A new species of *Vexillum* (*Costellaria*) (Gastropoda: Costellariidae) from the Marquesas with remarks on *Mitra chariessa* Melvill, 1888

Manfred Herrmann & Richard Salisbury

ABSTRACT

The species *Vexillum* (*Costellaria*) *germaineae* sp. nov. is described from the Marquesas, French Polynesia, and is compared with *V.* (*C.*) *bellum* (Pease, 1860) from Hawaii, *V.* (*C.*) *pantherinum* Herrmann & Salisbury, 2012 from French Polynesia and *V.* (*C.*) *scitulum* (A. Adams, 1853) from various localities in the Indo-Pacific. *Mitra chariessa* Melvill, 1888, considered as a synonym of *V.* (*C.*) *rubellum* (Adams & Reeve, 1850), is now synonymized with *V.* (*C.*) *scitulum*.

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Keywords: Gastropoda, Costellariidae, *Vexillum*, *Costellaria*, new species, new synonym, Marquesas, French Polynesia.

Zusammenfassung: Die Art *Vexillum* (*Costellaria*) *germaineae* sp. nov. wird von den Marquesas, Französisch-Polynesien beschrieben und von *V.* (*C.*) *bellum* (Pease, 1860) aus Hawaii, *V.* (*C.*) *pantherinum* Herrmann & Salisbury, 2012 aus Französisch-Polynesien sowie *V.* (*C.*) *scitulum* (A. Adams, 1853) aus verschiedenen Regionen des Indopazifiks unterschieden. *Mitra chariessa* Melvill, 1888, bisher als Synonym von *V.* (*C.*) *rubellum* (Adams & Reeve, 1850) betrachtet, wird nun mit *V.* (*C.*) *scitulum* synonymisiert.

Schlüsselbegriffe: Gastropoda, Costellariidae, *Vexillum*, *Costellaria*, neue Art, neues Synonym, Marquesas, Französisch-Polynesien.

Introduction

In 2012, several new Costellariidae species from French Polynesia were described by the authors (Herrmann 2012; Salisbury & Herrmann 2012; Herrmann & Salisbury 2012). In this last paper of this series another *Costellaria* species

from this region will be described. So far, it is known only from the Marquesas, a region from which many endemic shells have been described.

During the studies for this paper, our attention was turned to the website of the National Museum Wales, where type photos of the Melvill-Tomlin collection are pictured. Harriet Wood, collections manager (Mollusca) at the NMW, was so kind as to send us further photos. Thus we were able to determine that *Mitra chariessa* had been synonymized with the wrong species, and herewith we correct the status of this species.

Abbreviations

ah	aperture height
MNHN	Muséum national d'Histoire naturelle, Paris, France
NHMUK	Natural History Museum, London, United Kingdom
NMW	National Museum Wales, Cardiff, United Kingdom
SMCB	Service Mixte de Contrôle Biologique des Armées, France
syn. nov.	new synonymy

Private collections

AMD	Aart Dekkers, Blokker, The Netherlands
MH	Manfred Herrmann, Rosdorf, Germany

Systematics

Superfamily: MURICOIDEA RAFINESQUE, 1815
Family: COSTELLARIIDAE MACDONALD, 1860

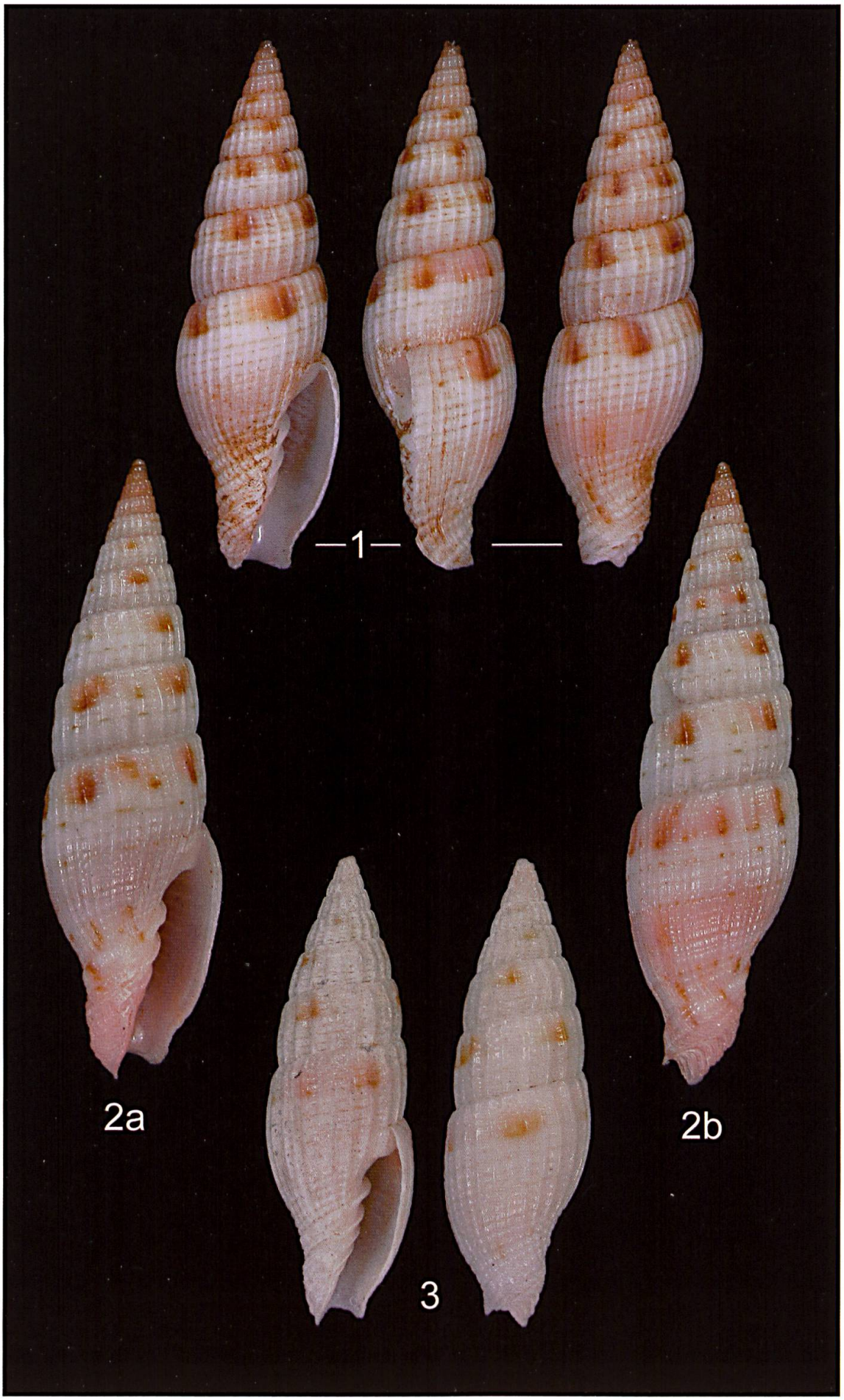
Genus: *Vexillum* RÖDING, 1798

Type species: By subsequent designation (Woodring 1928): *Vexillum plicatum* RÖDING, 1798 = *Voluta plicaria* LINNAEUS, 1758 = *Vexillum* (*Vexillum*) *plicarium* (LINNAEUS, 1758).

Plate 1: *Vexillum* (*Costellaria*) *germaineae* sp. nov., all figures 5 x. French Polynesia, Marquesas.

Fig. 1: Holotype, MNHN 27083, Eiao (7°51'S, 140°40'W), 42 m, collected 24 Aug 1990, J. Poupin (SMCB: stn D38), 15.0 mm x 4.5 mm.
Figs 2a–b: Paratype 1, AMD, Nuku Hiva, collected Jul 2000, 17.5 mm x 4.9 mm.
Fig. 3: Paratype 2, MNHN 27084, Ua Huka, N/O "Alis", campagne MUSORSTOM 9, stn. DR1297 (8°54'S, 139°37'W), 90–150 m, collected 8 Sep 1997, Bouchet, Dayrat, Richer, 13.2 mm x 4.0 mm.

All photos Manfred Herrmann.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Subgenus: *Costellaria* Swainson, 1840

Type species: By monotypy *Mitra rigida* Swainson, 1821 = *Mitra semifasciata* Lamarck, 1811 = *Vexillum* (*Costellaria*) *semifasciatum* (Lamarck, 1811).

Recent distribution: Indo-Pacific.

***Vexillum* (*Costellaria*) *germaineae* sp. nov.** (Plate 1, Figs 1–3)

Description

Shell slender, fusiform, reaching about 18 mm in length, width about 29% of length. Protoconch consists of 2 to 2.5 glassy, conoidal whorls. Teleoconch consists of up to 9 slightly convex whorls. Slightly convex spire outline. Ten to twelve axial ribs on first whorls, increasing to 26 to 28 ribs on penultimate whorl and 36 to 38 ribs on body whorl. Nine to ten spiral grooves on the penultimate and 20 to 22 spiral grooves on the body whorl divide the interspaces, giving them a slightly cancellated appearance. Aperture shorter than half the entire shell, lirate inside. Lip slightly rounded and recurved towards the siphonal fasciole. Siphonal canal short, wide and slightly recurved. Columella with 4 strong folds, decreasing in size anteriorly. Folds merge into spiral cords when leaving the columellar shield.

Colour pattern: Protoconch and first two to three whorls light brown, remaining whorls white with dark brown dots fading at the margins to lighter brown on the posterior third of the whorls, followed by a completely white area and an interrupted brown line at the periphery of the whorls. Body whorl with pinkish areas in the brown-spotted zone and nearly completely pinkish in the anterior half, where small brown streaks are also present. Aperture and columellar folds whitish to slightly pinkish.

Holotype: French Polynesia, Marquesas, Eiao (7°51'S, 140°40'W), 42 m, collected 24 Aug 1990, J. Poupin (SMCB: stn D38), 15.0 mm x 4.5 mm, MNHN 27083.

Plate 2; all figures 5 x

Fig 4: *Vexillum* (*Costellaria*) *bellum* (Pease, 1860), MH, Hawaii, Maui, Maalara Bay, taken on sand at 5 m by snorkel by Bunnie Cook 16 Oct 1983, 16.6 mm x 6.0 mm.

Fig. 5: *Vexillum* (*Costellaria*) *pantherinum* Herrmann & Salisbury, 2012, holotype, MNHN 25179, French Polynesia, Marquesas, Eiao Island, 42 m, collected 24 Aug 1990 (campagne SMCB) by J. Poupin, 13.7 mm x 4.1 mm.

All photos Manfred Herrmann.


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Paratype 1: French Polynesia, Marquesas, Nuku Hiva, collected Jul 2000, 17.5 mm x 4.9 mm, AMD.

Paratype 2: French Polynesia, Marquesas, Ua Huka, N/O "Alis", campagne MUSORSTOM 9, stn. DR1297 (8°54'S, 139°37'W), 90–150 m, collected 8 Sep 1997, Bouchet, Dayrat, Richer, 13.2 mm x 4.0 mm, MNHN 27084.

Paratype 3: French Polynesia, Marquesas, Ua Huka, N/O "Alis", campagne MUSORSTOM 9, stn. DR1297 (8°54'S, 139°37'W), 90–150 m, collected 8 Sep 1997, Bouchet, Dayrat, Richer, 12.4 mm x 3.8 mm, MH.

Paratype 4: French Polynesia, Marquesas, Eiao, N/O "Alis", campagne MUSORSTOM 9, stn. DW1274 (8°54'S, 139°37'W), 100–120 m, collected 5 Sep 1997, Bouchet, Dayrat, Richer, 12.5 mm x 3.9 mm, dead with borehole, MNHN 27085.

Type locality: French Polynesia, Marquesas, Eiao (7°51'S, 140°40'W), 42 m.

Distribution: Known only from the Marquesas at depth below 40 m.

Etymology: Named after Germaine Gourguet, wife of Robert Gourguet. For her passion and long years of work on the malacological fauna of French Polynesia. She has collected several samples of new species. This is dedicated to her in recognition of her extreme patience.

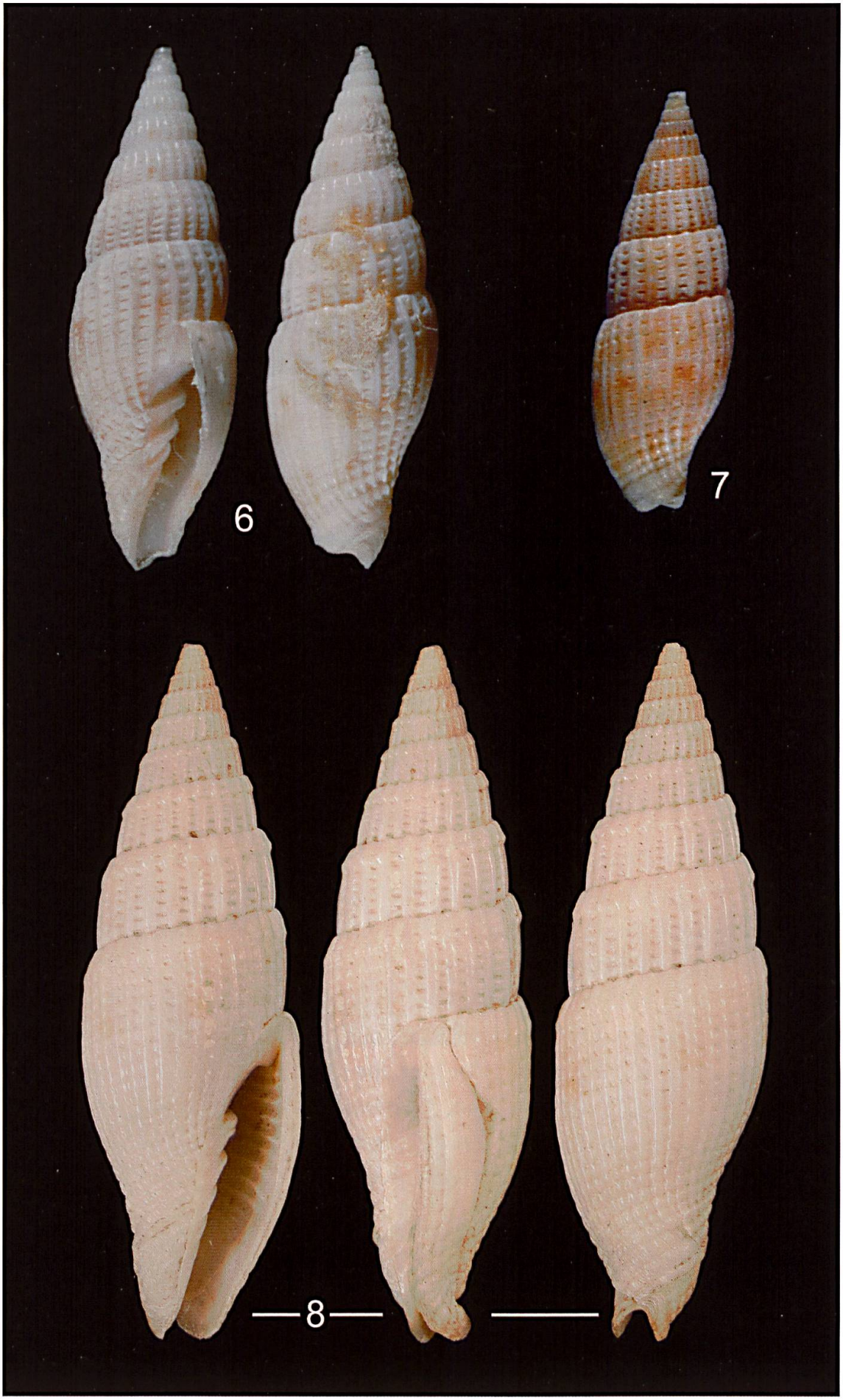
Discussion

Vexillum (*Costellaria*) *germaineae* sp. nov. is similar to *V.* (*C.*) *bellum* (Pease, 1860) (Fig. 4), but is more slender with very fine axial ribs, especially on the body whorl. In *V.* (*C.*) *bellum* the interspaces of the prominent ribs are accompanied by fine axial cords. In addition, the spiral cords in *V.* (*C.*) *bellum* are more prominent and the bands on the body whorl and aperture are brownish instead of pinkish. *V.* (*C.*) *germaineae* sp. nov. seems to be endemic to the Marquesas, whereas *V.* (*C.*) *bellum* is known only from Hawaii.

The new species is also comparable to *V.* (*C.*) *pantherinum* Herrmann & Salisbury, 2012 (Fig. 5), but it is slightly larger (up to 18 mm vs. up to 14 mm) and has finer, but more numerous axial ribs (36 to 38 vs. 20 to 24 on the body whorl). Both species have brown markings on the posterior part of the whorls,

Plate 3: *Vexillum* (*Costellaria*) *scitulum* (A. Adams, 1853), all figures 5 x

Fig. 6: Syntype 1/2, NHMUK 1967876/1, China Seas, 14.6 mm x 4.7 mm (photo John Wolff).
Fig. 7: Syntype 2/2, NHMUK 1967876/2, China Seas, 11.8 mm x 3.8 mm (photo Hans Turner).
Fig. 8: Holotype of *Mitra chariessa* Melvill, 1888; NMW 1955.158.00392, no locality (photo Harriet Wood, NMW).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but the markings of *V.* (*C.*) *germaineae* sp. nov. are smaller, well separated and do not reach the periphery of the spire whorls, whereas the markings of *V.* (*C.*) *pantherinum* are present on two thirds of the spire whorls. Further, the protoconch and the early whorls of the new species are brownish, and the siphonal fasciole is pinkish whereas in *V.* (*C.*) *pantherinum* all these areas are white.

In the collection of the MNHN, specimens of *V.* (*C.*) *germaineae* sp. nov. earlier had been confused with *V.* (*C.*) *scitulum* (A. Adams, 1853) (Figs 6–7) because of the brown markings, but those markings in *V.* (*C.*) *scitulum* are present on the periphery and not on the posterior half of the whorls. In addition, the outline of the whorls is not as rounded as in the new species, but more cylindrical. The axial ribs and spiral cords in *V.* (*C.*) *scitulum* are also more prominent than in the new species and the subsutural bands are brownish instead of pink.

Vexillum (*Costellaria*) *scitulum* (A. Adams, 1853)

Mitra chariessa Melvilll, 1888 **syn. nov.**

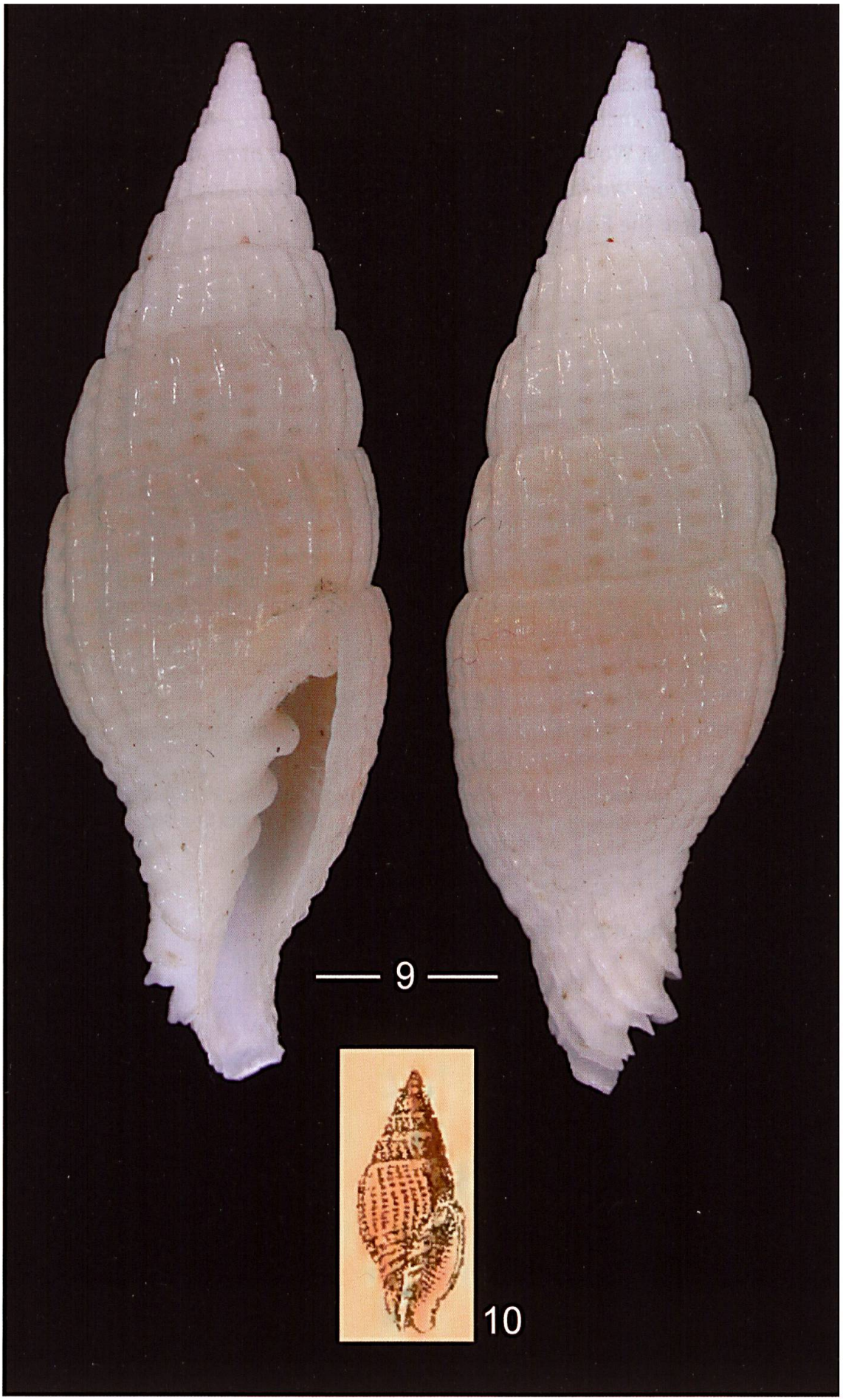
In Turner (2001) *Mitra chariessa* Melvilll, 1888 (Fig. 8) was synonymized with *Vexillum* (*C.*) *rubellum* (Adams & Reeve, 1850) (Figs 9–10), but when comparing the type species in NMW with the new species, the authors realized that *M. chariessa* should be synonymized with *Vexillum* (*C.*) *scitulum* (A. Adams, 1853) instead.

The type of *M. chariessa* and the syntypes of *V.* (*C.*) *scitulum* have the same slender appearance, an identical cancellated surface with a more prominent second spiral cord below the suture and the same colouration. The holotype of *M. chariessa* and the larger syntype of *V.* (*C.*) *scitulum* are nearly completely faded, but on close examination, slightly brown faded dots can be seen on the periphery of the body whorl of both shells. This characteristic can be better seen on the smaller syntype in the NHMUK.

In contrast, *V.* (*C.*) *rubellum* differ from the mentioned types. This species is larger, the axial ribs are thicker and, as mentioned by Adams & Reeve (1850) in the original description, *V.* (*C.*) *rubellum* has more swollen whorls and the longer siphonal canal is significantly recurved.

Plate 4: *Vexillum* (*Costellaria*) *rubellum* (Adams & Reeve, 1850), all figures 5 x

Fig. 9: MH, Philippines, Palawan, Balabac Island, collected 2005, 29.4 mm x 10.0 mm (photo Manfred Herrmann).
Fig. 10: Type figure of *Mitra rubella* Adams & Reeve, 1850.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