

# NEW RECORDS OF *BELA POWISIANA* (DAUTZENBERG 1887) (GASTROPODA: CONIDAE) IN SOUTHERN EUROPE

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**Abstract** The occurrence of *Bela powisiana* (Dautzenberg 1887) is reported in the Alboran Sea, therefore documenting a Lusitanian distribution for this little known species. *Bela mingoranceae* Martín Pérez & Vera Peláez 2007, recently described from the same area, is considered a synonym. *Bela powisiana* is compared with two other congeneric species found sympatrically in southern Spain. The name *Bela zonata* (Locard 1892) is suggested as the valid name to be employed instead of the well known *Bela laevigata* (Philippi 1836), twice preoccupied.

**Key words** Southern Spain, Conidae, *Bela powisiana*, *Bela zonata*

## INTRODUCTION

The family Conidae is represented, off European coasts, by a large number of species, for which the taxonomical status and biogeographical distributions are quite doubtful in many cases. Recently, two living specimens of *Bela powisiana* (Dautzenberg 1887) have been collected for the first time in the littoral of Málaga (southern Spain). This gastropod has been reported seldom in the literature and was believed hitherto to have its southern limit in the Bay of Biscay (Fretter & Graham, 1984). We report here on several additional localities which document the species as far south as the Alboran Sea.

*Bela* species are distinguished from the loosely allied *Mangelia* on the basis of a lack of thickening in the aperture and a conspicuous truncation of the posterior part of the foot. There are currently 11 species listed as valid in the European realm (CLEMAM, Check List of European Marine Mollusca, searched December 2007). Several of them need a critical reappraisal of taxonomy but *Bela powisiana* is the largest and one of the easiest to recognize.

### *Bela powisiana* (Dautzenberg 1887)

*Raphitoma powisiana* Dautzenberg 1887, ex Récluz ms.; p. 117. Type locality: St Lunaire (48°39'N, 02°06'W), Atlantic coast of France.

*Mangelia ginnaniana* Risso 1826, sensu Petit (1869).

*Bela mingoranceae* Martín Pérez & Vera Peláez 2007; p. 1–6. Type locality: Between Estepona

and Manilva, Málaga province, Spain [stated as 150–300 m but see remarks below], *syn. nov.*

**Material examined** France – Baie de Bertheaume, Finistère (48°20'N, 4°40'W, 20–30 m), 31 sh (sands brought to shore for beach refurbishment in 1978) MNHN, Paris.

Baie de Quiberon, between Houat and Teignouse lighthouse (47°24.5'N, 03°01'W), 1 sp (17.2×4.7 mm), leg. Bouchet 1975, MNHN, Paris. Arcachon (no further details), 1 sh (16 mm) labelled "*Raphitoma ginnaniana*", coll. Petit, MNHN, Paris.

Portugal – Olhão channel (37°00'N, 07°51'W, 3–7 m), 1 sh (15.6×4.7 mm), MNHN, Paris

Morocco – Tangier bay (35°47'N, 05°47'W, 2–6 m), 1 sh (12.5×4.1 mm), MNHN, Paris.

Calahonda (Málaga, 36°28'N, 4°42'W, November 2004, 1 sp, 13.5×4.3 mm); same locality, February 2005, 1 sp, 17.1×5.3 mm).

**Description** *Bela powisiana* has a slightly glossy shell (Fig. 2a–g) with broad, orthocline ribs as is the case for most species of *Bela*. It has however a unique colour pattern with a broad brown band interrupted over the ribs, apparent throughout the spire and on the body whorl.

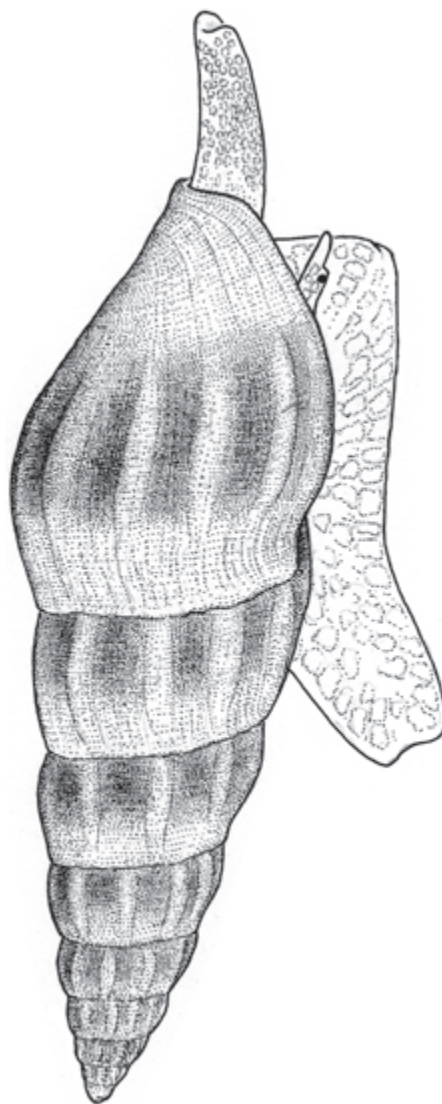
The animal is similar to that of other species of the genus, with a small head bearing two thick, diverging stalks on which the eyes and tentacles are situated; the extension of the tentacles beyond the eyes is about half of the length of the proximal part, and is, by half, thinner than it. The foot is broad and flat, distinctly truncated or even slightly bilobed posteriorly and measures somewhat more than half the shell length when fully extended. The siphon is thick and protrudes about half the length of the body whorl. The

colour pattern of the body is made of broad, nearly confluent opaque white blotches covering the upper surface of the entire foot, and densely packed, smaller opaque white specks on the siphon and head (but is not present on the distal part of the tentacles).

**Comparisons** We consider as a synonym of *Bela powisiana*, the recently described *Bela mingoranceae* Martín Pérez & Vera Peláez 2007, with a type locality which falls into the provenance area of the material we examined. The species was well illustrated and displays the diagnostic features outlined above for size, colour pattern of the shell and microsculpture. Actually, Martín Pérez & Vera Peláez (2007) do compare their new species to *B. powisiana*, which, in their words, differs from *B. mingoranceae* [in translation from Spanish] in being “larger (14 mm), in having a paucispiral protoconch of  $2\frac{1}{2}$  whorls and also by the colour pattern, bright yellow with brown blotches forming flames; also the varicose ribs of *B. powisiana* are very thick, making a major difference with *B. mingoranceae* where they are trimmed abruptly at the suture ramp”. The statement regarding size is strange, since the holotype of *B. mingoranceae* measures 17.4 mm. The morphological differences stated do not apply to the Atlantic specimens of *Bela powisiana*, and this may be explained by the fact that their concept of the latter species is based on Nordsieck (1977) and probably on the doubtful Mediterranean specimen cited therein.

We collected two more species of *Bela* in the same area. One of them is the Mediterranean species well known as *Bela laevigata* (Philippi 1836); notwithstanding, this name cannot be used because *Pleurotoma laevigatum* Philippi 1836 is a primary homonym of *Pleurotoma laevigata* Sowerby 1823 and of *Pleurotoma laevigatum* Eichwald 1830 as already noted by Sykes (1906) and van Aartsen *et al.* (1984). We suggest that the next available name is *Bela zonata* (Locard 1892) (Fig. 2h), originally described by Locard as *Raphitoma zonata* from the Mediterranean coast of France.

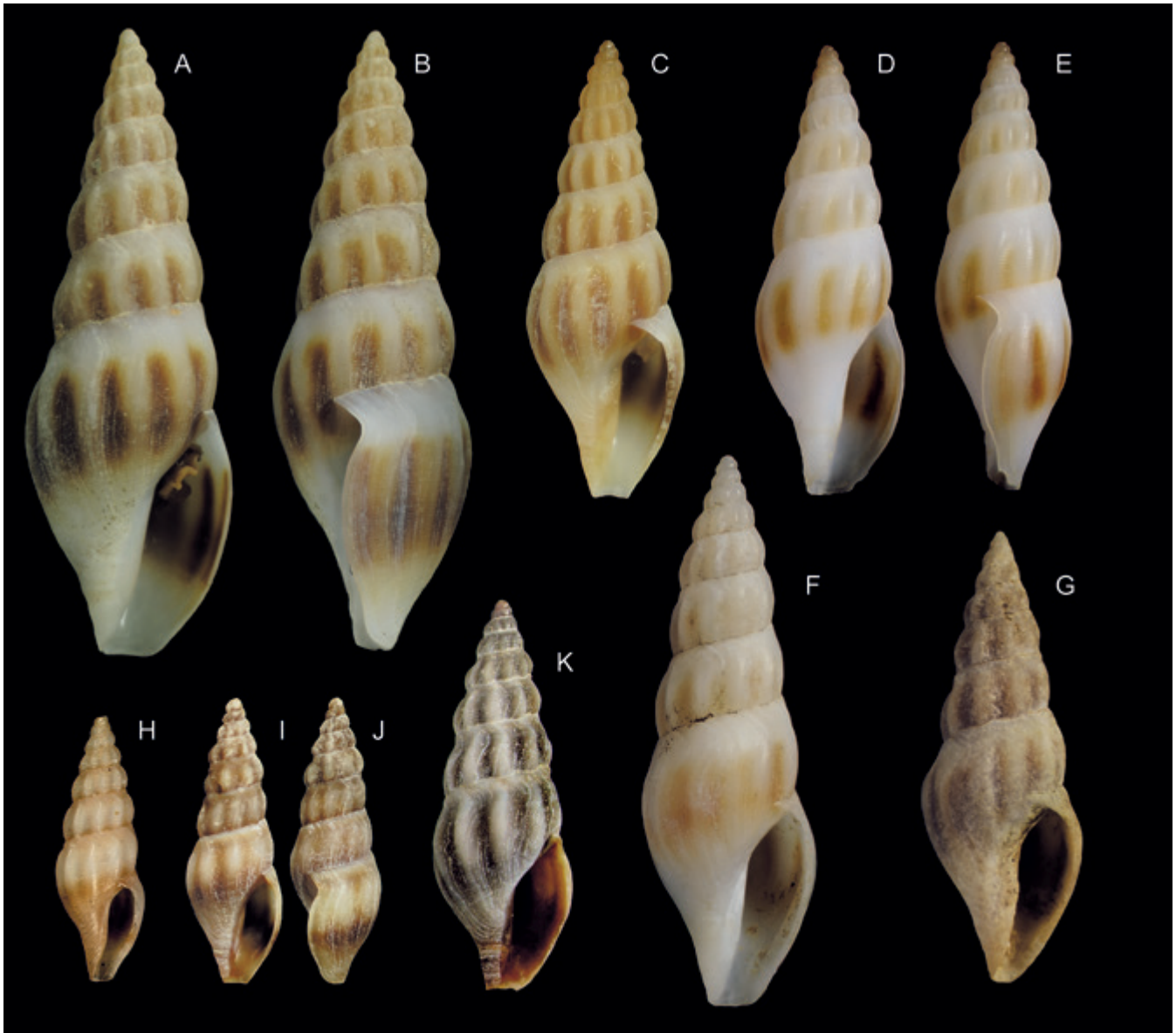
The colour pattern of the soft parts of *Bela powisiana* differs from that of *Bela zonata* collected in the same area in being pure white, whereas blotches on the latter species are yellowish, tending to orange on the siphon. Contrary to what is stated with respect to British *Bela nebula* (Montagu



**Figure 1** Live taken specimen of *Bela powisiana* from off Calahonda (15 m), Spain. Length of shell 18 mm.

1803) by Fretter & Graham (1984: 524–525), we did not notice any difference in the proportions of tentacles between these two species. The shells are also very different, *Bela zonata* (Fig. 2h–j) being considerably smaller and in having the brown band placed so far ab-apically, that most of it is concealed on the spire whorls. *Bela powisiana* seems to avoid fine or muddy sands, contrary to *Bela zonata* which was found abundant in the same area but in fine, silty sands closer to shore in a sheltered bay.

The other species of *Bela* (Fig. 2k) found sympatrically with *B. powisiana* is probably a southern representative of *Bela nebula*. The shell differs from the usual British representatives of that species in that some specimens have the



**Figure 2** Shells of *Bela powisiana* (a–g) and of *Bela* spp. (h–k). a, b: Calahonda, Spain, 15 m, same specimen as Fig. 1 (18 mm). c: same locality (sp, 13.1 mm). d, e: Baie de Bertheaume, 20–30 m, Brittany (sh, 12.8 mm). f. Arcachon, coll. Petit, MNHN (sh, 16 mm). g: Tangiers, Morocco (12.6 mm). h. Syntype of *Raphitoma zonatum* Locard, 1892 from the Mediterranean coast of France (sh, 7.3 mm, MNHN). i, j: *Bela zonata*, Cala de Mijas, Spain, 5 m on fine muddy sand (sp, 8.1 mm). k: *Bela nebula*, Calahonda, Spain, 15 m (10.8 mm).

ribs paler than the brown background on some specimens, but otherwise agrees in shape and size. These are clearly distinguished from the local *B. powisiana* in being smaller, with distinctly more convex whorls on the spire and with coarser, more granulose spiral sculpture.

*Habitat and geographic range* The live-taken specimens (Fig. 1) from Calahonda were collected on a rocky bottom at 15 m depth, within the “corallig-

enous” community (CO) of Pérès & Picard (1964), where the gastropods *Nassarius incrassatus* (Ström 1768), *Ocenebrina aciculata* (Lamarck 1822) were the dominant species and, among others *Gibbula fanulum* (Gmelin 1791), *Bolma rugosa* (Linné 1767) and *Jujubinus exasperatus* (Pennant 1777) were characteristic accompanying species. On both occasions, we used a rock dredge (mesh size of 4 mm) which covered a sampled area of 130 m<sup>2</sup>. The habitat stated by Martín Pérez & Vera Peláez (2007) for *Bela mingoranceae*, on muddy bottom in



150–300 m, is unlikely. Actually the holotype and paratype 1 were brought in by trawlers which, in this area, commonly operate on gravel bottoms inshore despite the fact that they are required by law to keep a minimum depth of 50 m. The view that these specimens were actually collected shallower is corroborated by the fact that the second paratype was obtained from shore drift.

The southernmost published records for *Bela powisiana* as such, were given for Vigo by Nordsieck (1977) and Rolán (1983), in both cases documented with figures. Nevertheless the species was not mentioned for Spain by Hidalgo (1917) and was not recorded in the extensive list given for the Bay of Algeciras by van Aartsen *et al.* (1984). The Mediterranean record by Nordsieck (1977) for Sant Pol de Mar (Gerona province, Spain) must be taken as spurious, the colour pattern is stated as “totally red-brown, darker between the ribs” which does not fit *Bela powisiana*.

Our records, added to the type material of *Bela mingoranceae*, bring the range of this species into the usual model for a Lusitanian species, ranging from the Swedish West coast south to the strait of Gibraltar and the Alboran Sea, and indicate that it is not a particularly northern species. It is an addition to the large number of molluscan species already present in the Alboran Sea, previously noted as a hotspot for diversity in the European coasts (van Aartsen *et al.*, 1984; Peñas *et al.*, 2006).

## REFERENCES

- DAUTZENBERG P 1887 Une excursion malacologique à Saint-Lunaire (Ille-et-Vilaine) et aux environs de cette localité. *Bulletin de la Société d'Etudes Scientifiques de Paris* 9(2): 27 pp.
- FRETTER V & GRAHAM A 1984 The Prosobranch molluscs of Britain and Denmark. Part 8 – Neogastropoda. *Journal of Molluscan Studies*, supplement 8: 435–556.
- HIDALGO JG 1917 Fauna malacológica de España, Portugal y Baleares. Moluscos testáceos marinos. *Trabajos del Museo Nacional de Ciencias Naturales*, Madrid, serie Zoológica 30: 752 pp.
- NORDSIECK F 1977 *The Turridae of the European seas*. La Conchiglia, Roma. 131 pp.
- LOCARD A 1892. *Les coquilles marines des côtes de France*. J.B. Baillière & fils, Paris, 384 pp.
- MARTÍN PÉREZ JM & VERA PELÁEZ JL 2007 *Bela mingoranceae* (Mangeliinae Fischer, 1883, Conoidea), nueva especie actual de Estepona (Málaga, sur de España). *Pliocenica* 5: 1–6.
- PEÑAS A, ROLÁN E, LUQUE AA, TEMPLADO J, MORENO D, RUBIO F, SALAS C, SIERRA A & GOFAS S 2006 Moluscos marinos de la isla de Alborán. *Iberus* 24(1): 23–151.
- PÉRÈS JM & PICARD J 1964 Nouveau manuel de biologie benthique de la Mer Méditerranée. *Recueil des Travaux de la Station Marine d'Endoume*, Bulletin 31(47): 5–137.
- ROLÁN E 1983 Moluscos de la Ría de Vigo. I Gasterópodos. *Thalassas* 1(1): 1–383.
- SYKES ER 1906 On the Mollusca procured during the “Porcupine” Expeditions 1869–1870. Supplemental notes, part 3. *Proceedings of the Malacological Society of London* 7: 173–190.
- VAN AARTSEN JJ, MENKHORST HP & GITTENBERGER E 1984 The marine mollusca of the Bay of Algeciras, Spain, with general notes on *Mitrella*, Marginellidae and Turridae. *Basteria* suppl. 2: 1–135.