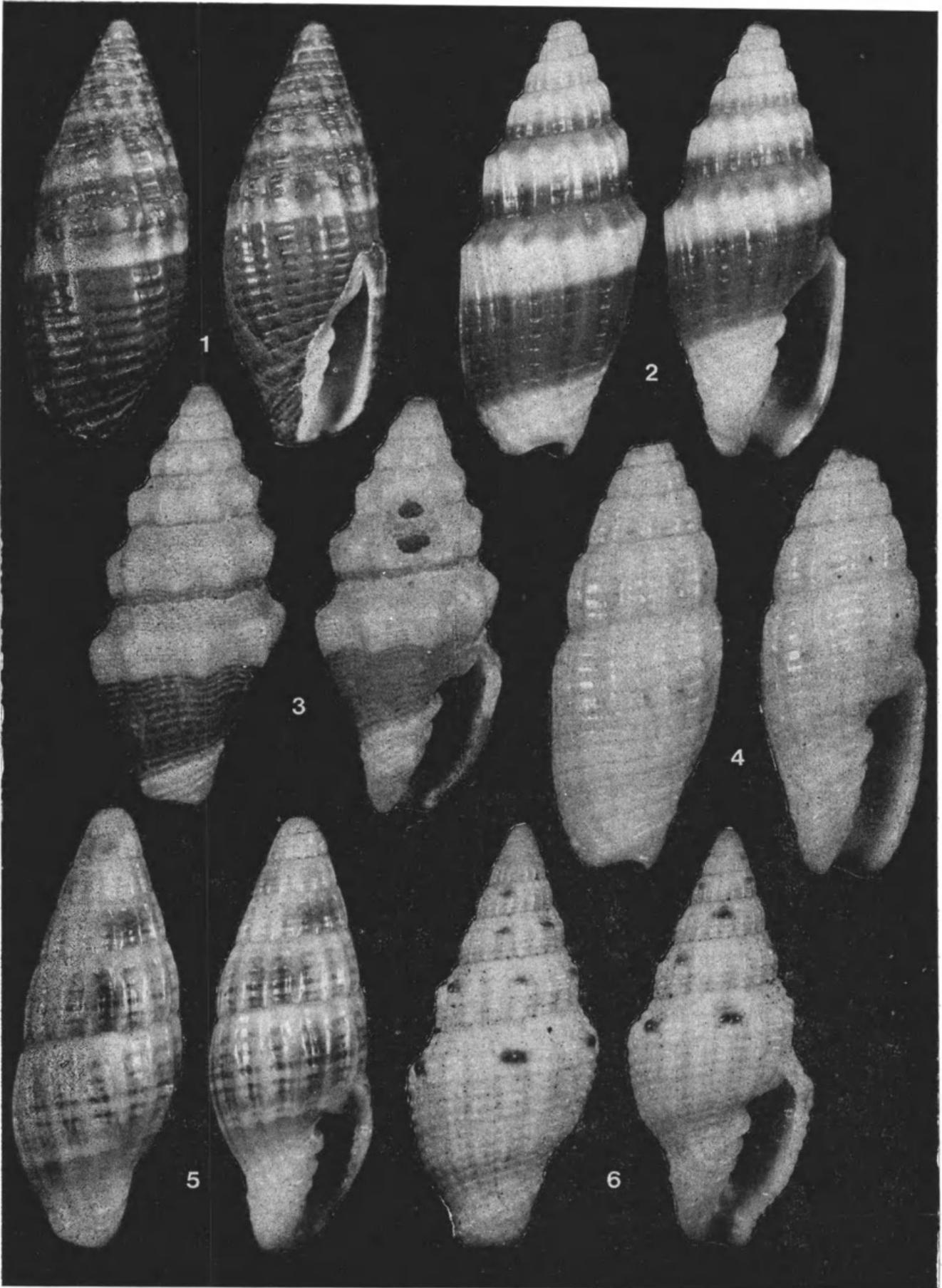


PLATE I

PLATE II

7. — *Vexillum (Costellaria) ochracea* (Hervier). Type-figure from HERVIER 10.0 mm.  
8. — *V. (C.) lanceolatum* (Hervier). Type-figure from HERVIER, 15.0 mm.  
9-10. — *V. (C.) verecundulum* (Hervier) : 9, lectotype 9.1 mm ; 10, paralectotype 7.2 mm.  
11. — *V. (Pusia) aubryanum* (Hervier). Lectotype 10.4 mm.  
12-13. — *V. (P.) loyaltyensis* (Hervier) : 12, type-figure from HERVIER, 12.0 mm-13.0 mm ; 13, specimen from Punta Engano, Mactan Id., Philippines, 200 m ; 9.2 mm.  
14. — *V. (P.) rhodochroa* (Hervier). Lectotype 5.8 mm.

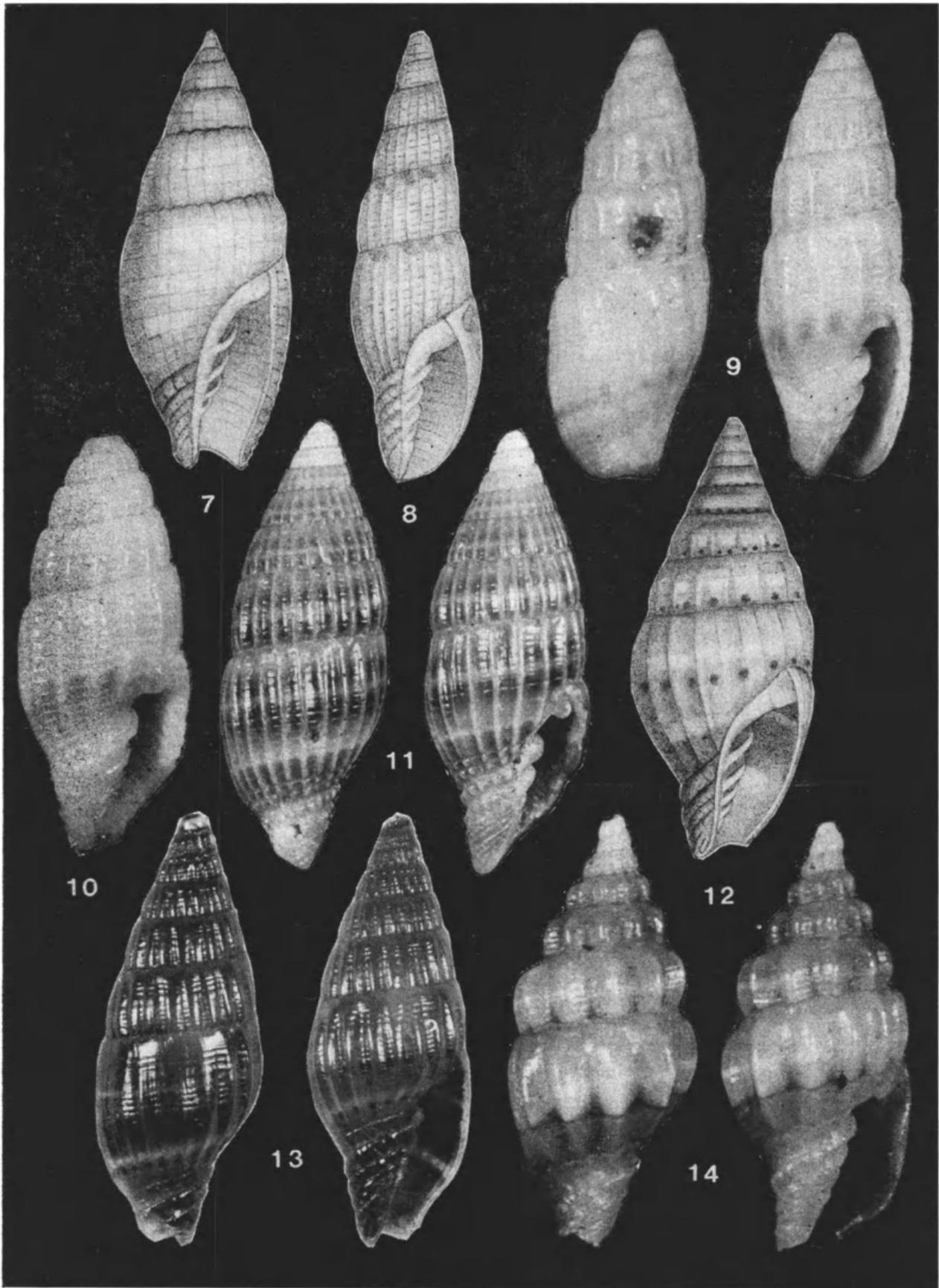
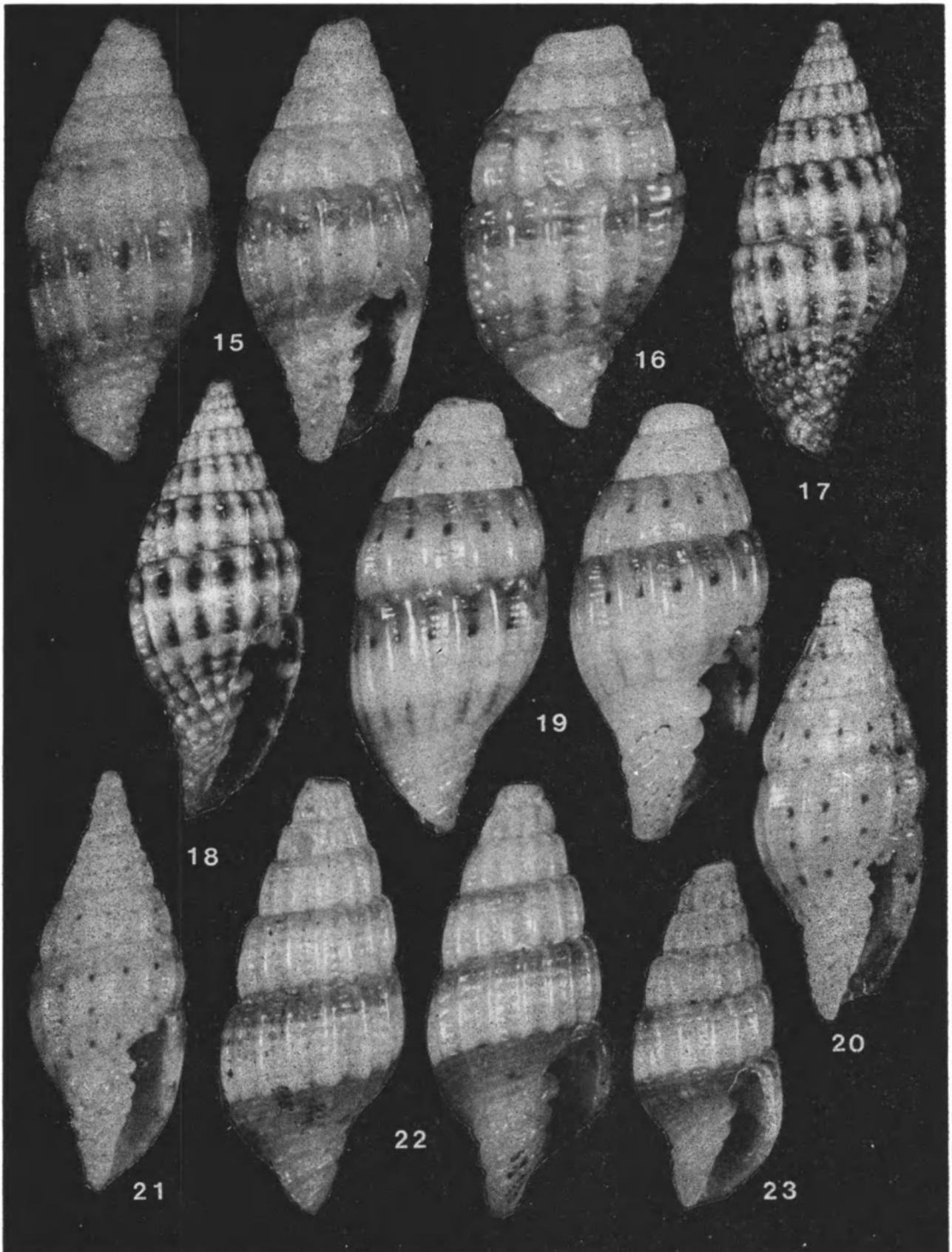


PLATE II

PLATE III

- 15-18. — *Vexillum (Pusia) roseotinctum* (Hervier) : 15, lectotype 6.6 mm ; 16, paralectotype 5.2 mm ;  
17-18, specimen from Tuléar, Madagascar ; 8.3 mm.  
19. — *V. (P.) goubini* (Hervier). Lectotype 6.0 mm.  
20-21. — *V. (P.) plurinotatum* (Hervier) : 20, lectotype 4.8 mm ; 21, specimen from W. of Glorieuses Ids.,  
Mozambique Channel, 250 m ; 4.5 mm.  
22-23. — *V. (Costellaria) diutenerum* (Hervier) : 22, lectotype 6.7 mm ; 23, paralectotype 4.7 mm.



*PLATE III*





Cernohorsky, Walter Oliver. 1981. "Revision of J. Hervier's type-specimens of Mitracea (Mollusca, Gastropoda) from the Loyalty Islands." *Bulletin du Muséum national d'histoire naturelle* 3(1), 93–110.

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