

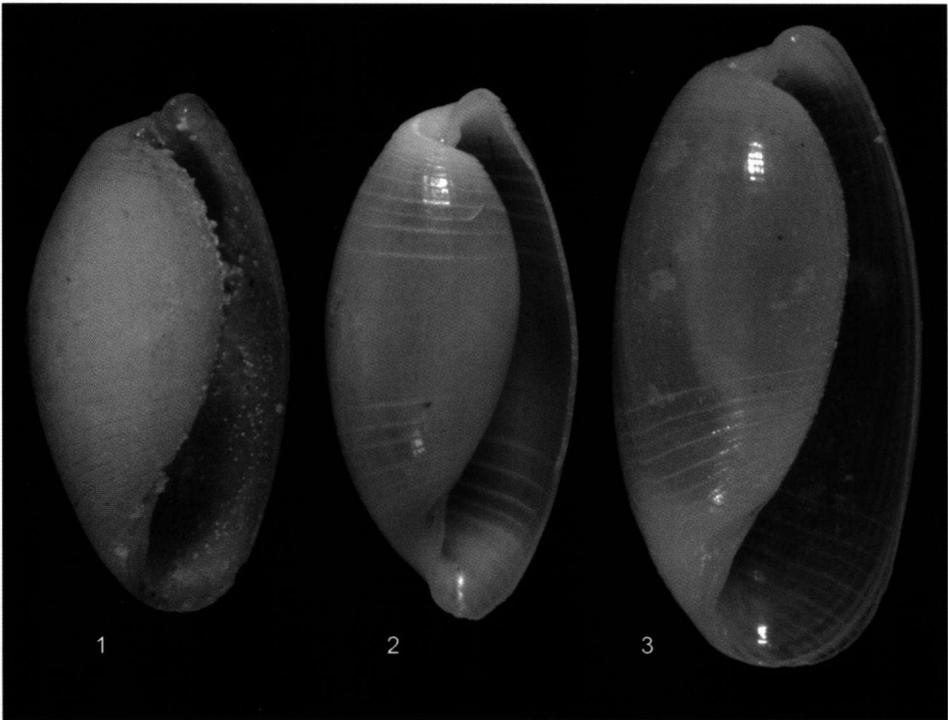
**Indo-Pacific migrants into the Mediterranean. 3<sup>1</sup>.  
*Atys angustatus* Smith, 1872 (Gastropoda, Opisthobranchia)**

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The Red Sea species of the opisthobranch genus *Atys* are revised in order to unravel the identity of an *Atys* species that has settled in the Mediterranean. The species in question turned out to be *Atys angustatus*.

Key words: Gastropoda, Opisthobranchia, Haminoeidae, *Atys*, taxonomy, Red Sea, Mediterranean, migrant species.



Figs 1-3. *Atys* spec. 1, *Atys angustatus* Smith, 1872, lectotype BMNH 196972, Suez; 2, *Atys angustatus* Smith, 1872, specimen from Haifa Bay, Israel; 3, *Atys cylindricus* (Helbling, 1779), juvenile from Azaiba, Gulf of Oman. All on the same scale.

<sup>1</sup>) No. 2: Basteria 70: 1-6, 2006.

Among several Indo-Pacific molluscan species found in the Mediterranean, but not yet recorded as such, is a small opisthobranch of the genus *Atys* Montfort, 1810. Although already known for thirty years, its identification proved difficult. A critical revision of the known species of *Atys* from the Red Sea is necessary.

Issel (1869: 168) mentions: *Atys solida* Bruguière, 1792, usually considered a form of *Atys cylindricus* (Helbling, 1779) after Pilsbry (1895: 265); *Alicula cylindrica* "L.", probably referring to the species of that name first described by Helbling (1779: 122); *Alicula bacillus* Ehrenberg, 1831, considered to be a *Cylichna* by Pilsbry (1895: 311); *Alicula succisa* Ehrenberg, 1831, a young *A. cylindricus*, after Pilsbry (1895: 268); and described as new (1869: 281) *Alicula ehrenbergi* Issel, 1869.

Note that *Alicula* Ehrenberg, 1831, non Eichwald, 1830 (= *Aliculastrum* Pilsbry, 1896) is presently considered a separate genus or a subgenus of *Atys* Montfort, 1810.

M'Andrew (1870: 445) adds *Atys naucum* (L., 1758) as well as *Atys (Dinia) dentifera* (A. Adams, 1850), which is currently placed in *Diniatys* Iredale, 1936, probably belonging also to the Haminoeidae. He also recorded "two species, undetermined". These species were described by Smith (1872: 346, 347) as *Atys angustata* and *Atys miranda*, both from the Gulf of Suez.

Cooke (1886: 131, 132) revised the material recorded by both M'Andrew and Smith and concluded that *Atys cylindricus* (Helbling, 1779) = *A. succisa* = *A. alicula*. Cooke (1886: 131, 132) also considered *A. ehrenbergi* (Issel, 1869) to be a juvenile *Atys semistriatus* Pease, 1860, a Hawaiian species. About *A. angustatus* he commented: "Types in the Brit. Mus. In my opinion nothing more than the very young form of [*Atys*] *cylindrica*". This opinion was repeated by Pilsbry (1895: 265) and is probably the reason why Dekker & Orlin (2000: 34) only mention *A. cylindricus*, *A. ehrenbergi*, and *A. naucum*, as well as *Diniatys dentifera*.

We obtained the type-lot (BMNH 196972: five specimens) of *Atys angustata* Smith, 1872 from the British Museum for comparison. It became immediately clear that these specimens and the ones from the Mediterranean belong to one and the same species. They also correspond exactly with the original description by Smith (1872: 346): "A[*tys*] *testa parva, alba, semipellucida, nitida, elongata-ovata, superius basique aliquanto attenuata et fortiter striata, medio laevi; apertura angusta, basim versus vix dilatata; labrum tenue, verticis medio junctum et ibi valde incrassatum et sinuatum; columella curta, recta, leviter reflexa. Long. 5 mill., diam. 2.66. .. the superior and inferior striae are each about twelve in number."*

Smith apparently described the largest of the five syntypes and we hereby designate this specimen, with dimensions 5.0 x 2.6 mm, as the lectotype of *Atys angustata* Smith, 1872.

A figure of this lectotype is given (fig. 1) and a specimen from Haifa bay (Israel) is also figured (fig. 2).

Although the differences between *A. angustatus* and juveniles of *A. cylindricus* are few, two of these are constant enough to separate the two taxa. In the first place the number of spiral incisions around the apex is about equal to the number of spirals at the base (both about 12) in *A. angustatus* whereas in *A. cylindricus* there are only five to seven spirals around the apex and double that number around the base. Secondly the columella of juvenile *A. cylindricus* is always oblique whereas in *A. angustatus* it is nearly vertical. A specimen of *A. cylindricus* is figured here for comparison (fig. 3).

Although the Levantine coasts of the Mediterranean were thoroughly explored during the last thirty years, no one has ever mentioned the presence of (semi) adult specimens of *Atys cylindricus*. We take this as an additional argument that *A. angustatus* is not the juvenile of *A. cylindricus* as suggested by Cooke (1886: 132).

*Atys angustatus* Smith, 1872, is apparently present in the Mediterranean from at least 1974 (Haifa bay, 3 shells). It was found in the Mersin-area (Turkey) in 1986 and since then

regularly up to the present. None of the specimens studied were larger than 5.0 mm.

#### ACKNOWLEDGEMENT

We thank Mrs Kathy Way [British Museum (Natural History), London] for kindly letting us study the syntypes of *Atys angustata* Smith, 1872.

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