

## Triphoridae (Mollusca: Gastropoda) of Reunion Island (Indian Ocean): Types revisited

Maurice JAY

46 rue Eugène Dayot, 97434 Saint Gilles les Bains, La Réunion, France  
mauricejay@runnet.com.

**KEYWORDS.** Triphoridae, type material, Reunion Island.

**ABSTRACT.** Fourteen species of Triphoridae have been described from Reunion. The type material is examined and illustrated, and the status of the nominal species is revised. Six neotypes are designated. All species are illustrated by SEM and/or colour figures.

**RESUME.** Quatorze espèces de Triphoridae ont été décrites de la Réunion. Le matériel type est examiné et illustré et le statut de ces espèces nominales est révisé. Six néotypes sont désignés. Des illustrations en microscopie électronique à balayage et/ou des illustrations couleurs sont données pour chaque espèce.

### INTRODUCTION

To my knowledge, only two authors, Deshayes (1863) and Jousseume (1884 and 1896) have described new species of Triphoridae from Reunion. In the present paper I evaluate them, fix primary types, and provide modern, high quality illustrations for each of these species.

The "Catalogue des mollusques de l'île de la Réunion", by Deshayes, is part of a book by L. Maillard, "Notes sur l'île de la Réunion". In this work, Deshayes described the material gathered on Reunion and entrusted to him by Maillard. Deshayes recognized 560 species, of which 12 were species of Triphoridae. He attributed two of them to taxa already known, namely *Triphora sculpta* (Hinds, 1842), and *Triphora monilifer* (Hinds, 1842), and described the other 10 as new species. Deshayes's collection was deposited in the "Ecole des Mines" in Paris, where he was a professor. After a phase of curatorial neglect in the 1960-1970s, it was decided that the mollusc collection of that institution would be incorporated with the paleontological collection of the University of Lyon, with the types of recent species to be deposited in MNHN. The "Ecole des Mines" collection was thus searched by P. Bouchet in 1978 for such types, before the actual transfer of the rest of the material to Lyon, and I myself searched the collection in Lyon to double check for missing types. Besides Deshayes' types, MNHN holds material labelled "ex. d'auteur ("author's specimens"), coll. Vignal, Com. Eudel, 1941, St. Pierre" [Reunion Island], whose status has to be discussed. Emile Eudel was a merchant mariner. He gathered shells from around the world, and visited St Pierre, on Reunion, where his brother lived. Eudel's collection was sold in Paris in 1893. Sowerby purchased part of it, and Vignal purchased another part, mainly Cerithioidea. The collection of Vignal was acquired

by MNHN in 1941. In the foreword of his work, Deshayes (1863) thanked Eudel for sending him, preserved in alcohol, shell-less molluscs not present in Maillard's collection. Eudel's collection also contains one lot labelled "*Cerithiopsis blandi* Deshayes (in litt.)". It is thus clear that Eudel was in touch with Deshayes, but we do not know whether the indication "Ex. d'auteur" implies that specimens were sent by Deshayes to Eudel as a gift, or whether Deshayes identified for Eudel material in his collection. As Deshayes did not explicitly cited Eudel's specimens in his work, I do not regard these specimens as part of the original type lot.

The illustrations in Deshayes' paper (1863) are of small size, and lack precision, and this is why it is necessary to revise the status of the nominal species based on the type material. However, Deshayes' types consist mainly of beach specimens, often broken and incomplete, especially lacking protoconchs. In several lots, the specimens labelled as "syntypes" clearly do not match the original description. Furthermore, some types could not be found and must be considered lost. Jousseume described many species of Triphoridae from the Red Sea and from New Caledonia, and only 4 are from Reunion (designated in Jousseume as "Bourbon", an earlier name for the island). Two species were described in his « Monographie des Triphoridae » (Jousseume 1884), and two others in a publication with a misleading title, « Triphoridae de la Mer Rouge recueillies et décrits par le Dr. Jousseume » (Jousseume 1896). By contrast to Deshayes' types, the types of Jousseume are all present in MNHN, and are in rather good condition.

### Abbreviations

MNHN: Museum National d'Histoire Naturelle, Paris, France.

MJ: Collection of the author.

## SYSTEMATICS

Family: TRIPHORIDAE Gray, 1847.

Genus *Triphora* Blainville, 1828.

Type species: *Triphora gemmatum* Blainville, 1828 (by original designation). Recent, Mauritius, Indian Ocean.

***Triphora adamsi* (Deshayes, 1863).**

Figs 1-3, 45

*Triphoris adamsi* Deshayes 1863: 100, species number 322, pl. XI, figs 23-24.

**Type locality.** Reunion Isl. without any other data.

**Type material.** There is a single specimen labelled as a syntype in MNHN 1579 (Fig 45). This specimen is in good state, has a protoconch of 5 whorls bearing 2 fine spiral cords, crossed by close-set fine axial riblets, and a rounded apex. The teleoconch whorls bear 3 beaded spiral cords, the middle one weaker on earlier whorls, but well developed on the last 3 whorls. The shell is glossy, pale brown, the earlier whorls whitish, the protoconch is brown, the last whorl pale brown.

**Comments.** The species is easily recognizable, and is very common on Reunion, where I have found empty shells in sand at depths ranging from 5 to 40 m. The voucher specimen illustrated by SEM (Figs 1-3), 4 mm, from cape La Houssaye, Saint Paul, in hand-dredged sand at 20m, is now in MNHN. In my opinion *Triphora adamsi* (Deshayes, 1863) is quite a valid species.

***Triphora angustissima* (Deshayes, 1863).**

Figs 4-6, 46

*Triphoris angustissimus* Deshayes 1863: 104, species number 328, pl. XII, figs 1-2.

**Type locality.** Reunion, cape La Houssaye, Saint Paul, depth 10-12 m. Determined by locality of neotype.

**Type material.** No original type material could be detected in MNHN, nor in Lyon. A neotype is here designated, MNHN 9488 (Figs 4-6, 46).

**Comments.** The original description refers to an elongate and narrow shell, with 2 unequal spiral rows of beads, the abapical row with larger beads, and with a wide and canaliculated suture, size 4 x 0.75 mm. This valid species is readily recognizable from Deshayes' description and figure, and is fairly common on Reunion where I collected over 200 specimens, dead in sand (Fig. 46).

**Description of the neotype.** Shell narrowly conical, with very slightly convex edges, base not constricted. Protoconch poorly distinct from teleoconch, consisting of 2 whorls with a small rounded apex; each whorl bearing 2 beaded spiral cords, the lower with strong beads, the upper one with very weak beads, the beads on protoconch being more numerous and more closely set than on teleoconch (18 beads per whorl). Teleoconch comprising 13 whorls, bearing 2 beaded spiral cords, the lower being stronger, 14 beads per whorl; suture moderately impressed. Aperture wide quadrangulate, posterior canal short directed downward. Colour greyish cream, becoming whitish towards summit. Size 5.3 x 1 mm. Dead on sand bottom near coral reefs, cape La Houssaye, Saint Paul, depth 10-12 m.

***Triphora crenulata* (Deshayes, 1863).**

Figs 7-9, 37, 47

*Triphoris crenulatus* Deshayes 1863: 99-100, species number 321, pl. XI, figs 21-22.

**Type locality.** Reunion.

**Type material.** A single juvenile specimen, labelled syntype, is in MNHN 0721. It is somewhat faded, but has an intact protoconch, and measures 4.8 mm. (Fig. 37).

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**Figures 1-12**

**1-3.** *Triphora adamsi* (Deshayes, 1863)

**1.** Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 20m, 4 mm; **2.** Protoconch; **3.** Last whorl, detail of microsculpture.

**4-6.** *Triphora angustissima* (Deshayes, 1863)

**4.** Neotype, MNHN 9488, Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 20m, 7.2mm;

**5.** Protoconch; **6.** Last whorl, detail of microsculpture.

**7-9.** *Triphora crenulata* (Deshayes, 1863)

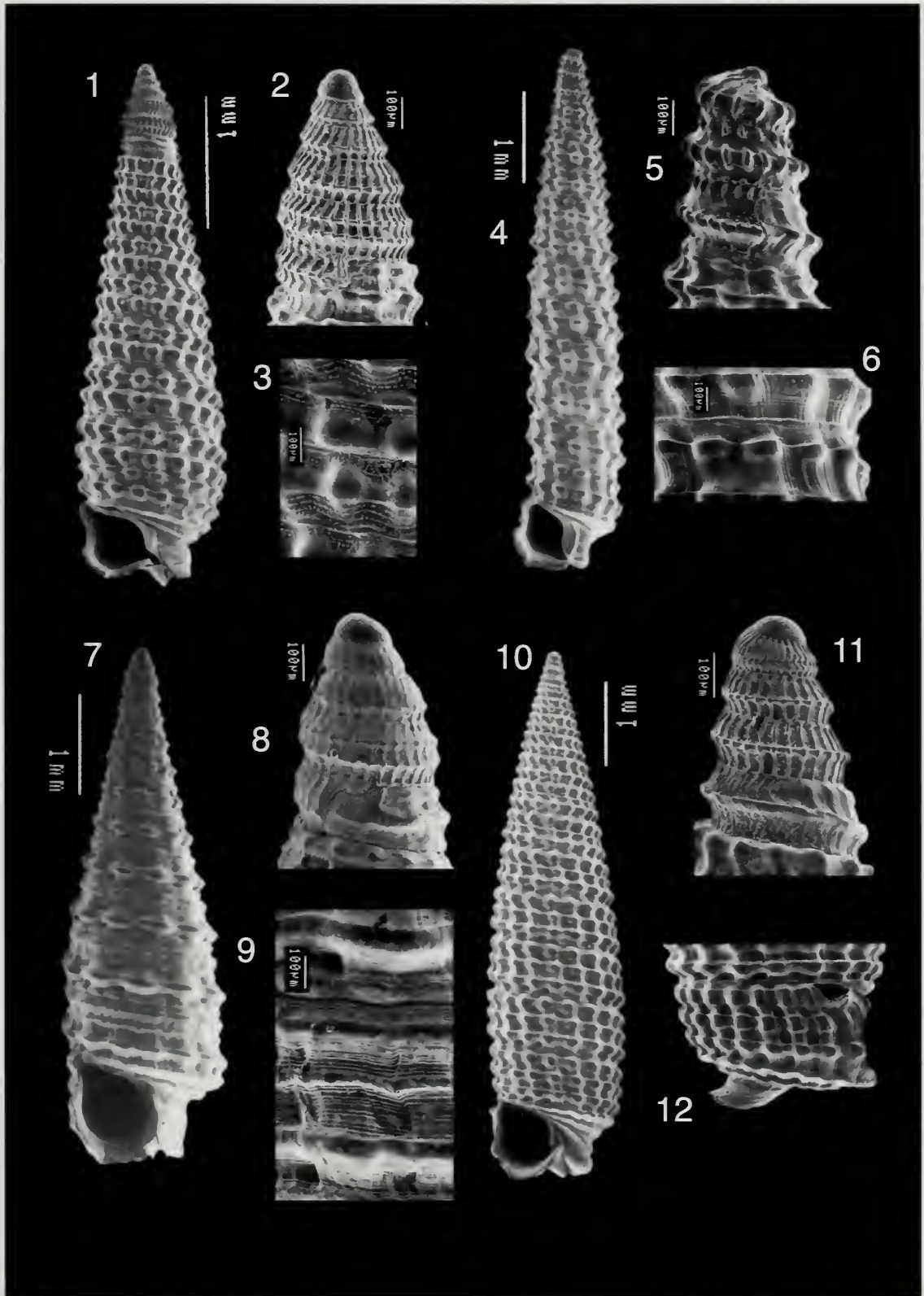
**7.** Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 20m, juvenile, 5 mm; **8.** Protoconch;

**9.** Last whorl, detail of microsculpture.

**10-12.** *Triphora distincta* (Deshayes, 1863)

**10.** Neotype, MNHN 9489, Cape La Houssaye, Saint Paul, Reunion, at 20m, 7.4 mm; **11.** Protoconch;

**12.** Aperture.



**Comments.** Deshayes described a 9 mm x 2.5 mm shell. Specimens that match the original description and the syntype are not infrequently found in Reunion, but the species is not common. A juvenile specimen of the same size as the type is selected and illustrated by SEM (Figs 7-9). Figure 47 is an adult specimen, 9 mm.

This nominal species, remarkable because of its coloured pattern, may be a synonym of *Triphora (Ino) elegans* (Hinds, 1842) p.18, Plate VIII fig 11, (Straits of Malacca, in mud 20 fathoms). But this remains uncertain, Hinds' description being short and the figure small.

Marshall (1983: 51, figs 21G-I) placed this species in genus *Euthymella*.

***Triphora distincta* (Deshayes, 1863).**

Figs 10-12, 38, 48

*Triphoris distinctus* Deshayes 1863: 103, species number 326, pl. XI, figs 30-31.

**Type locality.** Reunion, cape La Houssaye, Saint Paul, depth 10 m. Determined by locality of neotype.

**Type material.** One lot in MNHN 0719 labelled "syntypes" consists of 3 specimens glued to a cardboard (Fig 38). These worn specimens, lacking their protoconch, are brown except the first three whorls that are whitish, and have 2 beaded spiral cords of 18-20 beads per whorl, the upper row somewhat paler. These specimens do not match the description and illustration of *Triphora distincta*, which has 3 beaded cords per whorl. A substitution of labels may have occurred, and I do not regard these specimens as syntypes. Furthermore, until now no specimen with the characters of these supposed syntypes has been found in Reunion. Therefore a neotype is here designated, MNHN 9489 (Figs 10-12, 48).

**Comments.** Deshayes' description is of a conical and slightly convex shell, comprising 13 whorls, each

bearing 3 unequal spiral rows of beads, the middle one weaker; suture canaliculated; colour dark brown, dimensions 5 mm x nearly 2 mm. The illustration shows a conical, slightly fusiform shell, with 3 beaded spiral cords, subequal on last whorl, the middle cord weak on adapical whorls; 9 beads per half whorl.

Shells corresponding to that description are common on Reunion. The 5 specimens from the MNHN lot labelled "Ex. d'auteur, Coll. Vignal, 1941" (not type material) are similar.

*Triphora distincta* Deshayes, 1863 is a valid species.

**Description of the neotype.** Shell fusiform, base slightly constricted. Protoconch quite distinct, consisting of 4 whorls, bearing a single spiral carina crossed by numerous closely-set axial riblets, and a small rounded smooth apex. Teleoconch comprising 12.5 whorls, the earlier ones bearing 2 spiral beaded cords, a third median weak cord appearing at the fifth whorl, becoming equal to others on the 3 last whorls. 24-25 beads per whorl. Suture moderately impressed. Aperture quadrangular, posterior canal short and recurved. Colour brown, the 4 earlier whorls whitish, protoconch pale brown. Size 6.3 x 1.7mm. Dead in sand near coral reef, cape La Houssaye, Saint Paul, at the depth of 10 m.

***Triphora formosa* (Deshayes, 1863).**

Figs 13-15, 49, 50

*Triphoris formosus* Deshayes 1863: 102, species number 325, pl. XI, fig. 29.

**Type locality.** Reunion, cape La Houssaye, Saint Paul, depth 10-12 m. Determined by locality of neotype.

**Type material.** No original type material found in MNHN, nor in Lyon. A neotype, MNHN 9487, is here designated (Figs 13-15, 49).

**Figures 13-24**

**13-15.** *Triphora formosa* (Deshayes, 1863)

**13.** Neotype, MNHN 9487, Cape La Houssaye Saint Paul, Reunion; dead in hand-dredged sand at 25 m, 8.2 mm; **14.** Protoconch; **15.** Last whorl, detail of microsculpture.

**16-19.** *Triphora hindsii* (Deshayes, 1863)

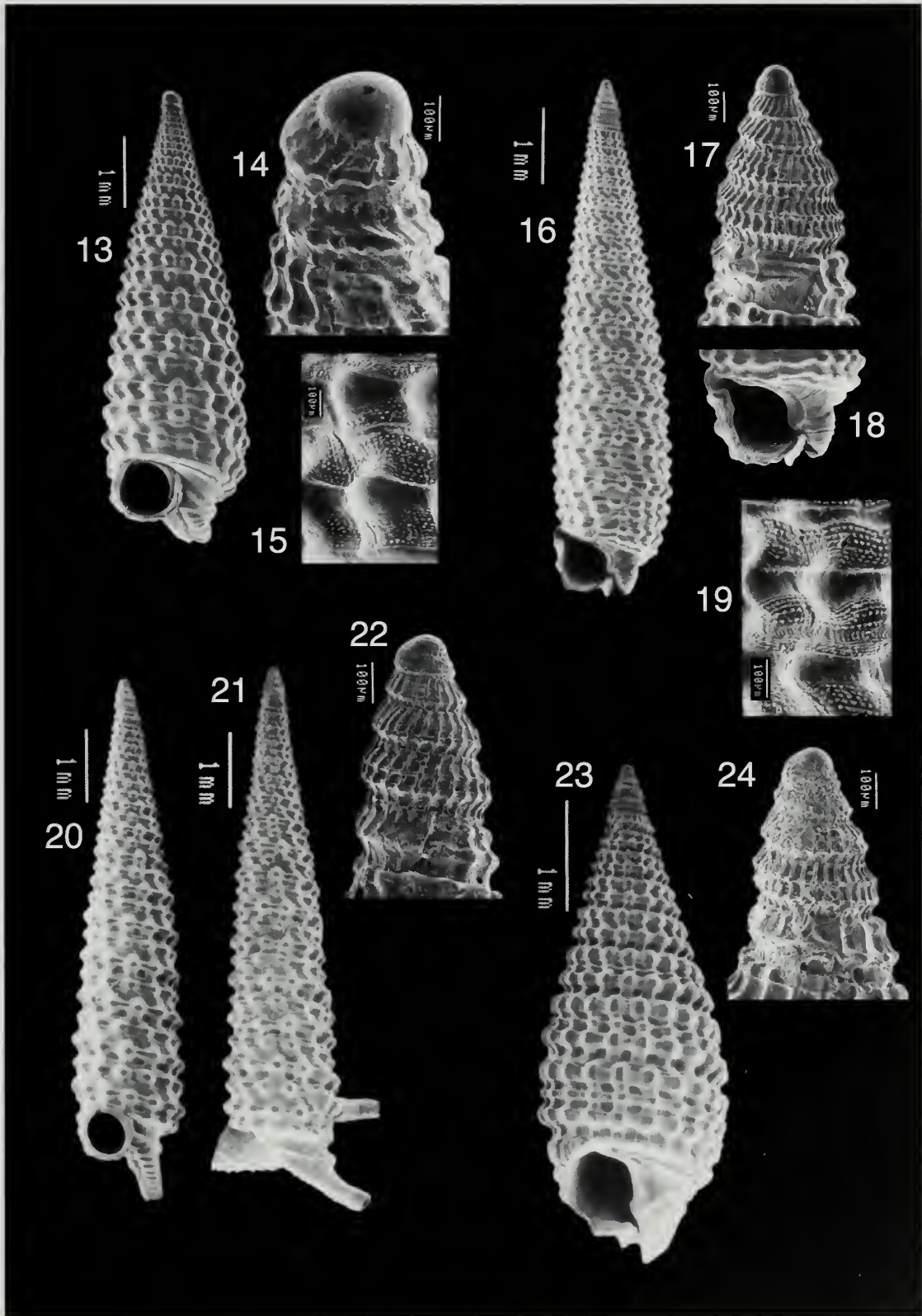
**16.** Neotype, MNHN 8490, Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 20 m, 8.1mm; **17.** Protoconch; **18.** Aperture; **19.** Last whorl, detail of microsculpture.

**20-22.** *Triphora mirifica* (Deshayes, 1863)

**20.** Neotype, MNHN 9491, Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 15 m, 8.5 mm; **21.** Side view; **22.** Protoconch.

**23-24.** *Triphora pupaeformis* (Deshayes, 1863)

**23.** Neotype, MNHN 9492, Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 20m, 4.8 mm; **24.** Protoconch.



**Comments.** Deshayes' description is of an elongate and pointed shell with a deep canaliculated suture, 2 spiral rows of beads that are not axially aligned but disposed in alternate rows, colour pale pinkish violet with paler beads; aperture small and circular, terminal canal long and recurved posteriorly; dimensions 6 mm height x a little less than 1.75 mm diameter. The original illustration shows a high, slender, and pointed shell with 2 beaded spiral cords per teleoconch whorl, and 7 beads per half whorl.

Triphorid specimens matching Deshayes' original description and neotype, except for colour pattern, are regularly found in Reunion, though uncommon; some of them with a violaceous background and a yellowish abapical cord (Fig. 50), these colours fading with time, while other specimens are plain light brown. These probably only represent colour variations, as they all have a similar protoconch, and a completely closed anal canal.

**Description of the neotype.** Fusiform shell, conical, tapering to a sharp apex, base slightly constricted. Protoconch hardly distinct from teleoconch, consisting in 2 whorls bearing a single strong beaded spiral cord crossed by axial riblets, and a smooth apex. Teleoconch of 12 whorls, 2 beaded spiral cords per whorl, the beads in alternate rows. Suture deep, canaliculated. Aperture circular, anterior canal long and recurved, and a short and small third canal on the left side of outer lip. Colour pale violet with paler beads. Size 6.2 x 1.8 mm. Dead in sand near coral caves, 10-12 m, cape La Houssaye, Saint Paul.

*Triphora formosa* (Deshayes, 1863), is a valid species.

***Triphora hindsii* (Deshayes, 1863).**

Figs 16-19, 39, 51

*Triphoris hindsii* Deshayes 1863. 98-99, species number 320 pl. XI, figs 19-20.

**Type locality.** Reunion, cape La Houssaye, Saint Paul, depth 10m. Determined by locality of neotype.

**Type material.** One lot MNHN 0709 labelled "syntypes" comprises 5 specimens originally glued to cardboard, but the best of which (Fig. 39) was detached, presumably for study. All are white and very worn. Only the detached specimen has the two last whorls of the protoconch left, on which two fine spiral cords crossed by fine axial riblets remain conspicuous. The teleoconch whorls of the 5 specimens are only ornamented with 2 beaded spiral cords. These specimens do not match the description and illustration of *Triphora hindsii* in Deshayes, which has 3 beaded spiral cords on the last whorls. Here also, a substitution of labels may have happened. These supposed "syntypes" belong to a species that is common in Reunion.

A neotype is here designated, MNHN 9490 (Figs 16-19, 51).

**Comments.** Deshayes described an elongate and narrow shell, with 3 beaded spiral cords on teleoconch whorls, the middle one being slightly weaker, with a narrow suture hardly distinguished from the space between cords. He described it as pale brown in colour, with whitish beads, and 6 x 1.25 mm in size. Deshayes' figure shows 3 beaded spiral cords on teleoconch whorls, subequal on the 3 last whorls, but with the middle one weaker on the 2 preceding whorls, while there are only 2 spiral cords on the 5 earlier whorls; there are 9 beads per half whorl.

Another species, common in Reunion, matches exactly Deshayes' description and figure, and the specimens of the Vignal collection in MNHN labelled *T. hindsii* Deshayes, (not type material) and is then the true *Triphora hindsii*.

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**Figures 25-36**

**25-27.** *Triphora reevei* (Deshayes, 1863)

**25.** Neotype, MNHN 9493, Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged -sand at 15 m, 6 mm; **26.** Protoconch; **27.** Side view of last whorl.

**28-30.** *Triphora trilirata* (Deshayes, 1863)

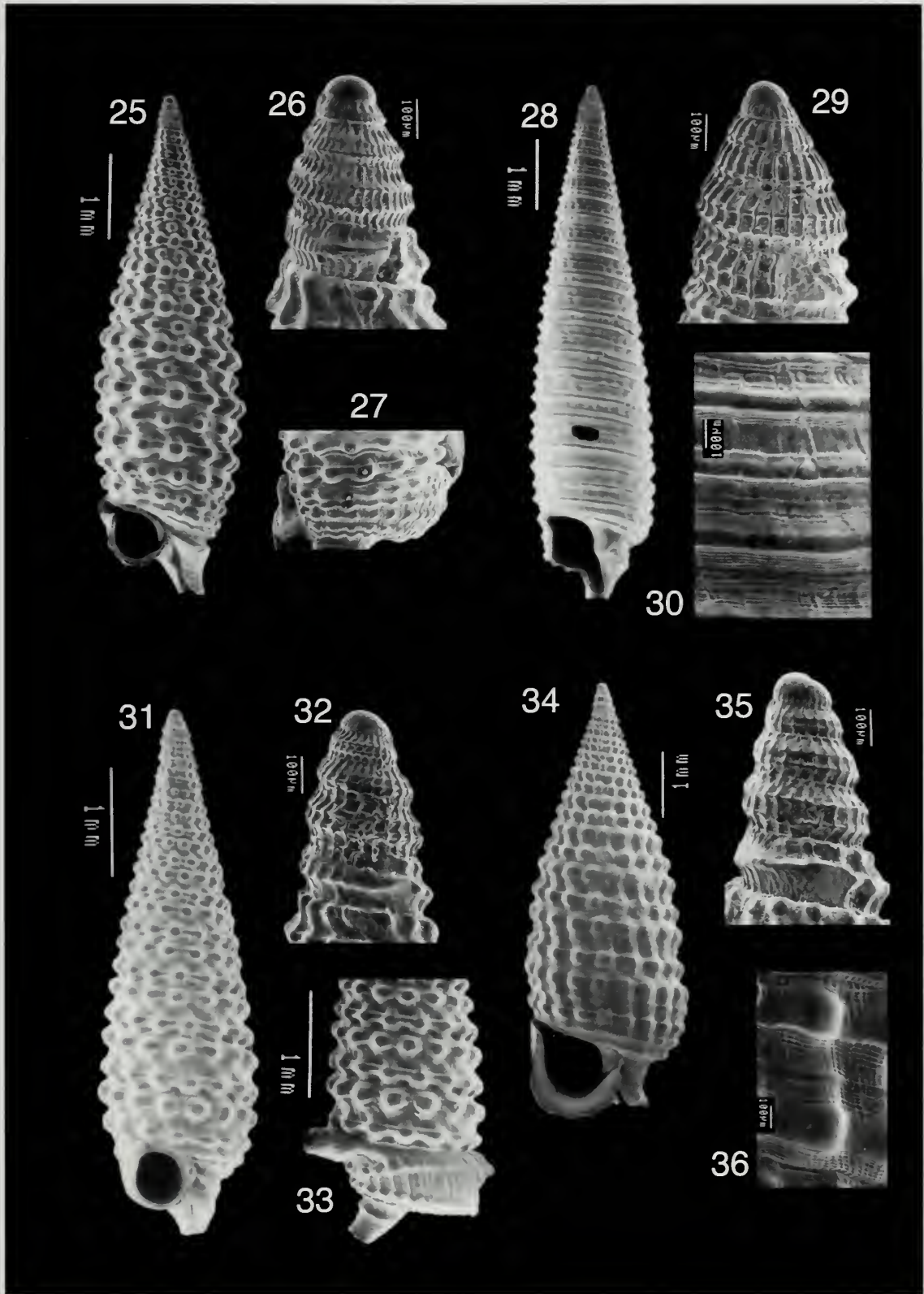
**28.** Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 15 m, 8.9 mm; **29.** Protoconch; **30.** Detail of microsculpture.

**31-33.** *Mastoniaeforis chaperi* Jousseau, 1884

**31.** Cape La Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 15 m, 6.5 mm; **32.** Protoconch; **33.** Side view of aperture.

**34-36.** *Mastonia interpictus* Jousseau, 1896

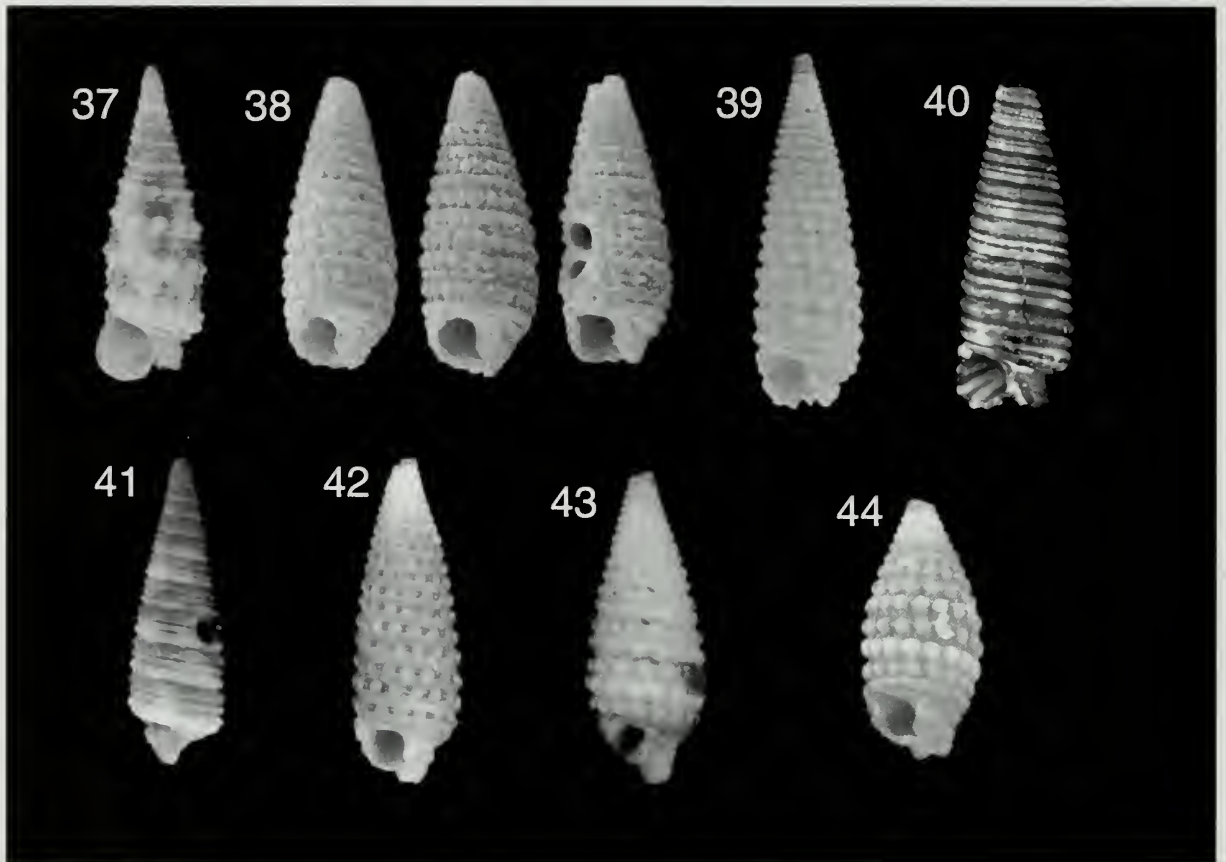
**34.** Cape la Houssaye, Saint Paul, Reunion, dead in hand-dredged sand at 15 m, 8 mm; **35.** Protoconch; **36.** Detail of microsculpture.



**Description of the neotype.** Shell conical, slightly constricted at base. Protoconch consisting of 4 whorls tapering to a smooth hemispherical apex, each whorl bearing 2 spiral carinas crossed by numerous closely set axial riblets. Teleoconch of 14 whorls, the earlier 4 with 2 beaded spiral cords: a fine smooth cord appears between them at the fifth whorl and becomes beaded at the seventh whorl, beads only equal to the other 2 rows on last whorl. Microsculpture appearing

between the cords, consists of very fine cords and riblets intersecting at right angles. Aperture circular, posterior canal recurved, a third hole on the left side of aperture. Colour pale brown, beads slightly paler, the 2 earlier whorls of teleoconch whitish, protoconch brown. Size 7 x 1.5 mm. Found in muddy sand at 10 m, cape La Houssaye, Saint Paul.

The species is quite valid.



Figures 37-44

**37.** *Triphora crenulata* (Deshayes, 1863). Holotype, MNHN 0721, Reunion, 4.8 mm; **38.** *Triphora distincta* (Deshayes, 1863). Specimens labelled syntypes, MNHN 0719. Reunion, from left to right: 4 mm; 4.1 mm; 4 mm; **39.** *Triphora hindsii* (Deshayes, 1863). The best specimen of the lot labelled syntypes, MNHN 0709. Reunion, 6.1 mm; **40-41.** *Triphora trilirata* (Deshayes, 1863). **40.** The best of syntypes, MNHN 1676. Reunion, 4 mm; **41.** Complete juvenile specimen labelled syntype, Reunion, 3.8mm; **42.** *Mastonia interpectus* Jousseume, 1896. Holotype, MNHN 1575, Djibouti and Bourbon, 5 mm; **43.** *Mastoniaeforis chaperi* Jousseume, 1884. Holotype, MNHN 1575, Bourbon, 3.9 mm; **44.** *Obesula borbonica* Jousseume, 1896. Syntype with slightly broken protoconch, MNHN 0728. Red sea and Bourbon, 2.9 mm.



***Triphora mirifica* (Deshayes, 1863).**

Figs 20-22, 52

*Triphoris mirificus* Deshayes 1863:104, species number 327, pl. XI, figs 32-33.

**Type locality.** Reunion, cape La Houssaye, Saint Paul, depth 10 m. Determined by locality of neotype.

**Type material.** None located. The type specimen of "*Triforis mirifica lifuana* Hervier, 1898", MNHN 1508 (type locality Lifou, New Caledonia) is present in MNHN, and does not show any obvious difference with our material from Reunion. A neotype is here designated, MNHN 9491 (Figs 20-22, 52).

**Comments.** Deshayes' description and figure are of a very distinctive species, remarkable by its 2 strongly unequal spiral beaded cords on teleoconch whorls, very long siphonal and anal canals and tube-like aperture, and protoconch ornamented with 2 spiral cords crossed by axial riblets.

This species is very common in Reunion, with more than 200 specimens collected.

**Description of the neotype.** Shell regularly conical, elongate and narrow. Protoconch consisting of 4 whorls, each one with 2 spiral carinas, the lowest stronger, crossed by fine axial riblets, and tapering to a rounded smooth apex. Teleoconch of 13 whorls ornamented with 2 beaded spiral cords, strongly unequal, the lower row of beads obviously stronger. 14 beads per whorl. Aperture small and circular, siphonal canal recurved, anal canal long narrow cylindrical, opposite to aperture. Colour creamy white, the beads paler, protoconch and base light brown. Size 7 x 1.5 mm. In dredged sand at 15 m. cape La Houssaye, Saint Paul.

*Triphora mirifica* Deshayes, 1863, is a valid species.

***Triphora pupaeformis* (Deshayes, 1863).**

Figs 23-24, 53

*Triphoris pupaeformis* Deshayes 1863: 105, species number 329, pl. XII, figs 3-4.

**Type locality.** Reunion, cape La Houssaye, Saint Paul, depth 20 m. Determined by locality of neotype.

**Type material.** None located. A neotype is here designated, MNHN 9492 (Figs 23-24, 53).

**Comments.** Deshayes' description is of a short, cylindrical shell, with a spire prolonging into a pointed rostrum, hardly visible suture, and narrow teleoconch whorls bearing 2 spiral rows of flattened, wide, closely-set granules that are whitish on the summit but arise from a blackish-brown ground, dimensions 4 x 1.5 mm. The original illustration shows a shell with an obviously broken protoconch.

We have found on Reunion a few specimens exactly matching the description and figure of Deshayes, but the species is very rare. This is a valid species. A few smaller and paler specimens of same shape and sculpture have been collected. They may also belong to this same species.

**Description of the neotype.** Shell conical, wide, restricted at base. Protoconch of 3 whorls, bearing 2 spiral carinas crossed by numerous axial riblets, and tapering to a smooth rounded apex. Teleoconch of 8 whorls, 2 spiral rows of round beads numbering 18 per whorl. A fine thread appears between the 2 cords, smooth at the sixth whorl, bearing small beads at the seventh whorl, remaining obviously smaller than the 2 other rows on last whorl. Ground colour blackish-brown, beads paler, greyish on the upper row, whitish on the lower row. Earlier whorls whitish, protoconch brown. Size 4.5 x 1.8 mm. In dredged sand at 20m, cape La Houssaye, Saint Paul.

***Triphora reevei* (Deshayes, 1863).**

Figs 25-27, 54

*Triphoris reevei* Deshayes 1863: 101, species number 323, pl. XI, figs 25-26.

**Type locality.** Reunion, cape La Houssaye, Saint Paul, depth 15 m. Determined by locality of neotype.

**Type material.** None located. A neotype is here designated, MNHN 9493 (Figs 25-27, 54).

**Comments.** Deshayes' description is of a narrow, elongate and pointed shell of white colour with a blackish blotch, with 2 unequal rows of beads, the abapical row (called the upper cord by Deshayes, on account of his way to position the shells with the aperture upwards) being stronger, a narrow, hardly visible suture, size 5 x 1.25 mm. The illustration shows a conical shell with 2 spiral beaded cords on teleoconch whorls, the abapical cord being stronger.

In Reunion, a single species matches Deshayes' description and figure.

**Description of the neotype.** Shell fusiform elongate, pointed, base constricted. Protoconch of 3 whorls, bearing 2 spiral carinas crossed by numerous closely-set axial riblets, with a smooth rounded apex. Teleoconch consisting of 12 whorls, bearing 2 spiral cords crossed by axial ribs, with a strong bead at each crossing, the beads of the lower cord stronger, 13-14 beads per whorl. Aperture circular. Posterior canal slightly recurved. Creamy white, the beads on the lower cord paler, protoconch dark brown, a dark brown blotch on siphonal canal. Height 8 mm. In muddy sand at 15 m, cape La Houssaye, Saint Paul. *Triphora reevei* (Deshayes, 1863), is a valid species.

***Triphora trilirata* (Deshayes, 1863).**

Figs 28-30, 40, 41, 55

*Triphoris triliratus* Deshayes 1863:102, species number 324, pl. XI, figs 27-28.

**Type locality.** Reunion.

**Type material.** 3 lots in MNHN are labelled syntypes. All appear to be conspecific, although some of them are very worn and hardly recognizable. The best specimen MNHN 1676 is figured (Fig. 40). Only one other specimen has its protoconch (Fig 41); though it is worn, it shows on each whorl 2 spiral cords crossed by numerous fine axial riblets.

A voucher specimen is illustrated by SEM, Figs 28-30; height 10 mm, cape La Houssaye Saint Paul, at 20 m.

**Comments.** *Triphora trilirata* (Deshayes, 1863), is a valid and easily recognisable species very common in Reunion. Shells are found in sediments at depths from 5 to 40 m. It resembles another species, tentatively identified as *Viriola fallax* Kay, 1979, that differs by its smaller size and protoconch only ornamented by one-rather than two spiral cords.

This species was quoted by Jousseume (1896) as *Viriola triliratus*

Genus *Mastonia* Hinds, 1842.

Type species: *Triphoris ruber* Hinds, 1843 (by subsequent designation). Recent. New Ireland, Pacific Ocean.

***Mastonia aegle* Jousseume, 1884.**

Fig. 56

*Mastonia aegle* Jousseume 1884: 256, pl. IV, fig. 12.

**Type locality.** New Caledonia and Bourbon Isl.

**Type material.** 4 lots labelled syntypes are in MNHN. One (MNHN 0741) from "Bourbon Isl.", without any other data, contains a single complete specimen, its protoconch consisting of 3.5 whorls ornamented with a single spiral cord crossed by close-set axial riblets (Fig. 56). This is the specimen referred by Jousseume. A second lot (MNHN 0738) contains 7 specimens, only one of which has a partly broken protoconch of 3 whorls; 4 labels in the lot, mentioning either Nouvelle Calédonie, or Bourbon (but Jousseume wrote he had only seen one specimen from Bourbon); the data of this lot should then be considered as uncertain. The third lot MNHN 0740 labelled by Jousseume "Type. Nouvelle Calédonie", contains 6 specimens, mostly of the same size as those from Reunion, although two are larger (5-6 mm). The fourth lot contains 2 specimens labelled by Jousseume "syntypes, Nouvelle, Calédonie".

**Comments.** We have not found on Reunion any specimen that matches Jousseume's description or type material.

***Mastonia interpietus* Jousseume, 1896.**

Figs 34-36, 42, 57

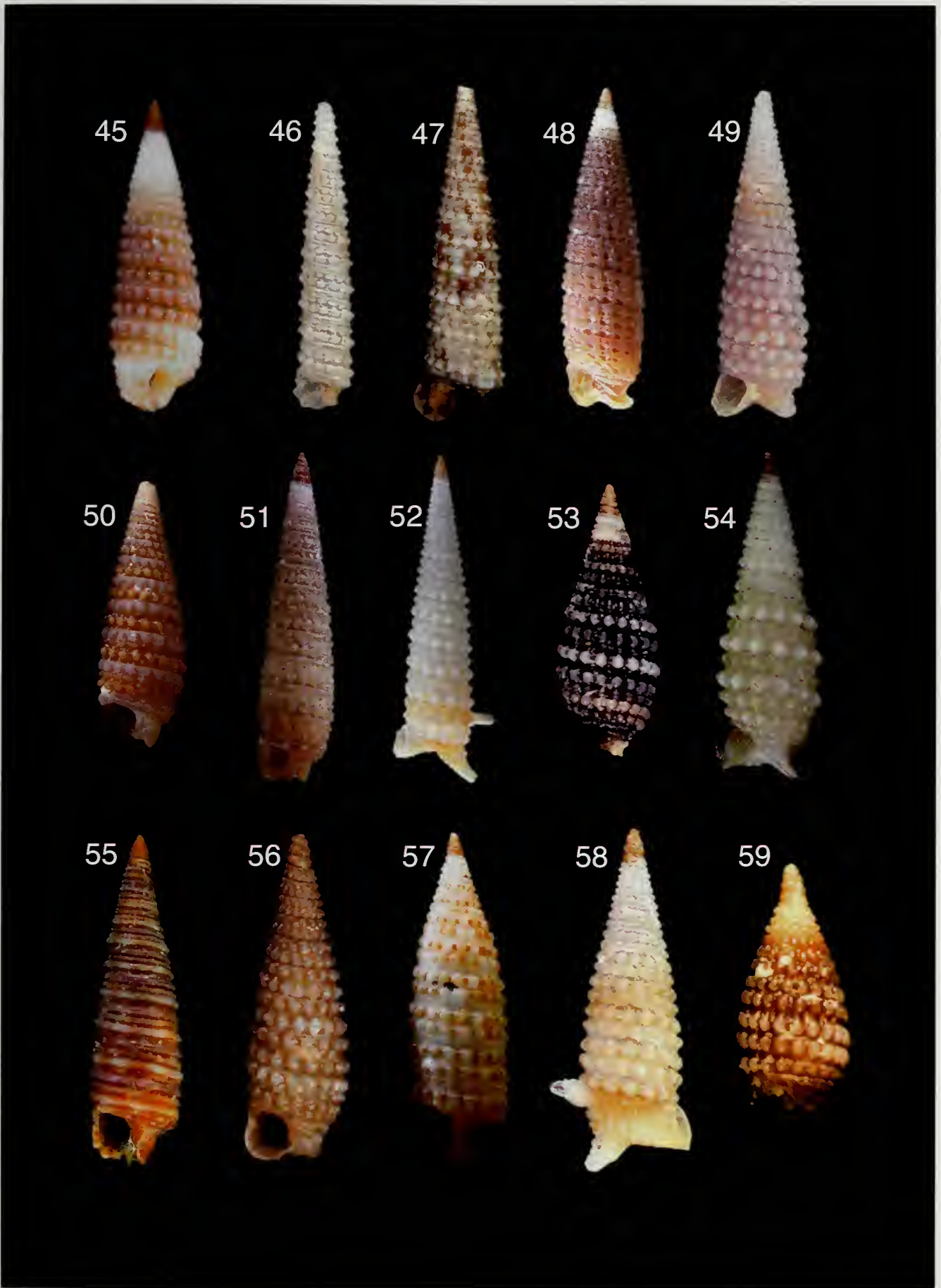
*Mastonia interpietus* Jousseume 1896: 74.

**Type locality.** Djibouti and Bourbon.

**Type material.** The holotype, MNHN 1575 has a broken protoconch (Fig. 42). Teleoconch whorls bearing 2 subequal beaded spiral cords, 17/18 beads per whorl, and a fine smooth spiral cord between them on last whorls.

**Figures 45-59**

**45.** *Triphora adamsi* (Deshayes, 1863). Holotype MNHN 1579. Reunion, 4 mm; **46.** *Triphora angustissima* (Deshayes, 1863). Neotype MNHN 9488. Cape La Houssaye, Saint Paul, Reunion, in sand at 15 m, 5.3 mm; **47.** *Triphora crenulata* (Deshayes, 1863). Cape La Houssaye, Saint Paul, Reunion, depth 20 m, 13 mm; **48.** *Triphora distincta* (Deshayes, 1863). Neotype MNHN 9489, Reunion, cape La Houssaye, Saint Paul, depth 10 m, 6.3 mm; **49-50.** *Triphora foruosa* (Deshayes, 1863). **49.** Neotype MNHN 9487. Reunion, cape La Houssaye, Saint Paul, depth 10-12 m, 6.2 mm; **50.** Colour form, collection MJ. Cape La Houssaye, Saint Paul, Reunion, depth 20m, 7 mm; **51.** *Triphora hindsi*, (Deshayes, 1863). Neotype MNHN 9490. Cape La Houssaye, Saint Paul, Reunion, depth 10m, 7 mm; **52.** *Triphora mirifica* (Deshayes, 1863). Neotype MNHN 9491. Cape La Houssaye, Saint Paul, Reunion, depth 10 m, 7mm; **53.** *Triphora pupaeformis* Deshayes, 1863. Neotype MNHN 9492. Cape La Houssaye, Saint Paul, Reunion, depth 20 m, 4.5mm; **54.** *Triphora reevei* (Deshayes, 1863). Neotype MNHN 9493. Cape La Houssaye, Saint Paul, Reunion, depth 15 m, 6 mm; **55.** *Triphora trilirata*, (Deshayes, 1863). Cape La Houssaye, Saint Paul, Reunion, depth 20 m, 8.9 mm; **56.** *Mastonia aegle* Jousseume, 1884. Syntype MNHN 0741, Bourbon, 3.9mm; **57.** *Mastonia interpietus* Jousseume, 1896. Cape La Houssaye, Saint Paul, Reunion, depth 20m, 8 mm; **58.** *Mastoniaeforis chaperi* Jousseume, 1884. Cape La Houssaye, Saint Paul, Reunion, 15 m, 6.5 mm; **59.** *Obesula borbonica* Jousseume, 1896. Cape La Houssaye, Saint Paul, Reunion, depth 20 m. Coll. MJ, 3.5 mm.



**Comments.** The species is rather common in Reunion and cannot be confused with any other species. Its protoconch is of 4 whorls bearing 2 spiral carinas crossed by numerous axial riblets. Voucher specimen Figs 34-36, 57.

This is a valid species.

Genus *Mastoniaeforis* Jousseume, 1884.

Type species: *Mastoniaeforis chaperi*, Jousseume, 1884 (by original designation). Recent, Reunion, Indian Ocean.

***Mastoniaeforis chaperi* Jousseume, 1884.**

Figs 31-33, 43, 58

*Mastoniaeforis chaperi* Jousseume 1884: 243, pl. IV, figs 4-5.

**Type locality.** Bourbon Isl.

**Type material.** Type material MNHN 0478 from Bourbon Isl. It consists of one shell labelled syntype (Fig. 43) with broken apex, no protoconch and teleoconch whorls bearing 2 beaded spiral cords, 15-16 beads per whorl, beads subequal on the two rows and not axially aligned, anal canal present.

**Comments.** The species is common in Reunion where I have seen more than 100 specimens. The protoconch comprises 4 whorls, bearing one spiral carina crossed by numerous axial riblets, and a rounded smooth apex. A third canal is present. Voucher specimen for SEM Figs 31-33, 58.

Valid name.

Genus *Obesula* Jousseume, 1896.

Type species: *Mastonia obesula* Jousseume, 1884 (by subsequent designation). Recent, New Caledonia, Pacific Ocean.

***Obesula borbonica* Jousseume, 1896.**

Figs 44, 59

*Obesula borbonica* Jousseume 1896: 75.

**Type locality.** Red sea and Bourbon.

**Type material.** One lot from « Bourbon Isl.» MNHN 0728 consists of two syntypes, one with broken apex (no protoconch whorl), the other (Fig.44) with broken apex, but with a small part of protoconch left, showing 2 spiral cords crossed by close-set axial riblets, the abapical cord being stronger. Teleoconch whorls ornamented with 2 beaded spiral cords.

**Comments.** The species is uncommon in Reunion, where I have collected only 15 specimens, one of them with a complete protoconch (Fig. 59), which was regrettably broken before a SEM micrograph could be prepared.

This is a valid species.

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