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On the taxonomy of Recent Mediterranean species of the subgenus Loxostoma of the genus Rissoa (Mollusca, Gastropoda, Prosobranchia)

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INTRODUCTION

The name *Loxostoma* was first published by Bivona, 1838. According to Coan (1964: 166), *Rissoa monodonta* Philippi, 1836, is the type species by monotypy. This, however, cannot be correct because, (1) *Loxostoma* contains originally more than one species, and (2) *monodonta* is not among these. Dr. S. di Geronimo, however, drew my attention to the fact that, judging from the original diagnosis, *Loxostoma denticulus* Bivona, 1838, is synonymous with *R. monodonta*. Because Philippi described the latter from the Bivona collection, both taxa probably are even based on the same material. As will be discussed sub *R. monodonta*, no type material seems to have been preserved of either *R. monodonta* or *L. denticulus*. For the sake of a stable nomenclature, I herewith designate *L. denticulus* type species of *Loxostoma*, and designate as neotype of *L. denticulus* the neotype of *R. monodonta*, to be designated below.

In a number of previous papers it has been demonstrated that among the genus *Rissoa* Desmarest, 1814, two types of apex occur, which differ in the dimensions of the top whorl. Evidence has been collected for the thesis that the two types of apices indicate differences at the species level, independent of how similar these species may be otherwise (Rehfeldt, 1968; Verduin, 1982: 144). Both types of apex also occur in the subgenus *Loxostoma*.

I wish to stress that I use the subgeneric name *Loxostoma* only in order to indicate the group of species to be discussed here. Actually, I do not feel that the differences between *Loxostoma* and *Rissostomia* Sars, 1878, are sufficient for considering them distinct subgenera.

TAXONOMICAL PART

Rissoa (*Loxostoma*) *monodonta* Philippi, 1836
figs. 2,3

Type: a neotype is designated below.

Though in the literature *Rissoa monodonta* is often ascribed to Bivona, 1832, the name was introduced by Philippi (1836: 151), with the words: "Rissoa monodonta Bivon. coll.". From these words it may be inferred that Philippi had not collected the shells himself, but described the species from material in the Bivona collection. Philippi also referred to "*R. monodonta* Menke, Syn. p. 138", but this must be an error because

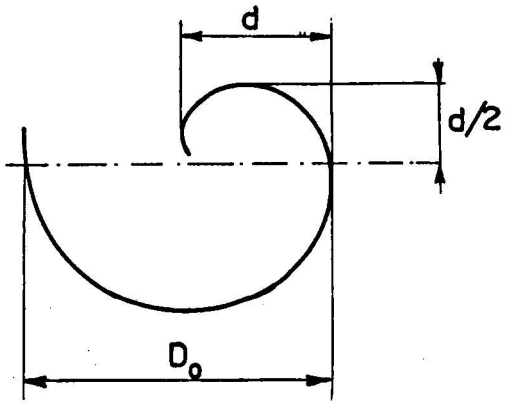
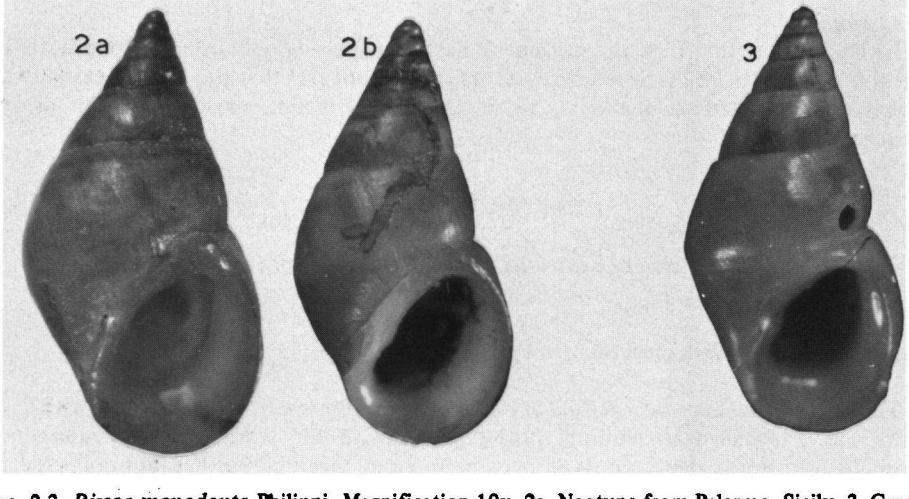


Fig. 1. Apex seen from above.

Menke never mentioned the name. I suppose that, by a slip of the pen, Philippi wrote *monodonta* instead of *laevigata*, because, judging from the original diagnosis, *Rissoa laevigata* Menke, 1828, may well be a synonym of *R. monodonta*. However, it obviously is a nomen oblitum, and should be left so for the sake of a stable nomenclature.

In my opinion, *R. hyalina* Desmarest, 1814, may best be considered a nomen dubium. Not only for the reasons mentioned by Bucquoy, Dautzenberg & Dollfus (1884: 279), who considered the original diagnosis and figure of insufficient quality to recognize the species with reasonable certainty, but also because Desmarest did not mention a type



Figs. 2-3. *Rissoa monodonta* Philippi. Magnification 10x. 2a. Neotype from Palermo, Sicily. 3. Grado, N. Adria. See also table 1.

locality[1] and because the type specimens must be considered lost, as Dr. Bouchet wrote to me. Under these circumstances it does not seem justified to designate a neotype of *R. hyalina*.

I asked Prof. Kilias for type material of *R. monodonta* with undamaged apex. He sent me two samples, one from the Paetel collection, and one from Monterosato. Because neither sample can be considered type material, I infer that no suitable types are present in the Zoologisches Museum der Humboldt-Universität (Berlin, D.D.R.). The only sample in the Senckenberg-Museum (Frankfurt/Main), which may have belonged to Philippi, is labelled: "Rissoa (Schwartzia) monodonta (Rissoa)/Sicilien/ex Philippi + Benoit/no. 233473-9". The apices of all shells in this sample are damaged, which makes them unsuitable for lectotypes. Moreover, there is no reliable evidence that the shells are really syntypes. As regards possible type material in the Bivona collection, Dr. S. di Geronimo wrote to me: "Non credo che esista qualcosa della collezione di Bivona e quindi non vi sono nè olotipi, nè per quel che io ne sappia, sintipi. La località tipo è, molto probabilmente, Palermo poichè Bivona vi abitava e dai pescatori di quella città riceveva o comprava i molluschi". Under these circumstances, I decided to designate a neotype from among a sample in the Berlin Museum, labelled "Rissoa (Schwartzia) monodonta Biv./Palermo/ v. Monterosato/Zool. Museum Berlin 80715". It is shown in fig. 2a, measures 5.85 mm and has 6.9 whorls, counted as shown in fig. 1. The dimensions of the apex, measured as shown in fig. 1, are d = 0.09 mm and D_0 = 0.15 mm. The apex of none of the 13 shells with undamaged apex examined from Palermo exceeds d = 0.10 mm and D_0 = 0.18 mm. I have seen no other shells which undamaged apex of *Loxostoma* from Sicily.

R. monodonta is washed ashore infrequently in the western part of the Mediterranean and in the Adria. As yet, I have seen no specimens from the eastern part of the Mediterranean.

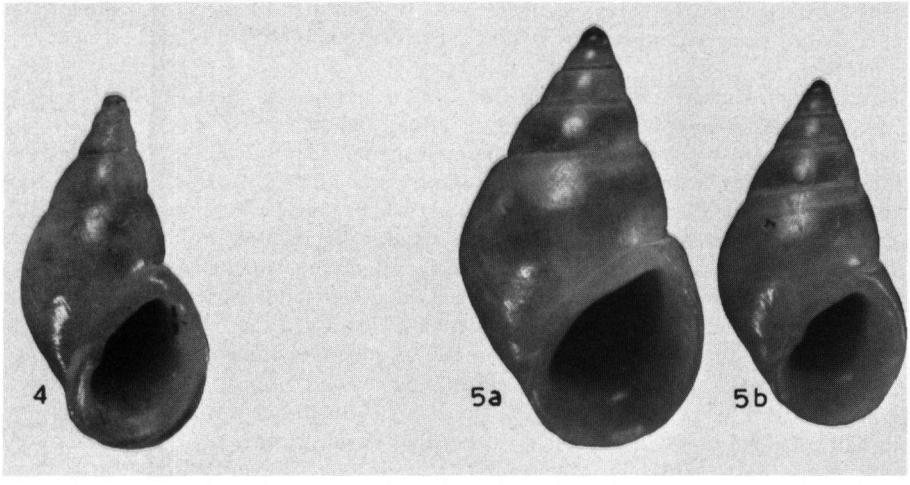
Rissoa (*Loxostoma*) *auriformis* Pallary, 1904
figs. 4, 5

Type: a lectotype is designated below.

This species is very similar to *R. monodonta*. Shells of both species may often only be separated by the apices, which are of the larger type in *R. auriformis*. Among the specimens examined, these exceed d = 0.12 mm and D_0 = 0.22 mm.

The Muséum National d'Histoire Naturelle (Paris) contains two samples of this species, one of 43 shells labelled: "Rissoa auriformis Pallary/Sfax/M.P. Pallary, 1904", and one of only one shell, labelled: "Rissoa monodonta Bivona var. auriformis Pallary/Sfax/Type Journ. Conch. 1904 pl. VII, fig. 11". I herewith designate the last-mentioned shell as the lectotype. It is shown in fig. 4, measures 4.6 mm, has 5.3 whorls and has the apical dimensions d = 0.12 mm and D_0 = 0.23 mm. All shells in the samples just mentioned are bleached and of uncertain age. In comparison with *R. monodonta*, they have a rather large aperture. In some specimens the labial rib is rather weak.

[1]In my opinion, the only locality mentioned, i.e. "environs de Nice", refers to material observed by Risso. Though Desmarest may have described his species from this material, the paper contains no factual evidence whatsoever that he really did so, nor do I know of other such evidence.



Figs. 4-5. *Rissoa auriformis* Pallary. Magnification 10x. 4. *R. a. auriformis*, lectotype from Sfax, Tunisia. 5. *R. a. pseudomonodonta* ssp. n. from Ródhos, Greece. 5a. Holotype. See also table 1.

The shells in a sample labelled: "Rissoa (Rissoa) monodonta Bivona/Ph. Dautzenberg (C)/L. de Priester (D) R.g. 155/Cannes (Alpes maritimes)" in the Rijksmuseum van Natuurlijke Historie (Leiden) are very similar to those of *R. auriformis* in the samples from Sfax mentioned above, both as regards habitus and state of preservation.

I have seen no shells of the typical form which certainly are fresh. The fresh shells of *R. auriformis* examined, all from the eastern Mediterranean, differ from the typical form in the smaller aperture, and thus are very similar indeed to *R. monodonta*. I consider these a subspecies: *R. auriformis pseudomonodonta* ssp. n.

So far, I have only examined two samples representing this form. One is in my private collection, and is labelled: "Rissoa auriformis pseudomonodonta Verduin/Rodhos haven ZO. 24-7-1974/no. 0091". The shells were washed ashore in the harbour of Ródhos town, Greece. The holotype is shown in fig. 5a. It measures 5.5 mm, has 5.5 whorls and has the apical dimensions d = 0.13 m and D_0 = 0.28 mm. The 40 paratypes in the sample measure from 3.1-5.7 mm. Holo- and paratypes have been deposited in the Rijksmuseum van Natuurlijke Historie, Leiden. The other sample (also paratypes) of *R. a. pseudomonodonta* is in the private collection of Dr. J.J. van Aartsen, Dieren (no. 17675). It is from Andipáros (= Antipaxos), Kikladhes, Greece, and contains 10 specimens with undamaged apex.

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Fig.	Label	Precise locality	Colln.
2a	Rissoa (Schwartzia) monodonta Biv./Palermo/ v. Monterosato/Zool. Museum Berlin 80715	Sicily	ZMB
2b	Rissoa (Schwartzia) monodonta (Bivona)/ Palermo/ex Monterosato 233474-43	Sicily	SMF
3	Rissoa monodonta (Bivona)/Grado 30-5-1962/no. 0032	25 km W. of Trieste, NE. Italy	Verduin
4	Rissoa monodonta Bivona var. auriformis Pallary/Sfax/Type Journ. Conch. 1904 pl. VII, fig. 11	E. Tunisia	MNHNP
5a, 5b	Rissoa auriformis pseudomonodonta Verduin/Rodhos haven ZO. 24-7-1974/ no. 0091	Harbour of Rhódos town, Greece	RMNH

Table 1. Data of the shells figured. Abbreviations: MNHNP = Muséum National d'Histoire Naturelle, Paris; RMNH = Rijksmuseum van Natuurlijke Historie, Leiden; SMF = Naturmuseum Senckenberg, Frankfurt am Main; ZMB = Zoologisches Museum der Humboldt Universität, Berlin, D.D.R.

SUMMARY

The taxonomical consequences of the presence of two types of apices among species of *Loxostoma* Bivona, 1838, are discussed. *L. denticulus* Bivona, 1838, is designated type species of *Loxostoma*. Neotypes of *Rissoa monodonta* Philippi, 1836, and of *L. denticulus* are designated, so that the latter becomes a junior objective synonym of the former. A lectotype of *Rissoa auriformis* Pallary, 1904, is designated. *R. auriformis pseudomonodonta* ssp. n. is introduced on the basis of two populations from the eastern Mediterranean (Greece).

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SAMENVATTING

Over de taxonomie van recente Europese soorten van het subgenus Loxostoma van het geslacht Rissoa

Ook bij het subgenus *Loxostoma* Bivona, blijken twee typen toppen voor te komen. De schelpen met het kleine type (tot d = 0.10 mm and D_0 = 0.18 mm) behoren tot *R. monodonta* Philippi, 1836; die met het grote type (vanaf d = 0.12 mm en D_0 = 0.22 mm) tot *R. auriformis* Pallary, 1904. Tot nu toe is *R. monodonta* slechts bekend van het westelijk bekken van de Middellandse Zee en van de Adriatische Zee. *R. a. auriformis* is bekend van Sfax, Tunesië, en van Cannes, ZO. Frankrijk, doch niet met zekerheid recent. De andere ondersoort, *R. a. pseudomonodonta* ssp. n. verschilt van de eerstgenoemde door de kleinere mond (als bij *R. monodonta*) en is uitsluitend recent bekend, uit de haven van Rhódos stad, en van Antipáros, Cycladen, beide in Griekenland.