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# Some remarks about Alvania deliciosa (Jeffreys, 1884)

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As part of an extensive investigation of the Ria de Arosa (Northern Spain) during the years 1962-1964, a compilation of the marine molluscan fauna was given by Cadée (1968). A large number of samples, obtained by different ways of dredging, were collected. Although Cadée investigated most of these samples himself, a small number, containing minute shells, remained for examination and was placed in our hands. Several species of Mollusca were found (as dead shells) in addition to the ones mentioned by Cadée. In one of the samples some specimens of *Alvania* were detected (material in Rijksmuseum van Natuurlijke Historie and private collections of the authors). This particular sample was registered as no. 1771 and was taken about 2 km South of Isla Salvora, that is the oceanic part of the Ria as can be seen on the map in Cadée 1968, fig. 46. The depth of the water was given as 78 meters.

In our attempts to identify the shells mentioned above it became evident that there were only three possibilities, viz.:

1) The shells belong to *Alvania subsoluta* (Aradas, 1847), this species being unknown to us.
2) The shells belong to *Alvania deliciosa* (Jeffreys, 1884).
3) The shells belong to a species as yet undescribed.

That the shells in question are different from *Alvania (Actonia) subsoluta* (Aradas, 1847) was concluded chiefly from the fact that our shells have a straight outer lip which is definitely not receding. Also several labial ridges are present on the inside of the outer lip..

The identification with the species described by Jeffreys in 1884, however, was rather difficult. Not very much is known about this species. We do not know if any literature on this subject exists apart

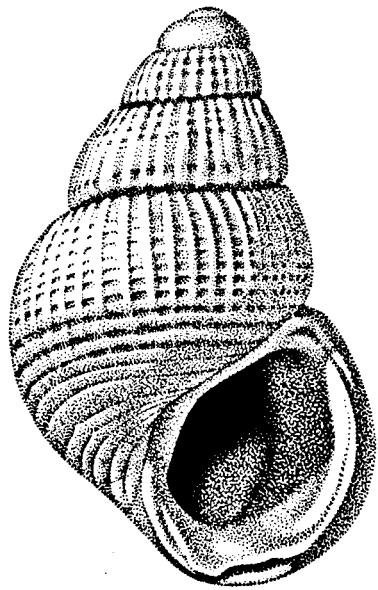

Fig. 1. *Alvania deliciosa* (Jeffr.), Ria de Arosa, Spain, highly enlarged. W.C.G. Gertenaar del.

from Jeffreys' original description of the species. Although the shells correspond rather well with Jeffreys' description of the variety *multicostata* there are several differences.

We quote the original description of both the species and its variety (Jeffreys, 1884: 121):

"27. RISSOA DELICIOSA, Jeffreys. (Plate IX. fig. 7.)

SHELL conic-oval, rather thick, semitransparent, and glossy; *sculpture* short, sharp, and somewhat curved longitudinal ribs or striae, of which there are from 16 to 20 on each of the three last whorls, the first and second whorls being smooth; these ribs or striae do not extend below the periphery; they are crossed by more numerous spiral striae or thread-like lines, the six lowermost being much stronger than the rest; this intercrossing, however, does not impart to the surface a reticulated appearance, because the longitudinal ribs are much thicker and less numerous than the spiral striae: *colour* milk-white: *spire* short, bluntly pointed: *whorls* 5, convex, gradually enlarging; apex bulbous: *suture* deep: *mouth* more round than oval, angular above: *outer lip* simple and rather thin, but strengthened outside by a thickened rib: *inner lip* folded over the pillar and forming with the outer lip a continuous or complete peristome: *base* compressed or slightly concave, and having a narrow chink behind the pillar-lip. L.0.075 Br. 0.05. [inch]

Var. *multicostata.* Longitudinal ribs much more numerous, finer and straight;

spiral striae also more numerous, but slighter and less distinct except at the base. Some specimens have much more delicate and close-set sculpture than is shown in the figures; and in other specimens the sculpture almost disappears. The variety, if it can be properly considered distinct, is connected with the typical form by intermediate gradations. Species-makers would revel in this kind of manufacture.

'Porcupine' Exp. 1870: Atl. St. 9, 13, 16, 17, 17*a*, 24, off C. Sagres, 26-34, 36; Med. 50, Adventure Bank, 58.

*Distribution.* Bay of Biscay ('Travailleur' Exp.), (same, 'Shearwater' and Italian Exps., Marion, and Nares); 120-1062 fms. What I regard as a variety was procured in the 'Challenger' Exp. off Palma in the Canaries, at a depth of 1125 fms.; it is rather larger, and the sculpture is stronger."

*"Fossil.* Pliocene: Messina *(Seguenza)."*

Our shells having between 40 and 50 riblets and reaching an average length of about 2.7 mm with $4\frac{1}{2}$ to 5 whorls, apparently could belong to the variety *multicostata* only. However, the fact that the top whorls were described as being smooth made us hesitate. The top whorls of our specimens clearly show a very peculiar kind of "wavy spiral lines" as

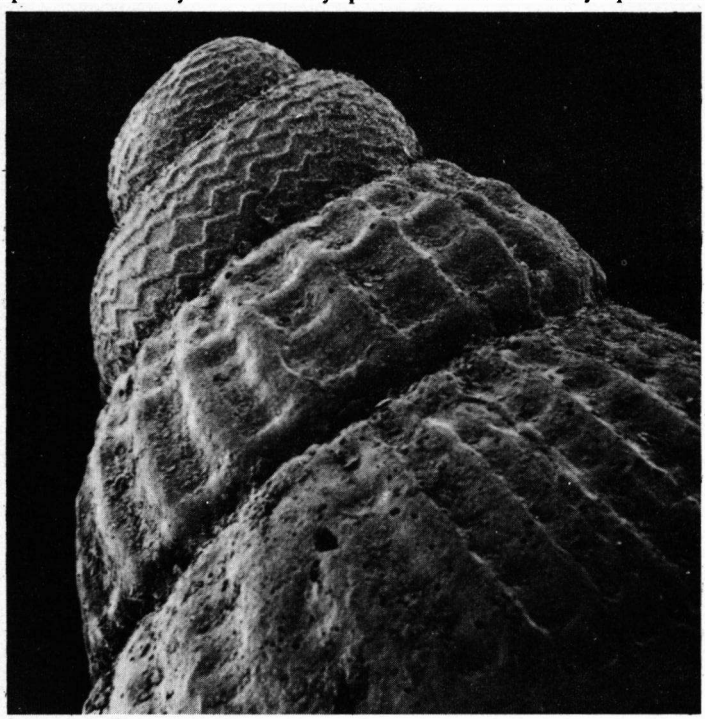

Fig. 2. SEM photograph of *Alvania deliciosa* (Jeffr.), apical whorls only (90X). Compare fig. 3 for similarity in sculpture of the embryonic whorls.

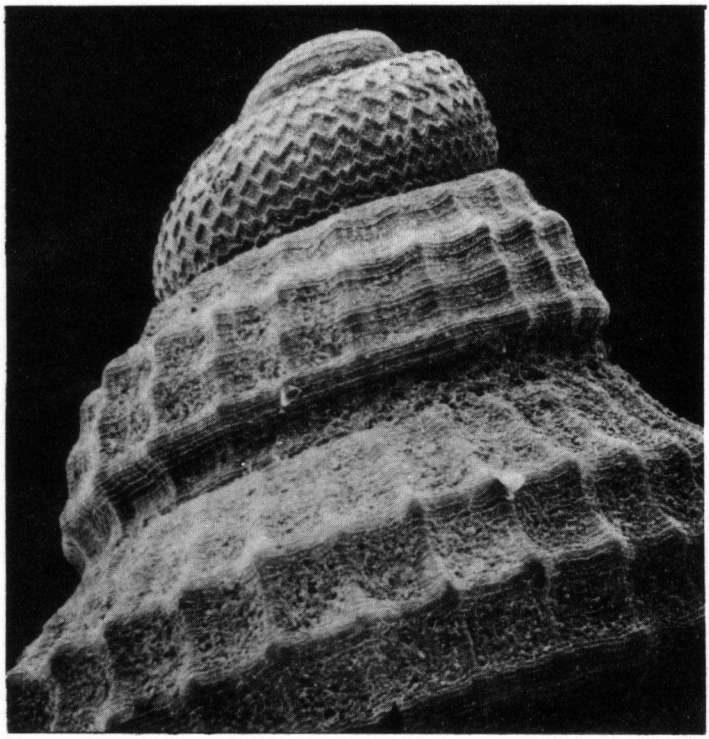

Fig. 3. SEM photograph of *Alvania jeffreysi* (Wall.), apical whorls only (100X). Compare fig. 2 for similarity in sculpture of the embryonic whorls.

mentioned for a fossil species, *Alvania basisulcata* Janssen, 1972, by Janssen (1972) and for the recent *Alvania jeffreysi* (Waller, 1864) by Hubendick & Warén (1969).

Scanning electron microscope (SEM) photographs of the top whorls of both our species and *Alvania jeffreysi* (Waller) show the close resemblance of the sculpture on the embryonic whorls (figs. 2, 3). In spite of the difference in the embryonic whorls with regard to the description the shells were tentatively attributed to the rather variable species *Alvania deliciosa* (Jeffreys).

In 1971 one of us (J.J. v. A.) had the opportunity to compare the shells with specimens in the Jeffreys collection in the U.S. National Museum, Washington (D.C.), U.S.A. The material was compared by Dr. J. Rosewater of this museum and himself to sample 183485 from the

Jeffreys-collection and the shells were found to agree in every detail with this species (including the peculiar sculpture on the top whorls!). The sample mentioned was from Station 16 of the Porcupine Expedition (1870) and was labelled *Rissoa deliciosa*. So it appears that Jeffreys did not really make a distinction between the variety *multicostata* and the species proper.

In the paper mentioned (Jeffreys, 1884) this point is not discussed very clearly. The only reference to a variety is the following sentence: "What I regard as a variety was procured in the Challenger Exp. off Palma in the Canaries at a depth of 1125 fms.; it is rather larger and the sculpture is stronger." From this statement we may conclude that this variety from the Canaries is *not* the one described as *multicostata* (see description above). Contrary to Jeffreys' description the embryonic whorls are not smooth but show a very characteristic sculpture. Also the inside of the outer lip is found to show several ridges or teeth not mentioned in the original description. At the same time we note that our shells were obtained (although not alive) in much shallower water than recorded by Jeffreys who mentions 120-1062 fms (220-2000 meters).

According to Marshall (1895) the species *Rissoa electa* which is "described" by Monterosato (1874) is to be considered identical to *Alvania deliciosa*. This is probably the reason why Nordsieck (1972) mentions this species under the name given by Monterosato. However, in our opinion, the species is not really validly described by Monterosato as can be concluded from the following quotation p. 261:

"Cette espèce est certainement un habitant des grandes profondeurs. Sa forme est caractéristique et elle pourra, par conséquent, occuper une bonne place dans notre faune conchyliologique. Elle ressemble, en miniature, à un Nassa du type du N. limata (moins le canal). Elle sera décrite et figurée ultérieurement. L'espèce du genre dont cette forme se rapproche le plus est le R. subsoluta d'Aradas."

It is to be noted that the resemblance to a miniature *Nassa limata* is also found in our shells. So we have no doubt that the name *Rissoa electa* applies to our shell. Monterosato's description leaves much to be desired and may perhaps be considered not quite valid for which reason we prefer to use the name given by Jeffreys in 1884.

The authors wish to thank Dr. Anders Warén of the University of Göteborg for providing us with some very fine specimens of *Alvania jeffreysi* (Waller, 1864). Our thanks are also due to Mr. L. Raatgever and Mr. J.Th. Stenfert for preparing and mounting the specimens and taking the stereoscanning photographs. We also are very grateful to Drs. H. Rehder and J. Rosewater of the U.S. National Museum, Washington (D.C.), for their kind hospitality.

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## SAMENVATTING

Bij het onderzoek van kleine zeeschelpen gedregd in de Ria de Arosa aan de noordkust van Spanje stuitten de auteurs op een soort van het geslacht *Alvania*, die niet zonder meer op naam te brengen was. Hoewel een vergelijking met de oorspronkelijke beschrijving van *Rissoa deliciosa* Jeffreys, 1884, vooralsnog niet tot overtuigende resultaten leidde, bleek bij bestudering van het typemateriaal in het museum te Washington (D.C., Verenigde Staten) dat men wel degelijk met de soort van Jeffreys te maken had. Hieruit blijkt o.a. dat men nooit te zeer op beschrijvingen af mag gaan; in dit geval werden de topwindingen als glad beschreven, wat echter noch bij de typen, noch bij het Spaanse materiaal het geval was (zie fig. 2). In 1874 beschreef Monterosato *Rissoa electa*, welke soort vermoedelijk identiek is met die van Jeffreys, in welk geval Monterosato's naam prioriteit toekomt. Voorlopig willen de auteurs de naam van Jeffreys handhaven, omdat de beschrijving van Monterosato veel te wensen overlaat en zelfs eventueel nomenclatorisch ongeldig zou kunnen zijn.