



XENOPHORA

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Extending the list of marine mollusca for Cyprus with some deeper water species

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Keywords

Cyprus, Mediterranean Sea, Mollusca, New Records

Abstract

The present work is a continuation of the investigation on the marine molluscs of Cyprus by June 2026. It incorporates *Asperarca nodulosa* (O. F. Müller, 1776) and *Bathyarca philippiana* (Nyst, 1848) as first records, and *Lobiger serradifalci* (Calcara, 1840) and *Bathyarca pectunculoides* (Scacchi, 1835) as first and second image documented record, respectively. Essential taxonomic characteristics and ecological data, such as distribution and habitat are presented.

Introduction

Marine molluscs comprise a large proportion (some 25%) of the benthic fauna worldwide; therefore, any significant change in the molluscan species composition is anticipated to have a substantial effect on the benthic communities as a whole (Gofas & Zenetos, 2003). The Mediterranean molluscan fauna is comprised of 1482 gastropod and 410 bivalve species (Oliverio, 2003), however, subsequent research has expanded this inventory following environmental and anthropogenic effects. This fact encourages scientists to continue their effort to discover more molluscs, at least in their local waters. Nevertheless, the molluscan biodiversity can be influenced by exotic species in marine areas close to gateways of introduction such as the Suez Canal in the East Mediterranean Sea, and the progressive subtropicalization of the Mediterranean environment becoming subtropical due to the climate change. As human activities have exposed the Mediterranean molluscan fauna to extensive factors of change in the past few decades (Gofas & Zenetos, 2003), faunistic studies aid in monitoring the changes and apprehending their impacts. Cyprus is situated close to the Suez Canal in the Levantine Sea and in the way of the sea currents which are considered responsible for the spread of the Lessepsian migrants from the Red Sea towards the north and up to the NW Aegean Sea (Manousis & Galinou-Mitsoudi, 2014). The existing published records on the marine molluscan species in the Cypriot waters seem to be rather few (e.g. Di Mon-

terosato, 1899; Stavrinos, 1974; Tornaritis, 1987; Barash & Danin, 1988; Cecalupo & Quadri, 1994a, 1994b, 1995; Buzzurro & Greppi, 1997; Orr, 2000; Delongueville & Scaillet, 2008, 2009, 2010a, 2010b; Cecalupo *et al.*, 2008; Katsanevakis *et al.*, 2009; Zenetos *et al.*, 2009; Tsiakkios & Zenetos, 2011; Kolokotronis *et al.*, 2023, 2024, 2025; Papatheodoulou *et al.*, 2024; Varnava *et al.*, 2024a, b, c) while at the same time the faunistic status tends to be modified due to natural and anthropogenic impacts. Concurrently, a review of the relevant bibliography reveals the lack of smaller species (i.e. <5 mm) (Kolokotronis *et al.*, 2022) – an indication that the area is undersearched, as well as that numerous species records lack photographic documentation. After that, the objective of this work is to continue with the search of the Cypriot seas with emphasis on species of smaller size and/or depths, and give reference information for future studies.

Methods

Samples were collected from 3 stations at the South-east coast of Cyprus, at a depth range of 90 – 300 m. Sampling, handling and species recognition were conducted according to Manousis & Galinou-Mitsoudi (2014) and Mbazios *et al.* (2020). In cases when specimens were of very small size and not perfect condition we present them with cf.. The scientific names of species are based on WoRMS (June 2026). The representatives of the collected specimens are depicted in Figure 1. All specimens are deposited in the premises of M. Papatheodoulou who gives access to the biological material for inspection by appointment.

Results and Discussion

Abbreviations:

C1 – first record for Cyprus;

DC1, DC2 – first or second image documented record for Cyprus;

MB – Mixed Bottom;

RB – Rocky bottom;

The records

Bivalvia

Asperarca nodulosa (O. F. Müller, 1776) (Fig. 1a), 4 live individuals, 300 m, MB, Paralimni, JSP 35°04'N-34°09'E, June 2026, C1, presentation in Giannuzzi-Savelli *et al.* (2001), description in Gofas *et al.* (2011).

Bathyarca pectunculoides (Scacchi, 1835) (Fig. 1b), 1 live individual, 300 m, MB, Paralimni, JSP 35°04'N-34°09'E, June 2026, DC2, presentation in Giannuzzi-Savelli *et al.* (2001), description in Gofas *et al.* (2011).

Bathyarca philippiana (Nyst, 1848) (Fig. 1c), 1 live individual, 160 m, RB, Ag. Napa, JSP 34°38'N-32°43'E, and 5 live individuals, 300 m, MB, Paralimni, JSP 35°04'N-34°09'E, June 2026, C1, presentation in Giannuzzi-Savelli *et al.* (2001), description in Gofas *et al.* (2011).

Gastropoda

Lobiger serradifalci (Calcare, 1840) (Fig. 1d), 1 live individual, 90 m, MB, Paralimni, JSP 35°04'N-34°09'E, June 2026, DC1, description in Gofas *et al.* (2011).

Discussion

The present work is a continuation of our investigation on the marine molluscs of Cyprus (Kolokotronis *et al.*, 2024). All findings are long known inhabitants of the Mediterranean Sea, a fact that in essence indicates that the Cypriot molluscan biodiversity is not explored adequately yet, and more species are waiting to see the light of publicity. The clean oligotrophic waters of the East Mediterranean Sea, the variety of substrates, depths and costal length and diversity, the climate change as well as the human activities (e.g. navigation, expansion of the Suez Canal) seem to be in support of our anticipations. The climate change transformation of the Mediterranean Sea, in particular, from temperate to subtropical environment and the human activities that induce an increase in the alien biodiversity by means of species introduction from tropical and subtropical seas make ever more crucial for the scientists to turn and focus their attention on those effects on the molluscs' diversity of the Island. Moreover, any new alien record comprises an alert signal for its expansion, distribution and future effects on the whole Mediterranean Sea environment. The work continues on all molluscan families and expands in more areas and depths of the Cypriot Seas.

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Figure 1: a. *Asperarca nodulosa* (O. F. Müller, 1776); b. *Bathyarca pectunculoides* (Scacchi, 1835); c. *Bathyarca philippiana* (Nyst, 1848); d. *Lobiger serradifalci* (Calcara, 1840). Barr = 1 mm, unless otherwise indicated.

Description de *Tesselliconus uapouensis* sp. nov. endémique de l'archipel des Marquises.

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Mots clés : Description, Conidae, *Tesselliconus*, Nouvelle espèce, Polynésie française, Archipel des Marquises, Ua Pou.

Résumé : C'est une petite coquille qui circule la nuit sur le sable au milieu des *Tesselliconus* aff. *tessulatus*, *Eugeniconus marchionatus* et autres *Lividoconus quercinus* et à la quelle personne ne prêtait attention. Nommée depuis longtemps comme *T.* aff. *sandwichensis* dans différentes littératures.

Introduction :

Abréviations : MNHN Paris (Museum National Histoire Naturelle de Paris).

Matériels et méthode :

La classification suivie est celle de Monnier, Limpalaër, Robin & Roux (2018). Les coquilles ont été mesurées avec un pied à coulisse digital (à 0,1 mm près). Les sculptures et protoconques ont été examinées avec une loupe binoculaire (grossissement x20).

Systématique :

Family: Conidae Fleming, 1822
Genre: *Tesselliconus* da Motta, 1991
Tesselliconus uapouensis sp. nov.
(Planche 1, Figures 0 - 4
Planche 2, Figures 5 - 8)



Figure 1 : Holotype de *Tesselliconus uapouensis* sp. nov.

Type de matériel : Holotype et 9 paratypes. L'holotype a été déposé au MNHM, Paris, France sous le numéro MNHN-IM-2000-28629 (ex collection P. Marti). Les différents paratypes sont dans des collections privées (voir Table 1).

Matériels étudiés : 10 spécimens ont été étudiés, difficilement accessibles.

Localité type : Îles du nord de l'archipel des Marquises (fig. 2 & 2b). Il n'a jamais été pêché dans les îles du sud de l'archipel.

Type	Institution	Longueur	Localité
Holotype	MNHN-IM-2000-28629	38,9 mm	Ua Pou, Archipel des Marquises
Paratype 1	Coll. Fred Seranon	43,2 mm	Ua Huka, Archipel des Marquises
Paratype 2	Coll. Michel Luciani	24,3 mm	Ua Pou, Archipel des Marquises
Paratype 3	Coll. Michel Luciani	30,7 mm	Ua Pou, Archipel des Marquises
Paratype 4	Coll. Patrick Vappereau	25 mm	Ua Pou, Archipel des Marquises
Paratype 5	Coll. Patrick Vappereau	30 mm	Ua Pou, Archipel des Marquises
Paratype 6	Coll. Patrick Marti	30 mm	Ua Pou, Archipel des Marquises
Paratype 7	Coll. David Lampson	31 mm	Ua Pou, Archipel des Marquises
Paratype 8	Coll. Jean Jacques De Pina	36 mm	Ua Pou, Archipel des Marquises
Paratype 9	Coll. Fred Seranon	49,5 mm	Ua Pou, Archipel des Marquises

Table 1. Types des *Tesselliconus uapouensis* sp. nov.

Habitat, animal :

Collecté entre 10 et 35m, il vit dans le sable et a un régime alimentaire vermivore.

Etymologie :

Ce coquillage a été le plus souvent pêché dans l'île de Ua Pou (Archipel des Marquises) mais aussi à Nuku Hiva et Ua Huka.

Description de *Tesselliconus uapouensis* sp. nov.

T. sandwichensis - Tuitou D., Balleton M., Cônes des Marquises – Cones shells of the Marquesas, p.329 fig. 1a & fig. 2, = *T. uapouensis* sp. nov.

Description :

Taille modérément petite à moyenne pour le genre allant de 24,3 mm jusqu'à 49,5 mm. Les bords de la coquille sont concaves, la partie la plus large se situant légèrement en dessous de l'épaule. La spire comporte 8-9 tours sans tache avec un dernier tour lisse et brillant. La spire est relativement basse avec un apex blanc nacré et le pourtour rosé, les sutures entre les tours sont « crantées », richement ornées de perles allongées (voir fig. 4). L'apex comporte environ deux tours complets. Les premiers tours de la spire sont plus surélevés de forme pyramidale. La couleur du cône est blanche ou rose pâle selon les spécimens étudiés, avec en fond deux bandes larges rose clair voire jaunes : une plus large au niveau de l'épaule et l'autre en dessous de la partie médiane du dernier tour. L'ouverture du cône est étroite, de cou-

leur blanche comme l'extrémité antérieure de la base. Vers la base, on trouve des sillons spiraux bien visibles. Sur les spécimens vivants, le periostracum est légèrement jaunâtre (Planche 2, fig. 9 c-d) et le pied de l'animal est de couleur crème, parsemé de taches brunes diffuses (Planche 1 fig. 0c & 1d-e).

Discussion, comparaison :

- La spire de *T. uapouensis* sp. nov. est plus basse que celle de *T. sandwichensis* (figure 3). C'est d'ailleurs une des raisons qui a permis à *T. sandwichensis* de devenir une espèce à part entière par le passé.
- Les sutures des tours de la spire de *T. uapouensis* sp. nov. sont sinueuses (figure 5).
- *T. uapouensis* sp. nov. est moins large que *T. suturatus* et *T. devorsinei* (figure 3).
- Le pourtour de l'apex de *T. uapouensis* sp. nov. est rosé contrairement aux autres cônes étudiés ici (figure 4).
- Absence de taches sur les tours de la spire comparé à *T. sandwichensis* (figure 4).
- Absence de couleur mauve à la base comme *T. sandwichensis* et *T. suturatus* (figure 3).
- *T. suturatus* & *T. devorsinei*, *T. uapouensis* sp. nov. et *T. sandwichensis* vivent dans 3 zones géographiquement distinctes et isolées les unes des autres par plusieurs milliers de kilomètres (figure 2).
- Comme indiqué dans le livre *Cônes des Marquises de Tuitou D. & Balleton M.*, les variations blanches de *T. tessulatus* et de *E. marchionatus* ont été écartées morphologiquement (cf. p.328-329).



Figure 2. Carte de répartition de *T. suturatus*, *T. devorsinei*, *T. sandwichensis* et *T. uapouensis* sp. nov.

Remerciements :

Un grand merci à Fred Seranon, Michel Luciani et Patrick Vappereau pour les spécimens étudiés, ainsi qu'au Forum Francophone des Collectionneurs de coquillages.



Figure 2b. Lieu de pêche dans les îles du Nord de l'archipel des Marquises.

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Figure 3. Comparaison de la largeur de *T. suturatus* (1), *T. devorsinei* (2), *T. uapouensis* sp. nov. paratype 7 (3) et *T. sandwichensis* (4)

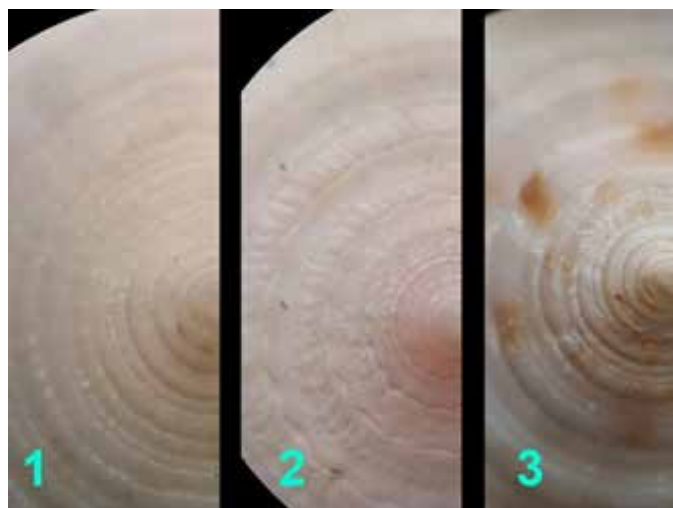
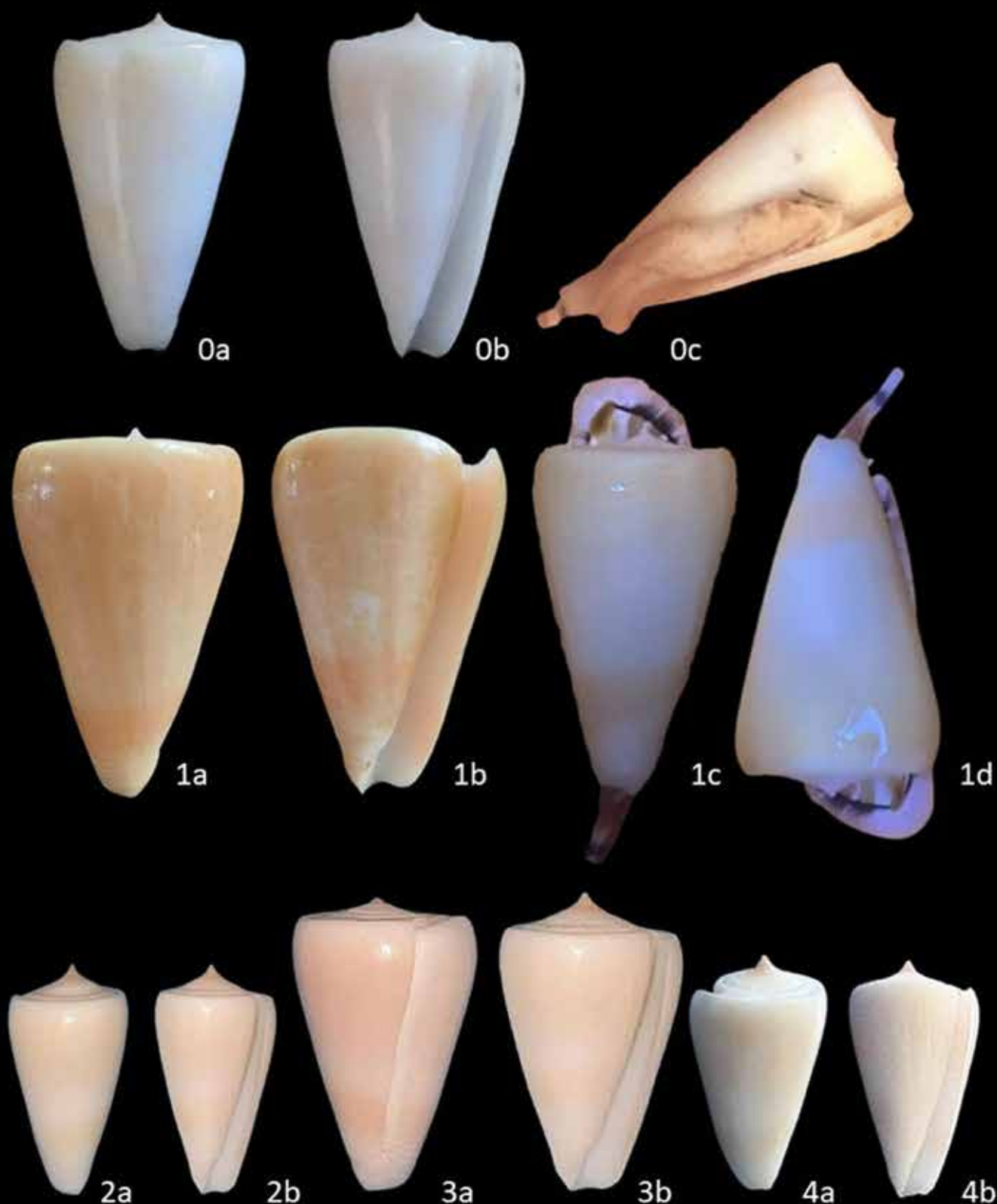


Figure 5. Comparaison des sutures de *T. suturatus* (1), *T. uapouensis* sp. nov. (2) et *T. sandwichensis* (3)



Figure 4. Comparaison de la spire *T. suturatus* (1), *T. uapouensis* sp. nov. (2) et *T. sandwichensis* (3)

Planche 1: *Tesselliconus uapouensis* sp. nov.



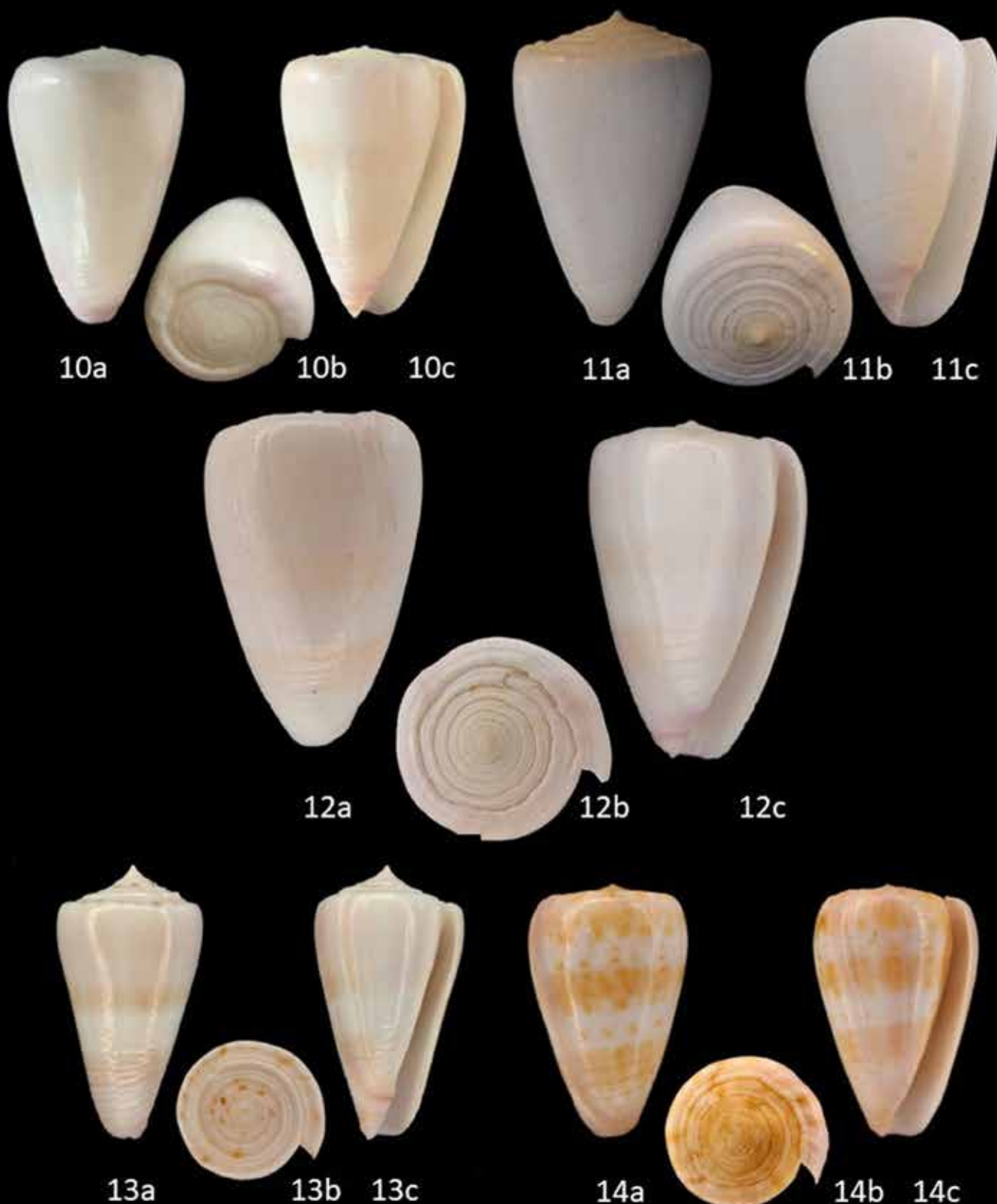
0a, b, c Holotype, 38,9 mm, Ua Pou, Marquises, Polynésie Française, MNHN-IM-2000-28629
 1a, b, c, d Paratype 1, 43,2 mm, Hua Huka, Marquises, Polynésie Française, Coll. F. Seranon
 2a, b Paratype 2, 24,3 mm, Ua Pou, Marquises, Polynésie Française, Coll. M. Luciani
 3a, b Paratype 3, 30,7 mm, Ua Pou, Marquises, Polynésie Française, Coll. M. Luciani
 4a, b Paratype 4, 25 mm, Ua Pou, Marquises, Polynésie Française, Coll. P. Vappereau

Planche 2: *Tesselliconus uapouensis* sp. nov.



5a, b, c Paratype 5, 30 mm, Ua Pou, Marquises, Polynésie Française, Coll. P. Vappereau
 6a, b Paratype 6, 30 mm, Ua Pou, Marquises, Polynésie Française, Coll. P. Marti
 7a, b Paratype 7, 31 mm, Ua Pou, Marquises, Polynésie Française, Coll. D. Lampson
 8a, b, c Paratype 8, 36 mm, Ua Pou, Marquises, Polynésie Française, Coll. J.J. De Pina
 9a,b,c Paratype 9, 49,5 mm, Ua Pou, Marquises, Polynésie Française, Coll. F. Seranon

Planche 3: *Tesselliconus suturatus*, *sandwichensis*, *devorsinei*



10a, b, c *Tesselliconus suturatus* Reeve, 1844, 31,5 mm, Northern Qld., Australie, Coll. J.J. De Pina
 11a, b, c *Tesselliconus suturatus* Reeve, 1844, 37,1 mm, Australie, Coll. D. Lampson
 12a, b, c *Tesselliconus suturatus* Reeve, 1844, 40,2 mm, Australie, Coll. D. Lampson
 13a, b, c *Tesselliconus sandwichensis* Walls, 1978, 31,8 mm, Hawaï, Coll. D. Lampson
 14a, b, c *Tesselliconus devorsinei* (Petuch, Berschauer & Poremski, 2015), 29,8 mm, Australie, Coll. D. Lampson

Notes on Volutidae Taxonomy

from 2016 to 2026 (Part 2: 2021-2024)

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Introduction to the second part

After the first part that covered 21 species and 12 subspecies of Volutidae described from 2016 to 2020 (half of the studied period), in this second part we analyse 7 genera or subgenera, 49 species and 8 subspecies described between 2021 and 2024.

At this point we need to clarify that some genera have been intensively splitted lately by some authors, namely:

Athleta, *Callipara*, *Fulgoraria*, *Melo*, *Scaphella* from *junonia* group and specially *Amoria* (targeting the well known variable species *molleri*, *damonii* and *maculata*) sometimes based on a very limited number of shells, and often switching from subspecies to species with insufficient ground.

These publications are going against the position of well respected specialists like Bail, Limpus, Abbottsmith and B. Wilson. We feel there is a real need to challenge these recent positions. We assert creating new species needs to show significant differences with existing material.

Abbreviations

AMNH American Museum of Natural History, New York, USA
AMS Australian Museum, Sydney, NSW
BSRF Blue Sky Research Foundation, Cairns, QLD
LACM Los Angeles County Museum, Los Angeles, USA
MMM Malacologia Mostra Mondiale, Cupra Marittima, Italy.
MNHN Muséum National d'Histoire Naturelle, Paris, France
MNRJ Museu Nacional do Rio de Janeiro, Brazil
MZB Museum Zoologi Bogor, Indonesia
MZUSP Museu de Zoologia da Universidade de São Paulo, Brazil
NMR Natuurhistorisch Museum Rotterdam, The Netherlands
NMSA Kwazulu-Natal Museum, Pietermaritzburg, South Africa
NTM Museum and Art Gallery of the Northern Territory, Darwin, NT
QMMO Queensland Museum, Brisbane, QLD
RBINS Royal Belgium Institute of Natural Sciences, Brussels, Belgium
SAM South Australian Museum, Adelaide, SA
SBMNH Santa Barbara Museum of Natural History, USA
WAM Western Australian Museum, Perth, WA

NSW New South Wales, Australia
NT Northern Territory, Australia
QLD Queensland, Australia
SA Southern Australia, Australia
USA United States of America
WA Western Australia, Australia

AR Alain Robin
J&MC José and Marcus Coltro
JR José Rosado
OC Olivier Crabos

PB Patrice Bail
RW Ray Walker
WM Werner Massier
ROV Remotely Operated Vehicle

2021

Harpulina diannae Cossignani, Allary & Stimpson, 2021 in *Malacologia Mostra Mondiale* 110

This species from India seems to be a *Harpulina lapponica* (Linnaeus, 1767) with light nodules. Patterson, Ravinesh and Biju Kumar (2022) in "Molluscs of the Gulf of Mannar, India and adjacent waters: A fully illustrated guide" on page 172 place this taxon in synonymy with *Harpulina lapponica* (Linnaeus, 1758)



Harpulina diannae, 80 mm, off Palk Straits, Rameshwaram, Tamil Nadu, India, 40-45 m, photo J&MC.

Odontocymbiola diannae Cossignani, Allary & Stimpson, 2021 in *Malacologia Mostra Mondiale* 110.

This Brazilian species from the mouth of the Amazon River is quite original, as it is with *Voluta ebraea* the only Volutidae present in that region. It is distinguishable from *Odontocymbiola simulatrix* Leal & Bouchet, 1989 by not bearing any pattern, and by being separated by 4000 km of coast without any similar shell in between.

We think this is a valid species.



Odontocymbiola diannae, 73 mm, 350 miles off Amazonas River Mouth, Pará, Brazil, 400 m, photo J&MC.

Melo peterstimpsoni Cossignani, Allary & Stimpson, 2021 in *Malacologia Mostra Mondiale* 112.

This Australian species from the Northern Territory with a beautiful pattern seems to be a color variant form of *Melo umbilicatus* Broderip in Sowerby I, 1826, and should be treated as a form of the latter, as proposed in *La Collection de Volutidae de Patrice Bail* page 32.



Melo peterstimpsoni holotype, 266 mm, NT, Australia, photo J&MC (left).

Melo umbilicatus, 266 mm, off Moreton Island, QLD, Australia, 8-10 m, photo J&MC (right).

Amoria austellus Morrison & Schneider, 2021 in *Conchylia* 51(3-4).

This Australian species was previously thought to be a dwarf form of *Amoria exoptanda* (Reeve, 1849) from Esperance, but in their study Morrison and Schneider demonstrate it is distinct. *A. austellus* comes from 1500 km away from the location of *A. exoptanda*, it is one third smaller, its shell is very light, has light orange aperture instead of bright orange, and has a low domed protoconch with 3.5 whorls instead of 4 to 4.5 for *Amoria exoptanda*.



Amoria austellus, 65 mm, off Esperance, WA, Australia, Coll. PB, photo AR (left).

Amoria exoptanda, 100 mm, Thorny Passage, Port Lincoln, SA, Australia, 20-25 m, photo J&MC (right).

Amoria marshallorum Morrison & Schneider, 2021 in *Conchylia* 51(3-4).

This species was studied in the same article as the previous one and comes from the South of Western Australia too. It has an intermediate size between *Am-*



Amoria marshallorum holotype, 70 mm, off Cumberland Rock, West of Cape Leeuwin, WA, Australia, 10-20 m, photo H. Morrison in *Conchylia*.

oria exoptanda and *A. austellus*, but contrary to the latter, its shell is heavy, with a thickened lip. The very fine randomly spotted pattern is specific of *A. marshallorum*, described by its authors as the more variable species of the group.

Our only doubt is whether *A. marshallorum* should be considered a subspecies of *A. exoptanda*, as proposed by P. Bail in *La Collection de Volutidae de Patrice Bail* page 28, instead of a full species. We choose a subspecific status pending further studies.

Fulgoraria humitakesekii Thach, 2021 in *New shells of South Asia and Taiwan, China, Tanzania. Seashells-Freshwater-Land snails*.

The holotype has a broken lip. It is compared by Thach to *Fulgoraria allaryi* Bail, 2005, differing in having a more excavated base of the body whorl and spiral ribs on dorsal side. In our opinion, considering *F. allaryi* variability, this species is a form of *F. allaryi*.



Fulgoraria humitakesekii holotype, 201 mm, offshore Northeast Khanh Hoa, Vietnam, 150-250 m, photo MNHN Paris (F. Prugnaud).

Fulgoraria ikedai Thach, 2021 in *New shells of South Asia and Taiwan, China, Tanzania. Seashells-Freshwater-Land snails*.

Based on a single shell, Thach compares it with *Fulgoraria clara* (Sowerby III, 1914) but with a slenderer shape and more round shoulder, and with *F. formosana* Azuma, 1967 with slenderer shape and less inflated body whorl.

In our opinion this shell could be a juvenile of *F. allaryi* Bail, 2005, with a broken mouth, but Patrice Bail considered it as a good species in *La Collection de Volutidae de Patrice Bail* page 20. Therefore, we keep it as valid awaiting for more material to elucidate its status.



Fulgoraria ikedai holotype, 94 mm, offshore Binh Thuan, Vietnam, 120-170 m, photo MNHN (F. Prugnaud).

Cymbium ferranti Nolf, 2022 in *Neptunea* 15(4)

This species from Cameroon has been confused earlier with *Cymbium coenyei*, *C. fragile* and *C. patulum*. It can be distinguished from *C. coenyei* and *C. patulum* by



Cymbium ferranti, 190 mm, off Kribi, Cameroon, Coll. OC, photo JR.

its raised protoconch above the sutural ramp, and from *C. fragile* as the latter has a light, fragile and slender shell and its protoconch is not covered by a callus.

This group of characteristics being unique, we conclude it does indeed deserve the status of a valid species.

Lyria ellenae Morrison, 2022 in *Conchylia* 53(1-2)

This Western Australian species was previously included within the variability of *Lyria mitraeformis* (Lamarck, 1811) as a pale deep-water form. *L. ellenae* is smaller



Lyria ellenae holotype, 36 mm, WNW of Rottnest Island, WA, Australia, 165-175 m, photo WAM.

and has a lower length/width ratio than *L. mitraeformis* (therefore exhibiting a slenderer outline), its protoconch is cream yellow instead of purple brown. In addition, *L. mitraeformis* is found from intertidal depths down to 20 m deep whereas *L. ellenae* comes from 60 to 200 m.

Its unique habitat and different shape from *L. mitraeformis* deserve a valid species status.

Cymbiola vesperilio peterstimpsoni Cossignani & Allary, 2022 in *Malacologia Mostra Mondiale* 114

Cymbiola vesperilio (Linnaeus, 1758) is a very common and variable species, actually being the Volute with



Cymbiola vesperilio peterstimpsoni, 75 mm, Banggai Island, Central Sulawesi, Molucca Sea, Indonesia, 10-15 m, photo J&MC.

the widest distribution area throughout the Indo-Pacific, from the Philippines to Australia. Many forms and varieties were created but none was validated, the variability of this shell all around its range would not justify it.

In Banggai Island in Indonesia, shells with spiny nodules and a fine pattern of triangles were found, showing a relatively high spire, variable in colour (with brown being the dominant tone), recognizable when compared to specimen from other origins. It was designated as *C. vesperilio peterstimpsoni*, a valid subspecific status in our opinion.

Lyria lyraeformis pettinelli Cossignani & Allary, 2022 in *Malacologia Mostra Mondiale* 114

The nominal subspecies *L. lyraeformis lyraeformis* (Swainson, 1822) is found from south Tanzania to Somalia, possibly extending to India and Sumatra. Its variability in terms of size, length/width ratio and number of axial ribs is well identified.



Lyria lyraeformis pettinelli, 115 mm, Pate Island, Lamu Archipelago, North Kenya, 10-18 m, photo J&MC (left).
Lyria lyraeformis, 99 mm, Wasini Island, Southern Mombasa, Kenya, shallow water, photo J&MC (right).

This population from Shimoni, Kenya, shows a broader shape than the nominal species, and therefore a wider aperture and less axial ribs.

We do not see any reason to create a subspecies.

Lyria lyraeformis simonettae Cossignani & Allary, 2022 in *Malacologia Mostra Mondiale* 115

This population from Somalia and Kenya shows a broader shape than the nominal subspecies. In fact, it seems to be intermediate between *L. lyraeformis petti-*

nelli and *L. lyraeformis lyraeformis*. We do not see a sufficient reason to create a subspecies.



Lyria lyraeformis simonettae, 101 mm, off Lamu, Northern Kenya, 4-6 m, photo J&MC.

Cymbiola chrysostoma stimpsonorum Cossignani & Allary, 2022 in *Malacologia Mostra Mondiale* 115

With the recent explosion of seashells trading in Indonesia, *Cymbiola chrysostoma* (Swainson, 1824), a very rare shell included in the *Rare Shells* book by Peter Dance became quite common.

The collectors also discovered its variability, this beautiful shell having the general shape of a small *C. imperialis* (Lightfoot, 1786), with a yellow aperture and a black and white pattern.



Cymbiola chrysostoma stimpsonorum, 54 mm, Banggai Island, Central Sulawesi, Indonesia, 10-20 m, photo J&MC (left).
Cymbiola chrysostoma, 57 mm, off Eastern Timor, Indonesia, 50-70 m, photo J&MC (right).

We do not see any reason to create a subspecies, and it is curious to notice that even Indonesian dealers do not use the subspecies name at all.

Afriathleta*, *Capensisvoluta*, *Nataliavoluta S.G. & J.H. Veldsman, 2022 in *Visaya supplement* 17

Three new South African genera were created by the two authors, who argued that “the living volutes previously classified under *Athleta* do not seem to be directly related”.

Because we felt that this statement was not correct, we published an article in *Xenophora Taxonomy* 42 proposing to reject these new genera (or at most to convert them into subgenera).

Athleta leilaniae*, *trixiae*, *viljoenae S. G. Veldsman and J. H. Veldsman, 2022 in *Visaya supplement* 17

Athleta semirugata (Rehder & Weaver, 1974) is a species present in South Africa and in South Mozambique, with some variability in terms of spire height and intensity of its pattern, designated as forms by R. Aiken in the Seccombe and Marais 2011 book *Identification Guide to the Shells of South Africa*. Therefore, the small variations observed (pattern and shape) do not seem to justify specific rank, the forma or at most subspecific rank appearing to be more justified.



Athleta (Afriathleta) semirugata leilaniae, 48 mm, off South Inhaca, Mozambique, 350 m, Coll. OC, photo JR.



Athleta (Afriathleta) semirugata trixiae, 47 mm, off Inhambane, Mozambique, 320-350 m, Coll. OC, photo JR.



Athleta (Afriathleta) semirugata viljoenae, 33 mm, off between XaiXai and Chidenguele, Mozambique, 280-300 m, Coll. OC photo JR.

Athleta everriculum sagena S. G. & J. H. Veldsman, 2022 in *Visaya supplement* 17

Athleta gilchristi (Sowerby III, 1902) is a South African species presenting some shell variability, as shown by R. Aiken in the Seccombe and Marais 2011 book *Identification Guide to the Shells of South Africa*, in which three forms were designated. Therefore, the small variations observed do not seem to justify a specific rank, form or at the most subspecific rank appearing to be more justified.



Athleta (Nataliavoluta) gilchristi everriculum, 30 mm, off Inhaca Island, South Mozambique, 480-550 m, Coll. OC, photo JR (left).
Athleta (Nataliavoluta) gilchristi sagena, 35 mm, off Durban, S Africa, 400 m, Coll. OC, photo JR (right).

Athleta ariejoostei* and *lizekai S. G. & J. H. Veldsman, 2022 in *Visaya* supplement 17

These species are distinguishable only by size, otherwise both look very much alike. They appear to us to be mere variations of *Athleta boswellae* (Rehder, 1969), just like *A. magister* (Kilburn, 1980), it is considered by some authors a form of *A. boswellae*. All come from Agulhas Bank and present many shell similarities; we thus propose to maintain them as forms of the latter.



Athleta (Capensisvoluta) boswellae ariejoostei, 34 mm, Agulhas Bank, S. Africa, 150-200 m, Coll. OC, photo JR (left).
Athleta (Capensisvoluta) boswellae lizekai holotype, 57 mm, off Agulhas Bank, S. Africa, 250 m, S. G. & J. H. Veldsman picture in *Visaya* (right).

Athleta namaqua S. G. & J. H. Veldsman, 2022 in *Visaya* supplement 17

This new species lives in the same waters as *Athleta abyssicola* (A. Adams & Reeve, 1848) and shares its general characteristics, the main difference being a slenderer body. In our opinion, *A. namaqua* should be treated as a form of *A. abyssicola*.



Athleta (Capensisvoluta) abyssicola namaqua, 85 mm, off Agulhas Bank, S. Africa, 150 m, Coll. OC, photo JR (left).
Athleta (Capensisvoluta) abyssicola, 109 mm, off Constantia, S. Africa, 110 m, photo J&MC (right).

Athleta benguelensis* and *kuseibensis S. G. & J. H. Veldsman, 2022 in *Visaya* supplement 17

Both these new species are present in the Lüderitz region and share very similar conchological characteristics, some morphologic slight differences separating them. We believe that considering them as a forms of *Athleta massieri* Petuch & Berschauer, 2017 could be more adapted to this situation.



Athleta (Capensisvoluta) massieri form *benguelensis* holotype, 59 mm, off Cape West Coast, S. Africa, 350 m, S. G. & J. H. Veldsman picture in *Visaya*



Athleta (Capensisvoluta) massieri form *kuseibensis* holotype, 66 mm, North of Walvis Bay, Namibia, 450-500 m, S. G. & J. H. Veldsman picture in *Visaya*

Callipara afrileviathan*, *transkeiensis* and *susmanae S. G. & J. H. Veldsman, 2022 in *Visaya* supplement 17

Within the group of *Callipara africana* (Reeve, 1856), the authors describe two new species from the same location: *C. afrileviathan* and *C. transkeiensis* that in our opinion fall into the natural variability of *C. africana*. Therefore, we estimate a form status to be the more adapted to this situation.

In our opinion, *C. susmanae* seems to be synonym of *C. africana pumila* Bail & R. Aiken, 2017, sharing the same location and small size. In addition, all specimens of *C. susmanae* were beach collected (it makes comparison quite difficult).



Callipara africana afrileviathan holotype, 82 mm, off Coffee Bay, East Coast Province, S. Africa, 30 m, S. G. & J. H. Veldsman picture in *Visaya*.

C. beckeri Turton, 1932 and *C. rietensis* Turton, 1933, that were promoted from forms of *C. africana* to species should stay as possible forms of *C. africana*.



Callipara africana transkeiensis holotype, 65 mm, off Coffee Bay, East Coast Province, S. Africa, 25 m, S. G. & J. H. Veldsman picture in *Visaya*.



Callipara africana susmanae holotype, Southport-Natal, Southern KwaZulu-Natal, S. Africa, beached, S. G. & J. H. Veldsman picture in *Visaya*.

Callipara africana pumila, 46 mm, Pumula Reef, South Kwa-Zulu Natal, South Africa, 40-50 m, Coll. OC, photo JR.

Festilyria Pilsbry & Olsson, 1954 (proposed as Genus by S. G. & J. H. Veldsman in *Visaya* supplement 17)

This genus was created for *Voluta festiva*, which was at that time a very confusing species, related with *Pachycymbiola magellanica* following Pilsbry & Olsson, with *Voluta ebraea* following Reeve, and with the *Lyria* genus following H. and A. Adams.

Bail & Poppe maintained it at subspecific level of *Callipara* Gray, 1847, in *A conchological iconography. The Tribe Lyriini*, 2004.

We do not see any reason to change this situation, the *Callipara* species forming a relatively homogeneous group present mainly in waters of Southern Africa and included in the Lyriini Tribe, possibly creating a link with the Volutini Tribe.

Simililyria Bail & Poppe, 2001 (proposed as Genus by S. G. & J. H. Veldsman in *Visaya* supplement 17)

Simililyria was created as a subgenus of *Callipara* Gray, 1847 and maintained as such with the argument that *C. (Simililyria) veldsmanni* J. H. Veldsman, 2012 could be a link between *C. africana* and the *C. (Simililyria)* species.

We do not see a justification to lift up *Simililyria* to genus level.

Callipara sulizae S.G. & J.H. Veldsman, 2022 in *Visaya* supplement 17

Looking at the illustrations proposed by the authors, there is no visible difference between *Callipara sulizae* (Plate 47) and *C. queketti* (E.A.Smith, 1901) (see Plate 46)

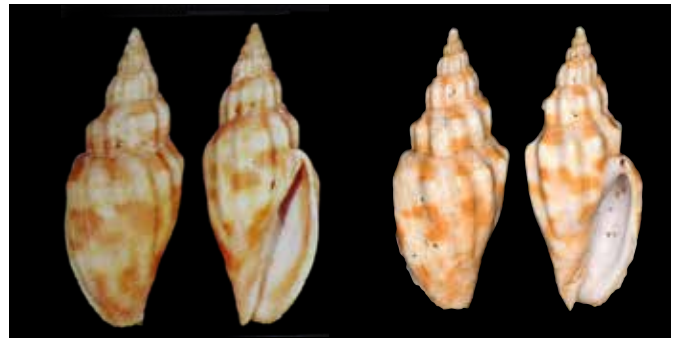
and the comparison on page 97 does not show any significant difference. In addition, the *C. sulizae* paratypes look even more like *C. queketti* with stronger axial ribs. Therefore, we believe it is necessary to synonymize it.



Callipara (Simililyria) sulizae holotype, 47 mm, off Durban, Kwa-Zulu Natal, S. Africa, 300 m, S.G. & J.H.Veldsman picture in *Visaya*.
Callipara (Simililyria) queketti, 60 mm, off Durban Bluff, Natal, S. Africa, 150-300 m, photo J&MC.

Callipara susanae S. G. & J. H. Veldsman, 2022 in *Visaya* supplement 17

Looking at the illustrations offered by the authors, there is no visible difference between *Callipara susanae* (Plate 49) and *C. queketti parkrynieensis* J. H. Veldsman, 2012 (Plate 48) and the comparison on page 98 does not show any significant difference. Therefore, we believe it is necessary to synonymize it.



Callipara (Simililyria) susanae holotype, 57 mm, Pumula, Southern KwaZulu-Natal, S. Africa, 100 m, S. G. & J. H. Veldsman picture in *Visaya*

Callipara (Simililyria) queketti parkrynieensis, 50 mm, off Park Rynie, KwaZulu-Natal, S. Africa, 100-130 m, photo J&MC.

2023

Cymbiola pulchra mariachristina Pozzi, 2023 in *Visaya* 5(6)

This Australian subspecies of *Cymbiola pulchra* (Sowerby I, 1825) comes from the Reef 21-281 at Northeast



Cymbiola pulchra mariachristina, 52 mm, Reef 21-281, NE Swain Reefs, Queensland, Australia, 15 m, Coll. OC, photo JR.

of Swain Reefs in Queensland and shows a small rhomboidal compact shell with well-defined pattern of numerous and well-marked white tents of different size, with less dots on limited areas than *C. pulchra peristicta* (McMichael, 1963). Four shells of this taxon are illustrated by Bail & Limpus in *The Eastern Australian Cymbiola* on plates 22 and 23. In fact this subspecies finds its place in between *Cymbiola pulchra peristicta* characterized by «the absence or extreme obsolescence of the tent-like background pattern» and *Cymbiola pulchra pulchra* f. *woolacotae* that carries few black spots. The isolation of this subspecies is determinant to promote it at this rank. Due to its stable particularities and isolation we believe it is a valid subspecies.

Ericusa ianmattiskei Hallan, 2023 in *Visaya* 5(6)

This new species was previously included in *Ericusa papillosa* (Swainson, 1822), as was *E. naniforma* Bail & Limpus, 2013 but, compared to *E. papillosa*, it is relatively smaller (60 to 82 mm when *E. papillosa* shell is 80 to 165 mm long), has a low rounded shoulder, a less globose shell, with a proportionally bigger protoconch, and it lives in deeper waters (120-200 m). In addition, its range extends at West of *E. papillosa*, on Great Australian Bight. It is also distinct from *E. naniforma* Bail & Limpus, 2013, an inhabitant of deeper waters and with axial ridges and bigger protoconch.

It is a homogeneous species with a particular fusiform shape, morphostatic throughout its range and distinct from all *Ericusa*, confirming the validity of the taxa.



Ericusa ianmattiskei, 74 mm, Head of Great Australian Bight, SA, Australia, 140 m, photo RW.

Paramoria leeuwinensis Morrison, 2023 in *Conchylia* 54(1-2)

This species was found by ROV in Cape Leeuwin, South of Western Australia at depths of 100 to 150 m. It was initially thought to be a Western form of *Paramoria johnclarki* Bail & Limpus, 1997. In average *P. leeuwinensis* is one centimetre shorter than *P. johnclarki* (30.6 mm compared to 40.1 mm), and has more shoulder nodules (11/12 compared to 10) and more axial lines (18/19 compared to 15/16). In addition, 150 km separate the Eastern limit of *P. leeuwinensis* from the Western limit of *P. johnclarki*. Deciding between a specific or a subspecific status for *P. leeuwinensis* needs further finds in the intermediate area or DNA study of both taxa.



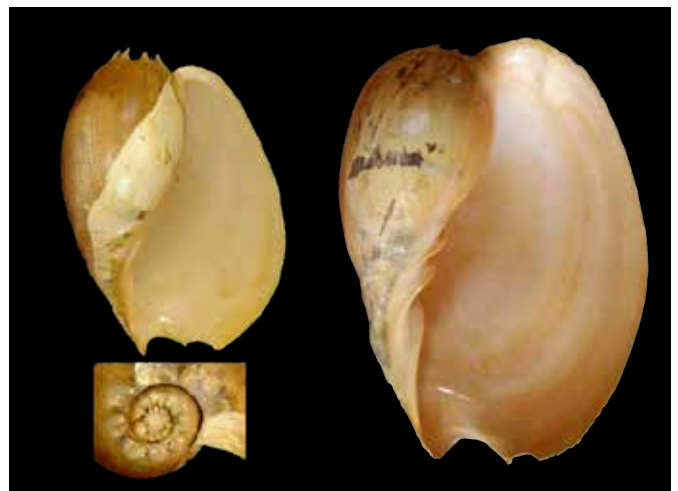
Paramoria leeuwinensis, 33 mm, SSE of Augusta, WA, Australia, by ROV, 130 m, photo RW.
Paramoria johnclarki, 42 mm, off Cape Legrand, Esperance, WA, Australia, Coll. PB, photo AR.

Melo gahjamadai and ***Melo nusantara*** Dharma, 2023 in *Novapex* 24(1)

From Indonesia two new species of *Melo* have been described: *M. gahjamadai* from Central and Eastern Java, Sulawesi and all the islands at the East of Java and *M. nusantara* from West Java, East Sumatra and South Kalimantan. The latter is uniform light cream without pattern and with 5 to 9 small and short spines, while the former has a light brown shell with two darker spiral bands, with



Melo gahjamadai holotype, 283 mm, Puger, South of East Java, Indonesia, Dharma picture in *Novapex* (left).
Melo gahjamadai, 383 mm, Lombok, Indonesia, 30 m, photo C. Barnel (right).



Melo nusantara holotype, 259 mm, Tambelan Besar Island, Riau Archipelago, East Sumatra, Indonesia, Dharma picture in *Novapex* (left).
Melo nusantara, 281 mm, Cilacap, Indonesia, 40 m, Photo C. Barnel (right).



Melo gahjamadai, 148 mm, Nusa Penida, Indonesia, coll OC (left).
Melo nusantara, 183 mm, Tasik Pamyang Sari, West Java, Indonesia, coll OC (right).

less spines than *M. aethiopicus* (Linnaeus, 1758). Both shells are thinner than *M. amphora* ([Lightfoot, 1786]) and show rather flat posterior outer lip. We believe both are valid species.

Scaphella junonia glicksteinorum*, *Scaphella carrieae* and *rundoi Petuch & Berschauer, 2023 in *The Festivus* 55(4)

Scaphella junonia glicksteinorum is a dwarf shallow subspecies of *S. junonia* (Lamarck, 1804) from Florida, USA. It does not live at the same depth as the nominal subspecies from deeper water (around 100 m). In conclusion we validate this subspecies.

S. carrieae is a deep water (500/750 m) species from Florida, USA, close to *S. marionae* Pilsbry & Olsson, 1963 and to *Scaphella robusta* (Dall, 1889). *S. robusta* is a bigger shell with pale yellow base colour. *S. carrieae*



Scaphella junonia glicksteinorum, 89 mm, off Pine Key, Monroe County, South Florida, USA, shallow water, photo J&MC.



Scaphella marionae carrieae, 60 mm, Straits of Florida, South of Florida, USA, 150-200 m, photo J&MC (left).
Scaphella marionae, 54 mm, off Miami Terrace, Miami, Florida, USA, 220-240 m, photo J&MC(right).



Scaphella dohrni rundoi, 60 mm, off Dry Tortugas, Florida, USA, 145 m, photo J&MC (left).
Scaphella dohrni, 88 mm, Straits of Florida, Southern Florida, USA, 150-200 m, photo J&MC (right).

differs from *S. marionae* by pale straw-yellow shell with orange checkered spots, as well as some details on the shell shape and structure. We believe that *S. carrieae* deserves to be treated as a subspecies of *S. marionae*.

S. rundoi from the Dry Tortugas, Florida, USA, is close to *S. dohrni* (Sowerby III, 1903), with a smaller and more inflated shell; it presents some discrete ribs on early whorls. We believe it is a subspecies of *S. dohrni*.

Relegamoria Iredale, 1936 elevated at genus level by Maxwell & Berschauer 2023 in *The Festivus* 55(4)

The main argument used by the authors is the different protoconch structure of *Amoria* (*Relegamoria*) *molleri* Iredale, 1936 when compared to the type species of the genus *Amoria*, *A. turneri* (Griffith & Pidgeon, 1834), noticing that the latter has broad, stepped, multi-whorled (3+), pale cream to white protoconch with a smooth white suture, whereas *A. molleri* shows a pointy pale cream protoconch.

As a matter of fact, the *A. turneri* protoconch description is not accurate as we observe many shells with a light purple protoconch...

In their 2001 work, Bail & Limpus wrote that *A. molleri* is distinct from the other *Amoria* due to the thick elongated callus parallel to the inside edge of the outer lip, and to the irregularity of the columellar plaits (this last character being shared with other species).

But even recognizing these specificities they do not deem it advisable to maintain the subgenus *Relegamoria*. The same opinion is shared by Ludbrook, McMichael, Darragh and Poppe & Goto.

In addition, we could not understand how one would maintain the subgenus *Cymbiolista* Iredale, 1929 at this taxonomic level but promote *Relegamoria* as a genus...

In our opinion there are no new elements that justify elevating *Relegamoria* to the genus level.

Relegamoria alliamolleri, annetae, ariae, elsieae, youngorum, archaeomolleri, barbaracollinsae, charlyi, ashleyfieldi S. J. Maxwell & Berschauer, 2023 in *The Festivus* 55(4)

In 1992 Poppe & Gotto distinguished 5 forms from A to E, later translated in their 2001 work by Bail & Limpus as follows:

Form A: *A. molleri molleri*

Form B: *A. molleri vandenbergae*

Form C: *A. molleri molleri* forma *capricornica*

Form D: *A. molleri isabelae*

Form E: *A. molleri molleri* forma *reducta*

In addition, Bail & Limpus described *A. molleri molleri* forma *succinta*.

The work made by Maxwell & Berschauer rose the two subspecies *A. molleri vandenbergae* and *A. molleri isabelae* at species level, they upgraded *A. molleri molleri* forma *reducta* into a new species *Relegamoria aliuamolleri*, elevated as well *A. molleri molleri* forma *capricornica* into *R. annettae*, *R. ariae* and *R. elsiae* only slightly distinct in shape, renamed *A. molleri molleri* forma *succinta* into *R. youngorum*, created three species named *R. archaeomolleri*, *R. barbaracollinsae* and *R. charlyi* each one based on a single shell, and finally baptized a new species *R. ashleyfieldi* (which looks like a *A. molleri* with a wider lip).



Relegamoria aliuamolleri = *Amoria molleri reducta*, 51 mm, Capricorn Chanel, QLD, Australia, Coll. OC, photo JR (left).

Relegamoria annettae = *Amoria molleri molleri* forma *capricornica*, 63 mm, Hixson Cay, QLD, Australia, Coll. OC, photo JR (right).



Relegamoria ariae = *Amoria molleri molleri* forma *capricornica*, 68 mm, off Lady Elliot Island, QLD, Australia, 180 m, Maxwell & Berschauer picture in *The Festivus* (left).

Relegamoria elsiae = *Amoria molleri molleri* forma *capricornica*, 90 mm, Lady Musgrave Island, QLD, Australia, 215-225 m, Coll. OC, photo JR (right).



Relegamoria youngorum = *Amoria molleri molleri* forma *succinta*, 54 mm, Hydrographers Passage, QLD, Australia, Coll. OC, photo JR (left).

Relegamoria archaeomolleri = *Amoria molleri molleri* forma *archaeomolleri*, 78 mm, off Bunker Group, QLD, Australia, 205-215 m, Maxwell & Berschauer picture in *The Festivus* (right).



Relegamoria barbaracollinsae = *Amoria molleri molleri* forma *barbaracollinsae*, 81 mm, off Mackay, QLD, Australia, 200 m, Maxwell & Berschauer picture in *The Festivus* (left).

Relegamoria barbaracollinsae = *Amoria molleri molleri* forma *barbaracollinsae*, 74 mm, off Cape Moreton, QLD, Australia, Coll. OC, photo JR (right).



Relegamoria charlyi = *Amoria molleri molleri* forma *charlyi*, 46 mm, Hydrographers Passage, QLD, Australia, Coll. OC, photo JR (left).

Relegamoria ashleyfieldi = *Amoria molleri molleri* forma *ashleyfieldi*, 80 mm, Northeast Swain Reefs, QLD, Australia, 200 m, Coll. OC, photo JR (right).

Their argument is based on separate geographical distribution, but the map illustrates only the types and does not show the real range of each taxa and we feel there is a need for more information (specially for species based on a single shell) before creating so many new species. In consequence we suggest keeping the new taxa as forms of *Amoria molleri* until DNA data become available.

Fulgoraria kanhhoaensis* and *ninthuanensis

Thach, 2023 in *New shells of South Asia and Japan, Taiwan, China*.

Fulgoraria kanhhoaensis is compared to *F. baili* Thach, 2018, distinguished by ten subtle characters, focussing on spiral whitish bands.

F. ninthuanensis is compared to *F. chinoi* Bail, 2000, by its smoother sculpture and lacking the axial ribs. It should be instead compared to *F. allaryi* Bail, 2005.



Fulgoraria kanhhoaensis holotype, 193 mm, off Khan Hoa, Vietnam, 100-150 m, MNHN Paris picture (P. Bourguignon).



Fulgoraria ninhtuanensis holotype, 201 mm, off Ninh Thuan, Vietnam, 130-180 m, MNHN Paris picture (P. Bourguignon).

We cannot distinguish any of the two species from *F. allaryi*.

In addition, Thach created the subgenus *Vinafulgoraria* for these two species. By synonymizing both species with *F. allaryi* (which is included in *Musashia* subgenus) we also synonymize *Vinafulgoraria* with *Musashia*, Hayashi, 1966, even if Thach claims it has more slender appearance, weaker axial ribs, broad whitish spiral bands and is present in Vietnamese waters instead of Japanese waters.

2024

Cymbiola cooperi Petuch & Berschauer, 2024 in *The Festivus* 56(2)

The authors described a new Western Australia shell in the *Cymbiola nivosus* (Lamarck, 1804) group. It is distinct from both *C. nivosus* and *C. oblita* by a grey-purple shell (without the two darker bands on the last whorl) with a paler protoconch, an orange aperture and low knobs. It comes from deeper water at 90 meters.

This is a valid species in the *C. nivosus* group.



Cymbiola cooperi, 64 mm, off Cervantes, WA, Australia, 30 m, Coll. OC, photo JR.

Fulgoraria mitsuoi Thach, 2024 in *Malacologia Mostra Mondiale* 125

This new Vietnamese species of the genus *Fulgoraria* (which description is based on a single shell) is compared with *F. bailsi* Thach, 2018, a clearly taller species, and with *F. formosana* Azuma, 1967, with a more inflated body.

In our opinion it should rather have been compared with *F. ikedai* Thach, 2021 from the same author. After checking with Mr. Mitsuo the comparison between holotypes we suggest a synonymy of both species (even considering the hypothesis that *F. ikedai* holotype could be a juvenile *F. allaryi*).



Fulgoraria mitsuoi holotype, 105 mm, offshore Southeastern Nha Trang, Khanh Hoa Province, Vietnam, 80-120 m, MNHN Paris picture (P. Bourguignon) (left).

Fulgoraria ikedai holotype, 94 mm, offshore Binh Thuan, Vietnam, 120-170 m, picture MNHN Paris (F. Prugnaud) (right).

Voluta thevenini Cossignai & Allary, 2024 in *Malacologia Mostra Mondiale* 122

This Brazilian species from Camocim, Ceara, Brazil is described showing shells of *Voluta ebraea* Linnaeus, 1758, with the specific character of being without nodules or with inconspicuous ones.

But there are strong variations on this criterium in the species *V. ebraea* and in addition the same criterium involves a great deal of variability in several different Volutidae species (as for example for *Cymbiola vesperilio* (Linnaeus, 1758) and *C. flavicans* (Gmelin, 1791)), not to mention sexual dimorphism in Volutidae.

The synonymy with *Voluta ebraea* was then proposed by Crabos in *Xenophora Taxonomy* 43 and later by Simone in *Papeis Avulsos de Zoologia*.64 MZUSP.



Voluta thevenini holotype, 187 mm, off Camocim, Ceará, Brazil, picture by Cossignani & Allary in *Malacologia Mostra Mondiale*.



Pictures of two *Voluta ebraea* showing the variability of the nodules, Coll. OC.

Voluta melodica Simone, 2024 in *Papeis Avulsos de Zoologia* 64 MZUSP

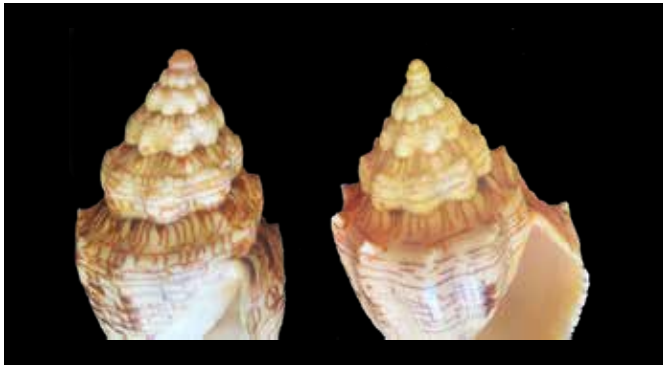
This new species from the mouth of Amazon River,

Brazil, is described from a single shell as a species mixing characteristics of *Voluta ebraea* Linnaeus, 1758 and *V. virescens* [Lightfoot, 1786], showing a protoconch with 3.5 whorls.

As we found typical shells of *V. ebraea* with 3.5 whorls protoconch and as there is no possibility of hybridization of these two species due to geographical distance, we believe there is no need to create a new species.



Voluta melodica holotype, 117 mm, off Amazon River Mouth, Amapá, Brazil, 46 m, L. Simone picture in *Papéis Avulsos de Zoologia* 64 MZUSP.



Pictures of two *Voluta ebraea* from same location showing the variability of the protoconch. Coll. G. Pomponet.

In a personal communication L. Simone told us that there is a genetical distance from *V. ebraea*, therefore it could be the result of a possible hybridization. But due to the separation from the other species of this genus, we do not believe it is a new subspecies from the Amazon river mouth.

Enaeta baili Crabos, 2024 in *Xenophora Taxonomy* 42

This Brazilian species from the Abrolhos Archipelago, Bahia, is quite similar to *Enaeta leonardhilli* (Petuch, 1988) from Fernando de Noronha Island, 2000 kms fur-



Enaeta baili, 12 mm, off Alcobaça, Southern Bahia, Brazil, 20-30 m, photo J&MC (left).
Enaeta leonardhilli, 14 mm, Praia do Perú, Fernando de Noronha Island, Pernambuco, Brazil, low tide, photo J&MC (right).

ther North and to *E. guildingii* (Sowerby I, 1844) from Caribbean Islands (Martinique and Saint Vincent).

E. baili is less ribbed on the whole teleoconch than *E. guildingii*, has a white protoconch instead of brown protoconch. When compared to *E. leonardhilli* the new species is smaller, has fewer axial ribs, its protoconch is more globose and it is white instead of brown.

Due to distance and morphological differences from *E. leonardhilli*, we judge this is a valid species.

Enaeta brasiliana Crabos, 2024 in *Xenophora Taxonomy* 44

Enaeta brasiliana was only found in Natal, Rio Grande do Norte, Brazil, at 20-25 m depth. It is quite close from *E. reevei* Dall, 1907 from Honduras and Cuba, but it is more inflated, its shell does not show axial ribs and has a lower ratio length/width.

In addition to bathymetrical difference and isolation, the shell shape turns it distinct from the other *Enaeta*, validating its specific rank.



Enaeta brasiliana, 15 mm, off Rio do Fogo, Rio Grande do Norte, Brazil, 20-25 m, photo J&MC (left).
Enaeta reevei, 17 mm, off Roatan Island, Honduras, 1-2 m, photo J&MC (right).

Livonia roadnightae profunda Sprague, 2024 in *Visaya* 6(1)

This new subspecies comes from deep waters (200-220 m) in the Great Australian Bight. It has a pale ivory colour, a reduced pattern and small size (96 to 134 mm). It also keeps traces of barnacles, mentioned by its author as a distinguishing trait. Its bathymetric range convinced us it is a good subspecies.



Livonia roadnightae profunda, 125 mm, off Mundrabilla, Great Australian Bight, SA, Australia, 220 m, photo RW (left).
Livonia roadnightae, 174 mm, off Eucla, at the border between SA and WA, Australia, 180 m, photo J&MC (right).



Paramoria guntheri bishoporum holotype, 53 mm, off Whyalla, Eyre Peninsula, Northern Spencer Gulf, SA, Australia, 20 m, J. Sprague picture in *Visaya* (left).

Paramoria guntheri, 53 mm, off Port Lincoln, SA, 18-30 m, photo J&MC (right).

Paramoria guntheri bishoporum Sprague, 2024 in *Visaya* 6(1)

This new subspecies from deep waters of Northern area of Spencer Gulf shows a high spire, a slender and elongate shell, thicker walls, reduced peripheral nodes.

Its bathymetric range and different shape convinced us it is a valid subspecies.

ANNOUNCEMENT

After the two first parts, a third part and its conclusion will close the study.

Validity of taxa

	Species or genus	valid	doubts	proposed name	holotype location
2021	<i>Harpulina diannae</i>	no		<i>Harpulina lapponica</i>	MMM Cupra Marittima
	<i>Odontocymbiola diannae</i>	yes			MMM Cupra Marittima
	<i>Melo peterstimpsoni</i>	no		<i>Melo umbilicatus peterstimpsoni</i>	MMM Cupra Marittima
	<i>Amoria austellus</i>	yes			WAM Perthj
	<i>Amoria marshallorum</i>		yes	<i>Amoria exoptanda marshallorum</i>	WAM Perth
	<i>Fulgoraria humitakesekii</i>	no		<i>Fulgoraria allaryi</i>	MNHN Paris
	<i>Fulgoraria ikedai</i>		yes		MNHN Paris
2022	<i>Cymbium ferranti</i>	yes			MNHN Paris
	<i>Lyria ellenae</i>	yes			WAM Perth
	<i>Cymbiola vespertilio peterstimpsoni</i>	yes			MMM Cupra Marittima
	<i>Lyria lyraeformis pettinelli</i>	no		<i>Lyria lyraeformis</i>	MMM Cupra Marittima
	<i>Lyria lyraeformis simonettae</i>	no		<i>Lyria lyraeformis</i>	MMM Cupra Marittima
	<i>Cymbiola chrysostoma stimpsonorum</i>	no		<i>Cymbiola chrysostoma</i>	MMM Cupra Marittima
	<i>Afriathleta</i>	no		<i>Athleta</i>	no holotype
	<i>Capensisvoluta</i>	no		<i>Athleta</i>	no holotype
	<i>Nataliavoluta</i>	no		<i>Athleta</i>	no holotype
	<i>Athleta leilaniae</i>	no		<i>Athleta semirugata leilaniae</i>	NMSA Pietermaritzburg
	<i>Athleta trixiae</i>	no		<i>Athleta semirugata trixiae</i>	NMSA Pietermaritzburg
	<i>Athleta viljoenae</i>	no		<i>Athleta semirugata viljoenae</i>	NMSA Pietermaritzburg
	<i>Athleta everriculum</i>	no		<i>Athleta gilchristi everriculum</i>	NMSA Pietermaritzburg
	<i>Athleta sagena</i>	no		<i>Athleta gilchristi sagena</i>	NMSA Pietermaritzburg
	<i>Athleta ariejoostei</i>	no		<i>Athleta boswellae</i> form <i>ariejoostei</i>	NMSA Pietermaritzburg
	<i>Athleta lizekae</i>	no		<i>Athleta boswellae</i> form <i>lizekae</i>	NMSA Pietermaritzburg
	<i>Athleta namaqua</i>	no		<i>Athleta abyssicola</i> form <i>namaqua</i>	NMSA Pietermaritzburg
	<i>Athleta benguelensis</i>	no		<i>Athleta massieri</i> form <i>benguelensis</i>	NMSA Pietermaritzburg
	<i>Athleta kuisebensis</i>	no		<i>Athleta massieri</i> form <i>kuisebensis</i>	NMSA Pietermaritzburg
	<i>Callipara afrileviathan</i>	no		<i>Callipara africana africana</i>	NMSA Pietermaritzburg
	<i>Callipara susmanae</i>	no		<i>Callipara africana pumila</i>	NMSA Pietermaritzburg
	<i>Callipara transkeiensis</i>	no		<i>Callipara africana africana</i>	NMSA Pietermaritzburg
	<i>Callipara beckeri</i>	no		<i>Callipara africana africana</i>	?
	<i>Callipara rietensis</i>	no		<i>Callipara africana africana</i>	?
	<i>Festilyria</i>	no		<i>Callipara (Festilyria)</i>	no holotype
	<i>Simililyria</i>	no		<i>Callipara (Simililyria)</i>	no holotype
	<i>Callipara sulizae</i>	no		<i>Callipara queketti</i>	NMSA Pietermaritzburg
	<i>Callipara susanae</i>	no		<i>Callipara queketti parkrynieensis</i>	NMSA Pietermaritzburg

ERRATA

In Notes on Volutidae Taxonomy part 1, page 19, we illustrated a shell mentioned as *Fulgoraria hitoshiikedai* measuring 171 mm that is definitively not of that species.

In the same article on page 22 under the illustration of *Fulgoraria ngai* is mentioned by mistake *Fulgoraria ngai peterstimpsoni*, please read *Fulgoraria ngai*.

	Species or genus	valid	doubts	proposed name	holotype location
2023	<i>Cymbiola pulchra mariachristina</i>	yes			in author's collection
	<i>Ericusa ianmattiskei</i>	yes			WAM Perth
	<i>Paramoria leeuwinensis</i>	yes			WAM Perth
	<i>Melo gahjamadai</i>	yes			MZB Cibinong Bogor
	<i>Melo nusantara</i>	yes			MZB Cibinong Bogor
	<i>Scaphella carrieae</i>		yes	<i>Scaphella marionae carrieae</i>	SBMNH Santa Barbara
	<i>Scaphella rundoi</i>		yes	<i>Scaphella dohrni rundoi</i>	SBMNH Santa Barbara
	<i>Scaphella junonia glicksteinorum</i>	yes			SBMNH Santa Barbara
	<i>Relegamoria</i>	no		<i>Amoria (Relegamoria)</i>	no holotype
	<i>Relegamoria vandenbergae</i>	no		<i>Amoria molleri vandenbergae</i>	AMS Sydney
	<i>Relegamoria isabellae</i>	no		<i>Amoria molleri isabellae</i>	AMS Sydney
	<i>Relegamoria aliua molleri</i>	no		<i>Amoria molleri molleri form reducta</i>	BSRF Cairns
	<i>Relegamoria annetae</i>	no		<i>Amoria molleri molleri form capricornica</i>	BSRF Cairns
	<i>Relegamoria ariae</i>	no		<i>Amoria molleri molleri form capricornica</i>	BSRF Cairns
	<i>Relegamoria elsiae</i>	no		<i>Amoria molleri molleri form capricornica</i>	BSRF Cairns
	<i>Relegamoria youngorum</i>	no		<i>Amoria molleri molleri form succinta</i>	BSRF Cairns
	<i>Relegamoria archaeomolleri</i>	no		<i>Amoria molleri molleri form archaeomolleri</i>	BSRF Cairns
	<i>Relegamoria barbaracollinsae</i>	no		<i>Amoria molleri molleri form barbaracollinsae</i>	BSRF Cairns
	<i>Relegamoria charlyi</i>	no		<i>Amoria molleri molleri form charlyi</i>	BSRF Cairns
	<i>Relegamoria ashleyfiledi</i>	no		<i>Amoria molleri molleri form ashleyfiledi</i>	BSRF Cairns
	<i>Vinafulgoraria</i>	no		<i>Fulgoraria (Musashia)</i>	no holotype
	<i>Fulgoraria khanhhoaensis</i>	no		<i>Fulgoraria allaryi</i>	MNHN Paris
	<i>Fulgoraria ninthuanensis</i>	no		<i>Fulgoraria allaryi</i>	MNHN Paris
2024	<i>Cymbiola cooperi</i>	yes			BSRF Cairns
	<i>Fulgoraria mitsuoi</i>	no		<i>Fulgoraria ikedai</i>	MNHN Paris
	<i>Voluta thevenini</i>	no		<i>Voluta ebraea</i>	MNHN Paris
	<i>Voluta melodica</i>	no		<i>Voluta ebraea melodica</i>	MZUSP São Paulo
	<i>Enaeta baili</i>	yes			MNRJ Rio de Janeiro
	<i>Enaeta brasiliana</i>	yes			MNRJ Rio de Janeiro
	<i>Livonia roadnightae profunda</i>	yes			SAM Adelaide
	<i>Paramoria guntheri bishoporum</i>	yes			SAM Adelaide

The genus *Theodoxus* Montfort, 1810 (Gastropoda : Neritidae) in Europe - part 2: Synonymy of the river nerite *Theodoxus fluviatilis* (Linnaeus, 1758) in Western Europe

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ABSTRACT:

Together with *Th. meridionalis* (Philippi, 1836), *Th. fluviatilis* (Linnaeus, 1758) is the most variable extant species in the genus, and the most widespread through the whole western Palearctic. In this article, we will follow the synonymy via the history of the discoveries, we will display also the original figures when they are of interest. We will present the most prevalent variants *ex colore* and *ex forma*, bearing in mind that, usually, a specimen shows a combination of these variants. Indeed, the history of the synonymy provides informations about the views carried by our elders from the XIXth century on the concept of species, and also about pride (and prejudice :).

KEYWORDS:

Operculum, synonymy, *Theodoxus fluviatilis*, variations, western Palearctic.

INTRODUCTION:

Theodoxus fluviatilis (Linnaeus, 1758) has been discovered a considerable number of times, and registered under various epithets that reflected the habitat of the species, the region where it was found, the shape or the pattern of the shell, to say nothing of the scientists or collectors honoured by a name. Finally, the morphological plasticity of this species has been commented in a work carried out by Peter Glöer and Vladimir Pešić (GLÖER & PEŠIĆ, 2015). In their article, the authors conclude: *Th. fluviatilis* is VERY plastic but, hopefully, its operculum is much more constant and bears some features that can be used « for a proper discrimination ».

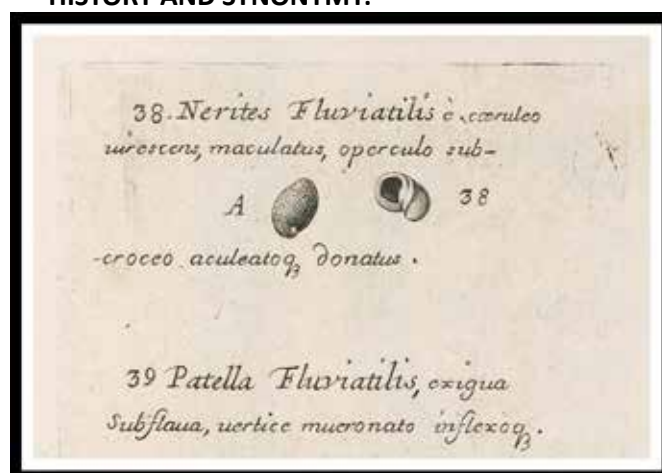
Due to some uncertainties in the taxonomy of some populations of animals **usually identified as *fluviatilis***, especially in the Hellenic area, the present study will focus on the western part of the range, from British Isles to Albania. Specimens from Aegean, Turkey, as well as some Ponto-Caspian groups need further investigations.

The animal prefers large rivers and water bodies in lowlands, but is also found in the smallest streams (and even in springs) as soon as the immediate environment, or its upstream, are calcareous (LUCEY, MCGARRIGLE & CLABBY, 1991). *Th. fluviatilis* has also been collected in the infralittoral of Baltic Sea, in areas with a low level of salinity (ZETTLER & al., 2004), and also in many other brackish waterbodies.

Dark forms occur here and there, sometimes related to the presence of mineral salts, for example in thermal

springs of Pyrénées mountains, but not always: black shells are also encountered in streams that carry only fresh water (Dordogne, Erve etc.), while patterned specimens can be found in brackish intertidal flats near estuaries (Adour).

HISTORY AND SYNONYMY:



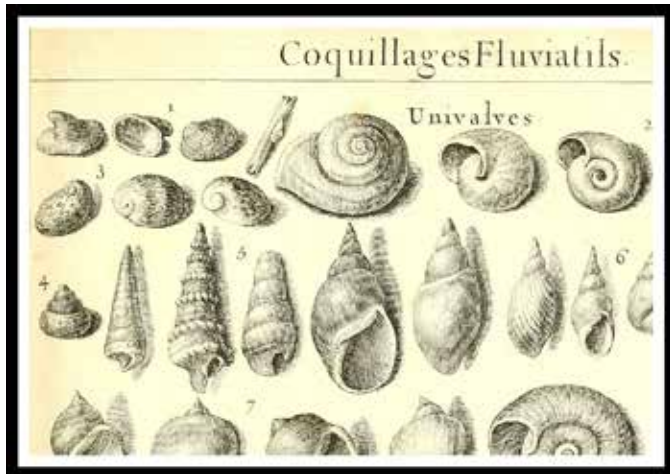
The species in Martin Lister: *Historiae sive synopsis methodicae conchyliorum et tabularum anatomicarum*, Oxford 1770, plate 141, fig. 38.

1 The first steps:

Apparently, this is Martin Lister who, the very first, described the animal in his *Historiae animalium Angliae*, London 1678, page 136 (titulus XX): « Its length is a little over a quarter of an ounce; its width is about the same. Although the shell is small, it is nevertheless strong and thick, far exceeding the size of any other river shells. It is generally terminated within the second orb, scarcely extending to the third; the apex projects little or not at all. The aperture of the shell is a crescent shape, or a semicircle dissected through the center. The colour of the shell changes from blue to green, especially if you look at it in water; it is also beautifully distinguished by dark spots in the manner of a certain reticulated work. The animal itself turns white, and is given two thin horns, next to which the eyes, like tiny black dots, are clearly visible. To its outer edge is attached a sort of little nail or operculum, lunate, reddish, thin, shell-like: to this is attached a kind of sting, easily discernible in cooked animals. » Lister noticed the apophysis!

In 1742, A. J. Dezallier d'Argenville registers some "Nérîtes" from the Parisian Basin: « On the number three, one sees Nerites, the first of which, variegated with gray, comes from the Marne, the other two from the Seine; one is red, and the other seems covered with a very regular network » – A. J. Dezallier d'Argenville:

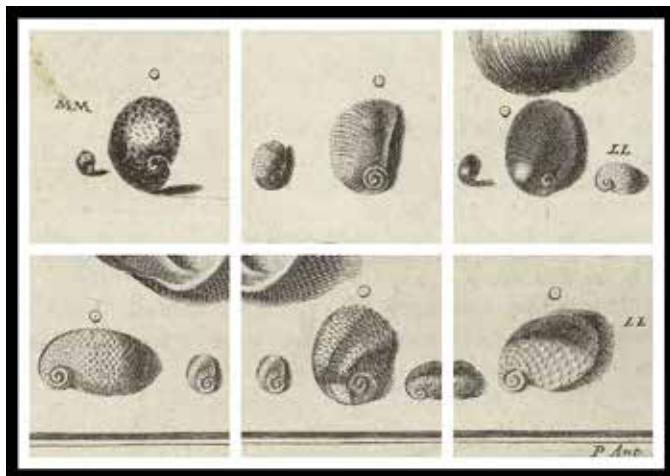
L'histoire naturelle éclaircie dans deux de ses parties principales, la lithologie et la conchyliologie, Paris 1742, p. 372.



The “Nérites”, number 3 in d’Argenville, plate 31.

The same year, N. Gualtieri provides another image of the “*Nerita fluviatilis*” in his *Index testarum conchyliorum*, Firenze 1742, plate 4 : « MM: River Nerite small, fragile, almost dark, sprinkled with white dots, lives near the famous Bath of Tettuccio, living in salty as well as warm water, in a place commonly called Bagno Tondo. »

In HH, Gualtieri shows a “*Nerita fluviatilis*” of another species, obviously indo-pacific. But in LL, here are again our local specimens:



Theodoxus fluviatilis in Gualtieri, plate 4.

« LL: varieties of River Nerites, which are either made of blue, green, white, pink, brown, and dark colour variously mottled, blurry, dotted, wavy or reticulately painted ».

Finally, following Lister, d’Argenville and Gualtieri, in 1758 Carl von Linné registered this animal under the binomen *Nerita fluviatilis*, item 632 of the *Systema Naturae* vol. I, adding, though, this intriguing information: « Habitat in Europæ cataractis »... “cataractis” meaning waterfalls or floodgates! But the item 634, p. 778, named *Nerita lacustris* (very first synonym of *fluviatilis* – see EICHHORST, 2016), indicates a less swirling water.

For its part, the *Nerita fontinalis* of Brard (1815)

proposes more reduced water bodies, and prefers running water to ponds and marshes. Thus, little by little, naturalists and collectors discover the wide range of habitats of *fluviatilis*.



N. fluviatilis (9,12) and *fontinalis* (10,13) in Brard, pl. 7.

2 Some geographical names:

Neritina dalmatina Rossmäslar, 1835:

Considered by the author as a very possible variant of *fluviatilis*: « *N. rhodocolpa* Jan, from the northern Italy, is distinguished only by three fairly wide cherry red longitudinal bands, often more or less clearly visible in the common *N. fluviatilis* (cf. note on *N. transversalis*). Perhaps even Ziegler’s *dalmatina* cannot be distinguished from it. » – E. A. Rossmäslar: *Iconographie der Land- und Süsswasser-Mollusken* Bd.2, Dresden 1835, p. 18. There is nothing more about this *dalmatina*.

Theodoxus dniestrovienensis Put’, 1957:

A *fluviatilis* from the lower Dniestr basin, similar to *brauneri*, *euxinus* etc.

Neritina europaea Leach, 1852:

At that time, the names did not last long because they were not protected by any rule: « This is a genus containing a vast number of species, only one of which, as far as I have been enabled to learn from the examination of conchological works, inhabits Europe; and as all the species inhabit rivers, I have altered the name to *Europaea* » – W. E. Leach: *Molluscorum Britanniae Synopsis*, London 1852, p. 182.

Neritina euxina Clessin, 1885:

« Shell of medium size, thick-walled with raised threads, shiny, smooth; surface pattern: a fairly loose meshing of white cells, with fairly fine, brownish lines, sometimes lighter, sometimes darker, cells sometimes narrower, sometimes wider, sometimes very irregular, so that the mesh threads no longer reveal any closed cells, are tightly spaced, and arranged almost in zigzag lines. » – S. Clessin: “Binnenmollusken aus Rumänien », *Malakozoologische Blätter* new series Bd.8, Cassel 1885, p. 55.

« Whorls 3 ½, the height of the spire reaches almost ½ of the shell length; suture shallow; mouth drawn very

far to the right, barely reaching half the shell length, relatively narrow and small. Columellar plate broad, strongly beaded; mouth rim sharp. »

The problem is that Clessin's description, very open, practically matches those of many other populations that should not have any relationship with Pontic ones, e.g. the population in lower Neretva river, Croatia, or those from the Hérault river in S. France ...



Two specimens from the Neretva at Metković.

...or these shells from the Donau in Austria:



Above : specimens of the variant "euxina", but from the Donau at Wien, which is to say : quite far from the rivers of western Euxineus pōntos. 61-76 mm.

Neritina ticinensis Villa & Villa, 1841:

« Hab. sub lapidibus in Ticino flumine », which is a tributary of the Lago Maggiore, upper Po drainage basin. The shell is « dilute albida, violaceo lineolata et reticulata ». 200 km eastward, in the Lago di Garda, the authors find a similarly patterned species: *Neritina intexta*, « albida vel lutea, lineis coloratis minutis intextis reticulata », what clearly deserved NOT to invent a new name (VILLA & VILLA, 1841). Similarly, why propose

Theodoxus luteniatus Montfort, 1810, for *fluviatilis* in Parisian basin?



A "lutetianus" collected in sediments along the river bank, Le Grand Morin at Guérard, Seine-et-Marne, Île de France. 5,5 mm. Original pictures provided by Mathijs Zonneveld for iNaturalist – (CC BY).



Another "lutetianus", rather « dilute albida, violaceo lineolata et reticulata », like a "ticinensis" but again from the Grand Morin. 6,8 mm. Original pictures provided also by Mathijs Zonneveld for iNaturalist – (CC BY).

3 Design-related names:

As we have just noticed with *intexta*, the choice of a name based on decorative features is hardly relevant. Here, the synonymy becomes plethoric.

Neritina atropurpurea Küster, 1879:

« In a written catalog from 1845. In addition to the beautiful *N. serratilinea* described above on p. 201, transversely elongated forms of *Neritina* occur in most of northern Italy from Ticino (Villa, Strobel) to the Isonzo (Erjavec), which essentially follow the Central European *fluviatilis*, but according to the numerous specimens available to me, are on average somewhat less broadened towards the front, and therefore appear slimmer, more semi-elliptical and somewhat more arched. [...] Thus, the pattern variations are essentially the same as in Germany. The interior of the mouth and the posterior end of the columellar surface are whitish-yellow, and the latter often bears the black blotch, which is also not uncommon in German *fluviatilis*. The edge of the operculum is often, but not always, paler than in the German specimens, sometimes as light brown as in *N. Danubialis*. [...] According to Adami, the true *fluviatilis* lives in Lake Iseo. According to Pini,

the var. “rhodocolpos” occurs in Lake Como, but this variety is also mentioned in Lake Garda together with *intexta* and *serratilinea*. [...] A small (7mm) blackish-dark red form with sparse white spots, columellar surface bluish with black spots, from the river Timavo on the eastern border of Italy, was sent by Küster at one time as *N. atropurpurea*. » – E. von Martens: “Die Gattung *Neritina*”, *Systematisches Conchylien-Cabinet von Martini und Chemnitz* Bd.2:Abt.10, Nürnberg 1879, p. 217-218.



An “intexta”, more or less “serratilineata”, from the above mentioned Isonzo, a.k.a Soča river in NW. Slovenia. Solkansko Polje, 5,2 mm. This shell demonstrates that a name based on the design is not relevant.

Nota bene that, according to Küster himself, “atropurpurea” is only a form. In fact, it appears from Marten’s text (in which we have severely cut) that a large amount of variations intertwine in the southern foothills of the Alpine arc.

For example: what is exactly this *serratilinea* von Martens was talking about?

« Shell rounded, painted with ziczag striae, sometimes almost entirely black. » Further: « But even the northern Italian *serratilinea*, which one would like to keep separate because of its geographical occurrence, shows only slight differences and merges quite inseparably into the Carniolan *stragulata* through the Venetian forms » etc.

In fact, von Martens, who had no way of separating two species that are well-identified today (*fluviatilis* and *danubialis*), got lost in the description of forms of poor intrinsic value – “serratilinea” is a *nomen nudum* in *danubialis* synonymy, and “stragulatus” is a variant *ex forma* that is shared by at least three species: it can apply not only to *danubialis* but also to some variants of “*guadianensis*”, and to the constricted *valentinus*.

By overlapping one another, these forms demonstrate that there are, almost everywhere, unexpected morphological convergences.

Hence, naming a species after its appearance is simply... random, especially when you become aware that such a form, which is going to be attached, by successive steps, on the one hand to *fluviatilis*, is also attached, by other steps, to *danubialis*. The necessary conclusion is that, by focusing on appearances, authors



The subsutural constriction of the whorls is a constant in all shells of *Theodoxus*, but is peculiarly marked in the form “stragulatus” of *danubialis* (top) from Carniolan area, in *valentinus* (bottom) from València province, in some “*guadianensis*”, as well as in many *Th. jordani*.

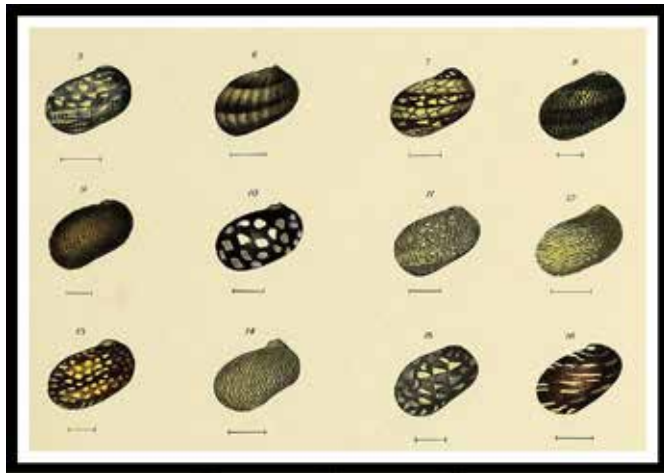
are exposed to build taxonomical nightmares.

Neritina trifasciata Menke, 1828:

« Shell ovate-elliptical, convex, substriated, shiny, pale brown, surrounded by three violet bands; aperture semicircular, white-blueish; columellar margin edentulous. » The species was found « on the banks of the Weser, between the settlements of Grohnde and Latferde. » – K. T. Menke: *Synopsis methodica molluscorum generum omnium et specierum earum, quae in Museo Menkeano adservantur; cum synonymia critica et novarum specierum diagnosibus*, Bad Pyrmont 1828, p. 140.



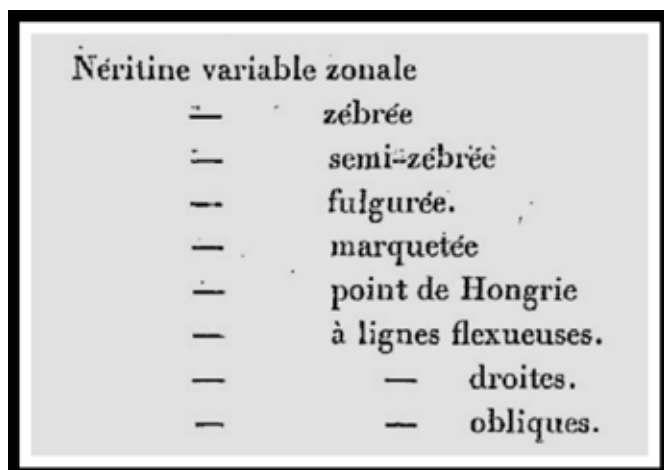
Left: springs of Maará Cave, Aggiti river, N. Greece. Right: near Ogari, Zrmanja river, Dalmatia.



Three-banded specimens of *fluviatilis* in this plate given by von Martens in "Die Gattung *Neritina*", plate 21.

Nota bene that another synonym for a banded *fluviatilis* may be Wagner's "transversetaeniatus" (transversely banded) found in a spring near Mákri, east of Alexandroupoli, Eastern Macedonia and Thrace, NE. Greece. It is hard to imagine why this group of River Nerites precisely is sometimes considered as a subspecies of *fluviatilis*.

The Variable Neritine in Hécart, 1833:



The variations of Hécart's Variable Néritine on <https://gallica.bnf.fr/ark:/12148/bpt6k56148600/f147.item>

About *fluviatilis*: « This pretty species would be better named the *Variable Neritine*, by the arrangement of its lines and blotches. Here are the main varieties that I noticed in those sent to me from Meulan. » – G. A. J. Hécart: "Catalogue des coquilles terrestres et fluviatiles des environs de Valenciennes", *Mémoires de la Société d'Agriculture, Sciences Et Arts, de l'Arrondissement de Valenciennes* vol. 1, Valenciennes 1833, p. 146-147.

4 Honorary names:

When it comes to baptizing a species, the most prudent solution is to choose a name without any connection with it. Is thus avoided the embarrassment of having named *niloticus* a Trochid that is mostly found in the Pacific Ocean, *spinosa* a Nerite nearly always devoid of any spine, or *sanguinolenta* a Psammobiid who is commonly found dirty white.

1839: *Neritina perreri* by a Steintz in a catalog of terrestrial and fluviatile shells of Carlo Porro collection, published by Porro himself, 4 pages.

1852: *Nerita bourguignati* by C. A. Récluz, for uniformly dark-shelled specimens, finely striated longitudinally, with a columellar callus « always marked with a black blotch. » Discovered near Laval, Mayenne, NW. France (RÉCLUZ, 1852).



A *Nerita* "bourguignati", but from Arménio springs, east of Chaniá, W. Crete. In the same spring, some three-banded specimens, devoid of meshing, were mistaken for *Theodoxus transversalis* (cf. SZERKOWSKI, 1998).

We must be very wary of these black blotches: they are mainly the result of a local thinning of the columellar callus, like in the shell pictured above; they can be the remains of a rear part of the animal, in the event that the shell was not cleaned completely – after rotting, these forgotten soft parts can stain the callus, or become partly visible through the columellar plate, which is, in this place, conspicuously thin.

Récluz: Bourguignat's *Nerite* « is rather close to the *fluviatile Nerite*, but differs from the latter: 1° in its thinner test; 2° in its constant brown-black colour, and if, by transparency, it displays longitudinal lines, alternatively yellowish and brown, these lines are regular, close-set, straight and always very thin, [there are] **never blotches or large bands shaded with small dashes**; 3° by the dark blotch which adorns the columellar plane; 4° by the *nucleus*, or summit of the operculum, always in relief and not compressed. » – C. A. Récluz: "Recensement des Nérites (sous-genre Néritine) de la France continentale", *Journal de Conchyliologie*. Vol. 3(3), p. 294-295.

The type-locality of *Nerita bourguignati* is situated on the territory of Vaiges. Unfortunately, the area, nowadays overstressed by intensive agriculture, has lost both its water resource and purity. *Bourguignati* no longer exists there. It is therefore necessary to move to nearby places where water still flows sufficiently, and under satisfactory environmental conditions. The nearby river Erve offers these conditions. Its passage through the Saulges canyon, where a few cavities inhabited by prehistoric humans open up, allows visitors to admire,

between fords and meanders, relatively well-preserved wildlife (viperine water snake, river kingfisher, etc). *N. bourguignati* lives here.



Above and below: *Nerita* "bourguignati", collected between Margot and Rochefort caverns, Erve river. Brown-black, with its dark columellar blotch. 9,5 mm.



These two specimens formally contradict Récluz's second assertion (« never blotches » etc). 8,9-10,5 mm.



Two last "bourguignati", with the longitudinal lines seen by Récluz, « alternatively yellowish and brown », but not regular, or thin, etc. 8,5-8,6 mm. In fact, the variant "bourguignati" cannot be defined in a satisfactory manner.

1852: *Neritina saulcyi* Bourguignat, 1852, for black specimens similar to "bourguignati".

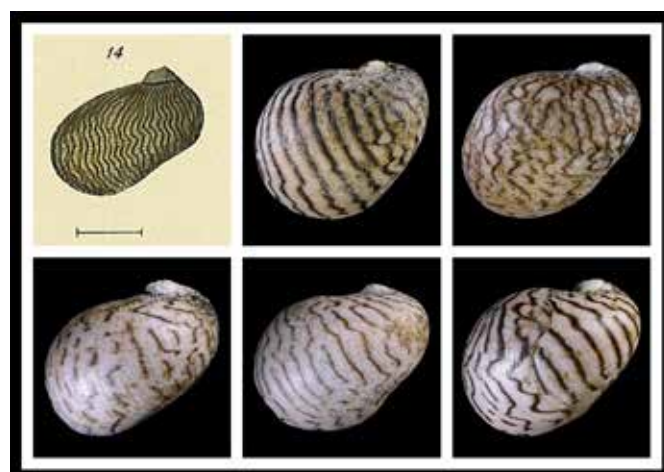
1879: *Neritina heldreichi* von Martens, who writes, in "Die Gattung Neritina" p. 225: « This species is generally

very close to *N. fluviatilis*, but with the small size of the spire and the mouth narrowed anteriorly, it strays from it: on top of this comes the striking colouring of the mouth. » From Antalya, Burdur, Afyon, Izmir, Manisa, Aydin, Denizli and Isparta, SW. Turkey. And also from Crete: « From T. von Heldreich, the Berlin Museum received a Neritine, similar in shape, but much smaller [...] with a more jagged design on a more yellow-brown background, also provided with three darker zones, coming from the salt source Almyros at Herakleion in Candia (Crete). »



Specimens of "heldreichi" at the spring of Gázi. Notice the « three darker zones » described by von Martens on the specimens collected by Th. von Heldreich.

1879: *Neritina orsinii* by a Pecchioli in von Marten's book. A kind of "serratilinea" but for *fluviatilis*, as you can see on the image below:



Top left: *Neritina orsinii* plate 21 fig.14. Other pictures: specimens from Crnojevića river, Rijeka Crnojevića settlement, Cetinje, northwestern Skadar drainage basin, SW. Montenegro.

1893: *Theodoxia penchinati* by J. R. Bourguignat who, compulsively, gave a new name to everything he claimed to study. Locard, who has nothing to envy to Bourguignat regarding the rage to multiply the creatures for no reason, hosted this *penchinati* in his book of 1893 about the shells of fresh and brackish water of France: « Fairly large; oval-elongated. Rather swollen; 3½ whorls; apex eroded in the first anterior quarter; aperture very

long; test horny, speckled or striped » (LOCARD, 1893). The *Theodoxia penchinati* lived only in Salses area (Pyrénées-Orientales), and was “rare”.

Nowadays, we understand that “penchinati” is very common throughout the whole western Palearctic, and is often found also in completely fresh water.



Dotted, speckled, striped *penchinati* from Salses area. Nothing more than coloured *fluviatilis* from Occitania.



Two “penchinati” from le Cabrier karst spring, north of Saint-Guilhem-le-Désert, western bank of Hérault river, N. Occitania. We are far from Salses area.

1908: *Neritina brauneri* by W. A. Lindholm, for specimens found in Odessa region. Variants “alboguttata”, “lacrymans” and “pulcherrima”. The shell is dark with white markings, like some “penchinati” or many other populations which are black and decorated with white spots, distributed all over Europe.

For example, here is a “brauneri” (black and white), which was found in the far west of the continent:



Escaut river: subfossil from I-II century CE, collected in sediment at Rouvignies, N. France. 8,4mm

1929: *Theodoxia ghigii* by L. Gambetta, considered as similar to *saulcyi*, to which, later, we will focus a little.

5 About *Neritina sardoa* Menke, 1828:

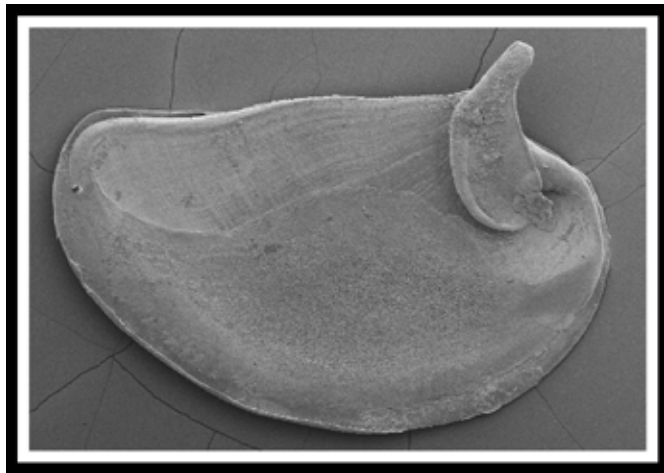
« N. testa ovata, convexa, rudi, violaceo-nigra vel fusca, rarius maculis albis transversis varia; vertice praeroso; apertura semirotunda, flavescente; labio plano, integerrimo. » – T. Menke: *Synopsis methodica molluscorum generum omnium et specierum earum, quae in Museo Menkeano adservantur; cum synonymia critica et novarum specierum diagnosibus*, Bad Pyrmont 1828, p. 140.



Specimens from Baraci coastal river, Gulf of Propriano, SW. Corsica. The shells bear a dense periostracum. M. Zettler’s collection.

These shells bear a pattern similar to that of *Neritina orsinii* as illustrated in von Marten’s book. Somewhat verdastra, « with a [...] jagged design on a more yellow-brown background » like the “heldreichi” from Crete. Further studies are strongly required.

Images of opercula reveal the presence of a rib-shield, clearly separated from the anterior callus.



The operculum, similar to that of *fluviatilis*.
M. Zettler's collection.

The shell is, most of the time, uniformly black, with a thin but often well marked radial sculpture. The operculum is that of *fluviatilis*, with a rib-shield and the two rib-pouches (CARO & CRNKOVIĆ, 2026a).

Some variants of “*saulcyi*” are found in Crete: smaller, rounder, or paler, even banded, they do not seem to be linked to any mineral or thermal water. They live in the brackish harbour formed by the huge karst spring of Ágios Nikólaos (Lasithi), as well as in some narrow canyons such as the Kourtialotiko gorge, northwestern tributary of the Megalopotamos, south of Réthymno. The picture below displays a specimen collected in the pond at the emergence, on top of the waterfall near the chapel of Agios Nikoláos. It belongs to an isolated group which is much less black, rounder, with a thick shell and a whitish-orangey aperture.



Serragia area, west of Figari, SW. Corsica.
M. Zettler's collection.

6 About *Neritina saulcyi* Bourguignat, 1852:

« Shell subglobose, finely sculpted, very small, black, violaceous when seen by transparency with a light, adorned with transverse black lines, shiny; whorls 3, convex; first whorl subhyaline; sutures impressed; columellar margin compressed, simple, edentulous, of a dirty white, labrum thin and sharp; operculum pinkish-white. [...] In water, near the path to Pentelicus, Attica » (BOURGUIGNAT, 1852).



A *Neritina saulcyi* from Ágios Ioánnis spring, Agio Pnevma, Serres, Central Macedonia, N. Greece. 6 mm.



Agios Nikoláos waterfall. 4,9 mm.

After the canyon of Kourtialotis, the torrent joins the river of Spíli, which is colonized by true *saulcyi*.



A *saulcyi* from the Fountain of the Lions at Spíli. 5,6 mm.

The following picture shows that the black coating of *saulcyi* can cover the shell locally or totally.



Variations in the *saulcyi* of the Fountain. 5,1-5,3 mm.



Marvel garden, downstream Spíli. 5,2 mm.

Close to *saulcyi*, some specimens from Arménioi springs, Chaniá, W. Crete, look like some *transversalis* Pfeiffer, with which they were once confused.



A fake *transversalis* from Arménioi springs. 5,7 mm.

All these shells form a clade that seems rather cohesive, characterized by a rather globose shape, an obsolete radial sculpture, and by a dark coating on an uniform yellowish to creamy background, which is sometimes adorned with a weak banding, but never meshed or dotted. This clade settles at least in waterbodies of the southern slope of Cretan mountains, and is strikingly different in morphology and colours

from the “heldreichi” that colonize the streams of the northern side.

Are we really dealing with true *fluviatilis*? It may be that the matter is not as straightforward as the work of SANDS & AL., 2020 suggests.

Although the use of COI (approx. 600 bp) is the standard for genetically distinguishing between species, that is not the whole story. Many eastern “*fluviatilis*” are probably related and closely related to one another, but they could be distinct. A thorough genetic analysis (not just COI, but also 16S rRNA and other markers) is required to resolve this issue. But who has the time to do that?

Hence our proposal to establish a *fluviatilis* group.

COMMENTING:

By the colours and the patterns, *Th. fluviatilis* is one of the most striking species in the genus. It can also be confused with some forms of the *baeticus-meridionalis* group, and thereby can be identified with some confidence only by the study of the operculum, the presence of the rib-pouch 2 being the only perfectly specific element (CARO & CRNKOVIĆ, 2026A) in the area.

If *Th. fluviatilis* can withstand moderate salinity, it can also survive some drought. In the south-east of the cretan town of Georgioúpoli, the lake of Kournas is almost entirely dried up each summer, its outfall working then in underflow only. Despite this summer stress, a population related to *fluviatilis* manages to live here.



Another group of “*saulcyi*” from Akbunar rivulet, in the botanical garden of Balčik, Oblast Dobritch, NE. Bulgaria. 6,2-6,4 mm. V. Gashtarov legit (BG). Благодаря Виктор!



A yellow specimen from Blato na cetini, downstream the Pranjčevići dam, Cetina river, S. Croatia. 5,7 mm.



Jadro river, near the outlet in Solin territory, Split area, S. Croatia. Egg cases and adults with various patterns, on stones under aquatic plants.



A yellow specimen from Kournas outflow. 4,95 mm.



Krya Springs, Livadeiá, Bœotia, Central Greece. 5 mm.



Pattern variations in specimens from Raghiunti Creek, west of Sorio, in the Nebbio region, N. Corsica.

To be continued...

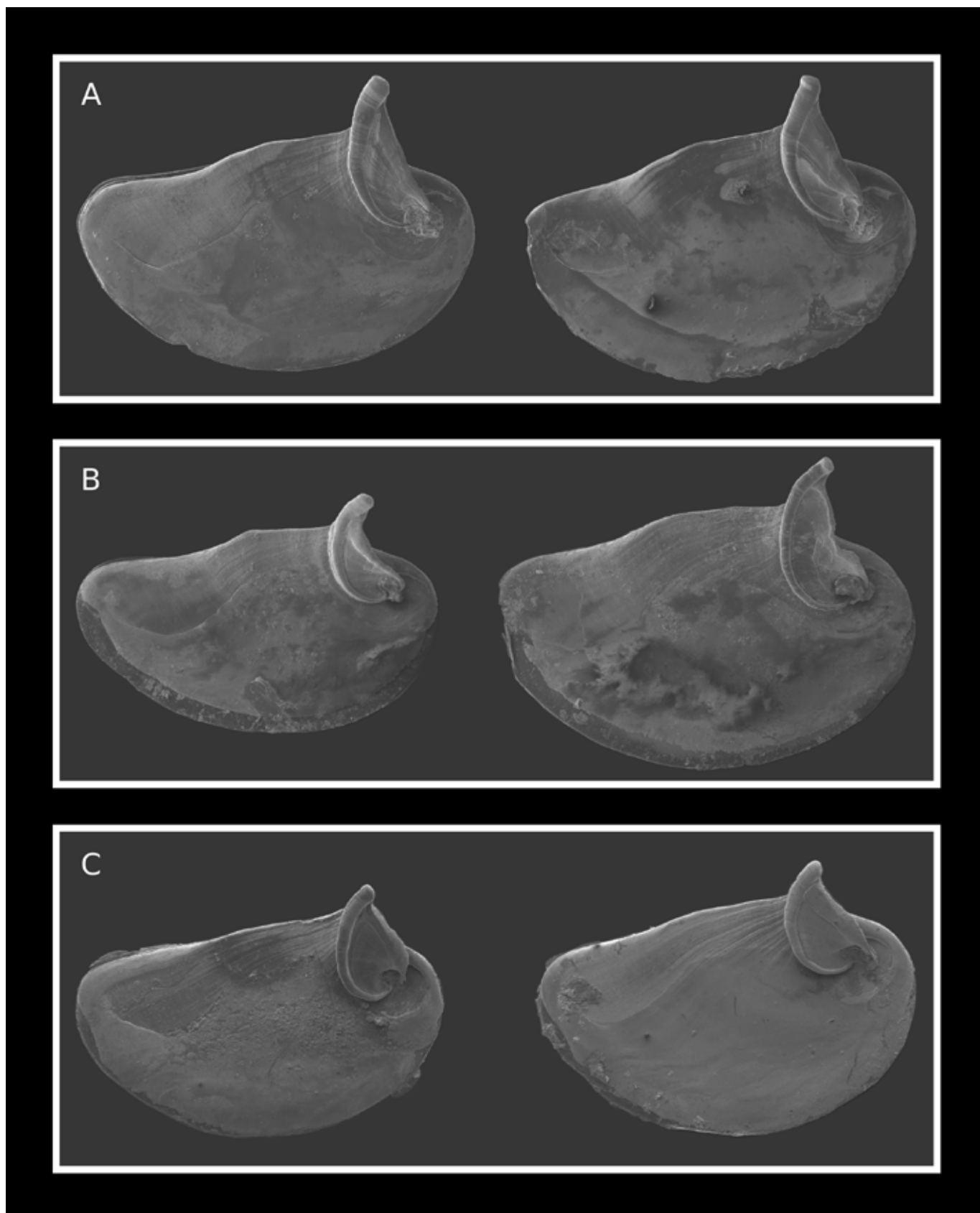


Plate 1

Opercula of *Th. fluviatilis* from various localities in France. For sexual dimorphism, cf. GLÖER & PEŠIĆ, 2015.

A: Boutonne river at Saint-Jean-d'Angély, West France.

B: Dordogne river at Lalande, Southwestern France.

C: Solre river in Northern France.



Plate 2

Opercula and their apophyses in various specimens of *Th. fluviatilis*. The colours of the operculum can vary from one individual to another, and also along the time: they can fade, even when preserved from the light. Here, all the opercula are fresh.

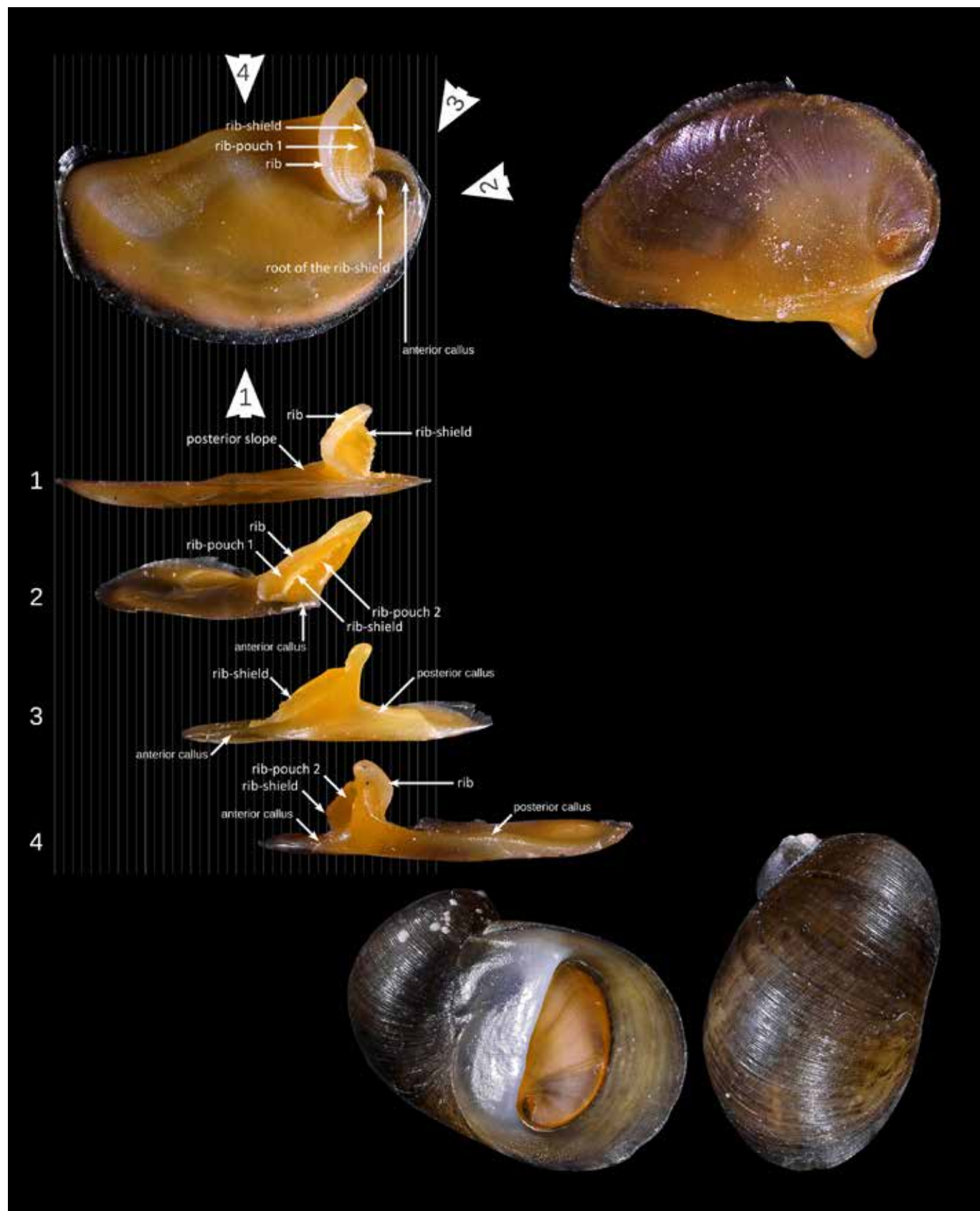


Plate 3

Th. fluviatilis from the Jadro river. Size of the shell: 7,3 mm. Size of the operculum: 4,15 mm.



Plate 4

Colour and pattern variations of the shell in Western Europe Great Britain, Spain, Germany, France, Austria, Slovenia, Croatia, Albania.

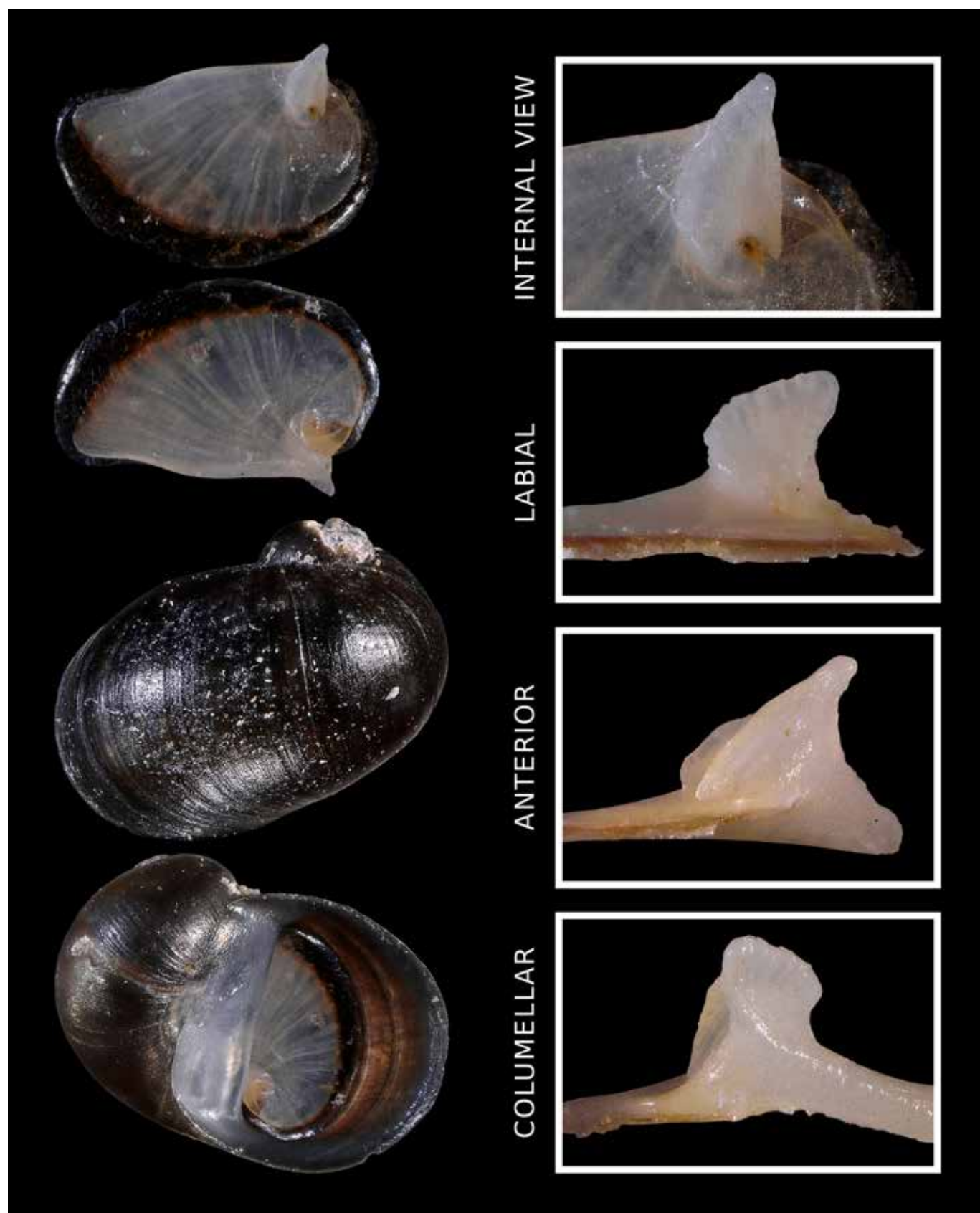


Plate 5

A dwarf “saulcyi”-like variant is found inside a double emergence and in the brook that springs from it, at Camou-Cihigue, Pyrénées-Atlantiques, SW. France. Here, a specimen collected between the warm (circa 30°C) and the cold spring (circa 10°C), in the pool of Lamiña Cave, spring of Guechala stream. 4,4 mm.



Plate 6

Itchen river, in the wetland near Southampton, Hampshire, southern England. 7,5m.

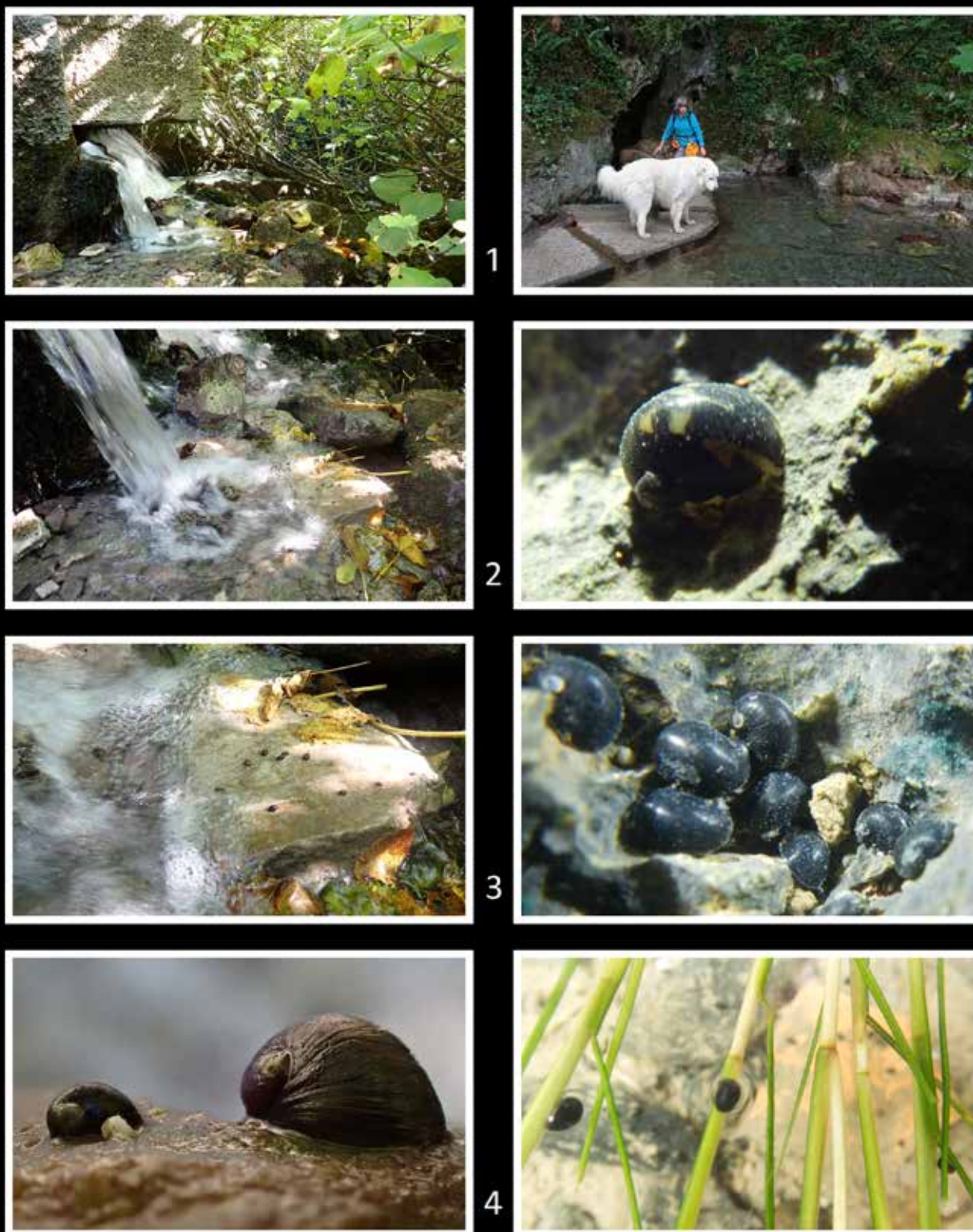


Plate 7

Left column 1-4: Dalmatia, Split area, Žrnovnica river, at the foot of the catchment. The snails, at this place, are used to living in the mist generated by the little waterfall. Right column 1-3: SW. France, Pyrénées-Atlantiques, in the pool of Lamiña Cave, spring of Guechala stream, south of Camou. Image 4: specimens feeding on the organic film at the surface of stalks and leaves of the water-crowfoot *Ranunculus fluitans* Lamarck, 1799. Ibargonea creek, at Camou.

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Crete: the venetian fountain at Spili shelters a population of *Theodoxus* related to *fluviatilis*.

Evaluation des espèces et sous-espèces de Conidae décrites dans Malacologia Mostra Mondiale depuis 2018

III – Les espèces de l’Ouest Atlantique Tropical

Loïc LIMPALAËR

Introduction

Cet article est le troisième d’une série qui traitera des espèces décrites dans la famille des Conidae (Mollusca: Gastropoda) depuis la parution de « *Taxonomic Iconography of Living Conidae* ». Cet ouvrage présentait la totalité des espèces actuelles de la famille que les auteurs retenaient comme valides.

Je prie le lecteur de se référer à l’introduction du premier article pour prendre connaissance des principes suivis dans cette série.

Je poursuis dans cet article la revue des espèces décrites dans *Malacologia Mostra Mondiale* de 2018 à mai 2023 (n° 98 à 121). Je traiterai ici les espèces et sous-espèces décrites dont l’origine se situe dans l’Ouest de l’Atlantique Tropical (régions caraïbe et brésilienne). Les images des types figurés dans cet article sont réalisées par les auteurs et postées sur le site internet de la revue « *Malacologia Mostra Mondiale* » dans la plupart des cas. Quand cela est possible, j’ajoute des images de spécimens de ma collection.

Abréviations

- EM : Eric Monnier
- MMM : Malacologia Mostra Mondiale, Cupra Maritima (Italie)
- MNHN : Muséum National d’Histoire Naturelle, Paris (France)
- LL : Loïc Limpalaër
- MLRR : *Taxonomic Iconography of Living Conidae* (Monnier, Limpalaër, Roux, Robin)
- CSB : Cone Shells from Brazil (A. Monteiro, O. Crabos, D. Monteiro)

Espèces et sous-espèces de l’Ouest Atlantique.

1 - *Tenorioconus brianoi* Cossignani & Allary, 2019. Publié dans le n°102. Holotype 26,3 mm déposé au MNHN ; 10 paratypes de 22,8 à 35,5 mm. Localité type : Moustique, île de l’Archipel des Grenadines.

Evaluation : les auteurs se réfèrent – une nouvelle fois – à une espèce non nommée illustrée dans MLRR page 273 en tant que *Tenorioconus* sp. 1 dont l’origine pourrait être Sainte Lucie. Pourtant, il apparaît avec un examen superficiel qu’il ne s’agit pas de la même espèce. En effet, *T. brianoi* ne présente pas sous la suture les fines virgules régulièrement espacées qui ornent la spire de *T. sp. 1* qui vient d’être décrit comme *Tenorioconus granamirabilis* Monnier & Limpalaër, 2026. Par ailleurs, ce dernier présente un bien plus grand nombre de lignes spirales de petits points marrons sur le dernier tour, contre une vingtaine pour l’espèce de Cossignani et Allary. Enfin, les provenances ne sont pas les mêmes. Les quatre coquilles de *T. brianoi* illustrées dans la publication originale semblent être des subfossiles aux couleurs



affadies dont les ouvertures sont manifestement érodées. Monnier & Limpalaër (2026) placent *T. brianoi* en synonymie de *Tenorioconus pseudaurantius* (Vink & von Cosel, 1985) sur la base de l’examen de nombreuses coquilles.

Holotype de *Tenorioconus brianoi* (MNHN)

2 - *Conasprella anacarolinae* Cossignani, 2019. Publié dans le n°105. Holotype 18,23 mm déposé au MMM.

5 paratypes de 15,92 à 17,78 mm. Localité type : Maragogi, Alagoas, Brésil.

Evaluation : Cette espèce est un membre du genre *Jaspidiconus* qui est très diversifié. Cette petite espèce brésilienne peut être considérée comme valide en accord avec CSB.

Holotype de *Jaspidiconus anacarolinae* (MMM)



3 - *Tenorioconus peterstimpsoni* Cossignani & Allary, 2021.

Publié dans le n°111. Holotype 28,87 mm déposé au « Peter Stimpson Shell Museum ». ; 2 paratypes de 30,31 à 35,1 mm. Localité type : Los Frailes, Ile Margarita, Venezuela.

Evaluation : Cette espèce valide correspond en partie au *Tenorioconus* sp. 2 du MLRR. Elle est endémique de l’île de Margarita au large du Venezuela. Elle diffère notamment de *Tenorioconus trinitarius* et *T. granarius* par la silhouette de la rampe suturale qui n’est pas concave. L’affirmation des auteurs selon laquelle *Tenorioconus trinitarius* n’a pas de protoconque paucispirale est erronée : elle est illustrée dans le MLRR page 272 et elle est clairement paucispirale.

Holotype de *Tenorioconus peterstimpsoni* (MNHN)





Spécimen de *Tenorioconus peterstimpsoni* Ile de Margarita, Venezuela, 34,3 mm. (coll. EM)

4 - *Jaspidiconus kasieae* Cossignani & Allary, 2022. Publié dans le n°114. Holotype 15,31 mm déposé au MNHN. ; 2 paratypes de 14,85 à 15,72 mm. Localité type : Caravelas, Bahia méridional, Brésil, sur une barrière corallienne.

Evaluation : Comme *Conasprella anacarolinae*, cette espèce est une des populations issues de la radiation des *Jaspidiconus* au Brésil. Elle est considérée valide par CSB et je partage cette conclusion.



Holotype de *Jaspidiconus kasieae*

5 - *Dauciconus diannae* Cossignani, Allary & Stimpson, 2022.

Publié dans le n°114. Holotype 19,99 mm. déposé au MNHN. ; 3 paratypes de 30,04 à 36,9 mm. Localité type : Au large de l'Etat d'Amapa, au nord du Brésil, à proximité de la Guyane Française, à 60 – 80 mètres de profondeur – 5° 32' 36.6" Nord et 50° 44' 54.2" Ouest.

Evaluation : Cette description permet d'éclaircir – partiellement au moins – une des difficultés de définition de *Dauciconus brunneobandatus* (Petuch, 1992). Des coquilles provenant d'une zone débutant depuis la Colombie et jusqu'au nord du Brésil étaient confondues dans ce taxon. *Dauciconus brunneobandatus* a été défini par Petuch comme étant répandu du delta de l'Orénoque jusqu'à l'Etat d'Amapa au Brésil en passant par la Guyane et Trinidad. Les morphologies de ces coquilles étaient parfois peu compatibles avec l'holotype originaire du delta de l'Orénoque. Le véritable *D. brunneobandatus* est illustré dans le MLRR page 383 n°1 et 2. Il s'agit de coquilles pyriformes présentant une sculpture spirale sur toute la hauteur du dernier tour. Bien plus loin au sud-est, on trouve la nouvelle espèce au large de la Guyane française et de la côte de l'Amapa au Brésil. La nouvelle espèce a les bords plus rectilignes sur le dernier tour et une sculpture plus fine quasiment absente sur la moitié apicale du dernier tour. Les caractères du décor sont assez variables et ne permettent guère de différencier les deux espèces. Par ailleurs, des spécimens essentiellement blancs de *D. diannae* sont connus

(cf. le spécimen illustré ci-dessous). En conclusion, l'espèce est valide. Cependant, il est nécessaire de mieux documenter les populations de ce complexe vivant au nord du Brésil.



Holotype de *Dauciconus brunneobandatus*

Dauciconus brunneobandatus (Coll. LL). Etat de l'Amapa, Brésil.



Holotype de *Dauciconus diannae* (MNHN)

Dauciconus diannae (Coll. LL). Embouchure de l'Amazonie, Amapa, Brésil.

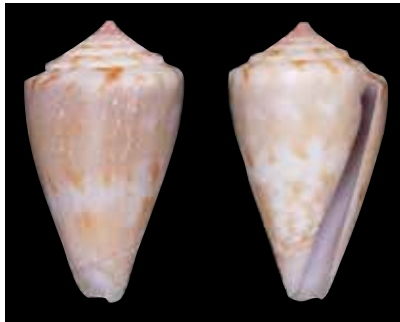
7 - *Dauciconus loriae* Cossignani, Allary & Stimpson, 2022.

Publié dans le n°115. Holotype 15,46 mm déposé au MNHN ; 3 paratypes de 15,92 à 17,21 mm. Localité type : Rio do Fogo, Natal, Etat de Rio Grande do Norte, Brésil.

Evaluation : Cette nouvelle espèce fait partie d'un important complexe de petites espèces vivant le long des côtes tropicales brésiliennes. Dans la même zone de Rio do Fogo, se trouve *D. mauricioi* qui diffère par des bords plus convexes, des flammules sur la spire plus sombres, et d'autres caractères. Cette espèce peut donc être considérée comme valide et cet avis est partagé par CSB avec quelques réserves. Ce livre illustre 3 autres exemplaires aux couleurs allant du jaune au rose.

On note que les auteurs ont pris la sage précaution de déposer un paratype dans une institution brésilienne. Ce pays a, en effet, pris des dispositions législatives obligeant le dépôt de types pour toutes les espèces vivantes

décrites originaires de son territoire ou de ses zones maritimes exclusives.



Holotype de *Dauciconus loriae*

8 - *Dauciconus arthuri* Lima & Cossignani, 2023. Publié dans le n°119. Holotype 14,94 mm déposé au MMM ; 1 paratype de 14,30 mm. Localité type : Gaibu Beach, Pernambuco, Brésil. 1 – 1.5 m de profondeur, sur rocher, en eau peu profonde.

Evaluation : Cette nouvelle espèce fait partie d'un important complexe de petites espèces vivant le long des côtes tropicales brésiliennes. Les espèces déjà décrites présentent toutes des différences morphologiques et dans leur décor. De plus, les localités sont différentes. L'espèce peut donc être considérée comme valide conformément à l'opinion exprimée dans CSB.



Holotype de *Dauciconus arthuri*

9 - *Dauciconus totoï* Lima & Cossignani, 2023.

Publié dans le n°119. Holotype 14,96 mm déposé au MMM ; 1 paratype de 14,08 mm. Localité type : Gaibu Beach, Pernambuco, Brésil. 1 – 1.5 m de profondeur, sur rocher, en eau peu profonde.

Evaluation : On remarque très rapidement que ce taxon a la même localité type et le même habitat que la précédente. Il est donc au moins sympatrique. Les caractères morphologiques de la spire très anguleuse et nettement étagée sont également identiques. Les caractères



Holotype de *Dauciconus totoï*

chromatiques sont proches. Sur la base des deux seuls spécimens illustrés que je puisse examiner, il y a donc de grandes proximités entre *D. totoï* et *D. arthuri*. CSB considère que ces deux espèces sont synonymes et que la seconde est à retenir comme valide. Je suis également de cet avis.

10 - *Dauciconus lulii* Lima & Cossignani, 2023.

Publié dans le n°119. Holotype 18,35 mm déposé au MMM ; 1 paratype de 18 mm. Localité type : Rio do Fogo, Natal, Etat de Rio Grande do Norte, Brésil. 20 à 25 m de profondeur, sur une barrière corallienne et du sable.

Evaluation : La localité type est la même que celle de *Dauciconus (Purpuriconus) mauricioi*. Il est pertinent de comparer la nouvelle espèce avec celle-ci. Malheureusement le texte de la discussion se concentre sur une comparaison avec *Dauciconus worki* dont la nouvelle espèce est clairement différente.

Seule la photographie de l'holotype m'est disponible. Cependant il semble que la nouvelle espèce présente des différences par rapport à *D. (P.) mauricioi* : la coloration des premiers tours est blanche chez la première et rose vif chez la seconde. De plus, la nouvelle espèce a une coloration du dernier tour plus unie avec seulement quelques taches blanches au milieu du dernier tour alors que la bande blanche centrale est plus marquée et entourée de maculations plus sombres que la couleur générale du dernier tour chez *D. (P.) mauricioi*. Enfin, *D. lulii* présente une fine sculpture spirale sur le dernier tour qui n'est pas présente chez l'autre espèce. On peut donc considérer que *D. lulii* est distinct. Dans CSB, la nouvelle espèce est comparée avec *D. (P.) fonsecai* (Petuch & Berschauer, 2016). La localité type des deux espèces est la même. Cependant, l'aire de répartition documentée dans CSB se trouve bien plus au nord (de Camocim à Almofala) pour *D. (P.) fonsecai*. Les deux taxons ont une coloration et une sculpture compatibles. Il reste donc à confirmer, avec plus de matériel, les aires de répartition et la variabilité de chaque espèce pour conclure définitivement à leur synonymie. Dans cette attente, je préfère maintenir *Dauciconus (Poremskiconus) lulii* comme espèce valide.



Holotype de *Dauciconus lulii*

11 - *Jaspidiconus beatrizlimae* Lima & Cossignani, 2023.

Publié dans le n°119. Holotype 21 mm déposé au MMM ; 4 paratypes de 20,3 à 16,3 mm. Localité type : Gaibu Beach, Pernambuco, Cabo de Santo Agostinho,

Nord Est du Brésil. 1 – 1.5 m de profondeur, sur rocher, en eau peu profonde.

Evaluation : Cette espèce est une des populations issues de la radiation des *Jaspidiconus* au Brésil. La localité type est proche de celle de *Jaspidiconus anacarolinae*. Le motif coloré est comparable à cette dernière espèce dont *J. beatrizlimae* ne diffère que par la largeur de la coquille et l'intensité de la coloration. CSB considère ce taxon comme un synonyme de *J. anacarolinae*. Je partage cet avis.



Holotype de *Jaspidiconus beatrizlimae*

Synthèse

Nom original	Evaluation	Nouvelle combinaison
<i>Tenorioconus brianoi</i> Cossignani & Allary, 2019	Synonyme	<i>Tenorioconus pseudaurantius</i> (Vink & von Cosel, 1985)
<i>Conasprella anacarolinae</i> Cossignani, 2019	Valide	<i>Jaspidiconus anacarolinae</i> (Cossignani, 2019)
<i>Tenorioconus peterstimpsoni</i> Cossignani & Allary, 2021	Valide	<i>Tenorioconus peterstimpsoni</i> Cossignani & Allary, 2021
<i>Jaspidiconus kasieae</i> Cossignani & Allary, 2022	Valide	<i>Jaspidiconus kasieae</i> Cossignani & Allary, 2022
<i>Dauciconus diannae</i> Cossignani, Allary & Stimpson, 2022	Valide	<i>Dauciconus diannae</i> Cossignani, Allary & Stimpson, 2022
<i>Dauciconus lorae</i> Cossignani, Allary & Stimpson, 2022	Valide	<i>Dauciconus lorae</i> Cossignani, Allary & Stimpson, 2022
<i>Dauciconus arthuri</i> Lima & Cossignani, 2023	Valide	<i>Dauciconus arthuri</i> Lima & Cossignani, 2023
<i>Dauciconus totoii</i> Lima & Cossignani, 2023	Synonyme	<i>Dauciconus arthuri</i> Lima & Cossignani, 2023
<i>Dauciconus lulii</i> Lima & Cossignani, 2023	Valide	<i>Dauciconus lulii</i> Lima & Cossignani, 2023
<i>Jaspidiconus beatrizlimae</i> Lima & Cossignani, 2023	Synonyme	<i>Jaspidiconus anacarolinae</i> (Cossignani, 2019)

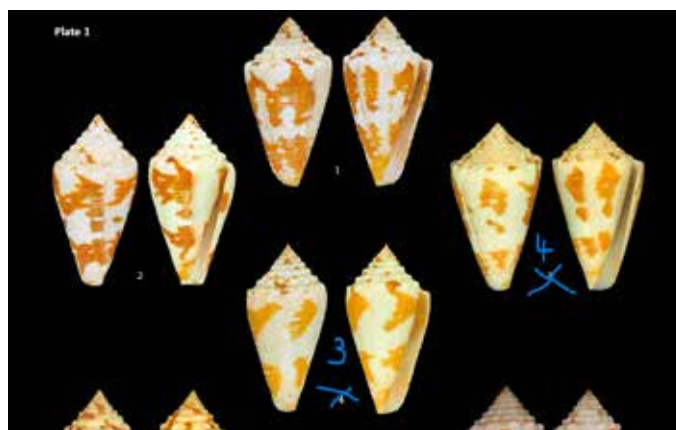
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Erratum to Description of a new species of *Tenorioconus granamirabilis* (Gastropoda: Conidae): *Tenorioconus granamirabilis*, n. sp. from Grenada Island, Lesser Antilles.

Les figures 3 et 4 de la planche 1 ont été interverties. Les légendes ne changent pas.

The figures 3 and 4 from plate 1 were swaped. The legends remain unchanged.



A new species of *Thaumastus* from central Peru (Gastropoda: Stylommatophora: Paeniscutalidae)

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Abstract

Thaumastus luquei n. sp. is described from the montane forests of Pasco Department, central Peru, on the basis of a type series from Chontabamba District, Oxapampa Province, at 2300–2500 m a.s.l. A second population attributable to the same species is known from Pasco Department at 2400–2600 m a.s.l. The new species is characterized by a large, solid, imperforate, elongate-ovate to subfusiform shell, a progressive development of fine axial sculpture on the early teleoconch, and narrow axial ribs crossed by a finer spiral component on later whorls, producing a delicate reticulate sculpture. It is distinguished from *T. foveolatus* by its more elongate shell, finer and less strongly developed teleoconch sculpture, and different protoconch sculpture, and from *T. insolitus* by its larger and more elongate shell, less strongly sculptured teleoconch, and markedly different protoconch. Comparative material of *T. foveolatus* from several provenances demonstrates appreciable variation in size, globosity and coloration; consequently, separation of the new species relies primarily on the development and organization of shell sculpture, especially on the early teleoconch.

Keywords.

Gastropoda; Stylommatophora; Paeniscutalidae; *Thaumastus*; taxonomy; new species; Peruvian Yungas; Pasco; Peru.

Introduction

After several years of systematic collecting in the Departments of Pasco and Junín, central Peru, undertaken to document and clarify the distribution of species of *Thaumastus* and other terrestrial gastropods, material was obtained from Chontabamba, Oxapampa Province, that presents a stable combination of shell characters not satisfactorily attributable to any known Peruvian congener. This material is described herein as a new species of *Thaumastus*.

The systematic placement adopted here follows Salvador et al. (2026), whose phylogenetic study of Orthaloidea restricted the traditional concept of Megaspiridae and established Paeniscutalidae Breure & Salvador, 2026. *Thaumastus* is treated herein within Paeniscutalidae. The new species is compared especially with *T. foveolatus* and *T. insolitus*, two central Peruvian taxa with similar shell morphology and geographical distribution. Current nomenclature and classification were additionally checked against MolluscaBase (accessed 30 August 2026).

Material and methods

The following abbreviations are used: H, shell height; D, maximum shell diameter; AH, aperture height; AW, aperture width; NW, number of whorls. All linear measurements are given in millimetres. Shell measurements

and whorl counts were made consistently for all specimens examined.

Repository and collection abbreviations: MNCN, Museo Nacional de Ciencias Naturales, Madrid, Spain; MZSP, Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil; NHMUK, Natural History Museum, London, United Kingdom; RVL, Ricardo Vega-Luz collection, Málaga, Spain; VMA, Valentín Mogollón Ávila collection, Lima, Peru. NHMUK is cited for comparative type material of *T. foveolatus* and *T. insolitus* and does not receive type material of *T. luquei*.

The specimens examined were collected by local inhabitants outside Peruvian state-protected natural areas.

Systematics

Family Paeniscutalidae Breure & Salvador, 2026

Genus *Thaumastus* E. von Martens, 1860

Thaumastus luquei n. sp. (Figs 1–3)

Type locality

Peru, Department of Pasco, Province of Oxapampa, District of Chontabamba, 2300–2500 m a.s.l.; June 2022.

Type material

Specimen	H (mm)	D (mm)	AH (mm)	AW (mm)	NW	Catalogue no.	Repository
Holotype	79.75	34.80	43.50	21.50	5¼	15.05/200559	MNCN
Paratype 1	84.30	39.10	45.90	22.90	5¼	RVL-TH1	RVL
Paratype 2	77.70	37.20	41.85	19.90	5¼	RVL-TH2	RVL
Paratype 3	78.15	32.80	39.00	20.20	5¼	RVL-TH3	RVL
Paratype 4	80.30	34.80	42.50	21.10	5¼	175882	MZSP
Paratype 5	75.00	32.00	—	—	5¼	1753/1	VMA

Etymology

The new species is named after and dedicated to renowned Dr Ángel A. Luque, from Madrid, Spain, marine malacologist and biologist.

Diagnosis

A large, solid, imperforate species of *Thaumastus*, with an elongate-ovate to subfusiform shell and 5¼–5½ whorls in the type series. Protoconch relatively large, smooth and glossy, approximately 1¼ whorls; transition to the teleoconch progressive. Early teleoconch with numerous fine, narrow, regularly spaced axial ribs that gradually increase in relief. Later whorls with narrow, close axial ribs crossed by finer spiral elements, forming a delicate reticulate sculpture in which the axial component remains predominant. Sutures well defined and slightly crenulated. Aperture large, elongate-ovate and oblique; peristome thickened, white to creamy-white and slightly reflected. Distinguished from *T. insolitus* by

the finer and more progressively developing axial sculpture and less coarse reticulate appearance, and from *T. foveolatus* by the organization of the early teleoconch sculpture: in *T. foveolatus* the early whorls show very fine, close, subparallel to slightly curved striae, whereas in *T. luquei* narrow axial ribs emerge progressively and become increasingly prominent.

Description of the holotype

Shell large, solid, imperforate, elongate-ovate to subfusiform, 79.75 mm high and 34.80 mm in maximum diameter; approximately 5¼ whorls. Spire elevated, with a slightly convex profile; apex obtuse. Sutures well defined, slightly crenulated by the termination of the axial ribs.

Protoconch relatively large, smooth and glossy, brown, comprising approximately 1¾ whorls. Transition to the teleoconch marked by the progressive emergence of a delicate axial sculpture. Early teleoconch whorls with numerous fine, narrow, regularly spaced axial ribs, progressively increasing in relief and development on subsequent whorls.

Subsequent whorls with more pronounced axial sculpture, consisting of numerous narrow, closely spaced, relatively regular ribs, crossed by finer spiral elements, producing a delicate reticulate sculpture; axial sculpture distinctly predominant over the spiral component.

Last whorl large, moderately convex, slightly descending towards the aperture, with well-developed axial sculpture and a fine spiral component. Overall coloration brownish to reddish-brown, lighter on the early whorls and progressively darker on the later ones; sutures locally bordered by a lighter shade.

Aperture large, elongate-ovate and oblique, 43.50 mm high and 21.50 mm wide; interior bluish-grey to pale violet. Peristome white to creamy-white, thickened and slightly reflected, especially in the basal and columellar regions. Outer lip arcuate and regularly thickened. Columellar margin thick, white, reflected over the umbilical region; parietal callus thin, translucent to whitish.

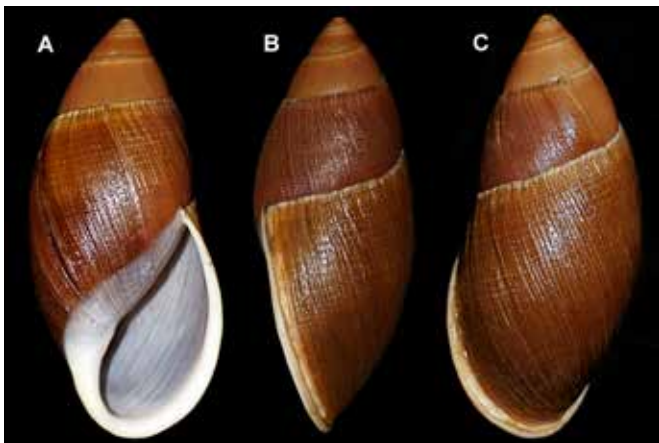


Figure 1. *Thaumastus luquei* n. sp., holotype, MNCN 15.05/200559, H = 79.75 mm, D = 34.80 mm, Chontabamba District, Oxapampa Province, Pasco Department, Peru, 2300–2500 m a.s.l. A, ventral view; B, lateral view; C, dorsal view.

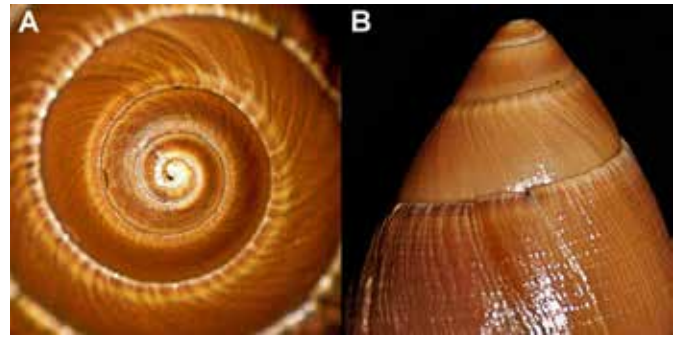


Figure 2. *Thaumastus luquei* n. sp., holotype, MNCN 15.05/200559. A, apical view showing the protoconch and early teleoconch sculpture; B, lateral view showing the transition from the protoconch to the teleoconch and the progressive development of the axial sculpture.



Figure 3. *Thaumastus luquei* n. sp., paratypes from the type locality, Chontabamba District, Oxapampa Province, Pasco Department, Peru, 2300–2500 m a.s.l. A, Paratype 1, H = 84.30 mm (RVL-TH1); B, Paratype 2, H = 77.70 mm (RVL-TH2); C, Paratype 3, H = 78.15 mm (RVL-TH3); D, Paratype 4, H = 80.30 mm (MZSP 175882); E, Paratype 5, H = 75.00 mm (VMA 1753/1). Ventral views.

Variation

The type series is relatively homogeneous in overall shell architecture. Shell height ranges from 75.00 to 84.30 mm. Maximum diameter ranges from 32.00 to 39.10 mm. The number of whorls is 5¼–5½ in the type series (Fig. 3). Variation is expressed principally in shell features, including shell width, relative development of the aperture, intensity of the axial sculpture and coloration. A second population from Pasco Department, at 2400–2600 m a.s.l., is represented by approximately 20 specimens; the comparative specimens considered here range from about 79 to 87 mm in shell height (Fig. 4). These shells are generally more yellowish in tone and show variable surface erosion, while retaining the characteristic progressive development and general organization of the sculpture observed in the type series.



Figure 4. *Thaumastus luquei* n. sp., shell variation in the second known population from Pasco Department, Peru, 2400–2600 m a.s.l. Ventral views of four representative specimens; comparative size range H = 79–87 mm.

Additional material examined

Thaumastus foveolatus (Reeve, 1849). Peru: Department of Junín, Province of Chanchamayo, District of Chanchamayo, 1800–2000 m a.s.l., January 2022, nine specimens, including two subadults, adult H ca. 65–75 mm, RVL collection, Málaga, Spain; representative figured adult H = 70.45 mm. Department of Pasco, Province of Oxapampa, near Santa Rosa, Pozuzo, ca. 1800 m a.s.l., two specimens, H = 74 and 78 mm, RVL collection, Málaga, Spain. Department of Junín, Province of Chanchamayo, obtained from Asháninka inhabitants at Pampamichi on 18 March 2003, precise collecting locality unknown, one specimen, H = 73.5 mm, VMA collection, Lima, Peru.

Thaumastus insolitus (Preston, 1909). Peru: Department of Junín, Province of Chanchamayo; two specimens obtained from Asháninka inhabitants at Pampamichi, H = 60.10 and 65.70 mm, VMA collection, Lima, Peru. The shells were reportedly collected in forest by relatives of the sellers; precise collecting locality and elevation are unknown. Two additional specimens attributable to *T. insolitus*, preserved in the former collection of José Julián Bravo and currently in the VMA collection, are believed to have originated from Chanchamayo; H = 52.80 and 61.80 mm, respectively. The larger specimen shows considerable surface erosion.

Distribution and habitat

Known from the type locality in Chontabamba District, Oxapampa Province, at 2300–2500 m a.s.l., and from a second population in Pasco Department at 2400–2600 m a.s.l. The available material indicates that *T. luquei* is a montane species of central Peru occurring in the Peruvian Yungas ecoregion. The type locality lies at a distinctly higher elevational range than the localities documented for the comparative material of *T. foveolatus* examined herein. This altitudinal separation is consistent with, but is not regarded as diagnostic independently of, the morphological differences observed between the two taxa.

Comparison and remarks

Thaumastus luquei n. sp. is compared principally with *T. foveolatus* and *T. insolitus*, two central Peruvian congeners with similar shell morphology and geographical distribution (Fig 5). *T. foveolatus* stands out for its overall shell architecture, documented occurrence in Junín and the broader variation observed in comparative material, whereas *T. insolitus* is particularly relevant because of its superficial resemblance to the new species and because similar shells have occasionally been illustrated or circulated under that name.

The lectotype of *T. foveolatus* (NHMUK 1975275) is from “Vitoé, near Sarma [sic, Tarma], Alto-Peru” and measures H = 71.5 mm, D = 37.0 mm (Breure & Ablett, 2015; Breure & Mogollón Avila, 2016). Historical MNCN material is also known from Chanchamayo (Breure & Araujo, 2017), and Breure (1978) anatomically examined specimens from 19.5 km WNW of San Ramón at 1850 m. The comparative material examined here extends the morphological basis of the comparison by including specimens from Chanchamayo and near Pozuzo, together with a specimen obtained at Pampamichi.

The comparative material of *T. foveolatus* shows ap-

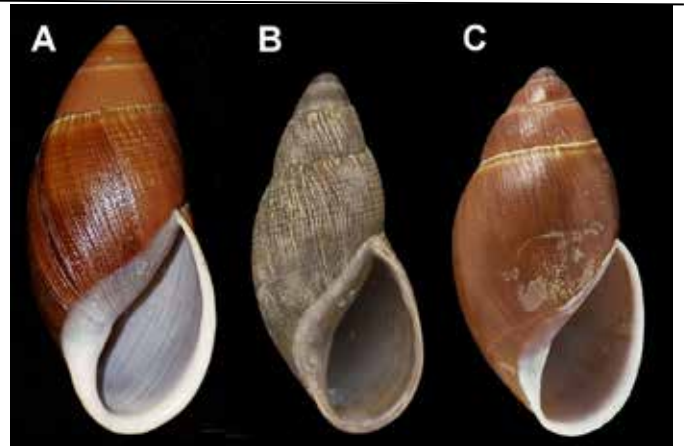


Figure 5. Comparative ventral views of *Thaumastus luquei* n. sp. and the most similar congeners, specimens shown at the same scale. A, *Thaumastus luquei* n. sp., holotype, MNCN 15.05/200559, H = 79.75 mm; B, *Thaumastus insolitus* (Preston, 1909), holotype, NHMUK 1947.3.11.1, H = 70.4 mm; C, *Thaumastus foveolatus* (Reeve, 1849), lectotype, NHMUK 1975275, H = 71.5 mm.

preciable variation in shell size, relative globosity and coloration. The two specimens from near Santa Rosa, Pozuzo (H = 74 and 78 mm; Fig. 6A–B) are larger and more globose than most specimens in the nine-shell Chanchamayo series and approach the general proportions of the lectotype. The VMA specimen obtained at Pampamichi (H = 73.5 mm; Fig. 6C–D) is likewise relatively robust and resembles the lectotype in overall architecture. Colour ranges from dark brown with a slight ochre tone to very dark brown and is not considered a primary diagnostic character.



Figure 6. *Thaumastus foveolatus* (Reeve, 1849), comparative material from central Peru. A–B, specimens from near Santa Rosa, Pozuzo, Oxapampa Province, Pasco Department, Peru, ca. 1800 m a.s.l., H = 74 and 78 mm, respectively (RVL collection); C–D, specimen obtained from Asháninka inhabitants at Pampamichi, Chanchamayo, Junín, Peru, 18 March 2003; precise collecting locality unknown, H = 73.5 mm (VMA collection), C, apical and enlarged apical views; D, ventral, lateral, dorsal and opposite lateral views of the same specimen.

Despite this variation in general form, the early whorls of *T. foveolatus* consistently show numerous very fine, close, subparallel to slightly curved striae, producing a characteristic fingerprint-like appearance. This pattern differs from *T. luquei*, in which narrow axial ribs emerge progressively on the early teleoconch and gradually increase in relief. The distinction of *T. luquei* from *T. foveolatus* is therefore not based solely on shell size, coloration or general shape, characters that vary appreciably among material from different provenances. Greater taxonomic significance is attributed here to the development and organization of the shell sculpture,

particularly during the transition from the early to the later teleoconch whorls (Fig. 7).



Figure 7. Comparative apical views and early shell sculpture, specimens shown at the same scale. A, *Thaumastus luquei* n. sp., Paratype 5, VMA 1753/1; B, *Thaumastus insolitus* (Preston, 1909); C, *Thaumastus foveolatus* (Reeve, 1849). In *T. foveolatus*, the early whorls show numerous very fine, close, subparallel to slightly curved striae; in *T. luquei* n. sp., narrow axial ribs develop progressively and gradually increase in relief; in *T. insolitus*, the earliest whorls are comparatively weakly sculptured, followed by a more abrupt development of stronger axial sculpture.

Thaumastus insolitus differs more clearly in the ontogenetic development and strength of its sculpture. Its earliest whorls are comparatively smooth or only weakly sculptured, followed by a more abrupt appearance of strong axial sculpture. On later whorls the axial elements are coarser, thicker and more elevated, and their intersection with the spiral component produces a stronger reticulate to granulose appearance. In *T. luquei*, by contrast, the axial ribs are finer and more numerous, their development is progressive, and the resulting reticulation remains more delicate, with the axial component clearly predominant (Fig. 8).



Figure 8. *Thaumastus insolitus* (Preston, 1909). Comparative specimen H = 65.70 mm (VMA collection, Lima, Peru), obtained from Asháninka inhabitants at Pampamichi, Chanchamayo, Junín, Peru; precise collecting locality unknown. A, apical and enlarged apical view; B, ventral, lateral, dorsal and opposite lateral views of the same specimen.

The holotype of *T. insolitus*, from Chanchamayo, measures H = 70.4 mm and D = 31.2 mm (NHMUK 1947.3.11.1; Breure & Ablett, 2015). The four additional specimens examined here measure 52.80–65.70 mm. These values refer only to the material examined and should not be interpreted as the complete size range of *T. insolitus*. The type series of *T. luquei* measures 75.00–84.30 mm, and the comparative specimens from

the second population considered here range from approximately 79 to 87 mm. The VMA specimens attributed herein to *T. insolitus* agree closely with the holotype in overall shell morphology and sculpture, particularly in the general shell proportions, the strongly developed axial sculpture and the characteristic appearance of the later whorls.

Specimens closely resembling *T. luquei* n. sp. have occasionally been illustrated or circulated under the name *T. insolitus*, probably reflecting the superficial similarity between the two taxa. Examination of the early and later sculpture, however, provides a consistent morphological basis for separating them. The historical specimens associated with the Bravo collection are morphologically consistent with *T. insolitus*; as their original labels are lacking, their presumed Chanchamayo origin is treated cautiously. The historical context of the Bravo collection is discussed by Mogollón Avila & Breure (2009).

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Trubatsa saltantis
(Houart, 1991)
New Caledonia
Holotype MNHN
Photo MNHN (M. Caballer)