

NOTE ON THE PISIDIA (*PISIDIUM* C. PF.)  
OF THE AZORES, THE CANARY ISLANDS AND MADEIRA <sup>1</sup>

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With 1 figure

During the Swedish Zoological Expedition to the Azores, 1957, Dr. Per Brinck and Dr. E. Dahl, both of the Zoological Institute of the University of Lund, collected some series of *Pisidium* on the islands of São Miguel, Faial and Pico. These were submitted to me in 1964 for examination. Although most shells were rather corroded by the preservative, they clearly proved to belong to one species viz. *Pisidium casertanum* (Poli 1791). The shells examined are more or less oval, subequilateral, rather flattened, the beaks are low, scarcely projecting (fig. 1). Their sculpture consists of a moderately coarse, concentric striation; their hinge is well developed, the hinge plate rather broad. The largest specimen has a length of 4.2 mm.

Specimens were collected at the following localities:

Island São Miguel. Fonte at Casas Telhadas. SW of Ribeira Grande (loc. 36), 18.III.1957. Many specimens. Among them one shell with a totally reversed hinge, which is a rare phenomenon in European *Pisidium*.

Island Faial. Ribeira dos Flamengos, 2 km WNW of Flamengos (loc. 91), 4.IV.1957, one specimen.

Island Pico, Volcano Pico, W side, ca. 800 m. (loc. 97), 8.IV.1957, 14 specimens; 10 km NNW of Lajes (loc. 102), 9.IV.1957, one specimen.

The only *Pisidium* known previously from the Azores is *Pisidium dabneyi* Guerne (1887). The type locality of this species is the crater on Faial where it was collected on 16th July 1887 «dans les petites mares qui

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1) Report No. 48 from the Lund University Expedition in 1957 to the Azores and Madeira.

2) Institut Néerlandais, 121 Rue de Lille, Paris VII, France.

rayonnent autour du marécage central vers le côté ouest» (Guerne 1888:42). No *Pisidium* were recorded from Pico and São Miguel by Guerne.

B. B. Woodward (1913:13) included *P. dabneyi* in his «List of Indeterminate Palaearctic Forms» with the note «Is probably a *Sphaerium*». I have not seen the type specimens but the detailed description (Guerne 1888) strongly suggests that it is the same species as that taken by Per Brinck and Erik Dahl. Consequently, *P. dabneyi* has to be considered a junior subjective synonym of *P. casertanum* (Poli).

The variability of the specimens examined is limited. There is therefore no reason to distinguish insular races within the archipelago.

In this connection a comparison with the *Pisidium* fauna of two other Atlantic archipelagos, the Canary Islands and Madeira, is instructive.

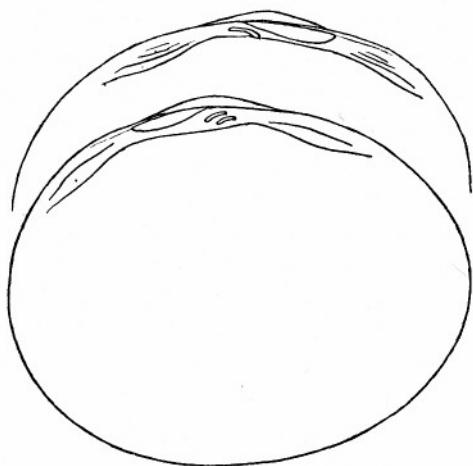


Fig. 1. — *Pisidium casertanum* (Poli). — from the island Pico, loc. 97; inner side, right valve on top. Enlargement: 18 ×.

From Madeira has been recorded *P. watsoni* Paiva (1866:340) which Woodward (1913:15) listed as an indeterminate species with the remark «probably *casertanum*». Kuiper (1964:184) has examined specimens from Paiva (Nat. Hist. Museum Vienna) and concluded that it is indeed *P. casertanum*. Other specimens from Madeira all belonging to *P. casertanum* are preserved in: the British Museum (Natural History), Coll. B. B. Woodward; the Zoological Museum of Berlin, leg. Lowe & Wollaston and

in Coll. Zimmermann. Nobre (1931:198) mentioned two further species: *P. pusillum* (Gmelin) which is a dubious species, and *P. amnicum* (Müller) which surely is an error of identification. Kuiper (1964:184) first recorded *P. personatum* Malm (one specimen only) from Madeira.

From the Canary Islands has been recorded *P. canariense* Shuttleworth (1852:146), a species which was recognized (and first illustrated) by Odhner (1931:51, pl. 8, f. 18) as a synonym of *P. cinereum* Alder (= *casertanum* Poli). All the material known from this archipelago, briefly labelled «Tenerife», is preserved in the following museums: Zoological Museum, Berlin, Coll. Krause, Coll. Paetel, Coll. A. Schmidt; Zoological Museum, Zürich, Coll. Mousson; Natural History Museum, Basel; Natural History Museum, Berne, Coll. Shuttleworth (type lot).

Comparison of the material from these three archipelagos reveals minute differences in shell shape. Guerne (1888:41) described some of these and concluded that they indicated specific distinctness, a conclusion which was normal for that time. In my opinion, however, there is no reason to distinguish several species nor even subspecies from each archipelago. Similar forms are often found elsewhere in the range of *P. casertanum* which has a cosmopolitan distribution. In Europe it is the commonest species of the genus and the same can be said for northern Africa where its frequency, however, is considerably lower. The nearest known continental localities of *P. casertanum* lie in the Atlas Mountains of Morocco, about 600 miles from the Canary Islands and Madeira, and in Portugal about 1000 miles from the Azores.

As suggested already by Guerne (1887:195) it is probable that the *Pisidium* fauna of the Azores and the two other archipelagos has been introduced passively by migrating birds (waders, ducks, etc.) and, perhaps, by man. The frequency of aerial dispersal of molluscs is an established fact; Rees (1965) has discussed many observed occurrences, among them several of *Pisidiidae* carried by insects. Although no observations of birds transporting these small mussels have been published, this method of dispersal seems to be the most plausible explanation of the irregular distribution of *P. casertanum* (Kuiper 1964:689).

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