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Marine Macrostomorpha (Platyhelminthes, Rhabditophora) from the Algarve (Southern Portugal)

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Abstract

Ten species of Macrostomorpha were found in marine environments of the Algarve (Portugal). Six of them were found in the Ria Formosa, a vast intertidal euryhaline lagoon system that dominates the most Eastern coast of the Algarve: two unidentified species of *Microstomum* Schmidt, 1848, *Macrostomum* cf. *rubrocinctum* Ax, 1951 and two unidentified species of *Macrostomum* Schmidt, 1848, *Paromalostomum dubium* (de Beauchamps, 1927), *Paromalostomum minutum* Rieger, 1971 and *Cylindromacrostomum faroensis* n.sp.. Comparison of this species with *C. mediterraneum* (Ax, 1955) and the species from Venice, considered to be *C. mediterraneum* by Rieger (1977), leads to the conclusion that the individuals studied by Rieger are in fact representatives of a separate species, *C. riegeri* n.sp.. *Acanthomacrostomum spiculiferum* Papi & Swedmark, 1959 was found in the Atlantic, 10–15 m deep, near the western coast of the Algarve. *Haplopharynx papii* n. sp. occurs on the beach exposed to the Atlantic as well as in the Ria Formosa. All identified and previously known (marine) species found in the Algarve had been found before, either in the Atlantic or in the Mediterranean basin.

Key words: Turbellaria, coastal lagoon, Ria Formosa, Algarve, Portugal, Macrostomidae, Dolichomacrostomidae, Haplopharyngidae, new species

Introduction

The Algarve area (S. Portugal) is of special biogeographic interest. It is situated close to the entrance of the Mediterranean and at the most south-western point of Europe. It encompasses a wide variety of marine habitats: in the west, sandy beaches alternate with rocky coasts while the eastern Algarve coast is dominated by the Ria Formosa, a vast euryhaline intertidal lagoon system. It is enclosed by two peninsulas in the east and in the west with a series of islands in between. The area is almost completely covered at spring tides, while a number of channels remain at low tide. There is little influx of fresh water, except by rainfall in autumn and winter; the salinity is around 36 ‰ as it is in the coastal ocean, however with strong temporary fluctuations (see Barbosa (2010) for a comprehensive description of the biological aspects). The sediment of the beaches exposed to the ocean is mostly clean and rather coarse, well-sorted sand. In the Ria Formosa, the sandy beaches are mostly fine and silty sand bottoms, often mixed with shell debris; sand as in the open beaches may occur in places with high currents. From the geographical position of the Algarve, the flatworm fauna could be expected to contain Atlantic species as well as Mediterranean elements. On the other hand, the species composition of the Ria Formosa, as a euryhaline lagoon system but with a high salinity, could be compared with the fauna of the brackish water lagoons as described by Ax (2008).

Thanks to the EU FP7 Assemble project, I was able to collect Platyhelminthes in the Algarve area in the autumns of 2011, 2012 and 2013. Since the focus of our research group is mainly on Rhabdozoa, the Macrostomorpha were only studied alive superficially, before being mounted in lactophenol (see methods). The identification was exclusively on the whole mounts and very few data—if any—are available on the living animals. However, when working on the preserved material, more macrostomorph species appeared to be present in my material than I realized while collecting. Hence, reporting the occurrence of these species might be of some bio-

distinguish the species, a whole mount should be preferred as holotype. Sections have no value in this respect. High resolution micrographs and videos of a living animal are more informative as well and can be proposed as type material. Also in faunistic or ecological studies, material should be preserved with which the species can be identified *a posteriori* or compared. Without such proof, no sound conclusions can be made about distribution, biogeography or ecology. Ideally, also a molecular bar code can be provided, as is demonstrated by the difficulties to identify some species of the genus *Macrostomum* (see e.g. Schärer *et al.* 2011).

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