

The status of the genus *Bostryx* Troschel, 1847, with description of a new subfamily (Mollusca, Gastropoda, Bulimulidae)

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Abstract

The status of the genus *Bostryx* is discussed and, based on morphological and molecular data, restricted to a group of species related to *B. solutus*, for which the new subfamily name Bostrycinae is introduced.

Keywords

Orthalicoidea, taxonomy, Bostrycinae subfam. n.

Introduction

Troschel (1847: 49) described a new, peculiar land snail, as *Bulimus (Bostryx) solutus*. He wrote: “Diese durch Herrn Dr. von Tschudi in Peru in vielen Exemplaren gesammelte Art ist so eigenthümlich, dass ich überzeugt bin, sie werde bei einer naturgemässen Theilung der Gattung *Bulimus*, wovon die Notwendigkeit nach meinem anatomischen Untersuchungen keinen Zweifel unterliegt, eine eigene Gattung bilden, für die ich den Namen *Bostryx* vorschlage”. However, Troschel’s conviction that *Bostryx* constituted a separate genus was not readily accepted. Most authors (e.g. Pilsbry 1896 [1895–1896], Thiele 1931) regarded it as a subgenus of *Bulimulus* Leach, 1814. It was not until 1944 when Pilsbry used it as a separate genus (Pilsbry 1944). Subsequent

authors have classified many other taxa as subgenera — based purely on shell shape — within *Bostryx* (e.g. Zilch 1960 [1959–1960], Schileyko 1999). Breure (1979) in his revision of the Bulimulidae, using the external shell morphology and internal anatomical characters, listed 22 taxa as synonyms of *Bostryx* (*s.l.*) and 274 available names at the species-level. He wrote: “It has been mentioned before that a number of species groups may be recognized with *Bostryx* (*sensu lato*) that correspond more or less with some of the ‘subgenera’ listed in the above-mentioned synonymy. There are, however, a rather large number of taxa that can not be allocated to one of these species groups and it is preferred, therefore, to treat the genus here *sensu lato*”. During recent molecular work 10 *Bostryx* species were sequenced, showing that *Bostryx* (*s.l.*) is a polyphyletic taxon (Breure and Romero 2012). For the monophyletic species group with *B. solutus* the subfamily name Bostrycinae subfam. n. was introduced; however, without proper diagnosis fulfilling the requirement of Art. 13.1 ICZN this is a nomen nudum. To correct this (surprising) mistake, the necessary data for a valid description are presented in this paper.

Systematics

Superfamily Orthalicoidea Martens in Albers, 1860

Family Bulimulidae Tryon, 1867

Subfamily Bostrycinae subfam. n.

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Diagnosis. Shells with a smooth protoconch; genital organs with a relatively long penis sheath (ca. 1/4–1/6 total phallus length) (Breure 1978: fig. 176).

Type genus. *Bostryx* Troschel, 1847; type species by monotypy *Bulimus* (*Bostryx*) *solutus* Troschel, 1847.

Remarks. It should be stressed that this genus needs a thorough revision, based both on a re-evaluation of morphological characters and molecular data. In molecular analyses, species of this subfamily are forming a monophyletic group with *Bostryx solutus* (Troschel, 1847) included. Given current understanding (Breure and Romero 2012, Breure unpublished data) the following, additional taxa at least belong to *Bostryx s.str.*: *Bostryx* (*Peronaeus*) *agueroi* Weyrauch, 1960, *Bostryx* (*Bostryx*) *aguilari* Weyrauch, 1967, *Bostryx* (*Bostryx*) *agueroi beltrani* Weyrauch, 1964, *Bulinus conspersus* Sowerby I, 1833, *Bostryx edmundi* Breure & Neubert, 2008, *Bostryx granulatus* Breure & Neubert, 2008, *Bostryx* (*Pseudoperonaeus*) *longispira* Weyrauch, 1960, *Bulinus modestus* Broderip, 1832, *Bostryx multiconspectus* Breure, 2008, *Drymaeus torallyi peruvianus* Pilsbry, 1944, *Bostryx primigenius* Breure, 2008, *Bulinus scalariformis* Broderip, 1832, *Helix sordidus* Lesson, 1826, *Bostryx* (*Multifasciatus*) *superbus* Weyrauch, 1967, *Helix torallyi* d’Orbigny, 1835.

As may be seen from this — necessarily incomplete — list, shell shape alone may be a misleading character for classification (e.g., with representatives of three ‘subgenera’). Further research needs to clarify which of the 22 synonyms of *Bostryx* (*s.l.*) may be given (sub)generic status within this subfamily.

Finally, Breure and Romero (2012) showed that *Helix apodemeta* d’Orbigny, 1835, *Bulimulus* (*Scansicochlea*) *strobili* Parodiz, 1956, and *Bulinus bilineatus* Sowerby I, 1833 may need to be re-classified with *Naesiotus* Albers, 1850; this genus (also treated *s.l.* in Breure 1979) is in need of an in-depth revision and its relationship to *Bulimulus* to be clarified.

Further research, especially using molecular data, will undoubtedly give new insights, thus leading to either more support for the current classification or perhaps other surprises.

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