



NOTES AND NEWS

ON THE ITALIAN (MEDITERRANEAN SEA) RECORDS OF *ACTUMNUS GLOBULUS* HELLER, 1861 AND *MENAETHIUS MONOCEROS* (LATREILLE, 1825) (DECAPODA, BRACHYURA)

BY

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The present-day native Mediterranean fauna is mostly of Atlantic origin, having originated with the re-establishment of the Atlanto-Mediterranean connection, but also includes a high proportion of endemic and alien taxa (Coll et al., 2010; Bianchi et al., 2012). Within the latter category, few less than 100 decapod species were recorded from the Mediterranean so far (Zenetos et al., 2017; Manfrin et al., 2018), the majority of which are native from the Indo-Pacific and most likely reached the semi-enclosed basin via the Suez Canal (Klaoudatos & Kapiris, 2014; Manfrin et al., 2018). Nevertheless, a small proportion of them were also presumably introduced via shipping in ballast water or within fouling communities, or through aquaculture (Klaoudatos & Kapiris, 2014; Manfrin et al., 2018). The fate of the species belonging to these categories is often different. In fact, if on the one hand Lessepsian decapods may more easily arrive and become established in the easternmost parts of the basin and then subsequently spread unaided to the central parts of it, records of species introduced via shipping are usually characterized by the presence of records scattered throughout the Mediterranean basin and distinguished by a low number of specimens, if not of single ones, and thus may rarely establish viable populations. Within species belonging to the second category, the pilumnid crab *Actumnus globulus* Heller, 1861 (family Pilumnidae Samouelle, 1819) and the one-horned spider crab *Menaethius monoceros* (Latreille, 1825) (family Epialtidae MacLeay, 1838) need a special mention. Despite the fact that these species are native to the Indo-Pacific, including the Red Sea (Barnard, 1950; Serène, 1977), they are only known from

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the Mediterranean Sea on the basis of one (*A. globulus*) and two specimens (*M. monoceros*), respectively, and their records did not follow the commonest dispersal pattern of Indo-Pacific species spreading in the Mediterranean Sea. In fact, one specimen of each species was recorded in 1977-78 off Punta Ala, Tyrrhenian coast of Italy (north-central Mediterranean Sea) (Falciai, 2003; Galil et al., 2008), whereas a further specimen of *M. monoceros* was subsequently recorded in the Gulf of Tunis (south-central Mediterranean Sea) (Ben Souissi et al., 2013).

During a re-cataloguing of the Decapoda collection of the Natural History Museum of Florence, the two above-mentioned Italian specimens were re-examined together with their original labels (Innocenti & Manzoni, 2017). The history of these specimens showed some uncertainties. Both samples were studied by Lucia Falciai (Florence, Italy) from the collections of the Natural History Museum — Zoological Section “La Specola”, University of Florence (MZUF 4683 and MZUF 4678, respectively), more than 20 years from their findings and with no environmental data reported on the labels except date and locality. At the same time, historical reports of the museum were screened as to couple specimens and fieldwork carried out at the time being. This led to discover that, during 1976-1978, Dr. Marco Borri not only carried out fieldwork off Punta Ala (Italy, Mediterranean Sea), but he also collected several decapod specimens from the Gulf of Aqaba (Red Sea) within the framework of researches conducted by “Gruppo di Ricerche Scientifiche e Tecniche Subacquee” (G.R.S.T.S. — Underwater Scientific & Technical Research Group) in Jordan and in Saudi Arabia (G.R.S.T.S., 1986).

Moreover, as no further records of these species were known at that time from the Mediterranean Sea (see Zenetos et al. 2017; Servello et al., 2019), shipping was originally considered as the most probable means of dispersal, taking also into account that the place where the specimens were found lies opposite a port area (Falciai, 2003; Galil et al., 2008). However, the port of Punta Ala is a small marina, that usually hosts yachts and small boats, and thus may more easily act as a hub for secondary spreading within the Mediterranean basin, rather than accounting for new primary introductions.

Such arguments made us strongly suspicious regarding the locality data of the *A. globulus* and *M. monoceros* specimens mentioned above. Given that the former collector was not a specialist in decapods, we are definitively prone to consider that the most cautious hypothesis is that these samples were mislabelled during the sorting of the material collected in those years, and that they come from an unknown locality of the Red Sea. Thus, in the absence of concrete evidence regarding their real finding in Punta Ala, *A. globulus* and *M. monoceros* should be deleted from the list of alien decapods recorded in Italian waters.

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