

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

Autor(en): **Herrmann, Manfred / Salisbury, Richard**

Objektyp: **Article**

Zeitschrift: **Contributions to Natural History : Scientific Papers from the
Natural History Museum Bern**

Band (Jahr): - **(2014)**

Heft 24

PDF erstellt am: **17.07.2024**

Persistenter Link: <https://doi.org/10.5169/seals-787039>

Nutzungsbedingungen

Die ETH-Bibliothek ist Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Inhalten der Zeitschriften. Die Rechte liegen in der Regel bei den Herausgebern.

Die auf der Plattform e-periodica veröffentlichten Dokumente stehen für nicht-kommerzielle Zwecke in Lehre und Forschung sowie für die private Nutzung frei zur Verfügung. Einzelne Dateien oder Ausdrucke aus diesem Angebot können zusammen mit diesen Nutzungsbedingungen und den korrekten Herkunftsbezeichnungen weitergegeben werden.

Das Veröffentlichen von Bildern in Print- und Online-Publikationen ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Die systematische Speicherung von Teilen des elektronischen Angebots auf anderen Servern bedarf ebenfalls des schriftlichen Einverständnisses der Rechteinhaber.

Haftungsausschluss

Alle Angaben erfolgen ohne Gewähr für Vollständigkeit oder Richtigkeit. Es wird keine Haftung übernommen für Schäden durch die Verwendung von Informationen aus diesem Online-Angebot oder durch das Fehlen von Informationen. Dies gilt auch für Inhalte Dritter, die über dieses Angebot zugänglich sind.

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

Manfred Herrmann & Richard Salisbury

ABSTRACT

Contrib. Nat. Hist. 24: 57–66

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*.

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.



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, Maalala 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.



A new species of the genus *Vexillum* (Gastropoda: Costellariidae) from Marquesas

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.

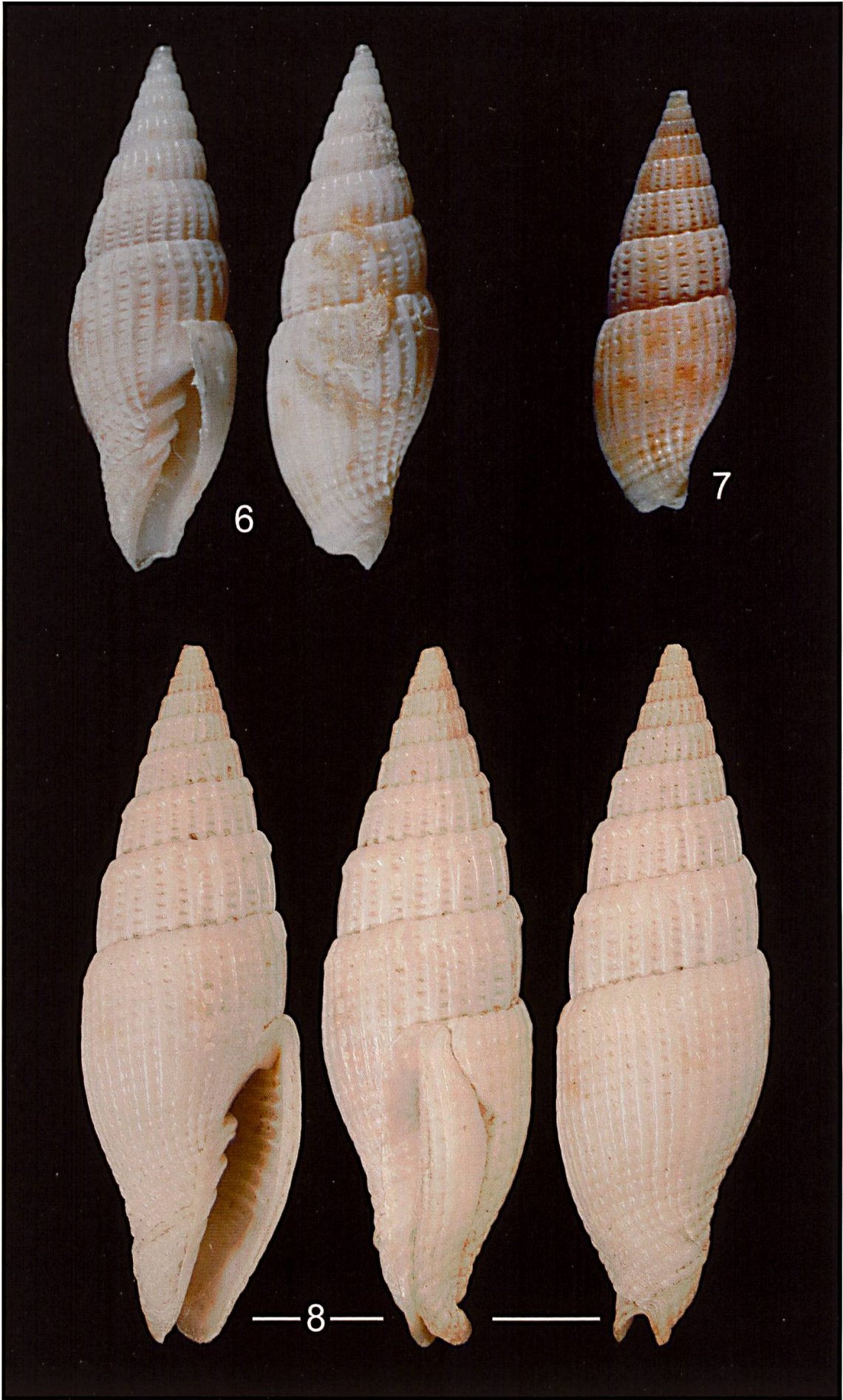
The new species is also comparable to *V. (C.) pantherinum* HERRMANN & SALISBURY, 2012 (Fig. 5), but it is slightly larger (up to 18 mm vs. up to 14 mm) and has finer, but more numerous axial ribs (36 to 38 vs. 20 to 24 on the body whorl). Both species have brown markings on the posterior part of the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



A new species of the genus *Vexillum* (Gastropoda: Costellariidae) from Marquesas

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 MELVILL, 1888 **syn. nov.**

In Turner (2001) *Mitra chariessa* MELVILL, 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.

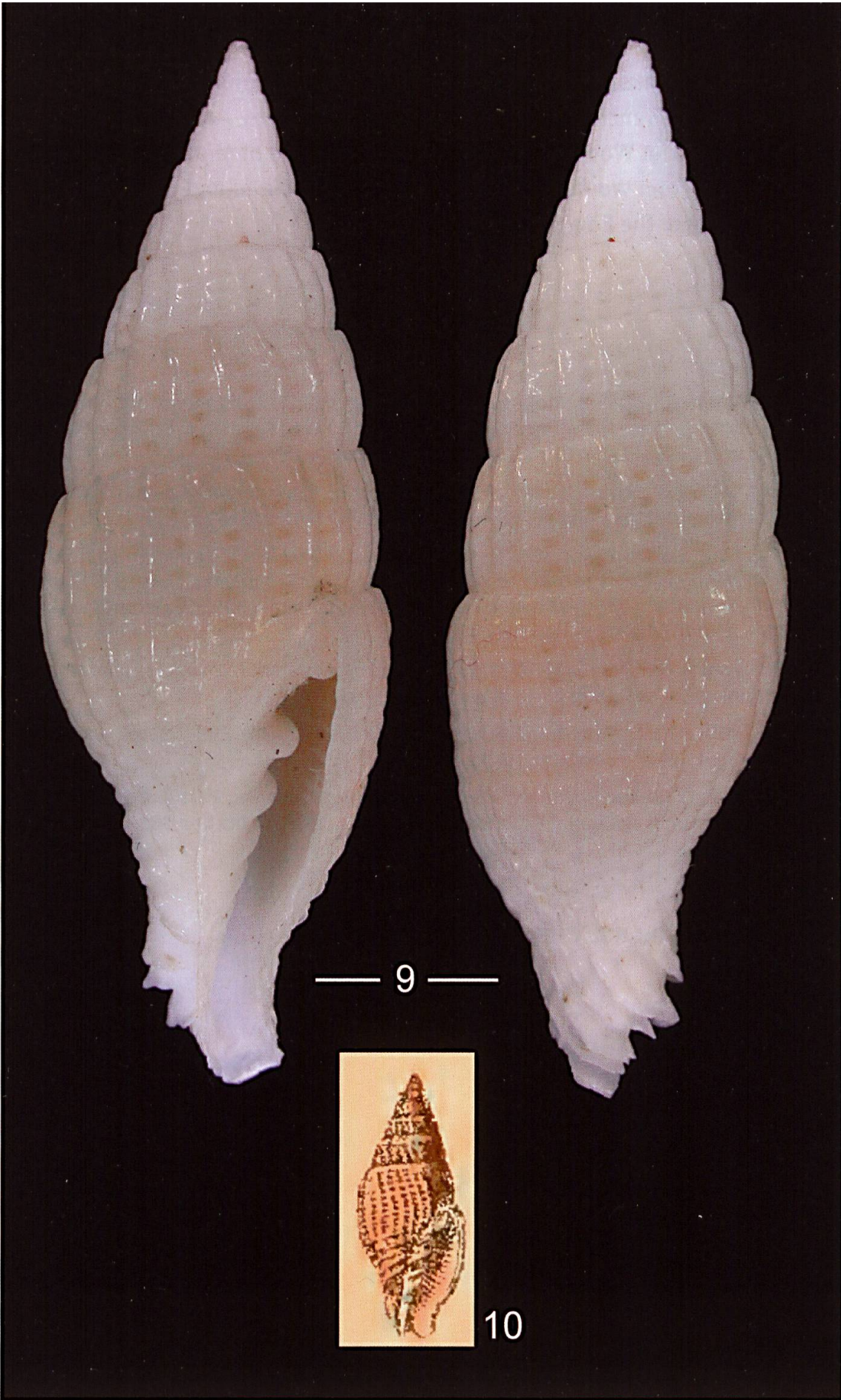
The type of *M. chariessa* and the syntypes of *V. (C.) scitulum* have the same slender appearance, an identical cancellated surface with a more prominent second spiral cord below the suture and the same colouration. The holotype of *M. chariessa* and the larger syntype of *V. (C.) scitulum* are nearly 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.



A new species of the genus *Vexillum* (Gastropoda: Costellariidae) from Marquesas

Acknowledgements

Our sincerest thanks to Philippe Bouchet and Virginie Heros (MNHN) for loan of material from French Polynesia and useful comments, Aart Dekkers for loan of material, Harriet Wood (NMW) for holotype photos of *Mitra chariessa*, Hans Turner (†) and John Wolff for type photos of *Mitra scitula* and John Wolff again for corrections of the English text.

References

- Adams, A. & Reeve, L. (1850): Mollusca. — In: A. Adams (ed.): The zoology of the voyage of H.M.S. Samarang under the command of Captain Sir Edward Belcher, C.B., F.R.A.S., F.G.S., during the years 1843–1846. 87 pp., 24 plates, London.
- Herrmann, M. (2012): New species of *Vexillum* (*Pusia*) (Gastropoda: Costellariidae) from French Polynesia and the Philippines. — *Gloria Maris* 51 (2–3): 45–61.
- Herrmann, M. & Salisbury, R.A. (2012): New deep water *Vexillum* (*Costellaria*) species from French Polynesia with new records of *Vexillum* (*Costellaria*) *vicmanoui* TURNER & MARROW, 2001 and *Vexillum* (*Costellaria*) *hoarui* GUILLOT DE SUDUIRAUT, 2007 (Gastropoda: Costellariidae) — *Gloria Maris* 51 (5–6): 105–148.
- Salisbury, R.A. & Herrmann, M. (2012): Three new Costellariidae species (Gastropoda) described from French Polynesia. — *Novapex* 13 (3–4): 107–111.
- Turner, H. (2001): Katalog der Familie Costellariidae MACDONALD 1860 (Gastropoda: Prosobranchia: Muricoidea). — 100 pp., Hackenheim.
- Woodring, W.P. (1928): Miocene mollusks from Bowden, Jamaica; Part 2. Gastropods and discussion of results. — Carnegie Institution of Washington, Publication 385, 564 pp.

Addresses of the authors:

Dr. Manfred Herrmann
Ulmenstr. 14
D-37124 Rosdorf, Germany
E-mail: mitridae@gmx.de

Richard A. Salisbury
947 North Parkdale Ave
Meridian, Idaho, 83642, USA
E-Mail: rsalisbury8@msn.com

INSTRUCTIONS TO AUTHORS

Content: Contributions to Natural History is a publication series of the Natural History Museum Bern (NMBE). Publications cover the fields of zoology, palaeontology, and geology (including mineralogy and meteoritics) and should be related to scientific collections (preferably to those of the NMBE) and/or to research activities of museum scientists. In zoology, priority is given to contributions on taxonomy and systematics, biodiversity, morphology, faunistics, biogeography and all other aspects of organismic biology.

Language: Manuscripts may be written in English (preferred), German or French.

Review: Manuscripts will be peer-reviewed in any case by external referees.

Submission of manuscripts: Manuscripts should be sent as Email-attachments (preferred), on CD, or as three paper copies, including figures and tables, to the managing editor. After reviewing, authors should send the revised version of the manuscript in MS Word or Word for Macintosh and as a txt file. Figures should be sent after reviewing as originals or in an electronic version (tiff or jpg with maximal quality). Resolution must be 300 dpi for colour and greyscale figures, and 1200 dpi for line and ink drawings. Concerning figures and tables, authors should pay attention to the print area of 195 x 117 mm (including legends). Full breadth figures/tables are 117 mm wide with the legend at the base; all others are 85 mm wide with the legend at the side. If sent as originals, indicate magnification or size reduction of the figures at the backside of each original. For compilation of figures into plates, the use of a vector graphics editor (like Adobe Illustrator, Adobe InDesign, or Inkscape, but NOT Adobe Photoshop) is mandatory and figures must be labelled with a 13 pt sans-serif font (e.g. Arial, Helvetica, or Frutiger). Plates should be saved as PDF or EPS. Tables should be sent as Excel files (preferred) or as Word files using the tabs function.

Presentation: Manuscripts must be clear and concise in style. Telegraphic style is recommended for descriptions. Establishment of new taxa must be in accordance with the rulings of the last edition of the International Code of Zoological Nomenclature and authors are expected to be familiar with the rulings of the Code. Name-bearing types must be deposited in a museum or in another institutional collection. Nomenclatural authors must be written in SMALL CAPS, with a comma between author and year of description. Bibliographical authors are written in normal style and without comma between author and year. Use "&" for co-authors and "& al." instead of "et al.". Scientific names of genus-, species-, and subspecies-rank or (in case of citation of names proposed before 1961) of forms and varieties must be written in *italics*.

Manuscripts should be organised in the following way (in brackets: optional): Title, (sub-title), Author(s), Abstract, (Kurzfassung, Résumé), Introduction, Material and Methods, (Abbreviations), Results, Discussion, Acknowledgements, References, Adress(es) of author(s), (Appendices). Figures, tables and legends should be on separate sheets. In case of large manuscripts, contents and index can be added. Footnotes should be avoided. Colour prints are possible in certain cases.

Manuscripts should be typed or printed and be double-spaced throughout (including legend). Pages must be numbered. References must strictly follow the journal's style. Do not cite papers as "in prep." or other unpublished manuscripts like diploma theses or expert opinions, unless these manuscripts are accepted for publication in a scientific journal ("in press"). Examples for citation of literature:

Meyer, A.H., Schmidt, B.R. & Grossenbacher, K. (1989): Analysis of three amphibian populations with quarter-century long time series. — Proceedings of the Royal Society of London B 265: 523–528.

Groh, K. & Poppe, G. (2002): A conchological iconography. Family Acavidae excluding Ampelita. — 69 pp., 44 plates, Hackenheim.

Selden, P.A. & Dunlop, J.A. (1998): Fossil taxa and relationships of chelicerates. — In: Edgecombe, G.D. (ed.), Arthropod fossils and phylogeny, pp. 303–331, New York.

Proofs: Proofs are sent to the authors for correction.