

Further spreading of the non-indigenous bryozoan *Celleporaria brunnea* in the Mediterranean Sea: port to port morphological variations

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Biological Invasions

The Pacific cheilostome bryozoan *Celleporaria brunnea* (Hincks, 1884), a non-indigenous species already known for the Mediterranean Sea, was recorded in 2013-2014 from nine Italian port localities (Genoa, Santa Margherita Ligure, La Spezia, Leghorn, Viareggio, Olbia, Porto Rotondo, Porto Torres and Castelsardo) in the North-western Mediterranean Sea; in 2014 it was also found for the first time in the Adriatic Sea, in the marina “Kornati”, Biograd na Moru (Croatia). In Italy, specimens of *C. brunnea* were found in 44 out of 105 samples (48% from harbour sites and 52% from marinas). These data confirm and update the distribution of *C. brunnea* in the Mediterranean Sea, and provide evidence that recreational boating is a vector responsible for the successful spread of this species. Previous literature data have shown the existence of differences in orifice and interzooidal avicularia length and width among different localities of the invaded range of *C. brunnea*. Therefore, measurements of orifice and avicularia were assessed for respectively 30 zooids and 8 to 30 interzooidal avicularia for both Italian and Croatian localities, and compared with literature data, in order to verify the existence of differences in the populations of *C. brunnea* that could reflect the geographic pattern of its invasion range. Our data show high variability of orifice measures among and within localities: zooids with broader than long orifice coexisted with others displaying longer than broad orifice, or similar values for both length and width. The morphological variation of *C. brunnea* in these localities, and above all the large variability of samples within single localities or even within colonies poses questions on the reliability of such morphometric characters for inter and intraspecific evaluations.