Communications

Mya arenaria L., a new and unusual substratum for *Balanus improvisus* Darwin

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Abstract

The presence of the barnacle (*Balanus improvisus*) on the soft-shell clam (*Mya arenaria*) is reported for the first time from the Baltic Sea.

Cirripedia are sessile crustaceans attached to a variety of substrates, including other organisms. Among biotic substrates they occur mostly on representatives of the benthos and sometimes nekton (Tarasov & Zevina 1957, Biernacka 1972, Christie & Dalley 1987, Anderson 1994, Elfimov *et al.* 1995).

In the southern Baltic *Balanus improvisus* Darwin, the only representative of the *Cirripedia*, grow almost exclusively on the mussel *Mytilus trossulus* Gould, which is the dominant element of the bottom fauna in this area (Wiktor 1990). The sporadic occurrence of this barnacle on another Baltic bivalve species, the cockle *Cerastoderma glaucum* Poiret, has also been noted (Olszewska 1999).

In September 1999 the author discovered *B. improvisus* on shells of the soft-shell clam *Mya arenaria* L. on the beach near Brzeźno (Gulf of Gdańsk). 50 tiny barnacles 1–2(–5) mm in length (the carina-rostrum diameter) were found on an *M. arenaria* shell 31 mm long. Moreover, remains of basal plates of 10 *B. improvisus* specimens from 3 to 5 mm in length were discovered on another clam shell 42 mm long. In October 1999 three and four tiny specimens of *B. improvisus* (carino-rostral diameter 1–2 mm) were found on two living soft-shell clams 18 and 20 mm long respectively. These had been dredged up from the sandy bottom 8 m below the water surface off Brzeźno (52°25.2′N, 18°37.5′E). From their size, the barnacles appeared to be young ones, only recently attached during the reproductive period of this species in the Baltic (Siudziński 1977, Olszewska unpublished data).

This is the first report of barnacles adhering to *M. arenaria* in the Baltic Sea. The soft-shell clam buries itself deep in the sand leaving the end of its siphon above the surface. Young specimens adhere to objects on the bottom, for example, stones or plants, by means of a byssus. Older specimens can be found buried down to 30 cm below the sea bed (Thorson 1971, Wiktor 1974, Żmudziński 1990). With such a life habit the occurrence of *B. improvisus* on *M. arenaria* shells is very probably accidental. Barnacles settled on young soft-shell clams would die owing to lack of food and oxygen, and/or mechanical damage caused by the sediment.

The presence of *B. improvisus* on *M. arenaria* could be further evidence of the tendency of barnacles to colonise all available habitats, even if they are not always optimal.

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