The occurrence of *Balanus improvisus* Darwin (Cirripedia) on *Fucus vesiculosus* L. in the southern Baltic

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Abstract

The presence of the barnacle (*Balanus improvisus*) on bladder wrack (*Fucus vesiculosus*) is reported for the first time from the Polish zone of the Baltic Sea.

Barnacles grow on both biotic and abiotic substrates. Their occurrence on other organisms is restricted largely to animals of the benthos and nekton (Anderson 1994). Epibiotic organisms are rarely found on macrophytes (Biernacka 1972, Zviagincev 1984, Anderson 1994).

In August 1996 the author discovered *Balanus improvisus* Darwin adhering to bladder wrack (*Fucus vesiculosus* L.) washed up onto the beach near Redłowo (Gulf of Gdańsk). This event can be linked with the occasional movement of thalli of this alga beyond the Bay of Puck, the only site of underwater meadows in the Polish zone of the Baltic (Pliński 1982, Kruk-Dowgiałło 1996). 40 and 7 specimens of these barnacles were found on two fresh thalli, 19 and 25.5 cm long respectively. From 1 to 2 mm in length (carino-rostral diameter), they were attached to the central and lower sections of the thalli, where these are less vulnerable to bending. This suggests that the barnacles were young ones, only recently attached

during the reproductive period of the species in the Baltic (Siudziński 1977, Olszewska unpubl. data). The barnacles on this bladder wrack were accompanied by colonies of bryozoans.

This is the first report of barnacles adhering to plants in the southern Baltic. There are only two other reports of such an occurrence from the Baltic, from single sites in the Tvärminne Archipelago of Finland and in the Roskilde Fjord (South Kattegat), and they also concern bladder wrack (Barnes & Barnes 1962, Rasmussen 1973, Furman & Crisp 1989). The paucity of such observations is probably due to the fact that plants are not the most suitable substrate for barnacles. Being flexible, susceptible to mechanical damage and displaced by water currents, the substrate they offer is an unstable one. Nevertheless, some of them, such as *Fucus* or *Zostera*, have thalli or shoots sufficiently rigid to be a potential substrate for barnacles. Evidence for this is the report of *B. improvisus* on *Zostera* sea grass in the Sea of Japan (Zviagincev 1984).

Barnacle colonisation of macrophytes is rather rare in the southern Baltic because of the limited extent of underwater meadows there. The progressive degradation of this community in recent years, manifested by the shrinkage in its area and the regress of the species comprising it, *e.g. F. vesiculosus*, could be a further reason why this substrate is of very limited accessibility to barnacles (Pliński 1982, Pliński & Wiktor 1987, Wirdheim & Chojnacki 1992, Pliński & Florczyk 1993, Kruk-Dowgiałło 1995).

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