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## Lectotype designation for *Murex nebula* Montagu 1803 (Mangeliidae) and its implications for *Bela* Leach in Gray 1847

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### Abstract

*Bela* Leach in Gray is a misapplied and broadly defined genus within the family Mangeliidae Fischer, 1883. Examination of material from the Montagu collection at the Royal Albert Memorial Museum & Art Gallery (RAMM) in Exeter (UK) led to the discovery of six specimens of *Murex nebula* Montagu 1803 (the type species of *Bela*). This material is considered to belong to the original lot used by Montagu to define his species. We selected the best-preserved specimen as a lectotype. The lectotype and paralectotypes deposited at the RAMM are fully described and illustrated. Furthermore, diagnostic characters for recognizing *B. nebula* specimens are presented: protoconch shows weak ornamentation; teleoconch is fusiform with slightly convex whorls characterized by broad, suture-to-suture ribs and dense but weak spiral elements; outer lip is thin; anal sinus is shallow, placed on the shoulder ramp. These key features are of basic importance for: i) restricting the usage of the genus *Bela* and promoting its stability and consistent usage in literature and ii) separating two allied (and sometimes interchanged) genera: *Bela* and *Mangelia* Risso 1826.

**Key words:** Eastern Atlantic, Conoidea, Neogastropoda, Taxonomy, Toxoglossa

### Introduction

*Bela* Leach in Gray is a problematic and broadly defined genus within the conoidean family Mangeliidae Fischer 1883. The problems arose from the onset, with the poor characterization of the genus to include a group of unrelated early 19<sup>th</sup> century species (see below). The inadequate initial definition was interpreted in different ways by a succession of taxonomists, each placing a different emphasis on the distinguishing characters employed in their systematic descriptions (e.g., teleoconch, protoconch, radula, anatomical data). Finally, the difficulty in tracing the type material of the type species (i.e., *Murex nebula* Montagu 1803) added further confusion (see Mariottini *et al.* 2008; 2009). These issues led to the genus *Bela* being used as a 'wastebasket taxon' (e.g., Powell 1966; Naldi *et al.* 2013 and references therein), including both fossil and Recent species, embracing an extremely wide morphological variation and worldwide distribution (Tucker 2004; WoRMS 2014).

During a search of type material for a series devoted to fossil conoidean taxonomy from the Plio-Pleistocene of the Mediterranean (Scarponi & Della Bella 2010 and references therein), six shells labelled *Mangilia nebula* (Montagu 1803), were found in the Royal Albert Memorial Museum & Art Gallery (RAMM) in Exeter (UK). This important finding gives us a chance to re-examine what Montagu meant by *Murex nebula*. The aims of this research are to: i) present an overview of the genus *Bela* and its type species; ii) designate a lectotype for *B. nebula*; and iii) constrain the usage of *Bela* and promote its consistent usage in literature.

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**Appendix 1.** Optical microscope photos of shell features of the *Bela nebula* type material (Montagu Collection) housed at the RAMM in Exeter (UK) (inventory number EXEMS:Moll4253/1 to /6). **A–C**) EXEMS:Moll4253/1; **D–E**) EXEMS:Moll4253/2; **F–G**) EXEMS:Moll4253/3; **H–J**) EXEMS:Moll4253/4; **K–L, N**) EXEMS:Moll4253/5 (Lectotype); **M**) EXEMS:Moll4253/6. Scale bars 1mm.

