

Studies on West Indian marine molluscs 19.  
On the identity of *Turbo Bryereus* Montagu, 1803, with the description of a new  
species of *Rissoina* (Gastropoda Prosobranchia: Rissoidae)<sup>1</sup>

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The identity of *Turbo Bryereus* Montagu is established after examining the original, figured type-specimen. It is considered a valid species of *Schwartziella* (Rissoidae: Rissoininae) from the West Indies. *Rissoina scalarella* C.B. Adams, *R. bermudensis* Peile and *R. fischeri* var. *michaudi* Desjardin are considered junior synonyms. "*R. bryerea*" auct. is described as new s.n. *Rissoina dyscrita* n.sp.

Key words: Gastropoda, Prosobranchia, Rissoidae, *Schwartziella*, *Rissoina*, taxonomy, West Indies.

#### INTRODUCTION

In the year 1803, Montagu described a small species of marine mollusc as "*Turbo Bryereus*", after specimens from Weymouth, England. He noted that "it is also an occidental shell". Ever since, "*T. Bryereus*" has generally been considered a Caribbean species of the genus *Rissoina* d'Orbigny, 1840 (type-species *Rissoina inca* d'Orbigny, 1840, by original designation). Members of this genus (and related genera, within the Rissoininae<sup>2</sup> do not occur as far north as England; Weymouth as type-locality for *Rissoina bryerea* is evidently wrong.

Regarding the descriptions and figures given by various subsequent authors, two different West Indian rissoinids have been identified as *R. bryerea*. Following the most recent systematics in *Rissoina* s.l. (Ponder, 1985), the one figured by Olsson & McGinty (1958), Warmke & Abbott (1961) and De Jong & Coomans (1988) should better be placed in the genus *Schwartziella* Nevill, 1881 (type-species *Rissoina orientalis* Nevill, 1881, by original designation). This genus differs from *Rissoina* s.s. in the absence of an anterior siphonal canal or notch, and the absence of a peg inside the operculum. The other species, figured by Schwartz von Mohrenstern (1860), Desjardin (1949), Abbott (1974: fig. 674; not 673) and Vokes & Vokes (1983), has a shallow siphonal canal, and belongs to *Rissoina* s.s. It has a rather thick-shelled protoconch of slightly over one whorl (indicating direct development), whereas the *Schwartziella*-species has a nipple-shaped protoconch of 2 ½ thin, glassy whorls, with a peg-like projection on the outer lip (indicating planktotrophic development). This, however, is not a character of generic importance. More (minor) differences are given with the descriptions.

<sup>1</sup> For no. 18 in this series see this issue of Basteria p. 105.

<sup>2</sup> Sensu Ponder (1985).

Peile (1926) compared both taxa in brief. The *Rissoina* he called *R. bryerea*, and the *Schwartziella* was described by him as a new species: *Rissoina bermudensis*. To verify if this view is correct, an examination of the type-specimen(s) of the former appeared to be necessary, since the original description and figure of *R. bryerea* are somewhat ambiguous, and may refer to either taxon. According to Desjardin (1949: 195, footnote) "Les types de Montagu sont demeurés introuvables à Paris, à Londres et à Washington où je les ai fait rechercher". Dean (1936), who reported on the remaining Montagu types in the Exeter Museum (England) does not mention them either. Nevertheless, the remaining types are still in this museum. The type-lot of *Turbo Bryereus* consists of two shells glued on a strip of cardboard, whereas some "empty" patches of glue indicate that, originally, there were more than two specimens on the cardboard. One of the two remaining specimens belongs to the European *Rissoa parva* (da Costa, 1778) and disagrees with the original description and figure given by Montagu. The other is a subadult and somewhat worn specimen of the West Indian *Schwartziella*-species. This specimen does fit the original description, which means that Peile (1926) was in error regarding the identity of "*R. bryerea*". The other (real *Rissoina*) species appears to be in need of a new name. It is herewith described as new. For matters of convenience, *S. bryerea* is redescribed below. All material is in ZMA, unless stated otherwise.

#### ABBREVIATIONS

AMNH = American Museum of Natural History, New York; BM(NH) = British Museum (Natural History), London; KBIN = Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels; MCZ = Museum of Comparative Zoology, Cambridge, Mass.; ZMA = Zoölogisch Museum, Amsterdam.

#### *Schwartziella bryerea* (Montagu, 1803) (figs. 1-3)

*Turbo Bryereus* Montagu, 1803: 313-314.

*Rissoa subangulata* C.B. Adams, 1850.

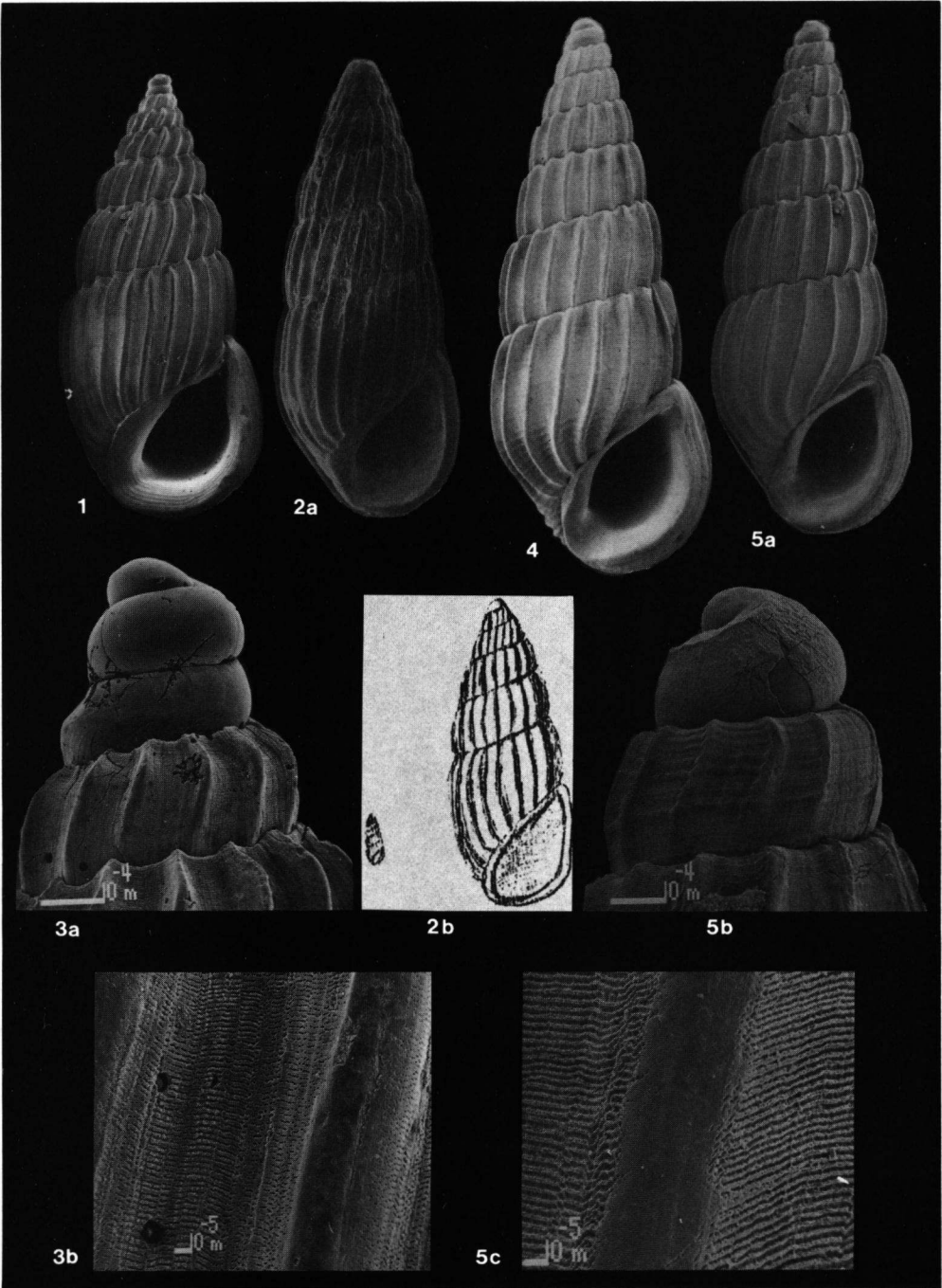
*Rissoina bermudensis* Peile, 1926.

*Rissoina fischeri* var. *michaudi* Desjardin, 1949.

*Rissoina bryerea* — Olsson & McGinty, 1958; Warmke & Abbott, 1961; De Jong & Coomans, 1988.

Original description. — "T. with a strong, conic, glossy, white shell, with seven smooth spires finely costated: the volutions are somewhat rounded, and well defined by the line of separation; but scarcely interrupt the ribs, (which are seventeen or eighteen in number,) from continuing throughout the shell: aperture oval; outer lip strong; pillar lip replicate, smooth.

Figs. 1-5. West Indian *Schwartziella* and *Rissoina*. 1-3, *Schwartziella bryerea* (Montagu). 1, Adult specimen, Curaçao, Boca san Michiel (leg. Fr. Arnoldo), x 11. 2a, lectotype of *Turbo Bryereus* (Exeter Mus. no. 4223), x 10; 2b, type-figures (enlarged), after Montagu (1803). 3, juvenile specimen (same locality and collector as for fig. 1); 3a, protoconch, x 90; 3b, detail of sculpture, x 250. 4-5. *Rissoina dyscrita* sp. n. 4, specimen from St. Maarten, St. Tropez (leg. Fr. Arnoldo), x 10. 5, holotype, Grand Cayman, Barker's Peninsula (leg. Dr. P. Wagenaar Hummelinck); 5a, ventral view, x 10; 5b, protoconch, x 90; 5c, detail of sculpture, x 250.



A variety with stronger, and fewer ribs, not exceeding ten or twelve in number.

At first sight this has somewhat the appearance of *T.* [314] *costatus*<sup>2</sup>, but the ribs are finer, more numerous, and destitute of the transverse striae: in the aperture also it is essentially different, not possessing the marginated lip so conspicuous in that shell.

The size is double that of the *costatus*: length rather less than a quarter of an inch.

We received several of this pretty species from Mr. Bryer of *Weymouth*, who found them at different times on that coast. It is also an occidental shell."

Material examined. — Lectotype, "Weymouth, England" (leg. Mr. Bryer, Exeter Mus. no. 4223); Bermuda, Gibson's Bay (leg. A.T. Guest); Bahamas, New Providence, Silver Cay and Paradise Island (M.J. Faber); Little Cayman, Owen Island, beach (leg. Dr. P. Wagenaar Hummelinck); Jamaica, Drunkenman's Cay, beach (leg. Dr. P. Wagenaar Hummelinck); St. Maarten (various localities and collectors); St. Kitts, Frigate Bay, beach (leg. Dr. P. Wagenaar Hummelinck); La Désirade (leg. Dr. P. Wagenaar Hummelinck); Bonaire (various localities and collectors); Curaçao (various localities and collectors); Aruba (various localities and collectors).

Description. — Shell small, elongate, about 5 × 2 mm. Protoconch of a planktotrophic type, nipple-shaped with 2½ glassy whorls, with a faint keel on the periphery of the last whorl and a peg-like projection on the outer rim. Teleoconch whorls about 6 in number, rather globose and rapidly increasing in size. Sutures distinct. The teleoconch whorls are covered with axial ribs, about 18 on the last whorl, which more or less line up with each other on every whorl. Microsculpture of exceedingly fine spiral striae. Aperture rather large, clearly pointed above, ending in a fine slit. Peristome entire, thickened. No umbilicus, or umbilical depression. The protoconch is very tiny and often lost in adult specimens. Subadult specimens look more slender, because the outer lip is not thickened.

Remarks. — The species shows some variation in size, slenderness and number of axial ribs.

The rather worn subadult specimen in the Exeter Museum (no. 4223) matches the specimen figured by Montagu (pl. 15 fig. 8) in shape and size. It is herewith selected lectotype of *Turbo Bryereus* = *Schwartziella bryerea* (Montagu, 1803).

Synonymy. — Weinkauff (1885) mentioned *Rissoina scalaroides* (C.B. Adams, 1850) and *R. scalaroides* (Philippi, 1848) (error for *scariooides*) in the synonymy of *Schwartziella bryerea*. C.B. Adams' taxon, figured by Clench & Turner (1950: pl. 33 fig. 6) is different, being smaller and more slender. It belongs to the species-complex of *S. chesneli* (Michaud, 1830)<sup>3</sup>.

Philippi (1848) scooped Adams (1850) in describing what is most probably the same biological taxon (i.e. *S. chesneli* s.l.), based on material sent to him by Adams. "*Scariooides* Philippi" is a different specific epithet and therefore an available name. *Rissoa subangulata* C.B. Adams, 1850, is a synonym of *Schwartziella bryerea*. The lectotype (designated by Clench & Turner, 1950) hardly matches the original description, being very worn. But one of the "paralectotypes" (MCZ no. 156422) does agree. It

<sup>2</sup> Footnote by M.J.F. "*Turbo costatus*" = *Manzonina crassa* (Kanmacher, 1798), an entirely different rissoid from Europe (see Moolenbeek & Faber, 1987).

<sup>3</sup> *S. chesneli* is the oldest available name in a large and complex group of siblings of *S. catesbyana* (d'Orbigny, 1842) with non-planktotrophic larval development. *S. catesbyana* (for the use of this specific epithet see Moore, 1969) does have planktotrophic larval development, as can be detected from its 3½ small, transparent nuclear whorls. It is often confused with *S. bryerea*, although it is also smaller, and more slender.

is clearly conspecific with the lectotype, only in a better condition. It possesses the glassy nipple-shaped protoconch, typical for *S. bryerea*. Probably, *Rissoina subangulata* is only a stronger ribbed (local?) morph of the former.

As pointed out before, *Rissoina bermudensis* Peile, 1926, is a subjective junior synonym of *Schwartziella bryerea*. Desjardin (1949), who also mixed up both taxa, described true *S. bryerea* as *Rissoina fischeri* var. *michaudi*. *R. fischeri* Desjardin, 1949, is a member of the *S. chesneli*-complex. Apparently, most authors followed Schwartz von Mohrenstern (1860), who had mistaken the identity of Montagu's taxon, probably because he had specimens from the Montagu collection in his possession that, however, were not types, and also not true *S. bryerea*.

Among the many fossil rissoinids described from the West Indies, there is no one like *S. bryerea*.

For differences between *S. bryerea* and the next species, *Rissoina dyscrita*, see below sub Remarks.

#### *Rissoina dyscrita* nov. spec.<sup>4</sup> (figs. 4-5)

*Rissoina bryerea* auctt., not *Turbo Bryereus* Montagu, 1803.

*Rissoina dubiosa* var. Schwartz von Mohrenstern, 1860: fig. 31a.

?*Rissoina dunkeri* MS (put in synonymy of "*R. bryerea*" by Schwartz von Mohrenstern).

Material examined. — Holotype, Grand Cayman Island, Barker's Peninsula (leg. Dr. P. Wagenaar Hummelinck) (ZMA 389022), 27 paratypes from the same locality and collector (ZMA 389023). Other material: Bermuda, Gibbon's Bay (leg. A.T. Guest); Bermuda (leg. A.J. Peile); Florida, Key Biscayne, Elliot Key, Virginia Key (various collectors); Little Cayman, Owen Island Beach, and WH sta. 1698A<sup>5</sup>; Cayman Brac, the Ledges (leg. Dr. P. Wagenaar Hummelinck); Cuba, Playa Larga, Bahía de Cochinos (leg. A. Provoost); Jamaica, Drunkenman's Key, WH sta. 1683; Jamaica, Jackson Bay (leg. Dr. J.H. Stock); Puerto Rico, off La Parguera (leg. R.G. Moolenbeek & W. van der Hijden); St. Maarten (various localities and collectors). Paratypes will be distributed to AMNH, BM(NH), MCZ and KBIN.

Description holotype. — Shell small, slender, 4.7 × 1.9 mm, sides rather straight. Protoconch of 1½ whorls, upper chalk-layer rough, with a spiral projection on top. Teleoconch with nearly 6½ whorls, strongly sculptured with axial ribs, 12 on the last whorl, which run from suture to suture, but are not always vertically alligned. Microsculpture consists of exceedingly fine spiral striae, which do not cross the axial ribs, which are smooth. On the base several stronger threads are visible. Aperture rather small. Peristome entire, thickened, acute above, and with a slight siphonal depression below left, near the axis. Colour white. Soft parts and operculum unknown.

Variability. — All paratypes and other specimens studied, are like the holotype, only differing slightly in size (adult specimens 4.5-6 mm) and slenderness. In many specimens the top-layer of the protoconch is worn, leaving a smooth, rounded, glossy top. Specimens from Bermuda are on the average somewhat less slender, and the spiral striae on the base are less pronounced. But on a whole, these differences are too small and probably too inconsistent to give subspecific status to these specimens.

<sup>4</sup> From the Greek *dyskritòs*, meaning: of difficult determination.

<sup>5</sup> For a complete list of station numbers with exact localities and habitats, see Wagenaar Hummelinck (1977).

Remarks. — *Rissoina dyscrita* looks much like *Schwartziella bryerea*, but can be separated on the following characters: *R. dyscrita* has a slight siphonal depression, which is lacking in *S. bryerea*. The former is more slender, has fewer axial ribs, shows spiral striae on the base and has a large, bulbous protoconch of about 1½ whorls, instead of a small, nipple-shaped one of 2½ whorls. As both taxa seem to belong to different genera, with different operculum characters, they may be separable on these as well. But hitherto no living specimen of either taxon has been obtained. I have seen some samples in ZMA labeled “*Rissoina bryerea*” stored in alcohol, but at close examination, these specimens appeared to belong to *Schwartziella catesbyana* (d’Orbigny, 1842). *S. catesbyana* is frequently confused with *S. bryerea*. As mentioned already, it differs from the latter in being smaller and more slender. It has also fewer axial ribs. The very slender, angulated protoconch, has about 3½ whorls, conspicuously more than in *S. bryerea*. Also, adult specimens of the former often have a tooth-like projection inside the outer lip. *S. catesbyana* occurs abundantly in (muddy) inner bays. Regarding the collecting localities of *S. bryerea* and *R. dyscrita*, these species seem to prefer more oceanic conditions.

The figures in Ponder (1985: fig. 138A-C) of *S. bryerea* actually refer to *S. catesbyana*. In Abbott (1974) either the photographs or numbers of both species have been mixed up. *R. bermudensis* is erroneously considered a synonym of *S. catesbyana* by Moore (1969), Abbott (1974) and Ponder (1985).

Regarding the distribution of these three species, it is noteworthy to record the absence of *R. dyscrita* on the Dutch Leeward Islands. Both *Schwartziella*-species occur here abundantly. The only other two rissoinids that might be confused with *R. dyscrita* are the superficially similar *R. multicostrata* (C.B. Adams, 1850) and *R. aff. parkeri* Olsson & Harbison, 1953 (of which *R. krebsii* Mörch, 1876, might be a senior synonym). *R. multicostrata* has more and weaker axial ribs, and a very clear and regular spiral sculpture on the base. Moreover, it is wider, with fewer whorls, and has a proportionally larger aperture. *R. parkeri* was described from the Florida Pliocene. A very similar, if not identical, taxon still occurs around southern Florida and the (Northern) Bahamas. It is somewhat smaller than *R. dyscrita* and differs also in having a pattern of regular close-set spirals on all teleoconch whorls.

Schwartz’s figure of “*R. dubiosa* var.” (1860: pl. IV fig. 31a) unquestionably represents *R. dyscrita*. *R. dubiosa* (C.B. Adams, 1850) belongs to the *R. chesneli*-complex.

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