

Ecological notes on the alien nudibranch *Melibe viridis* (Kelaart, 1858) (Mollusca, Gastropoda) from Mar Piccolo of Taranto (Ionian Sea)

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Abstract

Gastropoda is a highly variable class of shelled mollusks and among them, nudibranchs are one of the most specialized groups with members characterized by the loss of the shell in the adult, a key character that allowed the evolution of alternative defensive strategies interesting from several fields of basic and applied research. Their ability to accumulate chemical compounds and exogenous structures or cells, obtained by their preys, into their own tissues or cells is of high scientific interest due to the potential implications in the comprehension of important cellular processes like intra and inter-cellular communication, recognition of self/non-self, and many others. In this framework, a good candidate as a model species is the alien *Melibe viridis* (Kelaart, 1858), firstly reported in the Mediterranean Sea from the bay of Argostoli (Greece) in 1970 and nowadays well-established in the Mar Piccolo of Taranto (South of Italy). Its conspicuous dimension, local abundance, supposed generalist diet, and almost transparent body are features useful for a possible laboratory breeding. However, several knowledge gaps are currently existing on its biology and ecology. To fill this lack of data, *in situ* photo and video images were collected in a 4600 m² area seasonally investigated between 2021 and 2024. The pattern of temporal distribution throughout the year was revealed thanks to the analysis of population density and important notes on trophic and reproductive behavior reported. Finally, DNA barcoding analysis using the COI mitochondrial marker was performed on collected specimens and the species identity confirmed.