

On the systematics of some Recent *Rissoa*¹ (Gastropoda, Prosobranchia)

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INTRODUCTION

It is with some satisfaction that I present this paper, because I consider it the completion of my revisional work on the Recent European representatives of the genus *Rissoa*. My previous papers on the subject are mentioned in the references. Only a few species have not been discussed, as for instance the northern (in my opinion, records from outside NW. Europe are probably incorrect) *R. albella* Lovén, 1846, which has been discussed by Fretter & Graham (1978: 200), or the rare *R. gemmula* P. Fischer, 1871. These are species about which I have nothing new to report.

A special part in this revisional work has been played by the apex, of which there proved to exist two types, i.e. the larger one and the smaller one. Often, shells with different types of apex are very similar indeed as regards all other morphological characters. Nevertheless, I felt obliged to consider them different biological species. It seems worth-while to sum up the reasons why.

Rehfeldt (1968) has demonstrated that among *R. labiosa-membranacea* the two types of apex correspond with different types of larval development, at least in the Roskildefjord in Denmark. The smaller type of apex correlates with numerous small eggs and a pelagic larval phase. The larger type of apex corresponds with fewer and larger eggs, part of which form "nurse-embryos" which degenerate and are consumed by the other larvae in the capsule, and with a non-pelagic development. In my experience, the range of the form with the smaller type of apex, i.e. *R. labiosa* (Montagu, 1803), extends all the way down from Norway to Israel, though the form with the larger type of apex, i.e. *R. membranacea* (J. Adams, 1800), seems to have its southern limit in W. France (Verduin, 1982). It is difficult to understand such differences in the range if one considers both forms varieties of only one species. The same is true for the difference in the number of ribs per whorl between *R. labiosa* and *R. membranacea* among a mixed sample from St. Lunaire, W. France, which obviously had been dredged (Verduin, 1982: fig. 2). Otherwise, both species are very similar indeed as regards morphology and variability. Surprisingly, among this group of species there proved to exist a

¹ The generic name *Rissoa* was introduced by De Fréminville in a paper by Risso (1813: 87), but without description, definition or indication as required by Art. 12 of the I.C.Z.N. All specific epithets which accompanied the introduction are nomina nuda. The same is true for the rectified list of species, published in the same year by d'Omalius d'Hallo (1813: 341). Though the species meant by De Fréminville were described in the next year by Desmarest, this cannot alter the fact that *Rissoa* De Fréminville, 1813, is not an available name. Type species of *Rissoa* is *R. ventricosa* Desmarest, 1814, by subsequent designation (Bucquoy, Dautzenberg & Dollfus, 1884: 262). In the subgenus *Rissoa* s.s. I included all species with conical (and not fusiform, as in *Apicularia* and *Goniostoma*) shells with punctate spiral sculpture. To these I added *R. splendida*, because of its striking overall similarity to *R. ventricosa*.

second population with the larger type of apex, of which the range seems to be limited to Tunisia. It may have originated quite recently in the Golfe de Gabès or the former lagoon of Tunis, which are well known for their many endemic forms. I consider it a distinct species, *R. paradoxa* (Monterosato, 1884) (see Verduin, 1982).

It is remarkable that the genus *Rissoa* contains many more pairs of more or less similar species which differ as regards the type of apex. Another such pair consists of *R. radiata* Philippi, 1836, and *R. munda* (Monterosato, 1884), which may often only be identified reliably by their type of apex. Among a mixed sample from the Golfe de Gabès, however, all specimens of *R. radiata* possess longitudinal ribs, as compared with only 11% of those of *R. munda* (see Verduin, 1976: 36). Again, the ranges are different. Both species occur in the entire Mediterranean, but the species with the smaller type of apex, i.e. *R. radiata*, also occurs along the Atlantic coast of Europe, up to Bretagne, France, and probably even further north (2 shells in RMNH, dredged S. of Risøy near Bergen, Norway).

R. guerinii Récluz, 1843, and *R. lia* (Monterosato, 1884) also may often only be identified reliably by their type of apex. Yet, many shells of *R. lia* may also be recognized by other morphological characters, in particular the colour. *R. guerinii*, which has the smaller type of apex, occurs along the European Atlantic coast up to S. England, and in the western part of the Mediterranean and in Sicily. In the Adria it is replaced by *R. decorata* (Philippi, 1846). *R. lia* occurs in the entire Mediterranean.

Though *R. ventricosa* Desmarest, 1814, and *R. variabilis* (Von Mühlfeld, 1824) may be very similar indeed (Piani, 1980: 130, even considered them conspecific), they may not be considered sibling species, because most authors have recognized them as distinct species on the basis of shell-morphological characters other than the type of apex. Both may, however, also be separated by their apex, that of *R. variabilis* being the larger type. That species seems to occur in the entire Mediterranean; *R. ventricosa* is replaced by *R. splendida* Eichwald, 1830, in the eastern Mediterranean.

Other pairs of sibling species with different types of apex are *R. pulchella* Philippi, 1836², and *R. marginata* Michaud, 1832, *R. monodonta* Philippi, 1836, and *R. auriformis* Pallary, 1904, *R. auriscalpium* (L., 1758) and *R. rodhensis* Verduin, 1985, and *R. similis* Scacchi, 1836, and *R. scurra* (Monterosato, 1917) (see Verduin, 1976, 1983 and 1985 respectively). These, however, do not add much new information.

MATERIAL EXAMINED AND ACKNOWLEDGEMENTS

As far as not mentioned otherwise, this study is based on samples in my private collection (Vrd), all washed ashore. Material from other collections is indicated as KBIN (Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels), RMNH (Rijksmuseum van Natuurlijke Historie, Leiden), ZMK (Universitetets Zoologiske Museum København), Aar (private collection of Dr J.J. van Aartsen, Dieren) and Mnk (do. of Ir. H.P.M.G. Menkhorst, Krimpen a/d IJssel). I am obliged to these persons and institutions for making their material available. I also thank Dr. Ph. Bouchet, Paris, Prof. Dr L.B. Holthuis, Leiden, and Prof. Dr. E. Gittenberger, Leiden, for advice in nomenclatorial matters, and in addition Mr. J.G. de Bruijn, Teyler's Stichting, Haarlem, and Mr. A.W. Janssen, Leiden, for providing literature.

² This name is preoccupied by Risso, 1826. Van Aartsen et al. (1984: 22) suggested the replacement name *diversa* Nordsieck, 1972, but I hesitate to use that name as long as no lectotype has been designated.



Figs. 1-5. *Rissoa* species. 1. *Rissoa ventricosa*, Biograd, Jugoslavia (Vrd 0006). 2. *Rissoa splendida*, Biograd, Jugoslavia (Vrd 0049). 3-5. *Rissoa variabilis*, 3: Getarès, S. Spain (Vrd 0017); 4: Port Le Niel, S. France (Vrd 0117); 5: forma *spongicula*, Sfax, Tunisia (Aar 9176). Magnification 12.5 × .

SYSTEMATIC PART

Rissoa (Rissoa) splendida Eichwald, 1830 (fig. 2)

Rissoa splendida Eichwald, 1830: 219 (Crimea); 1853: 266, pl. 10 fig. 8.

Types. — No information available.

Description. — *R. splendida* has the smaller type of apex. It is very similar to *R. ventricosa*, but may be distinguished by the less slender habitus, by the spiral sculpture which is degenerated into a few weak spiral striae at the base of the shell, and by the pattern of spiral rows of tiny dark spots, which is somewhat more conspicuous than in *R. ventricosa*, giving the shell a slightly darker appearance.

Distribution. — Adriatic Sea, eastern Mediterranean, Black Sea; common.

Discussion. — Though one may doubt whether the original diagnosis is sufficient to recognize the species with certainty, the type locality and the figure published by Eichwald (1853: pl. 10 fig. 8) define the species in a very satisfactory way. The species is washed ashore in great numbers at many localities in its range. Therefore, I was surprised that Schwartz von Mohrenstern (1863: 46) did not report it from Rhodes, where in my experience it is not rare.

There can be little doubt that *R. splendida* is a good species, different from *R. ventricosa*. Both are rather constant in their entire range, and both occur together at many localities in the Adriatic Sea, where they do not seem to hybridize.

Rissoa (Rissoa) variabilis (Megerle von Mühlfeld, 1824) (figs. 3-5)

Rissoa costata Desmarest, 1814: 7, pl. 1 fig. 1 (no precise locality mentioned).

Turbo variabilis Megerle von Mühlfeld, 1824: 212, pl. 7 fig. 9ab ("das österreichische Littorale", i.e. NE. Adriatic Sea).

Rissoa spongicula Dautzenberg, 1883: 311 (Golfe de Gabès).

Types. — Dr. Ph. Bouchet, Paris, wrote to me that the types of Desmarest must be considered lost. About those of Von Mühlfeld and of Dautzenberg I have no information.

Description. — *R. variabilis* has the larger type of apex. With *R. ventricosa* it shares the punctate spiral striae, and with *R. splendida* the conspicuous colour pattern, which in *R. variabilis* may even develop into continuous colour lines. The ribs are remarkably tapered and knobby. The slenderness of *R. variabilis* is subject to considerable spatial variation.

Distribution. — Entire Mediterranean; common. The very slender form *spongicula* is restricted to the Golfe de Gabès, Tunisia.

Discussion. — For some time, *Rissoa costata* Desmarest has been considered a junior secondary homonym of *Turbo costatus* Adams, 1797 (see e.g. Bucquoy et al., 1884: 300), for which reason it was replaced by *Rissoa variabilis* (Von Mühlfeld), teste Bucquoy et al. (1884: 264). According to art. 59b of the I.C.Z.N., this replacement is permanent. Therefore *R. costata* Desmarest is permanently invalid, notwithstanding the fact that homonymy has been removed since (teste e.g. Ponder, 1985: 46).

The original figure of *R. variabilis* is insufficient to recognize the species with certainty, as the original diagnosis might also include *R. ventricosa*. Nevertheless, the name *variabilis* has been in general use for the species involved for a long time without any known confusion. Therefore, I made no attempt to designate a lecto- or neotype.

My opinion about *R. spongicula* is based on a large sample from Sfax, Tunisia (Aar 9176). The shells are bleached, and possibly not of Recent age. I can see no reason to consider them a distinct species. They probably are a slender form, adapted to the special conditions in the Golfe de Gabès (see e.g. Verduin, 1982: 160), possibly a subspecies.

Rissoa (Rissoa) ventricosa Desmarest, 1814 (fig. 1)

Rissoa ventricosa Desmarest, 1814: 8, pl. 1 fig. 2 (no precise locality mentioned).

Types. — Dr. Ph. Bouchet, Paris, wrote to me that Desmarest's type material must be considered lost.

Description. — This is a well-known species with the smaller type of apex. It may be easily recognized from fig. 1. It differs from *R. labiosa* in the presence of more or less punctate spiral striae, and in the colour. The body whorl is whitish or unobtrusively decorated with spiral rows of tiny brownish spots. Occasionally, it may be difficult to separate slightly worn or bleached shells from *R. splendida*.

Distribution. — Western Mediterranean, Adriatic Sea and Sicily. Schwartz von Mohrenstern (1863: 46) reported the species from Rhodes, but I myself did not come across it there. It may have been confounded with *R. splendida*.

Discussion. — In my opinion, the original diagnosis and figure suffice to recognize the species with certainty. It is not rare among material washed ashore.

*Rissoa (Rissoa) violacea*³ *violacea* Desmarest, 1814 (fig. 6)

Rissoa violacea Desmarest, 1814: 8, pl. 1 fig. 7 (no precise locality mentioned).

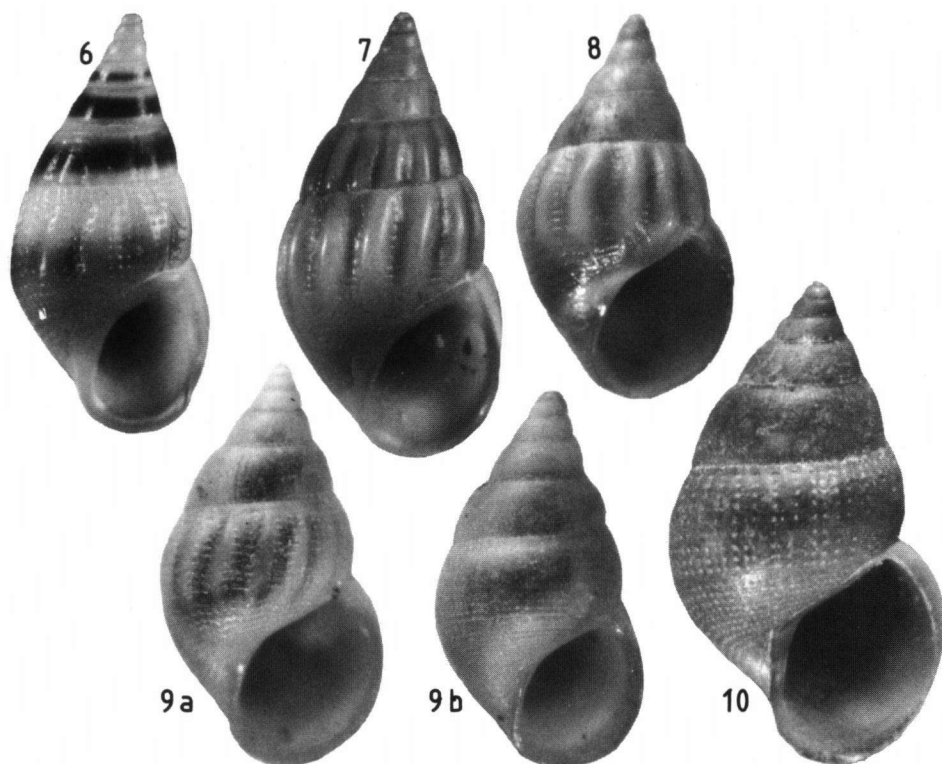
Types. — Dr. Ph. Bouchet, Paris, wrote to me that the types of Desmarest must be considered lost.

Description. — Though in some specimens the characteristic violet spiral band is better developed than in others, it is almost always clearly visible. *R. v. violacea* has the smaller type of apex. It shows a regular pattern of impressed points.

Distribution. — *R. v. violacea* is washed ashore rather frequently in the entire Mediterranean.

Discussion. — Desmarest's diagnosis and figure define the species beyond doubt. I have examined over 200 shells (Aar, Mnk, RMNH, Vrd) from more than 20 Mediterranean localities, and found them very constant as regards habitus and colour, though

³ Though in part of the literature *Rissoa violacea* is mentioned as the type species of *Persephona*, that species is not in the list which accompanies the introduction of *Persephona* by Leach (1852: 189). Because of art. 69a of the I.C.Z.N. it therefore cannot be considered a valid type species. The correct type species is *P. rufilabris* Leach, 1852, subsequent designation by Bucquoy, Dautzenberg & Dollfus (1884: 280). In my opinion, the quality of Leach's diagnosis is not sufficient to decide with reasonable certainty whether or not his *P. rufilabris* is conspecific with *R. rufilabrum* Alder, 1844, as stated by e.g. Ponder (1985: 21). It is true that Alder (1844: 325) wrote to have adopted for his *R. rufilabrum* the manuscript name attached to specimens in the British Museum, but nevertheless Jeffreys (1867: 36), judging from typical specimens of *P. rufilabris* Leach in the British Museum, considered the species conspecific with *R. costata* Alder. Anyway, the name *Persephona* is preoccupied by *Persephona* Leach, 1817 (Crustacea). Nordsieck (1972: 213) introduced the replacement name *Lilaciana*, which I consider superfluous.



Figs. 6-10. *Rissoa violacea*. 6. *R. v. violacea*, Port Le Niel, S. France (Vrd 0092). 7-10. *R. v. lilacina*. 7: Quiberon, Bretagne, France (Vrd 0085); 8: near Quiberon (Mnk); 9: between Flatholmen and Fiskebäckskil, depth 0-20 m, Gullmarfjord, Sweden (RMNH); 10: forma *porifera*, Kattegat, depth 50 m (RMNH). Magnification 12.5 ×.

not as regards length. Yet, shells without the characteristic colour-band may occur rarely.

In the Straits of Gibraltar *R. v. violacea* changes into *R. v. lilacina*. I examined an interesting sample (Mnk) of about 200 shells from Getarès, a few km S. of Algeciras. In part of the shells the characteristic colour-band of *R. v. violacea* is still obvious, though less dark and less brilliant as is usual in the Mediterranean proper. In other shells this band is wider, so that the whorls involved are entirely of a lilac colour. In still other shells, this lilac colour is replaced by pinkish and whitish colours. Thus, the sample perfectly connects the Mediterranean *R. v. violacea* with the Atlantic *R. v. lilacina*, as for instance represented by a sample of about 100 shells (Mnk) from Alvor, a few km E. of Lagos, S. Portugal. The extent of the hybrid zone is not known as yet. Shells with rudiments of a purple-brownish spiral band do occur occasionally among *lilacina* from

the European Atlantic coast. I myself saw two specimens, one from Lagos, S. Portugal (Vrd 0120), and one from St. Lunaire, Bretagne, France (in a large sample labelled "Rissoa (*Rissoa*) *lilacina* Recl. var. *minor* Dtzbg./St Lunaire (Frankrijk)/Ph. Dautzenberg 1897", RMNH).

Because of the presence of this hybrid zone, I cannot consider *violacea* and *lilacina* distinct species. It seems best to regard them subspecies.

Rissoa (Rissoa) violacea lilacina Récluz, 1843 (figs. 7-11)

Rissoa lilacina Récluz, 1843: 6 (les côtes de la Manche, dans les départements du Calvados et du Finistère).

Rissoa rufilabrum Alder, 1844: 325, pl. 8 figs 10, 11 (Brighton, Torquay, Connemara in Ireland).

Rissoa porifera Lovén, 1846.

Types. — No information available.

Description. — The main difference with *R. v. violacea* is the colour, which may vary from dirty white to lilac or even brown if the periostracum is still present. It lacks the violet spiral band which is a character of *R. v. violacea*. In part of the shells the upper whorls may be of a pinkish colour, and brownish longitudinal colour lines may occasionally be present. Longitudinal ribs may be completely absent, but may also cover up to 2½ whorls, counted from the uppermost rib to the last, not the labial one. The length may vary from about 2.4 mm to over 5 mm. Thus, *R. v. lilacina* is a rather variable subspecies, both locally and spatially. It has the smaller type of apex.

Distribution. — Frequently washed ashore at many localities from Algeciras in S. Spain to Norway.

Discussion. — Fretter & Graham (1978: 205) consider *R. lilacina*, *R. rufilabrum* Alder, 1844, and *R. porifera* Lovén, 1846, different segregates of the aggregate species *R. violacea*, probably on the authority of Smith (1971), who wrote an interesting paper on the taxonomic problems involved. Unfortunately, I cannot agree with her conclusions.

Fig. 7 represents the well known lilac form of *R. v. lilacina* from Bretagne, France. I counted the number of terminal ribs (counted counterclockwise from the last well developed rib, not the labial one) per whorl among a large sample from Quiberon (Vrd 0085), and found it to vary from 11 to 16, the great majority of the shells having 12-14 such ribs per whorl. The number of ribbed whorls is 1¼-2½, but usually not over 1¾. A small part of the sample is whitish instead of lilac. Fig. 8 represents a different sample (Mnk, 11 shells) from the W. coast of the peninsula of Quiberon, i.e. from almost the same locality. These shells are all whitish, with 13-15 terminal ribs per whorl and 1-1¾ ribbed whorls. Also, they are somewhat less slender. I can see no good reason not to consider them conspecific with more characteristic samples of *R. v. lilacina*. This might be the atypical form of *lilacina* mentioned by Smith (1971: 243). Completely smooth shells seem to be absent in Bretagne and more southern sites.

I have extensively examined a number of samples from Denmark and SW. Scandinavia (ZMK and RMNH), probably all of them dredged. In my opinion there is no reason whatsoever to consider ribbed specimens from that area specifically or sub-specifically different from smooth ones (figs. 9-10). They occur together (fig. 11), and only vary in the presence of ribs on 0-1 whorl. What bothered me most were the differences in the size of the shells. Fig. 11 shows the results of measurements of the length

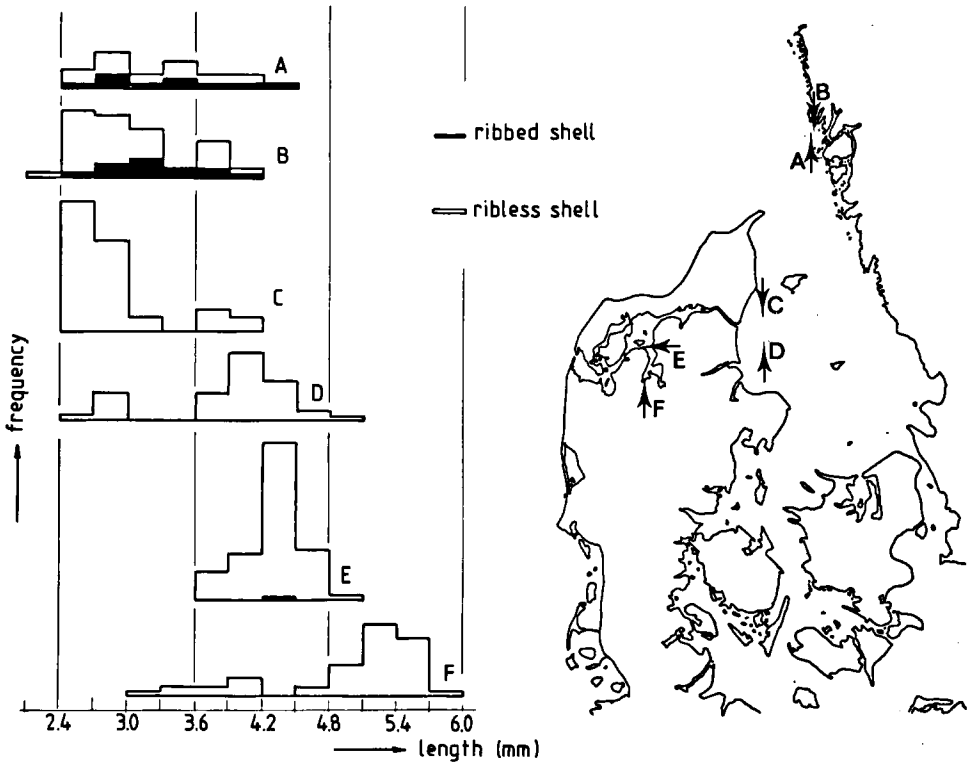


Fig. 11. Histograms of the length of shells of *Rissoa violacea lilacina* from Denmark and Sweden. A: "Rissoa lilacina Récluz/Zweden, Gullmarfjord tussen Flatholmen en Fiskebäckskil, 0-20 m diep/14-9-1961/Scandinavie Exc. RMNH. Reg. No. 1703", 28 shells. B: "Rissoa lilacina Récluz/Zweden, Gullmarfjord, Kristineberg bij Biol. Station op wier/14-9-1961/Scandinavie Exc. RMNH. Reg. No. 1703", 53 shells. C: "Rissoa violacea Desm./Laesø Rende Fyrskib i N.t.O. ½ O. 13 Koml. Fu 5½/19-9-1885/Zool. Mus. København, legit: "Hauch" St. 337, don.: C.G.J. Petersen", 60 shells. D: "Rissoa violacea Desm./Kattegat, off. Hals, 10 m, fine sand/19-9-1885/ Zool. Mus. København, legit: "Hauch" St. 336", 40 shells. E: "Rissoa violacea Desm./Fuur Sund, Limfjorden/7-9-87/Zool. Mus. København, don.: J. Collin", 63 shells. F: "Rissoa violacea Desm./Skive Fjord, Limfjorden/7-9-87/Zool. Mus. København, don.: J. Collin", 48 shells.

of the shells in a number of representative samples. The majority of the histograms is bimodal. According to Fretter & Graham (1978: 207) sexual dimorphism might be involved. Nevertheless, the picture is rather confusing. One sample is strictly unimodal, without a trace of small shells. In others the frequency-ratio of smaller and larger shells is very variable indeed. In addition, the dimensions of the shells also vary from locality to locality. Otherwise, all shells are very similar. I can see no good reason not to consider them conspecific. Obviously, ribless shells are not specifically distinct from those with ribs on up to one whorl, as suggested by Smith (1971: 244) who gave them different specific names, i.e. *R. porifera* and *R. rufilabrum* var. *paucicostata* respectively. Probably, the species involved responds rather strongly to different conditions.

Under these circumstances, the question arises of the relationship between the populations in Bretagne, France, and those in Denmark and SW. Scandinavia. From figs. 8 and 9a it may be clear that the extreme forms in both areas are very similar indeed. The shells figured have about the same habitus, size and colour, the same sculpture, the same number of ribs per whorl, the same number of ribbed whorls, the same labial rib and the same form and dimensions of the apex. The only differences are the transparency, opaque in the shell from France, somewhat transparent in the Swedish shell, and the greater solidity of the French shell. Yet, this similarity cannot be considered sufficient proof for their conspecificity. For further information we will have to look elsewhere. Unfortunately, the populations in Denmark and Scandinavia seem to be more or less spatially isolated from those in France and Great Britain. Anyway, the species does not occur along the Dutch coast. From Smith's (1971) paper, however, it appears that both the French and the Danish-Scandinavian forms do also occur in Great Britain. This is confirmed by the few small samples from Great Britain (all RMNH) which I have examined myself. Otherwise, my material was too meagre for conclusions, so that I must completely rely on the observations published by Smith (1971) and Fretter & Graham (1978). From Smith's paper, I understand that, on the whole, there is a distinct, though somewhat irregular cline from the ribbed, lilac form in SW. Great Britain, via Ireland, to a mixture of ribless and almost ribless shells in W. Scottish waters. This is consistent with my impression that we are dealing with a species which responds rather strongly to different conditions. Smith developed a number of arguments for the thesis that nevertheless three species must be distinguished among her material. I do not consider Smith's fig. 2 very convincing, because it seems to indicate the presence of four equivalent forms, only three of which she recognizes as distinct species, the fourth one being considered a simple variety. Her other arguments are: (a) her fig. 1 (legends were published in the next year, see my references), wherein two localities appear, Scilly Isles and Shetland, where both *lilacina* and *porifera* were collected, apparently without any intermediate forms; (b) the observation that "There is even less overlap (between *lilacina* and *rufilabrum*, A.V.) where more than one form is present in the sample" (p. 246); and (c) the observation that "Despite this variation (among material from the Firth of Clyde, A.V.), shells with 12-15 ribs were much less common than those with 11 or the full *R. rufilabrum* complement of 16 or more" (p. 247). These three arguments are not accompanied by quantified data and/or by more detailed information about the origin of the samples involved. For instance, one would like to be informed about the size of the samples, about other characters, such as colours and number of ribbed whorls, about the extent to which the samples do really represent local populations, and about their whereabouts. As long as this kind of information is not available, it is difficult to judge the quality of Smith's arguments.

SUMMARY

The following *Rissoa* species are discussed:

R. splendida. Differs from *R. ventricosa* in being less slender, because the sculpture has been reduced to a few weak spiral grooves on the bottom of the shell, and also in showing a darker colour pattern. Adriatic Sea and eastern Mediterranean, far from rare.

R. variabilis. Exhibits the larger type of apex. Far from rare in the entire Mediterranean. The forma *spongicula* is considered a slender form, perhaps even a subspecies, from the Golfe de Gabès in Tunisia.

R. ventricosa. Exhibits the smaller type of apex. The sculpture consists of spirally arranged small pits. Far from rare in the western Mediterranean and the Adriatic Sea.

R. violacea. Exhibits the smaller type of apex. May be divided into two subspecies. *R. v. violacea* is not rare in the entire Mediterranean and is characterized by a marked violet spiral colour-band. *R. v. lilacina* is locally common along the European Atlantic coast and in the North Sea and lacks the colour-band. Intermediates between the two forms are known from Getarès, a few km S. of Algeciras. *R. rufilabrum* and *R. porifera* should not be considered separate species as long as insufficient factual data are available. So far the known facts lead one to conclude that there exists a somewhat irregular cline from a violet form in SW. Great Britain and Ireland to a form with shells that are less colourful, ribless or with a tendency to a reduced number of ribs, in Scottish, Danish and Scandinavian waters.

Attention is drawn to the phenomenon of smaller and larger apices in the genus *Rissoa*.

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SAMENVATTING

Over de systematiek van enkele recente *Rissoa*

De volgende soorten worden besproken:

R. splendida. Verschilt van *R. ventricosa* door de geringere slankheid, doordat de sculptuur verworden is tot een paar zwakke spiraalgroeven onderaan de schelp, en door de wat donkerder kleurtekening. Adriatische Zee en oostelijk bekken van de Middellandse Zee, verre van zeldzaam.

R. variabilis. Heeft de grote topafmetingen. Verre van zeldzaam in de gehele Middellandse Zee. De vorm *spongicula* wordt opgevat als een slanke vorm, misschien een ondersoort, uit de Golf van Gabès in Tunesië.

R. ventricosa. Heeft de kleine topafmetingen. De sculptuur bestaat uit spiraalsgewijs geordende fijne putjes. Verre van zeldzaam in het westelijk bekken van de Middellandse Zee en de Adriatische Zee.

R. violacea. Heeft de kleine topafmetingen. Valt uiteen in twee ondersoorten. *R. v. violacea* is niet zeldzaam in de gehele Middellandse Zee en is gekenmerkt door een opvallende violette spiraalsgewijze kleurband. *R. v. lilacina* komt plaatselijk talrijk voor langs de Europese Atlantische kust en in de Noordzee en mist de opvallende kleurband. Overgangsvormen tussen beide ondersoorten zijn bekend van Getarès, een paar km Z. van Algeciras. De stelling wordt verdedigd dat *R. rufilabrum* en *R. porifera* niet als aparte soorten mogen worden opgevat omdat daarvoor nog onvoldoende harde gegevens bestaan. Vooralsnog wijzen de feiten alleen nog maar op het bestaan van een, enigszins onregelmatige, cline van de lila vorm in ZW. Groot Brittannië en Ierland naar meer kleurloze, ongeribde of ribarme vormen in Schotse, Deense en Scandinavische wateren.

Het optreden van dimorphie van de topafmetingen bij *Rissoa* wordt besproken.

SOME DATA ADDITIONAL TO MY 1976 AND 1985 PAPERS

Mr. R.G. Savelli, Palermo, has convinced me that *Rissoa apiculata* (Sandri & Danilo, 1856) is not a nomen nudum, as I had recently written (Verduin, 1985: 122). Judging from the original diagnosis which Mr. Savelli did send to me, *R. apiculata* might well be synonymous with *R. similis*, or with a whitish form of *R. lia*.

Dr. J.J. van Aartsen showed me a few shells, which are similar to shells in the Monterosato collection which are labelled as *R. frauenfeldiana* Brusina. These shells rather resemble *R. similis*, but are much more slender. We are both convinced that they represent the true *R. frauenfeldiana* Brusina, 1866, which we therefore consider a good species, and not a form of *R. decorata*, as I did write (Verduin, 1985: 111).

Doubt has come over me whether *R. lineolata* Michaud, 1832, is really specifically distinct from *R. radiata* Philippi, 1836, as I did write (Verduin, 1976: 41). It seems to be more probable that it is a local form of the latter species, adapted to different ecological conditions. If so, this would have nomenclatorial consequences because of the seniority of the name *lineolata*. Also, there should be another explanation for the dimorphism I noticed among a sample of *R. radiata* from the main harbour of Ródhos (Verduin, 1976: 41,; Pl. II fig. 4; Pl. IV fig. 4); this might possibly be due to sexual dimorphism.