

Description of three new species of *Bela* Leach, 1847 (Conoidea Mangeliidae) from the Mediterranean Sea

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ABSTRACT

Based on shell characters, three new species of the conoidean gastropod genus *Bela* Leach, 1847 are here described from the Aegean and Ionian Seas. The new taxa, *Bela hellenica* n. sp., *Bela rufinii* n. sp. and *Bela salentina* n. sp. known only from their type localities, were compared with the most closely related species. The paucispiral protoconch of these new species allowed an unambiguous shell separation. With this work the number of Recent Mediterranean species ascribed to the genus *Bela* and displaying this type of larval development is increased, and the first record of *Bela filioae* Öztürk et Ovalis, 2024 is reported from the Salento Peninsula (Italy) waters.

KEY WORDS

Gastropoda; Mangeliidae; *Bela*; new species; Recent; Mediterranean Sea.

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INTRODUCTION

It is well known that the nominal taxa attributed to the genus *Bela* Leach, 1847 have always been quite hard to correctly identify since their general shell similarity, mainly when referring to their shell sculpture and colour. Species of this genus were often misinterpreted due to their scanty, or even missing, descriptions provided by various Authors in the past (Monterosato, 1878; Bucquoy et al., 1882; Jeffreys, 1867; Locard, 1891, 1892; Nord-sieck, 1977; Tornaritis, 1987; Cecalupo et al., 2008; Mariottini et al., 2009, 2015; Urra & Gofas, 2009). It is worthy to recall that fifty-five years ago Powell (1966) wrote that this genus “has been used as a “catch-all” for a wide variety of small turrids both Recent and Tertiary”.

In 2014 a lectotype of the type species *Bela nebula* (Montagu, 1803) = *Murex nebula* Montagu, 1803 was designated by Scarponi et al. (2014), and this designation allowed to validate and separate the genus *Bela* from all other genera included in the family Mangeliidae P. Fischer, 1883 (Scarponi et al., 2014; Della Bella et al., 2015).

With the present work, three species of the genus *Bela* from the Aegean and Ionian Seas are described based on shell morphology: *Bela hellenica* n. sp., *Bela rufinii* n. sp. and *Bela salentina* n. sp. All new species display paucispiral protoconch and have been compared with other morphological close taxa of the genus. Furthermore, *Bela filioae* Öztürk et Ovalis, 2024 is reported from the Salento Peninsula (Italy) waters.

MATERIAL AND METHODS

Specimens of *Bela hellenica* n. sp. and *Bela rufinii* n. sp. were separated from marine bioclastic sediment samples, collected by hand at a depth of 2–3 m in Limanakia (Λιμανάκια) and Palaióchora Pelikanos (Παλαιόχωρα Πελεκάνου), Crete (Greece), respectively. Numerous specimens of *Bela salentina* n. sp. were found from June to September 2024 in the La Strea Inlet in Porto Cesareo (Lecce, Italy) at a depth of 1–1.5 m by sifting with a narrow mesh sieve thin layers of fine sand close to large meadows of *Cymodocea nodosa* (Ucria) Ascherson, 1870. Scanning Electron Microscopy (SEM) photographs were taken at the Interdepartmental Laboratory of Electron Microscopy (LIME, Università “Roma Tre”, Rome, Italy), using a Philips XL30 and at Laboratorio di Microscopia Elettronica, Department of Mathematics and Physics, University of Salento, Lecce, Italy using JSM-6480LV Scanning Electron Microscope (JEOL Ltd., Tokyo, Japan). The current systematics here adopted is based on World Register of Marine Species (WoRMS, <http://www.marinespecies.org/>; last access on March 2025).

ABBREVIATIONS. AF = Angelo Fiorita collection, Porto Cesareo, Lecce, Italy; CS-PM = Carlo Smriglio and Paolo Mariottini collection, Rome, Italy; dd = empty shell(s); DT = Daniele Trono collection, Copertino, Lecce, Italy; FV = Fabio Vitale collection, Lecce, Italy; H = Height; JP = Jakov Prkić collection, Split, Croatia; LIME = Interdepartmental Laboratory of Electron Microscopy, University of Roma Tre, Rome, Italy; LME = Electronic Microscopy Laboratory, Department of Mathematics and Physics, University of Salento, Lecce, Italy; MCZR = Museo Civico di Zoologia di Roma, Rome, Italy; MNHN = Muséum National d’Histoire Naturelle, Paris, France; OB = Oreste Barnaba collection, Brindisi, Italy; PU = Pero Ugarković collection, Split, Croatia; RS = Rino Stanić collection, Split, Croatia; SEM = Scanning Electron Microscopy; SR = Stefano Rufini collection, Anguillara Sabazia, Rome, Italy; W = Width.

COMPARATIVE MATERIAL EXAMINED. *Bela atticae* F. Nordsieck, 1977. Italy • 3 dd; Latina, Circeo harbour; fishing boats; CS-PM • 1 dd; Grosseto, Punta Ala; beached; CS-PM • 2 dd; Roma, Torvaianica; fishing boats; CS-PM • 3 dd; Savona, Varazze; 5 m depth; on sand; CS-PM. Croatia • 7 dd; Brač

Island; 2–3 m depth; on mud; JP • 10 dd; Split; 1–2 m depth; in sand close to meadows of *Posidonia oceanica*; JP • 19 dd; Split; 0–4 m depth; JP • 28 dd; Stari Trogir; 0–0.5 m depth; in sand with meadows of *Cymodocea nodosa*; JP.

Bela cycladensis (Reeve, 1845). Italy • 1 dd; Lecce, Otranto, Orte; 32 m depth; Aug. 2023; from debris; FV • 9 dd; Brindisi harbour; 10 m depth; Feb. 2025; from muddy debris; FV • 1 dd; Lecce, Otranto, Remite; 35 m depth; Jul. 2023; from debris; FV • 1 dd; Lecce, Porto Cesareo; Aug. 2016; fidding boat; DT • 1 dd; Lecce, Torre Inserraglio; 20 m depth; Jul. 2009; hand-collected by SCUBA diving; DT. Croatia • 11 dd; Hvar Channel; 70–80 m depth; RS • 25 dd; Split; 5–25 m depth; PU • 1 dd; Molat Island; 5 m depth; JP • 4 dd; Mljet Island; 70–100 m depth; JP • 2 dd; Pelješac; 80 m depth; JP • 2 dd; Rivanj Island; 20–30 m depth; JP • 36 dd; Split; 20–40 m depth; JP. Spain • 2 dd; no coordinate data; 40 m depth; Nov. 2013; DT. Libya • 6 dd; off Libya coast, no coordinate data; 110–150 m depth; CS-PM.

Bela filioae Öztürk et Ovalis, 2024. Italy • 19 dd; Lecce, Otranto; 1 m depth; Jun. 2011; DT • 4 dd; Lecce, Sant’Isidoro; 30 m depth; Sep. 2003; hand-collected by SCUBA diving; DT • 51 dd; Lecce, Otranto; 1 m depth; Jun. 2011; OB. Greece • 3 dd; Kalimnos Island; 5–6 m depth; Aug. 2012; DT.

Bela plicatilis (Risso, 1826). Algeria • 1 dd; “Algeria!”; inside a single vial labelled MCZR-M-16943 and glued on a small black card. Egypt • 1 dd; “Alessandria”; MCZR. FRANCE • 1 dd; “Corsica (Tomlin)”; MCZR. Italy • 3 dd; Sassari, La Maddalena Island; 15 m depth; from debris; CS-PM • 1 dd; “Sard.”; MCZR • 1 dd; “Napoli”; MCZR • 2 dd; “Siccia” and “Palermo, vr. *Gladiolus*”; in the same vial glued on two small black cards; MCZR • 2 dd; “var. ex col. et forma *olivina*”; MCZR • 133 dd; “*aciculata* = *veneta* Ada Lido!”; MCZR-M-16966 • 6 dd; “Levantina! Taranto!”; MCZR-M-16966 • 73 dd; “Porto di Pal. Dragata nelle arene”; MCZR-M-16993 • 3 dd; in a vial labelled MCZR-M-16970 • 1 dd; “forma Romagnoli”; MCZR • 1 dd; “?”; inside a vial labelled MCZR-M-16943 and glued on three separate small black cards • 1 dd; “Trapani, 1920”; MCZR. Malta • 1 dd; “Malta 1907”; MCZR. Tunisia • 3 dd; “Tunisia”; in a vial labelled MCZR-M-16970 • 1 dd; “Sfax?”; MCZR.

Bela taprurenensis (Pallary, 1904). Algeria • 20 dd; “Alger (Joly)”; MCZR • 9 dd and 2 dd partially

incomplete; “Saiira”; MCZR • 4 dd; “Astura”; inside a vial labelled MCZR-M-16943 and glued on three separate small black cards • 1 dd; “Mars-Al-Keb. Algeria”; MCZR. Libya • 4 dd; Al Khums; 15 m depth; CS-PM. Tunisia • 25 dd; Sfax; 20 m depth; CS-PM • 3 dd; Sfax; paralectotypes MCZR-M-16988/P.

RESULTS

Systematics

Superfamilia CONOIDEA J. Fleming, 1822

Familia MANGELIIDAE P. Fischer, 1883

Genus *Bela* Leach, 1847

= *Fehria* van Aartsen, 1988. = *Ginmania* Monterosato, 1884. = *Ichnusa* Jeffreys, 1847.

TYPE SPECIES. *Murex nebula* Montagu, 1803; by subsequent designation (Gray, 1847: 270).

Bela hellenica Mariottini, Di Giulio et Smriglio n. sp. (Figs. 1–13, 23)

<https://www.zoobank.org/ED02AA7C-ADF4-4AAE-8512-935414E84E10>

TYPE LOCALITY. Greece, Crete: Limanakia (Λιμανάκια).

TYPE MATERIAL. Holotype. Greece • 1 dd; Crete, Limanakia (Λιμανάκια); 21 July 2012; H = 7.6 mm, W = 2.6 mm; MNHN-IM-2000-36790. Paratypes. Greece • 1 dd; same data as holotype; H = 8.5 mm, W = 2.8 mm; paratype 1 CS-PM • 1 dd; same data as holotype; H = 7.4 mm, W = 2.4 mm; paratype 2 CS-PM.

DESCRIPTION [in square brackets the data of the holotype]. Shell of average size for the genus, fusoid, slender outline. Height 7.4–8.5 mm [7.6]; Width 2.4–2.8 mm [2.6], H/W 2.9–3.1 [2.9].

Protoconch paucispiral of 1.5 convex whorls, H 420 µm and W 485 µm in the holotype, cylindrical, smooth. Teleoconch of 5.5–6.5 [6.0] convex whorls, suture evident and undulate. Axial sculpture consisting of 6–7 orthocone faint ribs on the last whorl, slightly sinuous and more evident on the upper part, narrower than interspaces, tending to fade out on the base. Spiral sculpture of fine closely and regularly spaced cordlets, less grouped in the basal portion producing a clathrate sculpture

finely granulated. Cordlets more marked and less closely clustered on the first whorls. The whole surface is slightly tuberculate at the intersections with growth lines. Last whorl about 60% of the total height. Aperture about 40% of total height, narrow, elongated, with smooth outer lip, anal sinus weak, siphonal canal short and open. Columella simple, straight, slightly sinuous posteriorly, columellar lip not expanded. Coloration uniformly pale creamy, middle portion of rib interspaces brown mottled in the holotype, in paratypes the spots are larger giving rise to a median brown band. Protoconch and first teleoconch whorls brown. Soft part unknown.

DISTRIBUTION. This species is so far known only from the type locality.

ETYMOLOGY. From the Latin word *hellenicus*, adjective derived from Hellas, the ancient name of Greece: meaning Greek.

REMARKS. *Bela hellenica* n. sp. (Figs. 1–13; 23) was compared with *Bela atticae* F. Nordsieck, 1977 and *Bela zonata* (Locard, 1891), the most similar species (Giannuzzi-Savelli et al., 2023). The new taxon is hard to distinguish morphologically from *B. atticae*; it shows the same fusoid teleoconch shape, width/height ratio, and number of axial ribs, but a weaker spiral sculpture (Figs. 14–16). On the contrary, some evident differences can be observed when comparing *B. hellenica* n. sp. with *B. zonata* (Figs. 17–19, 96–98). The latter shows a less globose and slenderer teleoconch outline, a stronger sculpture, and less sinuous axial ribs. The paucispiral protoconch of *B. hellenica* n. sp. is the main shell feature that clearly separates it from these two close species, both possessing multispiral protoconch (Gofas, 2011; Scaperrotta et al., 2010; 2015) (Figs. 24, 26). The teleoconch of *B. hellenica* n. sp. has pale creamy background with a brownish notch in the interspaces of the axial ribs (Figs. 1–3). This chromatic pattern is very similar to that of *B. atticae* (Figs. 14, 15); interestingly can also be observed in some specimens of *Bela plicatilis* (Risso, 1826) (Figs. 20–22), while it differs from that of *B. zonata*, which usually presents three reddish/brownish bands (Figs. 17, 18). In the latter, a narrow upper band is positioned below the suture, the wider lower one is present on the middle of the last whorl and the third one is positioned in the abapi-

cal portion, generally with a fainter colour which becomes more intense on the siphonal canal and in some specimens is joined to the middle band. Both *B. atticae* and *B. zonata* show a distribution overlapping the one of *B. hellenica* n. sp.; *B. atticae* was described for the Saronic Gulf (Aegean Sea), while the occurrence of *B. zonata* was reported from the Turkish Levantine basin and Aegean coast by several Authors (Bakıor et al., 2012; Aslan-Cihangir & Ovalis, 2013; Öztürk et al., 2014; Öztürk & Ovalis, 2024).

***Bela rufinii* Mariottini, Di Giulio & Smriglio n. sp.** (Figs. 27, 29–41)

<https://www.zoobank.org/A1529381-A356-4D3A-892B-9CB5576AA435>

TYPE LOCALITY. Greece, Crete: Palaióchora Pelekanos (Παλαιόχωρα Πελεκάνου).

TYPE MATERIAL. Holotype. Greece • 1 dd; Crete, Palaióchora Pelekanos (Παλαιόχωρα Πελεκάνου); 26 Aug. 2014; H = 8.9 mm, W = 2.9 mm; MNHN-IM-2000-36791. Paratypes. Greece • 1 dd; same data as holotype; H = 5.3 mm, W = 2.0 mm; paratype 1; CS-PM • 1 dd; same data as holotype; H = 4.7 mm, W = 1.8 mm; paratype 2; CS-PM • 1 dd; same data as holotype; H = 6.8 mm, W = 2.3 mm; paratype 3; CS-PM • 1 dd subadult; same data as holotype; H = 3.9 mm, W = 1.6 mm; paratype 4; SR.

DESCRIPTION [in square brackets the data of the holotype]. Shell of average size for the genus, slender outline. H 4.7–8.9 mm [5.5]; W 1.8–2.9 mm [2.0], H/W 2.61–3.09 [2.65].

Protoconch paucispiral of 1.3–1.5 convex whorls, H 340 µm and W 450 µm in the holotype, cylindrical, smooth. Teleoconch of 4.5–6 [5.5] slightly convex whorls, suture evident. Axial sculpture consisting of 8–10 orthocone ribs on the last whorl, slightly sinuous on the upper part, greatly narrower than interspaces, tending to be more rounded and to fade out on the base. Spiral sculpture of fine closely and regularly spaced cordlets, more marked and less closely clustered on the first whorls. The whole surface is faintly tuberculate at the intersections with growth lines. Last whorl about 60% of the total height. Aperture about 45% of total height, narrow, elongated, with smooth outer lip, anal sinus weak, siphonal canal

short, open. Columella simple, straight, slightly sinuous anteriorly, columellar lip not expanded. Coloration uniformly milky white, protoconch and first teleoconch whorls dark brown. Soft part unknown.

DISTRIBUTION. This species is so far known only from the type locality.

ETYMOLOGY. After Stefano Rufini (Anguillara Sabazia, Rome, Italy), expert malacologist and good friend of CS and PM.

REMARKS. *Bela minoica* is the closest species to *B. rufinii* n. sp. (Figs. 27, 29–41). The new taxon can be separated since displays less convex whorls, and a different ratio aperture/total height, being about 35% in *B. minoica* and about 45% in *B. rufinii*. This morphological feature can be also observed in the specimen figured by Bogi et al., (2023: fig. 6), which in our opinion is a shell of *B. rufinii* n. sp. Furthermore, the protoconch of *B. rufinii* n. sp. is well differentiated from the ones of *B. hellenica*, *B. plicatilis* and *B. taprurenensis* (Figs. 42–51), as well as from the protoconch of *B. minoica* (Bogi et al., 2023: figs. 1, 17, 18), being smaller in size and more flattened, and representing a strong diagnostic character.

***Bela salentina* Vitale, Trono et Prkić n. sp.** (Figs 62–72, 79, 81–85)

<https://www.zoobank.org/3BFAE731-4AF4-4176-A982-7CB4886D4239>

TYPE LOCALITY. Italy, Lecce: La Strea (40°14'46" N - 17°54'29" E), Porto Cesareo.

TYPE MATERIAL. Holotype. Italy • 1 dd; Apulia, Lecce, Porto Cesareo, La Strea; 40°16'58.4" N, 18°03'07.2" E; 1–1.5 m depth; Jul. 2024; in sand with meadows of *Cymodocea nodosa*; H = 6.4 mm, W = 2.3 mm; holotype MNHN-IM-36792. Paratypes. Italy • 1 dd; same data as holotype; H = 6.7 mm, W = 2.4 mm; paratype 1 FV • 1 dd; same data as holotype; H = 5.6 mm, W = 2.1 mm; paratype 2 FV • 1 dd; same data as holotype; H = 4.1 mm, W = 1.5 mm; paratype 3 AF • 1 dd; same data as holotype; H = 6 mm, W = 2.1 mm; paratype 4 FV • 1 dd; same data as holotype; H = 6.1 mm, W = 2.3 mm; paratype 5 FV • 1 dd; same data as holotype; H = 5.9 mm, W = 2.0 mm; paratype 6 FV • 1 dd; same data as holotype; H = 5.5 mm, W = 2.2

mm; paratype 7 FV • 1 dd; same data as holotype; H = 5.1 mm, W = 1.9 mm; paratype 8 FV • 1 dd; same data as holotype; H = 5.2 mm, W = 2.0 mm; paratype 9 FV • 1 dd; same data as holotype; H = 4.5 mm, W = 1.6 mm; paratype 10 FV • 1 dd; same data as holotype; H = 5.8 mm, W = 2.2 mm; paratype 11 DT • 1 dd; same data as holotype; H = 5.3 mm, W = 2.0 mm; paratype 12 DT • 1 dd; same data as holotype; H = 5.1 mm, W = 2.0 mm; paratype 13 DT • 1 dd; same data as holotype; H = 6.7 mm, W = 2.4 mm; paratype 14 OB • 1 dd; same data as holotype; H = 5.5 mm, W = 2.2 mm; paratype 15 CS-PM • 1 dd; same data as holotype; H = 4.5 mm, W = 1.9 mm; paratype 16 CS-PM • 1 dd; same data as holotype; H = 4.0 mm, W = 1.7 mm; paratype 17 CS-PM • 1 dd; same data as holotype; H = 5.1 mm, W = 1.8 mm; paratype 18 CS-PM • 1 dd; same data as holotype; H = 5.2 mm, W = 1.8 mm; paratype 19 CS-PM • 1 dd; same data as holotype; H = 5.0 mm, W = 2.0 mm; paratype 20 CS-PM • 1 dd; same data as holotype; H = 4.8 mm, W = 1.8 mm; paratype 21 CS-PM • 1 dd; same data as holotype; H = 6 mm, W = 2.2 mm; paratype 22 JP • 1 dd; same data as holotype; H = 5.5 mm, W = 2.2 mm; paratype 23 JP • 1 dd; same data as holotype; H = 5.4 mm, W = 2.1 mm; paratype 24 JP • 1 dd; same data as holotype; H = 5.3 mm, W = 2.1 mm; paratype 25 JP • 1 dd; same data as holotype; H = 4.6 mm, W = 2.0 mm; paratype 26 JP • 1 dd; same data as holotype; H = 3.9 mm, W = 1.7 mm; paratype 27 JP • 1 dd; same data as holotype; H = 3.9 mm, W = 1.8 mm; paratype 28 JP • 1 dd; same data as holotype; H = 2.9 mm, W = 1.5 mm; paratype 29 JP.

DESCRIPTION [in square brackets the data of the holotype]. Shell of average size for the genus, fusoid, slightly turritiform, slender outline. H 4.1–6.7 mm [6.4]; W 1.5–2.4 mm [2.3], H/W 2.36–3.1 [2.65].

Protoconch paucispiral of 1.25–1.5 convex whorls, H 380 µm and W 410 µm in holotype, cylindrical, smooth. In paratypes, H ranges from 300 to 370 µm. Teleoconch of 5.0–5.5 [5.5] convex whorls, suture evident, undulate. Axial sculpture consisting of 9–11 [9] orthocone ribs on the last whorl, slightly sinuous on the upper part, regularly spaced, slightly narrower than interspace. Spiral sculpture consisting of evident, rather equally marked and ordered cordlets, thicker and less closely clustered on the first whorls, intermixed with finer cordlets. The

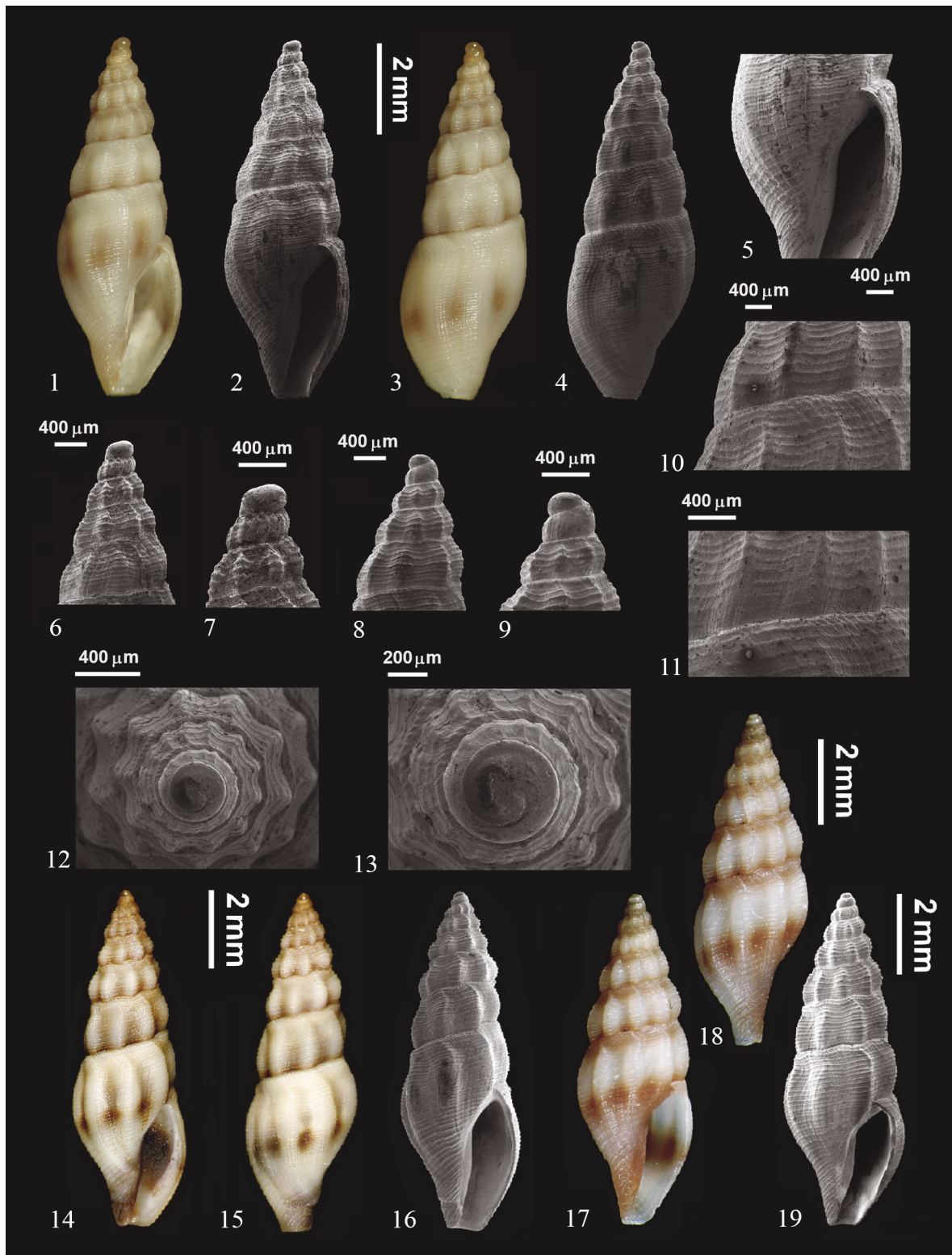
whole surface appears finely granulated and faintly tuberculate at the intersections of axial ribs with spiral cordlets. Last whorl about 60 % of the total height. Aperture about 40 % of total height, narrow, elongated, with smooth outer lip, anal sinus weak, siphonal canal short, open. Columella simple, straight, slightly sinuose anteriorly, columellar lip not expanded. Shell colour uniformly creamy or pale brownish, with three brown bands, narrow subsutural, large in the middle of the last whorl and thin in the basal part of the columella, the latter is often joined to the middle one. Protoconch and part of first teleoconch whorl brown.

Soft parts. Animal colour shows a translucent background, densely spotted with scattered whitish speckles which are irregularly shaped. Foot large, rounded posteriorly, while squared in the cephalic part. Long siphon with the same chromatic pattern of the body, slid posteriorly. Cephalic tentacles opaque white below the black eyes and translucent above them, the eyes are yellow circled (Figs. 81–85).

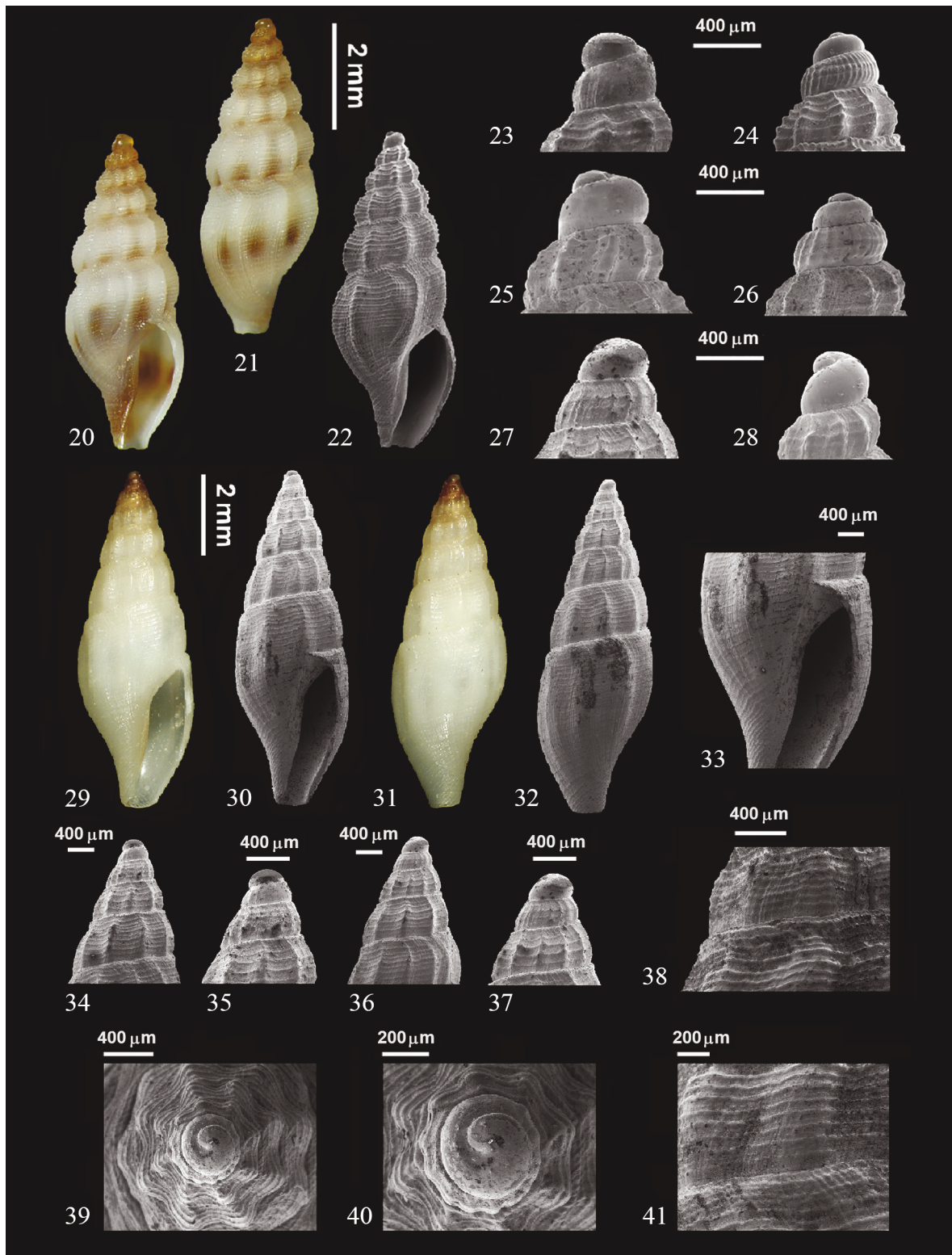
DISTRIBUTION. This species is so far known only from the type locality.

ETYMOLOGY. The name refers to the Salento Peninsula (Italy, Apulia), the geographical area hosting the type locality.

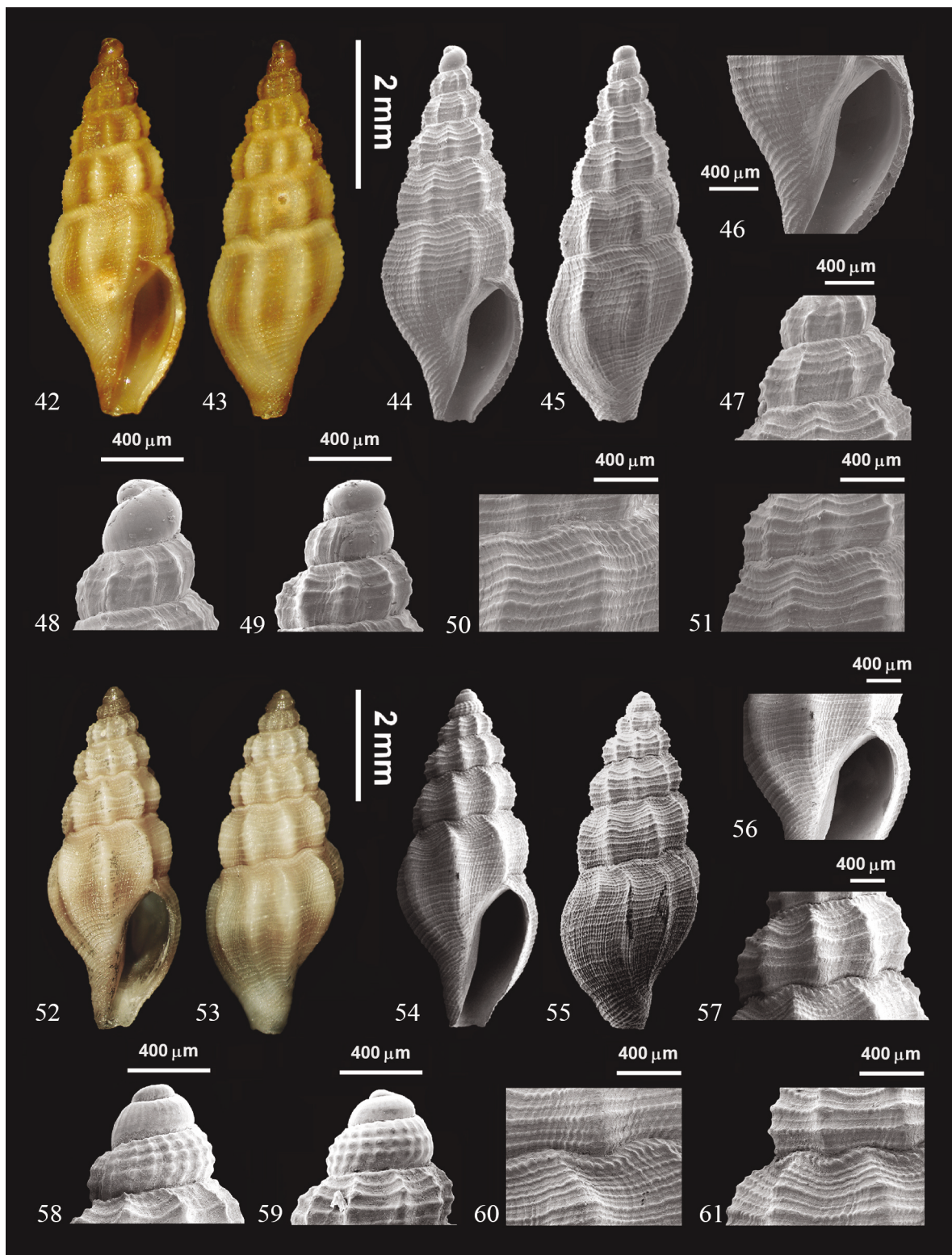
REMARKS. Shells of *Bela salentina* n. sp. were compared with specimens of *Bela cycladensis* (Reeve, 1845) (Figs. 52–61, 73–78, 80) collected from South Adriatic Sea and Dalmatia, and with samples of *B. zonata*, both considered the most similar species (Giannuzzi-Savelli et al., 2023). Indeed, the new taxon differs from *B. cycladensis* mostly for the paucispiral protoconch, which is multispiral in the latter (Figs. 79, 80). In fact, it is hard to find robust morphological differences when comparing the two taxa, since they show identical teleoconch outline, width/height ratio, shell sculpture, aperture and siphonal canal shapes, as well as colour of the teleoconch. Furthermore, the animal colour of the living individuals of *B. salentina* is very similar to the ones figured by (Giannuzzi-Savelli et al., 2023: Figs. 1106, 1107). This couple of species reminds the case of the sibling species *Bela menkhorsti* van Aartsen, 1988/*Bela zenetouae* (van Aartsen, 1988), which show indistinguishable teleoconch but different protoconch (Giannuzzi-Savelli et al., 2023).



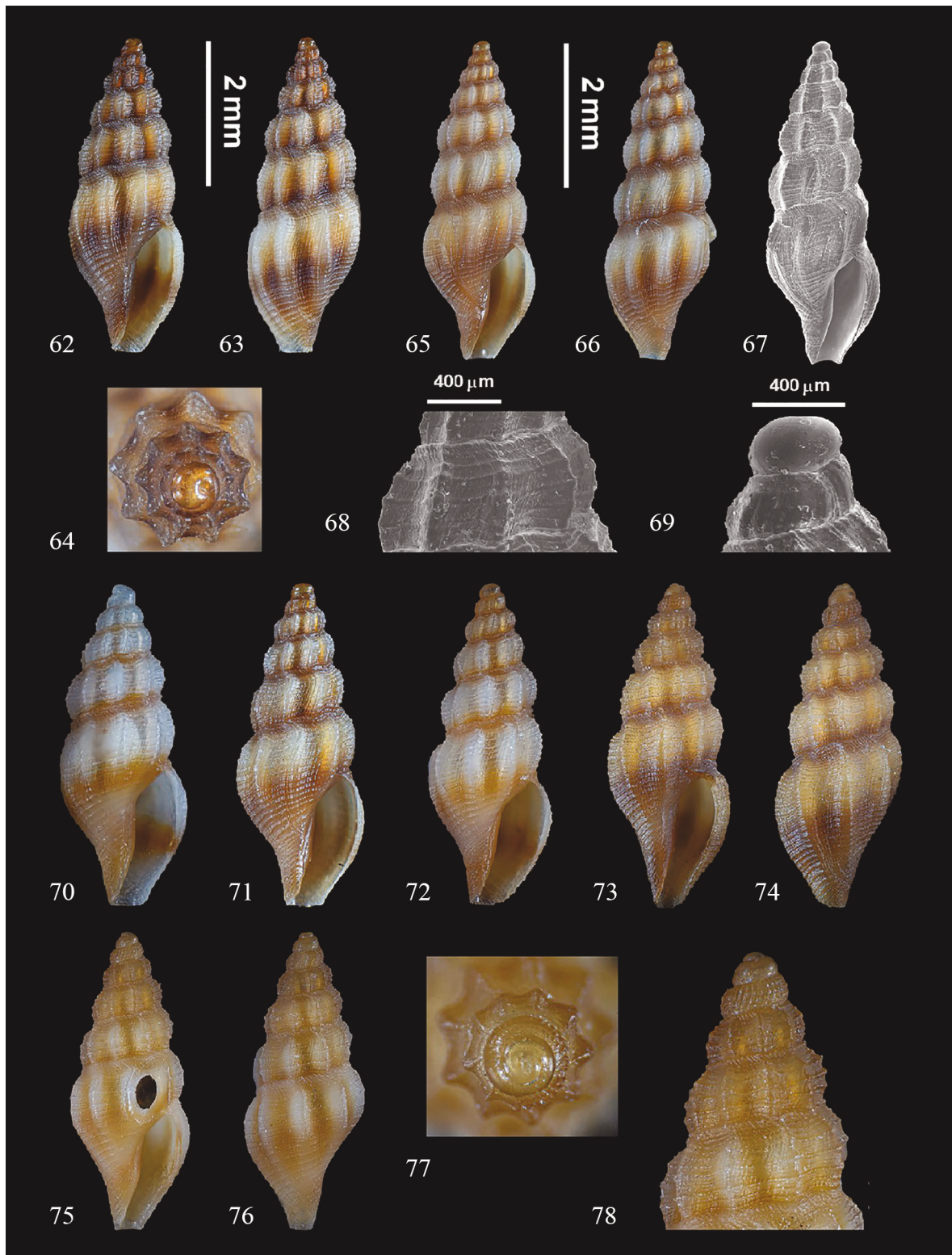
Figures 1–13: *Bela hellenica* n. sp. Holotype MNHN-IM-2000-36790. H: 7.6 mm, W 2.6 mm, from type locality (Greece, Crete, Limanakia). Figures 14–16: *Bela atticae*. H: 8.8 mm, W 3.2 mm. Varazze, Liguria (Italy), from debris collected at 20 m depth, CS-PM. Figures 17, 18: *Bela zonata*. H: 7.6 mm, W 2.6 mm. Anzio, Latium (Italy), 30 m depth, CS-PM. Figure 19: *Bela zonata*. H: 8.5 mm, W: 2.9 mm, Anzio, Latium (Italy), 30 m depth CS-PM.



Figures 20–22. *Bela plicatilis*, H: 5.8 mm, W: 2.3 mm, La Maddalena Island, Sardinia (Italy), 15 m depth, CS-PM. Figures 23–27. Protoconchs. Fig. 23: *Bela hellenica* n. sp., holotype. Fig. 24: *Bela atticae*, specimen of Figs. 14–16. Fig. 25: *Bela plicatilis*, specimen of Figs. 20–22. Fig. 26: *Bela zonata*, specimen of Fig. 19. Fig. 27: *Bela rufinii* n. sp., holotype. Fig. 28: *Bela taprurensis*, specimen of Fig. 42–51. Figures 29–41. *Bela rufinii* n. sp., holotype, MNHN-IM-2000-36791, H: 5.3 mm, W: 2.0 mm.



Figures 42–61. Other species of *Bela* for comparative studies. Figs. 42–51: *Bela taprurensis* from Al Khums (Libya), 15 m depth, H: 6.4 mm, W: 2.4 mm, CS-PM. Figs. 52–61: *Bela cycladensis* from Libya, 110–150 m depth, H: 6.0 mm, W: 2.2 mm, CS-PM.



Figures 62–72. *Bela salentina* n. sp. from type locality. Figs. 62–64: holotype, H: 6.4 mm, W: 2.3 mm, MNHN-IM-2000-3692. Figs. 65–69: paratype 1, H: 6.8 mm, W: 2.3 mm, FV. Fig. 70: paratype 2, H: 5.6 mm, W: 2.1 mm, FV. Fig. 71: paratype 3, H: 4.1 mm, W: 1.5 mm, FV. Fig. 72: paratype 4, H: 6.0 mm, W: 2.3 mm, FV. Figures 73–78. *Bela cycladensis* from Orte, Otranto, Lecce (Italy). Figs. 73, 74: H 5.7 mm, W: 2.2 mm, 32 m depth, FV. Figs. 75–78: H: 5.7 mm, W: 2.3, 35 m depth, FV.

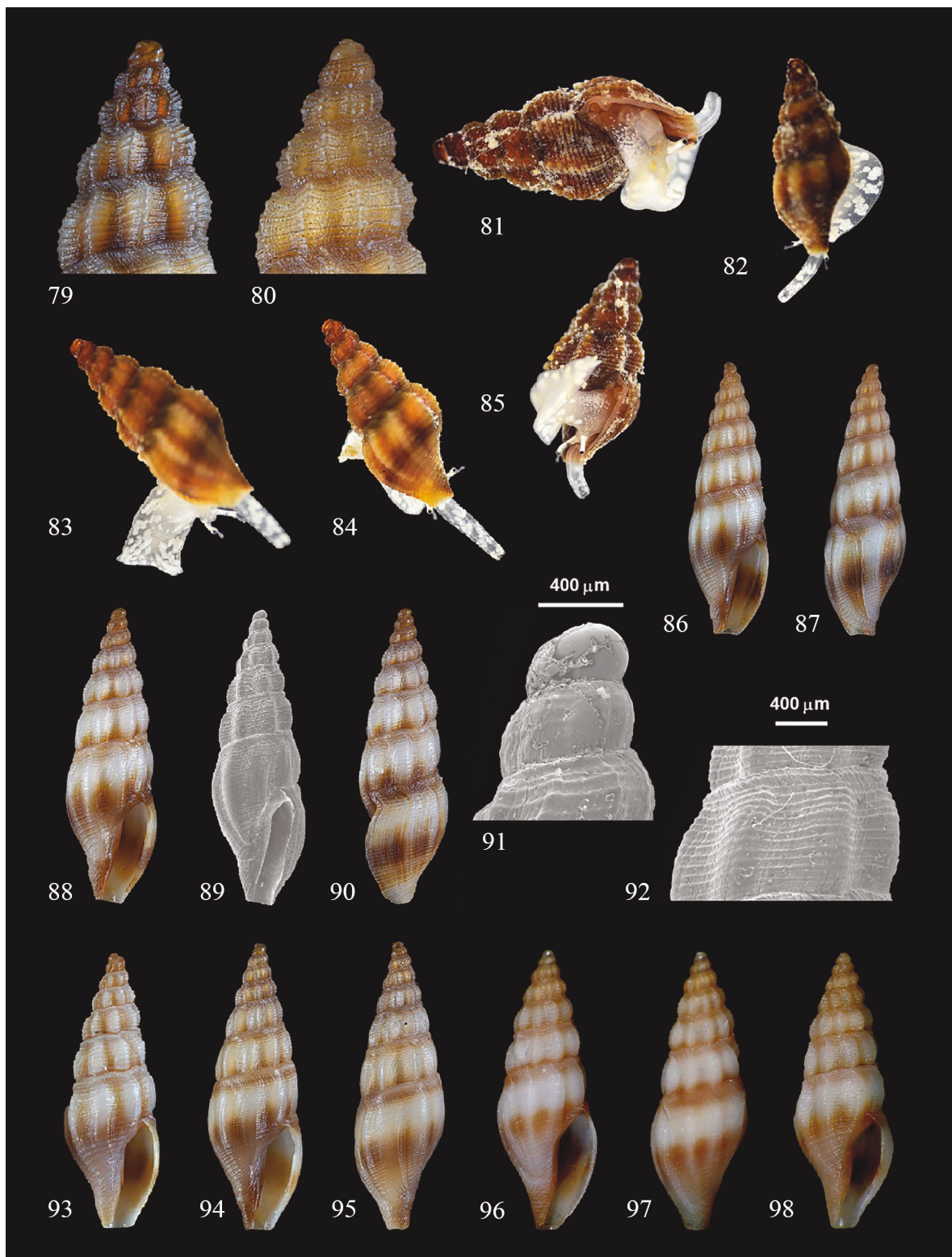


Figure 79. *Bela salentina* n. sp. holotype. Figure 80. *Bela cycladensis* specimen of Figs. 73, 74. Figures 81–85. *Bela salentina* n. sp., living specimens from type locality. Figures 86–95. *Bela filioae*, Otranto, Lecce (Italy). Figs. 86–87, 1 m depth, OB. Figs. 88–92: 1 m depth, OB. Fig. 93: 1 m depth, OB. Figs. 94, 95: 1 m depth, OB. Figures 96–98. *Bela zonata*, Capo d’Anzio, Anzio (Italy). Figs. 96, 97: H: 9.1 mm, W: 3.0 mm, 50 m depth, CS-PM. Fig. 98: H: 8.7, W: 2.8 mm, 50 m depth, CS-PM.

Both *B. salentina* and *B. cycladensis* sometimes share the same habitat. The former commonly occurs in Salento eutrophic shallow water, where it lives on muddy, eutrophic seabeds in close contact with *Cymodocea nodosa* [(Ucria) Asch.]. *Bela cycladensis*, albeit often collected at a deeper bathymetry (30–120 m), can also be found in muddy or sandy-muddy bottoms at a few meters depth (4–10 m). Some clear differences can be observed between the *B. salentina* n. sp. and *B. zonata* being the latter less globose, with less convex whorls, slenderer outline and showing a multispiral protoconch (Figs 17–19, 96–98). Since *B. salentina* n. sp shows a paucispiral protoconch, it was also compared with *B. plicatilis*. The latter shows more sinuous axial ribs, with much narrower interspaces (Giannuzzi-Savelli et al., 2023: figs. 1095, 1097–1103), and a completely different paucispiral protoconch. The protoconch of *B. plicatilis* is dome shaped (Fig. 25) and bigger (H = 400 µm and W = 510 µm) than the one of *B. salentina* (Fig. 69) which is evidently flatter and smaller (H = 300–370 µm in paratypes and W = 410 in the holotype).

The new taxon was also compared with *B. filioae* (see below), and we could observe the same teleoconch differences described with *B. zonata*. In fact, *B. salentina* is more globose in outline and shows more evident convex whorls; on the contrary the paucispiral protoconch is very similar to the one of *B. filioae*, in shape and size.

***Bela filioae* Öztürk et Ovalis, 2024 (Figs. 86–95)**

This species with a paucispiral protoconch has been recently described by Öztürk & Ovalis (2024) from Dardanelles (Turkey). These Authors have compared this taxon with *B. plicatilis* and *B. zonata*, the most similar species, and they stated that the latter is the most encountered *Bela* in the Turkish waters, showing a great morphological variability and possibly belonging to a species complex. Interestingly, 70 shells of *B. filioae* have been collected from Otranto (Lecce, Italy). This is the first record of this species from the Italian coast. In our opinion, despite the great variability displayed by the shells of *B. zonata*, this taxon can be considered the sibling species of *B. filioae*, since the strong morphological similarity observed between these two species, as shown in Figs. 93–98. Unfortu-

nately, no individuals of *B. zonata* from Salento could be analysed. Nevertheless, after comparing the specimens of *B. filioae* from Otranto and the ones of *B. zonata* from many Mediterranean spots, the diagnostic difference consists in the protoconch, paucispiral in the first and multispiral in the latter. We like to point out that the specimen figured by Giannuzzi-Savelli et al. (2023: fig. 1096) as *B. plicatilis*, as well as the ones reported by Trono et al. (2023: fig. 4 H) are indeed *B. filioae*. The population of *B. filioae* in Otranto shows considerable dimensional and colorimetric variability, with specimens of approximately H = 10 mm and both very light and decidedly dark specimens. The data in our possession relating to the sites where specimens of this species have been observed confirm that it prefers shallow waters (1–2 m), protected areas (coves or ports), in the presence of the phanerogama *Cymodocea nodosa*.

DISCUSSION

For completeness, the new taxa have been also compared to *Bela taprurensis* (Pallary, 1904), which has a paucispiral protoconch and shows an overlapping geographical distribution in the eastern basin of the Mediterranean Sea with *B. hellenica* n. sp. and *B. rufinii* n. sp. In fact, *B. taprurensis* has been reported for the Aegean Sea (Manousis, 2012; Öztürk & Ovalis, 2024). Three paralectotypes of *B. taprurensis*, ex Pallary collection, stored in the Monterosato collection (MCZR-M-16988/P) at the Museum of Zoology in Rome, and other shells from Tunisia and Lybia (CS-PM) were compared with the new taxa. The teleoconch of *B. taprurensis* clearly differs from the ones of *B. hellenica* n. sp. and *B. rufinii* n. sp., being much more convex and showing a stronger sculpture (Figs. 42–51). Interestingly, at the moment both *B. hellenica* n. sp. and *B. rufinii* n. sp. are only occurring on the coasts of Crete Island. Traditionally, in marine invertebrates the developmental strategy reflects the dispersal mode and can be referred alternatively as planktotrophic, with actively feeding larvae spending an extended time in water and derived from small nutritionally poor eggs, or lecithotrophic, with larvae developed from large nutritionally rich eggs and spending a short time in the water (Thorson, 1950; Vance, 1973).

In most cases the swimming larval stage, the veliger, can enable benthic molluscs to perform a widespread dispersion according to its lifespan, which ranges from a few hours to a week in lecithotrophic larvae, and from one to several weeks or even years in planktotrophic larvae (Strathmann & Strathmann, 2007). The capability of choosing between these two different larval developments and consequently dispersal modes in the same individual, population or species is defined as poecilogony (Hoagland & Robertson, 1988). Most of the Mediterranean *Bela* spp. display multispiral protoconchs, while species with paucispiral protoconchs are *B. minoica*, *B. filioae*, *B. plicatilis*, *B. taprurenensis* and *B. zenetouae*. In the genus *Bela*, only the case of *B. menkhorsti*-*B. zenetouae* is known to represent a couple of species with identical teleoconch and different protoconch; in this work we report two additional *Bela* pairs which can be considered as sibling species: *B. cycladensis*-*B. salentina* and *B. filioae*-*B. zonata*. If poecilogony can occur within the genus *Bela* is still a matter of debate. Recently, this double mode of larval development was demonstrated in two sibling species of the genus *Raphitoma* Bellardi, 1847 (Conoidea Raphitomidae) by Russini et al. (2020). These Authors have molecularly demonstrated that individuals of these two nominal species, very hard to separate morphologically when comparing the teleoconch, can be unambiguously identified by their protoconch, being the one of *R. cordieri* planktotrophic type (multispiral), while *R. horrida* has a paucispiral protoconch (lecithotrophic type). The split between these two sibling species was estimated to be occurred during Pliocene, at about 3.5 Ma (Russini et al., 2020; figs. 4, 5). It is attractive to further analyse the pairs of *Bela* species reported in this work by genetic approach to unravel larval developmental mechanisms underlying the evolutionary history of this genus.

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