

**Description of four species of *Marginella*, Lamarck, 1799,  
from the Neogene beds of Algarve, Portugal and Port Elizabeth,  
South Africa, respectively**

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**ABSTRACT** The relative similarity between *Marginella*'s from the Neogene in Portugal and Italy, and South Africa, is investigated, and comparative living species are illustrated, with four new fossil species described and the redescription of *Marginella stephaniae*.

**KEYWORDS** *Marginella*, Cacela, Algarve, Tortonian, Alexandria Formation, *Marginella goncalvesi*, *Marginella stephaniae*, *Marginella zwartkopsensis*, *Marginella pseudopoppei*, *Marginella antepiperata*

## INTRODUCTION

Species of the Genus *Marginella* Lamarck, 1799, from the Neogene (Pliocene) beds of the Alexandria formation in the Port Elizabeth area, along with other gastropods, have been known for some time. A fortuitous meeting with Carlos Goncalves in Portugal resulted in the presentation of interesting material from the Neogene beds at Cacela, Algarve, and the subsequent hypothesis that their closest congener existed from/in the so-called Alexandria Formation in South Africa, from which specimens have been known and documented. In the South African Journal of Geology 93(3) 514-518 (1990), a pertinent piece of information is noted, as follows: "Newton (1913), on account of similarities of certain Alexandria fossils with those of European and South American species, assigned a Mio-Pliocene age to the Alexandria formation."

The author's comprehensive knowledge of the living marginellids, particularly in South Africa, led to the realization that by far the closest comparative species to these "northern" fossils

exists in South Africa, and not West Africa, as might be assumed. Comparative living species are illustrated to add impetus to this theory.

As with our modern species, it must be emphasized that even more so in the case of fossils, researchers tend to be limited to morphology, size, pattern, labial characteristics and possibly the columellar/parietal callus, as characters to determine species.

## WORKS AND INTERPRETATIONS OF RECENT AUTHORS

Various authors have contributed to our knowledge of the possible origins of this genus. Coovert & Coovert, 1995, suggest that the Genus *Marginella*, Lamarck, 1799, may initially be found in the fossil record of the Miocene & Pliocene of Italy, to recent times. da Silva, *et al.* 2011, speaking of the Iberian Atlantic Neogene, offer as follows: "Today, the greatest diversity of Marginellids, about 90% of the species according to Coovert & Coovert, are in West Africa and South Africa. Therefore, the genus may have originated in South Africa" ... "During the Miocene, one vast tropical

European - West African Province extended from France to Angola” (da Silva, *et al.* 2011.) Sosso, Brunetti and Dell ‘Angelo in their paper on the Marginellidae of the Piedmont area, Italy, state ... “The family Marginellidae apparently originated in the ancient Tethys Sea” (Sosso, Brunetti & Dell ‘Angelo, 2015).

T. Cossignani, in his comprehensive book on worldwide Marginellidae, fossil section, does not illustrate or mention seemingly important Portuguese material. da Silva, Landau & La Perna speculate that “*Marginella* may have originated in Southern Africa and migrated north to Europe in the Miocene, never extending further north than West Central Portugal.” In their paper, Biogeography of Iberian Atlantic Neogene marginelliform Gastropods, under discussion of *M. stephaniae*, they state “the peculiar shape of *Marginella stephaniae* makes it difficult to suggest any close affiliation to other Recent or Fossil marginellids.” (da Silva, *et al.* 2011.) Their mention of *Marginella goodali* (sic), as a potential comparative is interesting, but clearly different. Their illustrations in Figure 4 show instinctive separation between *M. stephaniae*, (Numbers 1 to 4), and the smaller, broader shell that is named herein as *Marginella goncalvesi*, new species (See, numbers 5 to 8).

Considering that this present paper represents a picture of a very narrow ‘time frame’ in geological history, it becomes possible to present a group of species that are, in conjecture, the first currently known members of this genus, which are at this stage assumed to have split from the Volutidae possibly in the Tethys Sea, at some point. It is pertinent to realize that the volutid genus *Athleta* has representation as fossils in the U.S.A, and Paris, France area, and living examples deep off the southern part of Africa.

F.A.D van Nieulande studied Marginellids from the Paris basin in 1981, mentioning some 19 species, which he places in the genus *Stazzania*. However, all these are small to very small in size, and from their illustrated sizes and morphology, have a much stronger affinity to that of the genus *Dentimargo*. La Perna and Vazzana, in their article “On the last occurrence of the Genus *Marginella* in the Mediterranean”, mention as follows: “The genus *Marginella* was thought to have disappeared from the Mediterranean and the adjacent Atlantic after the early Pliocene, due to early cooling phases.” They continue ... “High productivity seems to have been a key factor in the Mediterranean distribution of *Marginella*, either in shallow or deeper waters.” (La Perna & Vazzana, 2016)

In their very recent revision of the phylogeny of marginelliform gastropods, “Mapping the missing branch on the Neogastropod tree of life”, Fedosov *et al.* state that these gastropods in general “date back to at least the Eocene or late Cretaceous.” Limited attention in this paper is paid to the genus *Marginella* Lamarck, 1799, other than to consolidate the genus *Glabella* with *Marginella*. (Group MM3). No species from the extremely rich area of South Africa is mentioned or illustrated. (Fedosov *et al.* 2019.)

Based on the sheer number of species, and their known non-planktonic distribution, it is paleontologically fascinating that these alike fossils, found so relatively far apart, have some distinct ancient connection. As mentioned, it has been proposed that *Marginella*’s originated in South Africa, and may have ‘migrated upwards’, but no further ‘north’ than Italy and central Portugal, (Iberian Peninsula) over this time. This is in contrast to the many Volutidae fossil species from France, found even further north. Contrary thinking would be that the genus *Marginella* split from Volutidae in the Tethys sea, and moved southward during warm

times, from France, and established itself in the Mediterranean region.

Mention should be made of the Genus *Myobarum*, which appears in Coover & Coover, as it was described from the Late Cretaceous of Mississippi and Georgia. However, Dr. E.J. Petuch (personal communication) is convinced that it falls well outside of even Marginellidae. Petuch and Sargent in 1986 mention it as a possible ancestor to the Olividae. Dr. E.J. Petuch, in a very recent communication with the author, says ... “However, in retrospect, I don’t think that *Myobarum* is ancestral to anything living today, and may be closest to the Cancellariidae ...” he offers, in a different communication: “... and I agree with you; the Marginellidae definitely split off of the Volutidae, probably in the Paleocene, from the same stock that later gave rise to *Amoria*, *Plicoliva*, and *Prochalaea* (an extinct Caribbean group) ----- the subfamily Plicolivinae of the Volutidae, which is a primitive group and a living-fossil left-over, really is closest to the marginellids ---- same kind of protoconch, shiny body, and body shape ---- they also have the ribbed shell sculpture of marginellids like *denticulata* and *mirabilis* ----- so, very similar and a ‘missing link’ to the ancient volutoidean ancestor ----- hope this helps” (Dr. E.J. Petuch, personal communication).

Coover & Coover stated that although some researchers synonymize the genus *Stazzania* with *Dentimargo*, they considered it to be an extinct, separate lineage, illustrated as such in their intuitively derived phylogeny of the *Marginellini*. (Coover & Coover, 1995, figure 78.) However, in their 2015 paper, Sosso, Brunetti & Dell ‘Angelo maintain *Stazzania* as a genus, in agreement with Landau *et al.* 2006, claiming that such genus is so far only found in

the Italian Tortonian (Sosso, Brunetti & Dell ‘Angelo, 2015).

## ABBREVIATIONS

CMS	Carlos Marques da Silva Collection
H:	Height
MNHN	Muséum national d’Histoire naturelle, Paris (France)
MNHN/UL	Museu Nacional de Historia Natural da Universidade de Lisboa, Portugal
MZB	Museo di Zoologia dell’Universita di Bologna
W:	Width

## KNOWN MEDITERRANEAN FOSSIL SPECIES

In the known investigative literature, fossil records of species of *Marginella*, Lamarck, 1799, can be found as follows:

*Marginella (Stazzania) marginata* Michelotti, 1847 (Plate 1 A-C), ex Italian Tortonian, which are smaller shells (approx. 13 mm), different morphology (rounded shoulder), with some well-preserved patterns of axial ‘zig-zag’ lines. In similar sized shells, such axial lines can be found in certain deep water Natal species. *e.g.* *Marginella palleukos* Aiken, 2014 (Plate 1 D-I).

*Marginella deshayesi* Michelotti, 1847 (Plate 1 J-O), from the Italian Tortonian, broad, rounded shoulder, denticulate lip. Also type species of “*Denticuloglabella* Sacco, 1890.”

*Marginella aurisleporis* (Brocchi, 1814) (Plate 2 A-C). 42 mm very large, smooth, narrow, no pattern.

*Marginella misae* Forli & Dell 'Angelo 2000 (Plate 2 D-F). Large and close to *M. aurileporis*, from a similar fossil area in Italy, ex Pliocene.

*Marginella iberica* Landau, La Perna and Marquet, 2005 (Plate 2 G-K). Approx. 18 mm, west central Portugal, Pliocene, Mondego basin. Narrow shell, with attractive spiral rows of small dark spots in fresher material.

*Marginella seguenzai* La Perna & Vazzana, 2016 (Plate 4 A-C). A presumed deeper water species from the Messina Strait, southern Italy. Plain white shells, bearing a strong resemblance to the deep-water Natal species *Marginella palleukos*, Aiken, 2014 (Plate 4 D-G), and a lot closer than *M. colomborum* (Bozzetti, 1995) (Plate 4 I-J) from the Atlantic sea mounts.

*Marginella stephaniae* da Costa 1866, (Figure 1, Plate 2 L-O, Plate 3 A-L, Plate 8 G-I), Cacela, Algarve. In viewing specimens of 'stephaniae', it became obvious that the group of about 50 shells were separable into two, an opinion held by Carlos Goncalves for many years. Morphological differences are in evidence in da Costa, Plate XI figs 8-19, and in da Silva *et al.* 2011, figure 4, numbers 1-4 and 5-8. An important piece of information in da Silva *et al.* 2011 is that the type specimen of *M. stephaniae* is lost, therefore a neotype, which will be deposited in Museu Geológico de Lisboa, has been chosen to represent closely the line drawing shell number 11 on Plate 11 of da Costa, 1866, and accordingly *M. stephaniae* is redescribed as follows:

**Description.** Shells large, ranging from 20 to 38 mm, average 30 mm, fairly light, oblong biconical, with rounded shoulder. Spire conical, low, sides of shells gently convex. Surface shiny and smooth. Aperture elongate, fairly broad, external varix thickened ending high

onto the whorl. Labial denticles absent, posterior notch barely noticeable. Strong, continuous columellar pleats, numbering four, occupying in excess of the lower half of the columella, which is virtually straight. Columellar callus thin, parietal callus absent. In good specimens, a golden yellow 'background' colour is overlaid with a fairly random pattern of diffuse, solid, round pale brown spots, which occur in the columellar area, the suture, as well as on the final whorl. The spots average between 1 to 2 mm in diameter and are solid.



Figure 1. *Marginella stephaniae* da Costa, 1866, neotype 26.2 mm.

The descriptions of four new fossil marginellids follow.

## SYSTEMATICS

Class	Gastropoda
Subclass	Caenogastropoda
Order	Neogastropoda
Superfamily	Volutoidea Rafinesque, 1815
Family	Marginellidae J. Fleming, 1828
Subfamily	Marginellinae J. Fleming, 1828
Genus	<i>Marginella</i> Lamarck, 1799

*Marginella goncalvesi* R. Aiken, new species  
(Figure 2, Plates 3M-R, 4H, 5A-R, 8J-L)

**Description.** Shell size medium, average, 24 mm, rarely exceeds 30 mm, extremely broad biconic, strongly built. Spire noticeably depressed, sometimes to the point of almost being flat. Shoulder extremely broad, sharply angled, surface shiny and smooth, albeit sometimes with a series of very close, fine axial growth lines. Aperture relatively narrow, no labial dentition, no posterior notch. Strong, fairly straight external varix, four strong columellar plications, occupying the lower half of the columella, the posterior plication almost at right angles to the whorl. This species presents a distinct, paler, solid, broad columellar and parietal callus that covers the entire columella and carries over onto the previous whorls (Plate 4 H). Colour a uniform straw yellow, but this may be a result of the substrate in which the fossil was embedded. There are distinct, occasional pale brown spots visible only on the latter part of the sutural area of the shell in ‘fresher’ specimens.



**Figure 2.** *Marginella goncalvesi* R. Aiken, new species, holotype, length 24.0 mm.

**Type and distribution.** From the Neogene fossil beds of Cacela, Algarve, Portugal.

- Holotype: 24.0 x 18.1 mm. (Plate 5 A-C); Donated to Museu Geológico de Lisboa, collected by R. Aiken.
- Paratype 1: 25.4 x 17.4 mm. R. Aiken Collection.
- Paratype 2: 25.5 x 19.3 mm. R. Aiken Collection.
- Paratype 3: 27.1 x 20.8 mm. C. Goncalves Collection.
- Paratype 4: 23.9 x 18.6 mm. C. Goncalves Collection.
- Paratype 5: 24.5 x 17.4 mm. J. Rosado Collection.
- Paratype 6: 22.9 x 17.3 mm. Ed Petuch Collection.
- Paratype 7: 22.4 x 17.4 mm. A. Seccombe Collection.
- Paratype 8: 22.3 x 17.7 mm. F. Lorenz Collection.
- Paratype 9: 22.4 x 17.6 mm. M. Page Collection.
- Paratype 10: 23.9 x 18.1 mm. R. Aiken Collection.
- Paratype 11: 23.5 x 17.1 mm. R. Aiken Collection.
- Paratype 12: 24.5 x 17.4 mm. R. Aiken Collection.

**Etymology.** I name this species for my conchological friend, Carlos Goncalves, who introduced me to this fascinating group of fossil *Marginella*'s.

**Discussion.** Fortunate exposure to multiple numbers, generating a ‘critical mass’ of material, which allows for the following comparison of the two sympatric species as follows: *M. stephaniae* attains a much larger size, reaching at least 38 mm. The species has a rounded shoulder, no noticeable parietal callus, a taller

spire, and hardly any columellar callus. *M. stephaniae* has distinct round brown spotting over a much greater part of the shell, even on the columellar area, a consistently broader aperture, curved margin that finishes slightly higher up onto the previous whorl, and a slightly 'lighter' shell.

*Marginella zwartkopsensis* R. Aiken,  
new species (Figure 3, Plates 6A-J, 7P-R)

**Description.** Shell size medium, averaging 26.7 mm. Biconic and solidly built. Spire pointed, shoulder sharply angled, surface of specimens chalky yellow, with no visible pattern. Strong, slightly curved varix, no labial teeth or posterior notch. Aperture fairly wide. Four strong columellar pleats, occupying the lower 60% of the columella. Over all colour of specimens probably influenced by the substrate.



**Figure 3.** *Marginella zwartkopsensis* R. Aiken, new species, holotype, length 26.88 mm.

**Type and distribution.** Located in the Alexandria formation deposits in the Eastern Cape Province, South Africa.

Holotype: 26.88 x 16.89 mm. (Plate 6 A-C); R. Aiken Collection.  
Paratype 1: 28.41 x 16.92 mm. R. Aiken Collection.  
Paratype 2: 24.78 x 16.59 mm. R. Aiken Collection.  
Paratype 3: 20.62 mm. Fragment. R. Aiken Collection.

**Etymology.** Named for the river and area where some of the Alexandria formation exists.

**Discussion.** *Marginella zwartkopsensis* has size and morphological affinities with *M. stephaniae* and *M. goncalvesi*. All three are purported to have existed in the Neogene, lower Pliocene. None of them have the distinct labial teeth associated with many West African species. The puzzle is that not one single living *Marginella* currently found from off South Africa has round spots of any kind. Although with labial teeth, the extant West African *Marginella goodalli* (Plate 8 A-C) and *Marginella sebastiani* Marche-Marchad, I. & J.C. Rosso, 1979 (Plate 8 D-F) have distinctive attractive white spots on a coloured background, but this is the reverse of *M. stephaniae* (Plate 8 G-I) and *M. goncalvesi* (Plate 8 J-L), which have smaller brown spotting on a yellow grey background. If one looks to living members of this genus, the five species closest to these fossils would be *Marginella mosaica* (Plate 7 A-C), *Marginella bairstowi* (Plate 7 D-F), and *Marginella abyssinebulosa* (Plate 7 G-I), found in Central Eastern Cape, and *Marginella confortini* (Plate 7 J-L) and *Marginella nebulosa* (Plate 7 M-O), from much further west, in False Bay.



*Marginella antepiperata* R. Aiken, new species  
(Figure 4, Plate 9 A-U)

**Description.** Shell size small, ranging from 10.1 to 20.5 mm, biconic, fairly solid, spire high, fairly pointed, shoulder rounded, specimens available are a uniform chalky yellow with no discernible pattern. Varix strong, no labial teeth or posterior notch. Aperture narrow, columellar pleats four, taking up the lower half of the columella.



**Figure 4.** *Marginella antepiperata* R. Aiken, new species, holotype, length 19.69 mm.

**Type and distribution.** Eastern Cape Province, South Africa.

- Holotype: 19.69 x 12.21 mm. (Plate 9 A-C); R. Aiken Collection.  
Paratype 1: 20.54 x 12.27 mm. R. Aiken Collection.  
Paratype 2: 16.25 x 9.81 mm. R. Aiken Collection.

- Paratype 3: 12.53 x 8.04 mm. R. Aiken Collection.  
Paratype 4: 17.28 mm. Fragment. R. Aiken Collection.  
Paratype 5: Width 10.21 mm. Fragment. R. Aiken Collection.  
Paratype 6: 14.54 x 8.12 mm. R. Aiken Collection.  
Paratype 7: 10.13 x 5.31 mm. R. Aiken Collection.

**Etymology.** Named as a presumed precursor to the *Marginella piperata* group.

**Discussion.** Based on size and morphology, it can be stated with reasonable confidence that this species is the ‘grandfather’ of most of the group of extant species falling within a broad ‘*piperata* group’, of which the vast majority are found in the Eastern Cape.

*Marginella pseudopopei* R. Aiken,  
new species (Figure 5, Plates 10A-L, 11M)

**Description.** Shells small to medium in size, ranging from 12.9 to 14.0 mm, biconically shaped, solid, spire fairly pointed, margins strong. No labial teeth or posterior notch. Close, magnified inspection of the dorsum reveals a series of spaced, thin, dark radial lines, on a straw yellow background. The overall shell colour may be influenced by the fossil substrate. Four continuous pleats, covering the lower half of the columella.

**Type and distribution.** From the Pliocene fossil beds of the Alexandria formation, Port Elizabeth, Eastern Cape Province, South Africa.

- Holotype: 13.06 x 8.15 mm. (Plate 10 A-C); R. Aiken Collection.  
Paratype 1: 12.92 x 7.82 mm. R. Aiken Collection.

- Paratype 2: 13.35 x 8.14 mm. R. Aiken Collection.
- Paratype 3: 13.98 x 8.91 mm. Protoconch missing. R. Aiken Collection.



**Figure 5.** *Marginella pseudopopei* R. Aiken, new species, holotype, length 13.06 mm.

**Etymology.** Named for the pattern and size similarity to *Marginella poppei*.

**Discussion.** This species is particularly interesting, as it exhibits faintly but quite clearly the characteristic narrow radial dark lines that define a group of extant species that are known from deeper waters off Southern Africa, (*M. diadochus* (Plate 11 A-C) and *M. musica* (Plate 11 D-F)) as well as off West Africa. (*Marginella poppei* Boyer & Neefs, 1999 (Plate 11 G-I) and *Marginella mauretanicus* Boyer & Neefs, 1999 (Plate 11 J-L)). It is a rare group of marginellids that demonstrates a pattern that is common to both Southern as well as West

African shells, creating the feasibility of a past connection.

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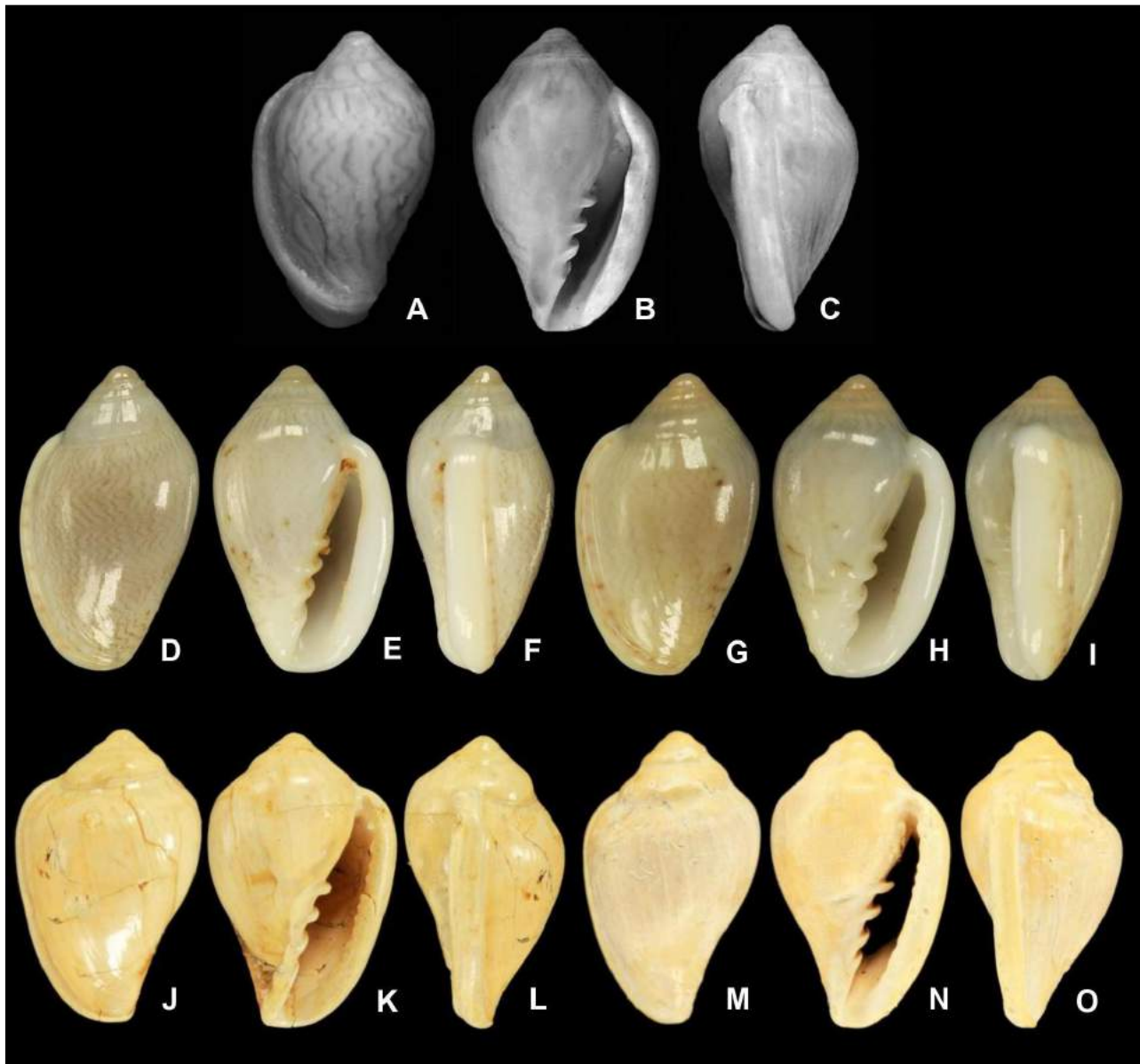


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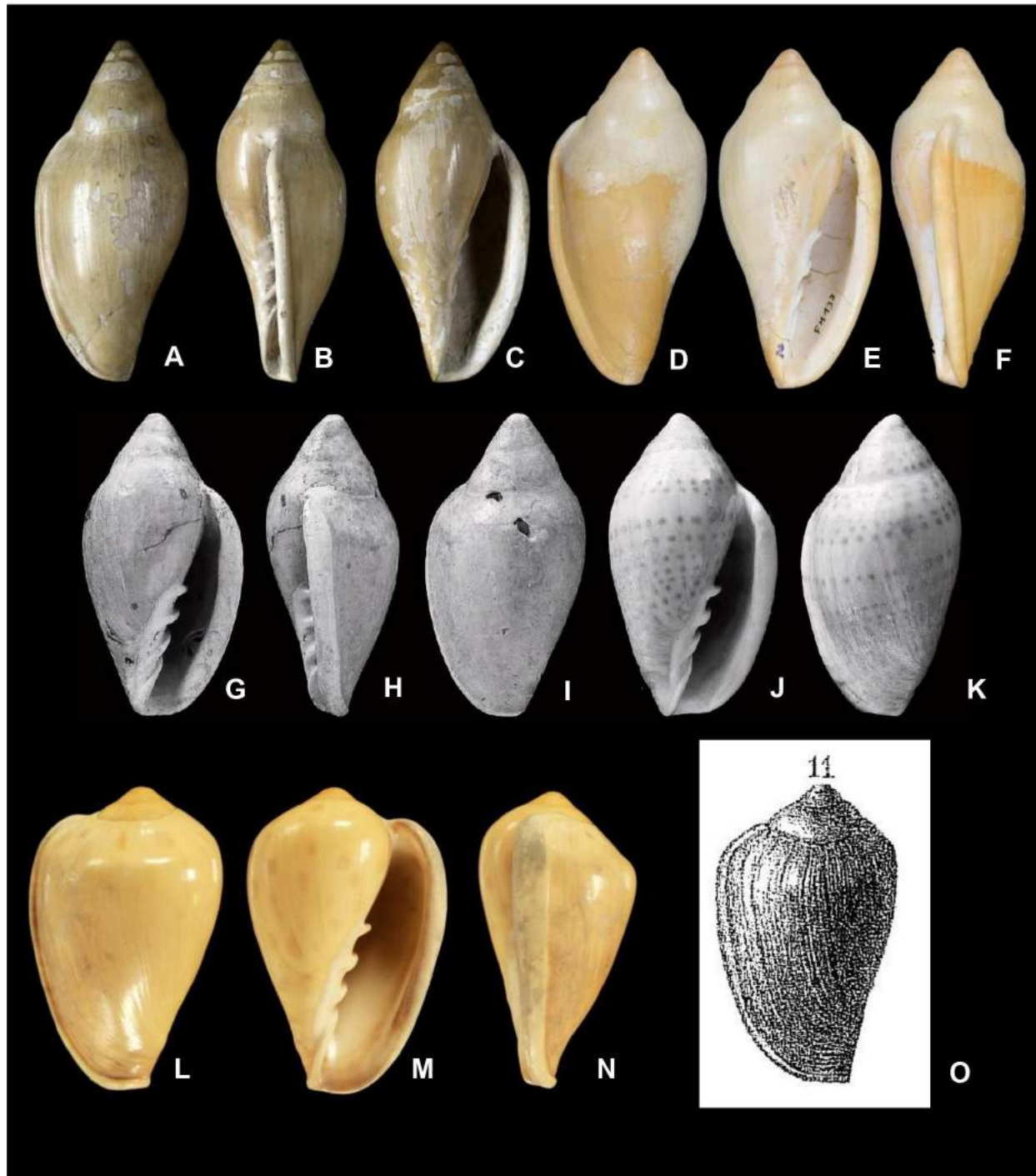
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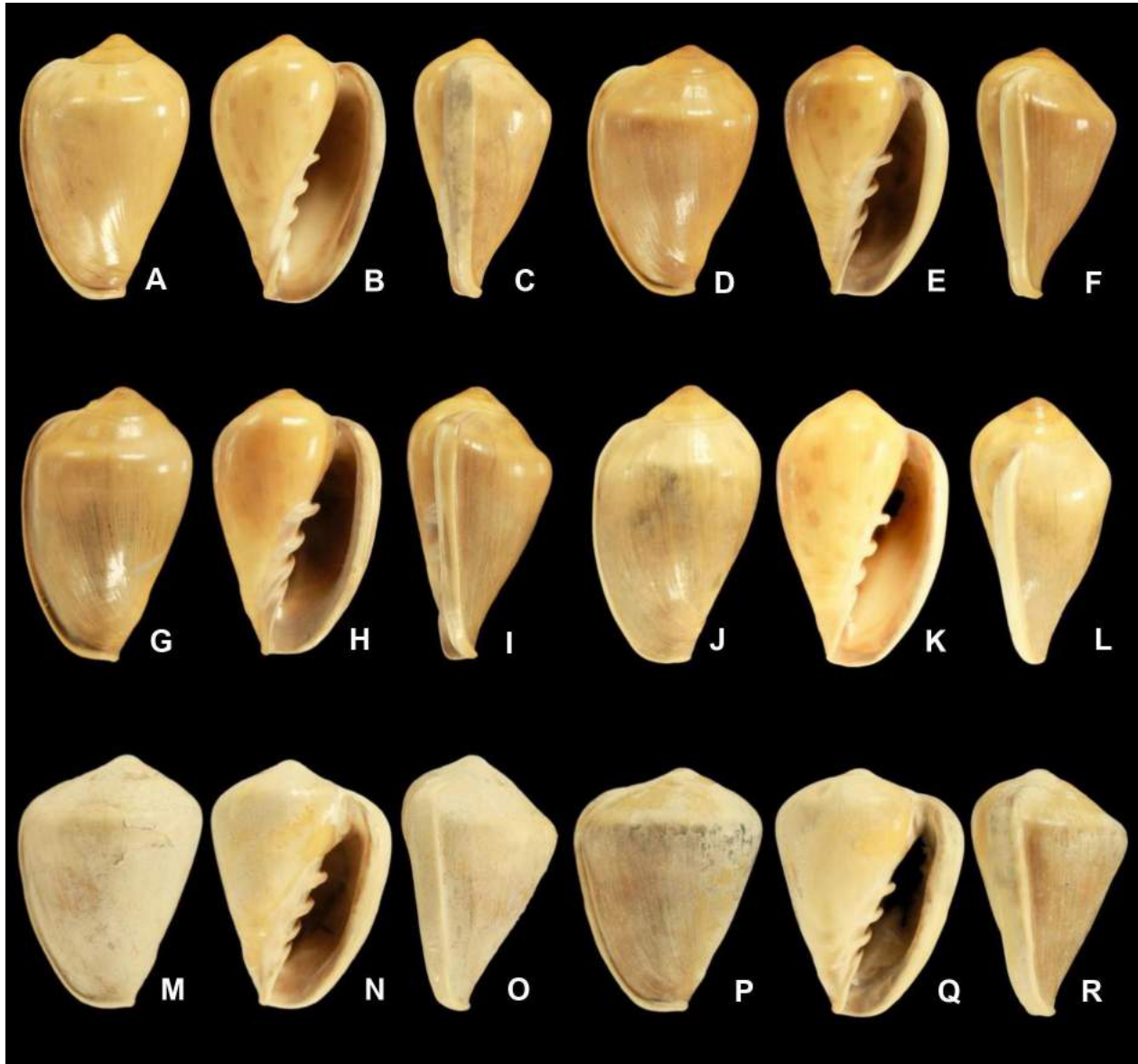
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**Plate 1.** Figures: **A-C** = *Stazzania marginata* Michelotti, 1847 (13.38 mm), Rio di Bocca d'Asino, Italy; M. Sosso Collection. **D-F** = *Marginella palleukos* Aiken, 2014 (11.5 x 6.7 mm) - Paratype 12; off Southern KwaZulu-Natal, South Africa; Aiken Collection. **G-I** = *Marginella palleukos* Aiken, 2014 (10.2 x 6.2 mm) - Paratype 5; Off Southern KwaZulu- Natal, South Africa; Aiken Collection. **J-L** = *Marginella deshayesi* Michelotti, 1847 (24.3 x 15.4 mm), Italian Tortonian; Aiken Collection. **M-O** = *Marginella deshayesi* Michelotti, 1847 (26.5 x 17.2 mm), Italian Tortonian; Aiken Collection.

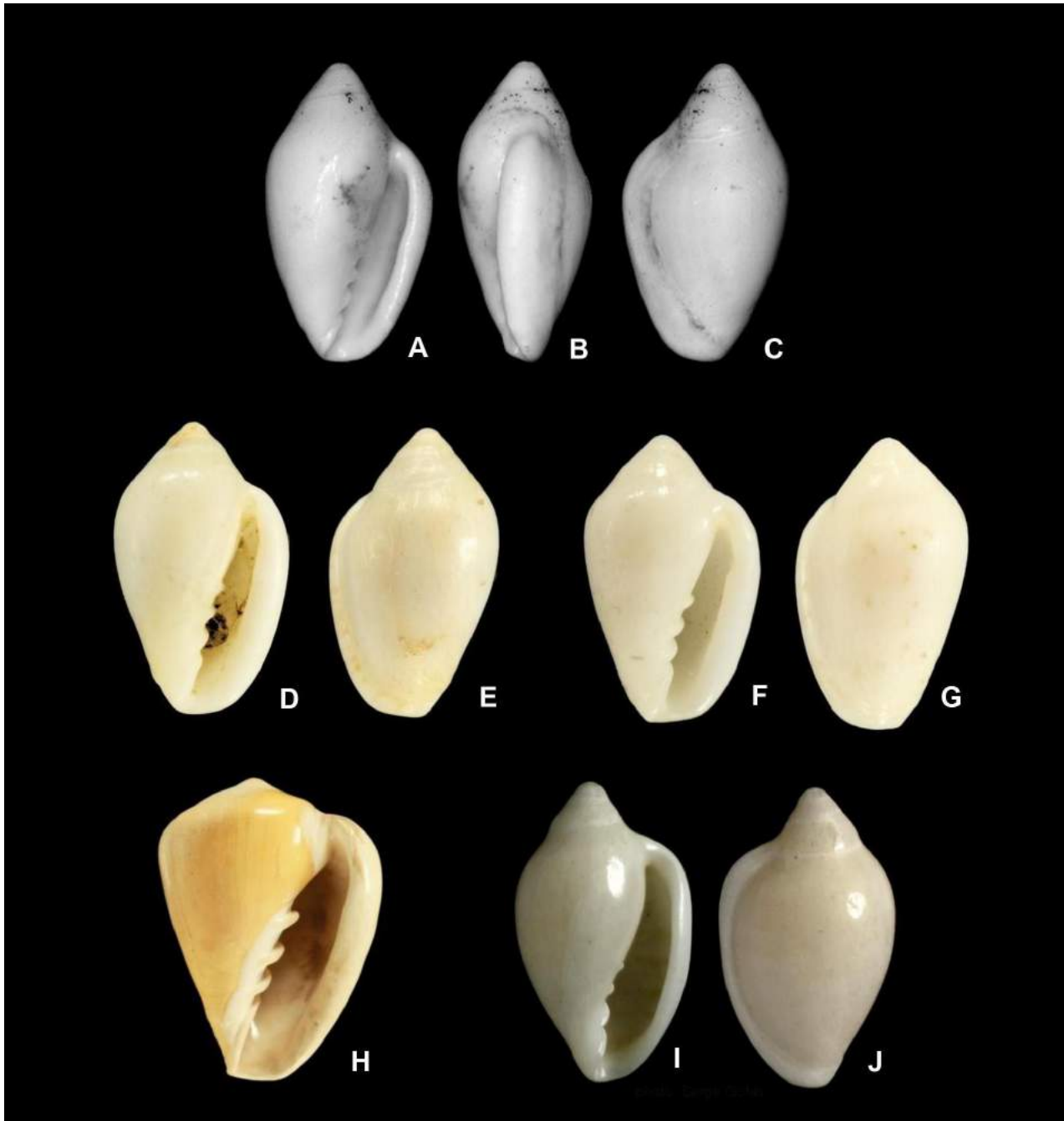


**Plate 2.** Figures: **A-C** = *Marginella aurisleporis* (Brocchi, 1814) (43.1 mm), Italy; Collection MNHN.F.J08619, Photographer Peter Massicard. **D-F** = *Marginella (Marginella) misae* Forli & Dell 'Angelo 2000 (46.8 mm) – Paratype 3; Ciuciano, Tuscany, Italy; Photographer M. Forli. **G-I** = *Marginella iberica* Landau, La Perna and Marquet, 2005 (18.4 mm), Aguas Santas, Mondego Basin; CMS NAD.00.005 Collection. **J-K** *Marginella iberica* Landau, La Perna and Marquet, 2005 (17.3 mm), Aguas Santas, Mondego Basin; CMS VFX.03.358 Collection. **L-N** = *Marginella stephaniae* da Costa 1866 (26.2 x 17.0 mm) - Neotype; Cacela, Algarve, Portugal; Donated to Museu Geológico de Lisboa Collection. **O** = *Marginella stephaniae* da Costa 1866, Cacela, Algarve, Portugal; Type specimen missing.



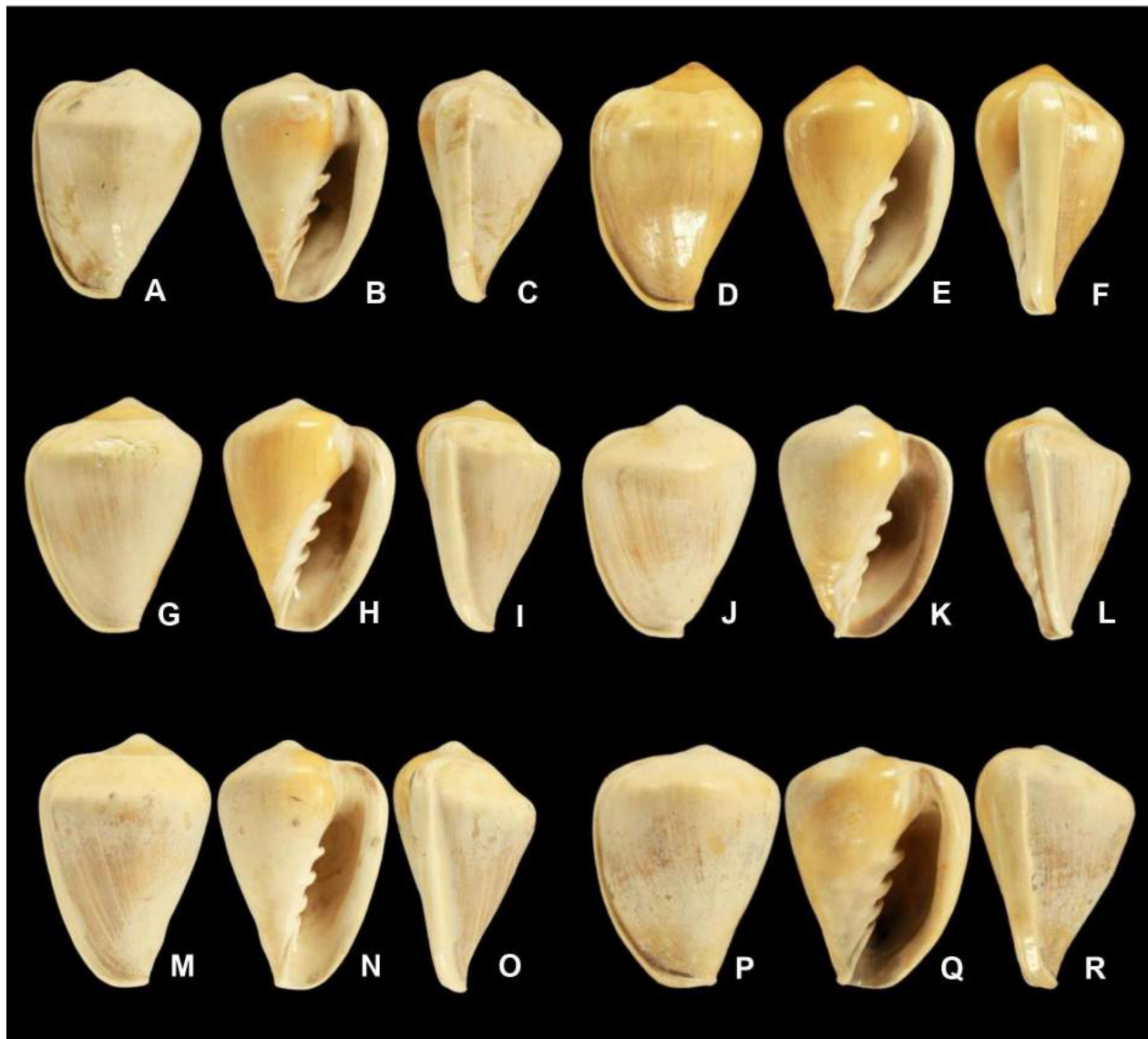
**Plate 3.** Figures: **A-C** = *Marginella stephaniae* da Costa 1866 (26.2 x 17.0 mm) - Neotype; Cacela, Algarve, Portugal; Donated to Museu Geológico de Lisboa Collection. **D-F** = *Marginella stephaniae* da Costa 1866 (26.3 x 17.7 mm), Cacela, Algarve, Portugal; Aiken Collection. **G-I** = *Marginella stephaniae* da Costa 1866 (29.8 x 19.4 mm), Cacela, Algarve, Portugal; Aiken Collection. **J-L** = *Marginella stephaniae* da Costa 1866 (22.3 x 13.9 mm), Cacela, Algarve, Portugal; Aiken Collection. **M-O** = *Marginella goncalvesi* new species (23.5 x 17.1 mm) – Paratype 11; Cacela, Algarve, Portugal; Aiken Collection. **P-R** = *Marginella goncalvesi* new species (22.4 x 17.4 mm) – Paratype 7; Cacela, Algarve, Portugal; Seccombe Collection.



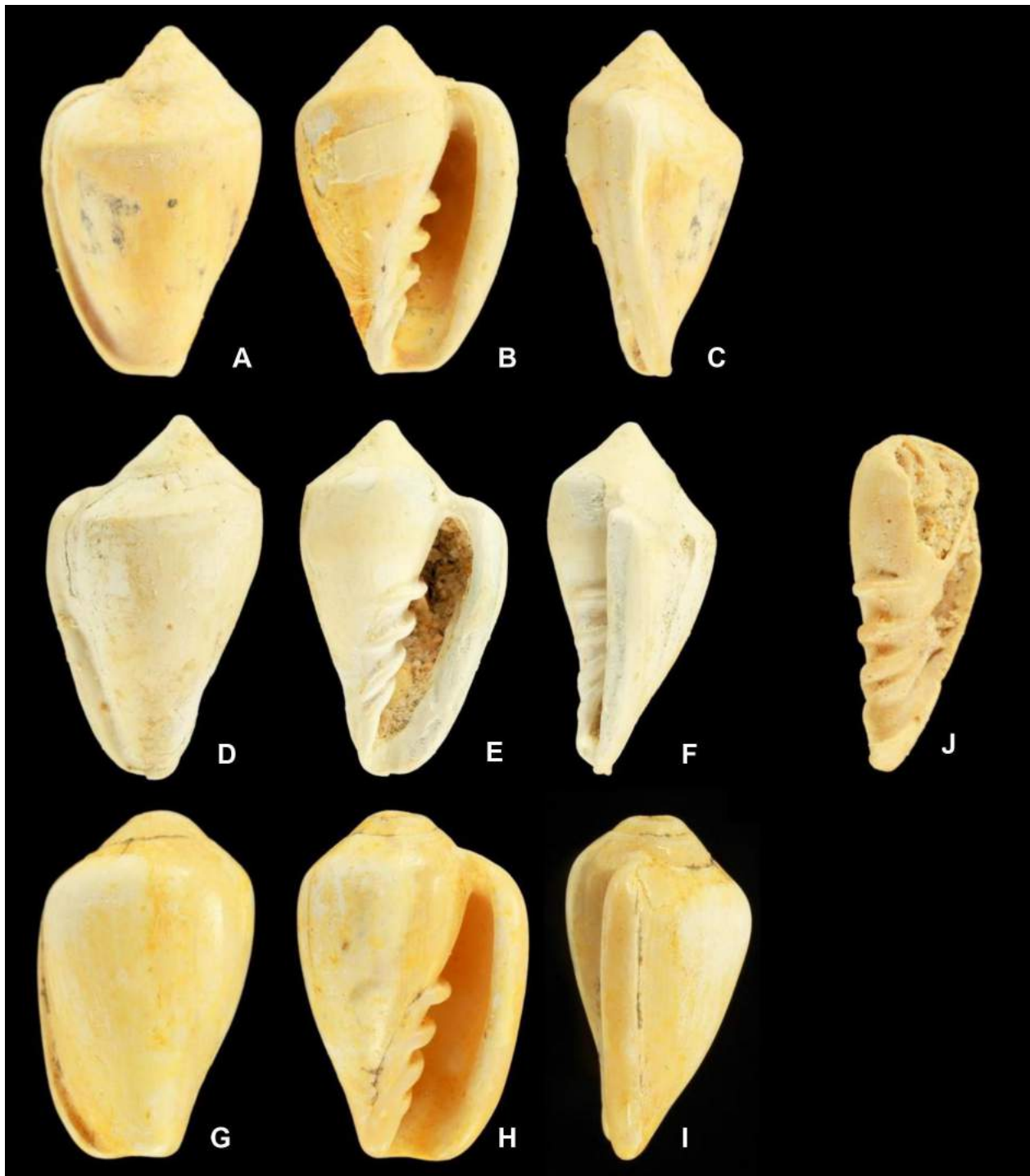


**Plate 4.** Figures: **A-C** = *Marginella seguenza* La Perna & Vazzana, 2016 (9.3 mm) - Holotype; Gallina, Reggio Calabria, Calabrian, Early Pleistocene; MZB60202 collection. **D-E** = *Marginella palleukos* Aiken, 2014; off Southern KwaZulu-Natal, South Africa; Aiken Collection. **F-G** = *Marginella palleukos* Aiken, 2014; Off Southern KwaZulu-Natal, South Africa; Aiken Collection. **H** = *Marginella goncalvesi* new species (25.5 x 19.3 mm) – Paratype 2; Cacela, Algarve, Portugal; Aiken Collection. **I-J** = *Marginella colomborum* (Bozzetti, 1995) (9.7 mm), Josephine seamount. Photographer: Serge Gofas.

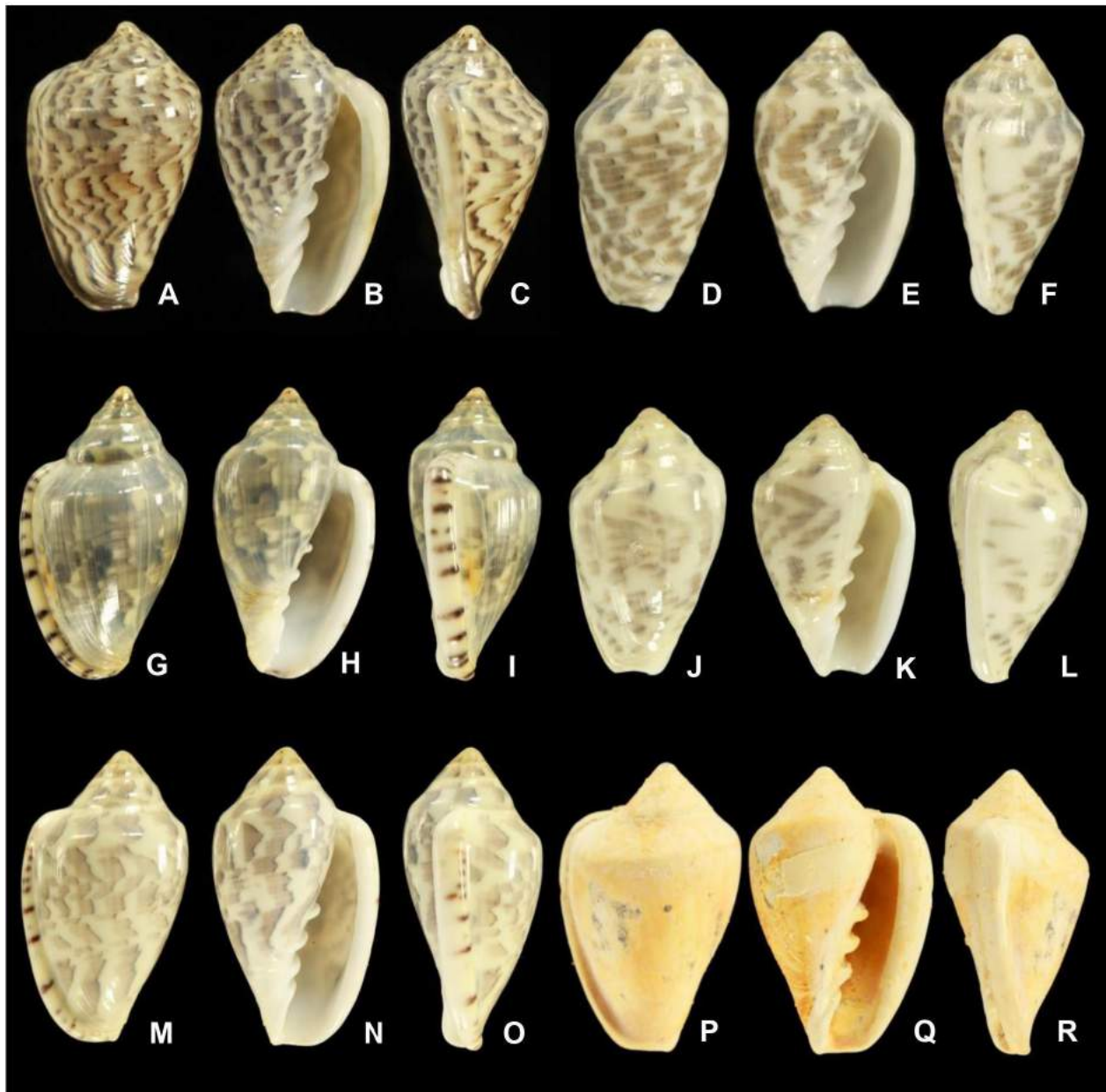




**Plate 5. Figures: 1.** Figures: **A-C** = *Marginella goncalvesi* new species (24.0 x 18.1 mm) - Holotype; Cacela, Algarve basin, Portugal; Donated to Museu Geológico de Lisboa collection. **D-F** = *Marginella goncalvesi* new species (25.4 x 17.4 mm) - Paratype 1; Cacela, Algarve basin, Portugal; R. Aiken Collection. **G-I** = *Marginella goncalvesi* new species (25.5 x 19.3 mm) - Paratype 2; Cacela, Algarve basin, Portugal; R. Aiken Collection. **J-L** = *Marginella goncalvesi* new species (22.9 x 17.3 mm) - Paratype 6; Cacela, Algarve basin, Portugal; Ed Petuch Collection. **M-O** = *Marginella goncalvesi* new species (23.9 x 18.1 mm) - Paratype 10; Cacela, Algarve basin, Portugal; R. Aiken Collection. **P-R** = *Marginella goncalvesi* new species (22.4 x 17.6 mm) - Paratype 9; Cacela, Algarve basin, Portugal; M. Page Collection.



**Plate 6.** Figures: **A-C** = *Marginella zwartkopsensis* new species (26.88 x 16.89 mm) - Holotype; Eastern Cape Province, South Africa; R. Aiken Collection. **D-F** = *Marginella zwartkopsensis* new species (28.41 x 16.92 mm) - Paratype 1; Eastern Cape Province, South Africa; R. Aiken Collection. **G-I** = *Marginella zwartkopsensis* new species (24.78 x 16.59 mm) - Paratype 2; Eastern Cape Province, South Africa; Aiken Collection. **J** = *Marginella zwartkopsensis* new species (20.62 mm) - Paratype 4 fragment; Eastern Cape Province, South Africa; Aiken Collection.



**Plate 7.** Figures: **A-C** = *Marginella mosaica* Sowerby II, 1846 (28.67 x 17.47 mm), Cape St Francis, Eastern Cape Province, South Africa; R. Aiken Collection. **D-F** = *Marginella bairstowi* Sowerby III, 1886 (16.17 x 9.65 mm), East London, Eastern Cape, South Africa; R. Aiken Collection. **G-I** = *Marginella abyssinebulosa* Massier, 2004 (38.81 x 21.53 mm), Cape St Francis, Eastern Cape Province, South Africa; R. Aiken Collection. **J-L** = *Marginella confortini* Bozzetti, 1992 (22.24 x 13.91 mm), False Bay, Western Cape Province, South Africa; R. Aiken Collection. **M-O** = *Marginella nebulosa* (Röding, 1798) (38.04 x 21.78 mm), False Bay, Western Cape Province, South Africa; R. Aiken Collection. **P-R** = *Marginella zwartkopsensis* new species (26.88 x 16.89 mm) - Holotype; Eastern Cape Province, South Africa; R. Aiken Collection.

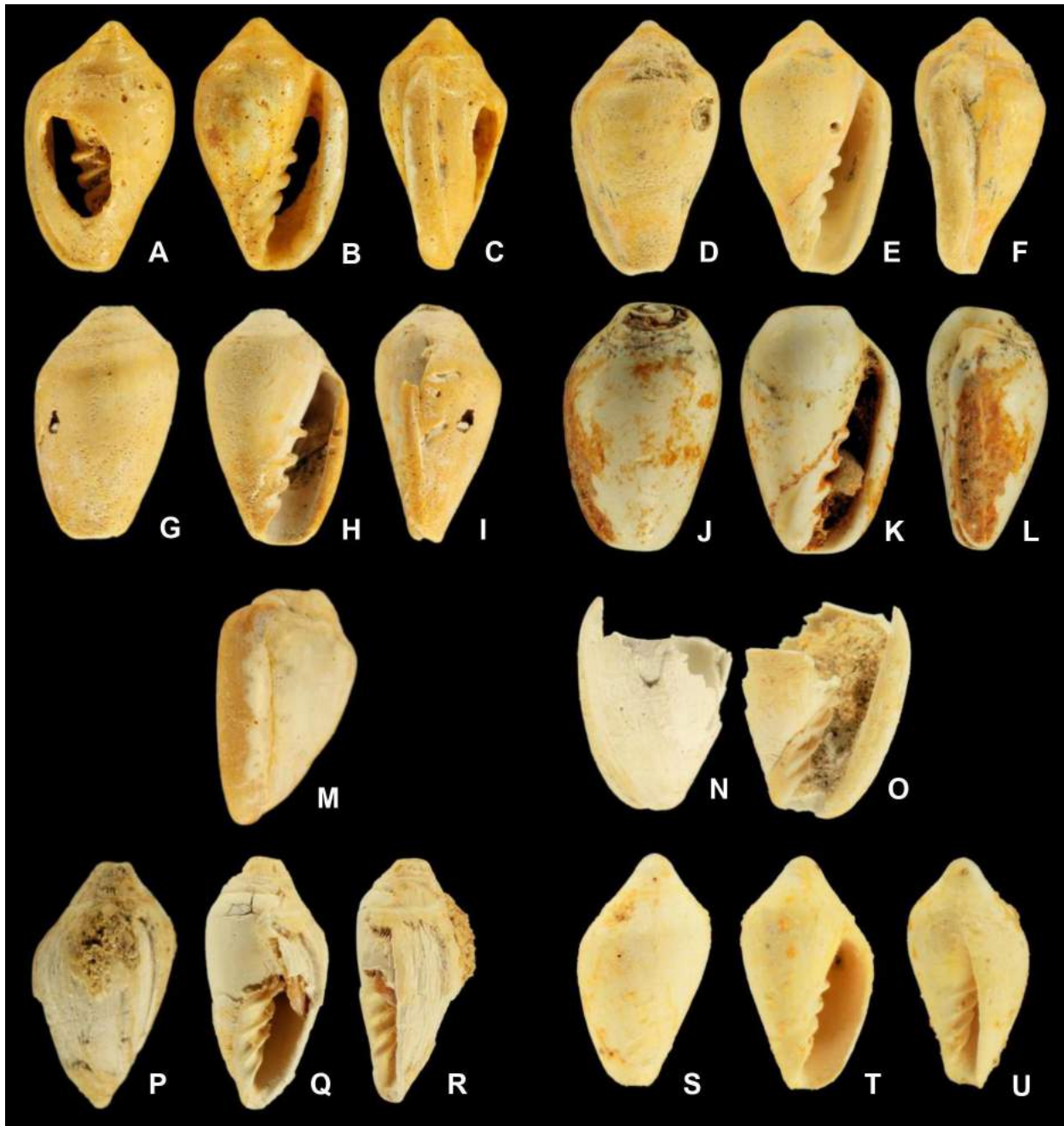




**Plate 8.** Figures: **A-C** = *Marginella goodalli* G. B. Sowerby I, 1825 (36.7 mm), Guinea, Conakry; Aiken collection. **D-F** = *Marginella sebastiani* Marche-Marchad & Rosso, 1979 (41.2 mm), off Dakar, Senegal; Aiken Collection. **G-I** = *Marginella stephaniae* da Costa 1866 (26.2 x 17.0 mm) - Neotype; Cacela, Algarve, Portugal; Donated to Museu Geológico de Lisboa collection. **J-L** = *Marginella goncalvesi* new species (25.4 x 17.4 mm) - Paratype 1; Cacela, Algarve basin, Portugal; R. Aiken Collection.

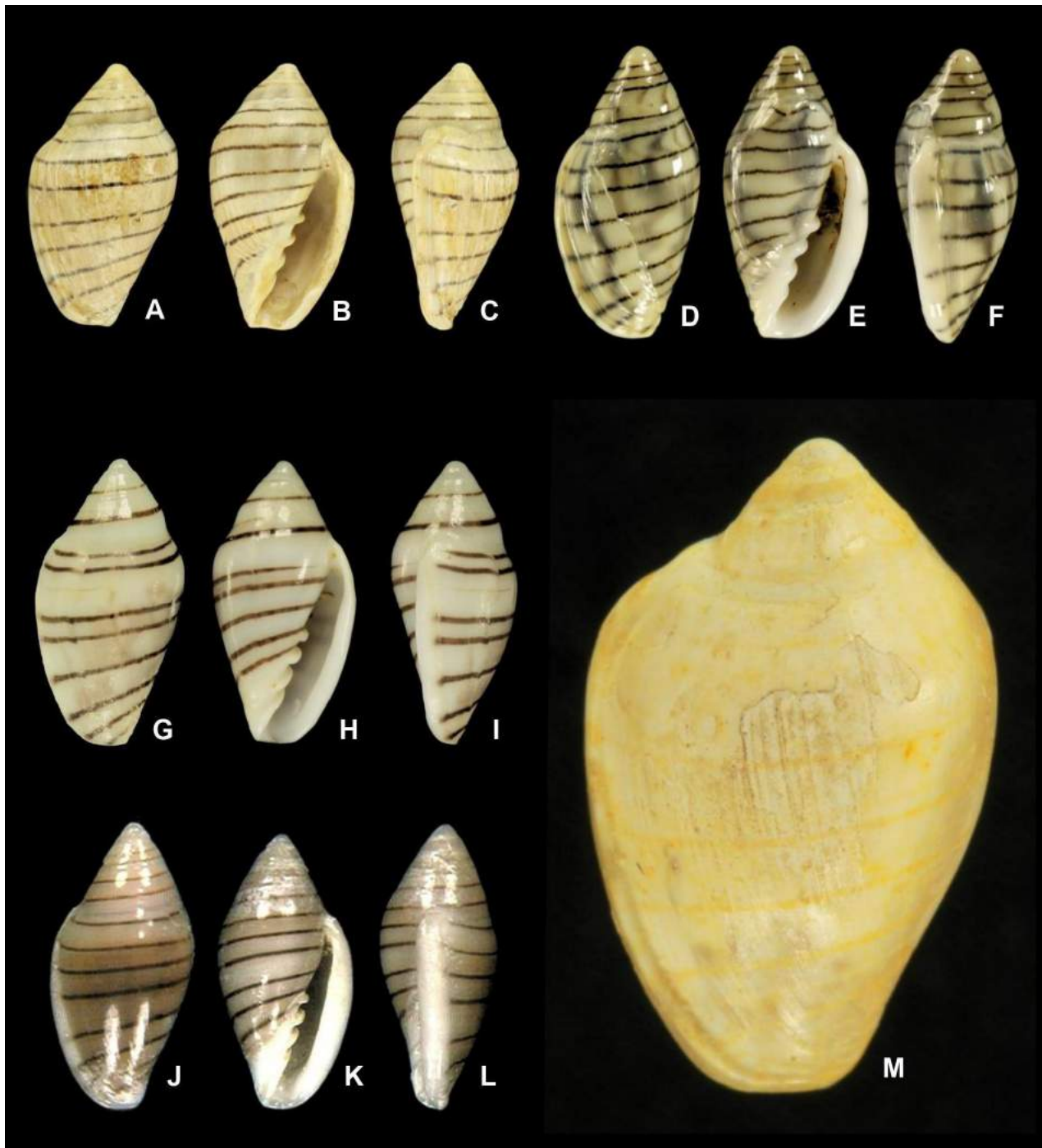


**Plate 10.** Figures: **A-C** = *Marginella pseudopopei* new species (13.06 x 8.15 mm) - Holotype; Eastern Cape Province, South Africa; R. Aiken Collection. **D-F** = *Marginella pseudopopei* new species (12.92 x 7.82 mm) - Paratype 1; Eastern Cape Province, South Africa; R. Aiken Collection. **G-I** = *Marginella pseudopopei* new species (13.35 x 8.14 mm) - Paratype 2; Eastern Cape Province, South Africa; Aiken Collection. **J-L** = *Marginella pseudopopei* new species (13.98 x 8.91 mm) - Paratype 3; Eastern Cape Province, South Africa; Aiken Collection.



**Plate 9.** Figures: **A-C** = *Marginella antepiperata* new species (19.69 x 12.21 mm) - Holotype; Eastern Cape Province, South Africa; R. Aiken Collection. **D-F** = *Marginella antepiperata* new species (20.54 x 12.27 mm) - Paratype 1; Eastern Cape Province, South Africa; R. Aiken Collection. **G-I** = *Marginella antepiperata* new species (16.25 x 9.81 mm) - Paratype 2; Eastern Cape Province, South Africa; Aiken Collection. **J-L** = *Marginella antepiperata* new species (12.53 x 8.04 mm) - Paratype 4; Eastern Cape Province, South Africa; Aiken Collection. **M** = *Marginella antepiperata* new species (H: 17.28 mm) - Paratype 5 fragment; Eastern Cape Province, South Africa; R. Aiken collection. **N-O** = *Marginella antepiperata* new species (W: 10.21 mm) - Paratype 6; Eastern Cape Province, South Africa; R. Aiken Collection. **P-R** = *Marginella antepiperata* new species (14.54 x 8.12 mm) - Paratype 7; Eastern Cape Province, South Africa; Aiken Collection. **S-U** = *Marginella antepiperata* new species (10.13 x 5.31 mm) - Paratype 8 Juvenile; Eastern Cape Province, South Africa; Aiken Collection.





**Plate 11.** Figures: **A-C** = *Marginella diadochus* A. Adams and Reeve, 1850 (16.3 x 8.5 mm), Agulhas Bank, South Africa; R. Aiken Collection. **D-F** = *Marginella musica* Hinds, 1844 (20.28 x 10.08 mm), False Bay, Western Cape Province, South Africa; R. Aiken Collection. **G-I** = *Marginella poppei* Boyer & Neefs, 1999 (18.1 mm), 23-25 sea miles west of Western Sahara; R. Aiken Collection. **J-L** = *Marginella mauretanicus* Boyer & Neefs, 1999 (18 mm), Off Mauritania; F. Boyer Collection. **M** = *Marginella pseudopoppei* new species (13.06 x 8.15 mm) - Holotype; Eastern Cape Province, South Africa; R. Aiken Collection.