A SYNTHESIS OF THE ECHINODERM FAUNA OF THE TYRRHENIAN SEA

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Abstract

The bathymetrical distribution of 100 species of echinoderms of the Tyrrhenian Sea is reported. The data mentioned in this paper are obtained both from literature and from quantitative samplings carried out during several oceanographic cruises and trawl surveys.

Key-words: Zoobenthos, biogeography, bathymetry, Tyrrhenian Sea

Existing data on echinoderms of the Italian coast are very scarce, specially in the southern Tyrrhenian sector. Besides this taxon, rarely considered on a bionomic level, has already shown to be an effective environmental describer in previous studies (1, 2).

This contribution deals with the results of a long-term (1988-1996) faunistic study on echinoderms. A list with the relative bathymetrical distribution of the Tyrrhenian Sea echinoderm fauna is reported (Tab. 1).

The described results refer to samples taken from several oceanographic cruises carried out, by our research group, in different areas of the Tyrrhenian Sea: Tuscan and Pontian Archipelago, Eolian Islands, Straits of Messina, south Tyrrhenian coast from Praia a Mare (Calabria) to Capo S. Vito (Sicily). Samplings were carried out, from mediolittoral to bathyal level, by dredge, grab or trawl net, according to the aim of the project. Moreover these data have been integrated with the scarce existing literature. At this regard the species, most of them very little known along italian coasts, signalized only by Tortonese in his work of 1965 (2) are distinguished in table 1 ("T") from the others reported in specific papers' faunistic lists published in the following years (4-10).

A total of 100 species of echinoderms (2 Crinoidea, 31 Holothurioidea, 22 Asteroidea, 23 Ophiuroidea, 22 Echinoidea) are known, till now, in the Tyrrhenian Sea. Therefore at the present state of the art, the tyrrhenian species are the 65 % of the whole mediterranean echinoderm fauna. Infact at the moment 153 species are known in the Mediterranean Sea; Tortonese in 1979 in a wide review of the mediterranean echinoderm fauna enumerated 144 species, after that at least nine more species were signalized in different area of this basin (11-17).

Generally, as regard the spatial distribution the fifty percent of the species is widespread in the whole Tyrrhenian Sea. Only few species were collected in one or two sampling area. Amongst the 100 Tyrrhenian species reported in this paper, 14 are mentioned only in Tortonese's (1965) work (nearly all findings are referred to the Gulf of Naples) and never mentioned in any more pubblications. Moreover 6 species *(Ocnus petiti, Leptosynapta inhaerens, Amphiura securigera, Ophiactis balli, Ophiocomina nigra, Echinocardium mediterraneum)*, considered rare in the whole mediterranean basin, are recorded for the first time in the Tyrrhenian Sea.

In particular amongst the brittle stars, three species are worth mentioning: *Ophioconis forbesi* collected only in the Tuscan and Pontian Archipelagoes, species characteristic for detritic bottoms; *Amphiura securigera* signalized up to now only three times in the Mediterranean Sea (18) and *Ophiactis balli,* an atlantic very rare species found in the Messina Straits so abundant to form a facies (19).

Besides, in the Straits of Messina, that however must be considered a very particular environment, two more "rare" species were collected: the echinoid *Arbaciella elegans* (20), signalized only four more times in italian waters (21, 22, 10, 23) and the little sea cucumber *Ocnus petiti,* found in the Mediterranean only along French coasts (22). Four specimens of this species (Rinelli, not yet published) were collected dredging over hard substrata characterized by populations of the Stylsteridae *Errina aspera* (19).

Moreover amongst the sea stars *Sclerasterias richardi,* rarely found in the Italian Mediterranean Sea, was collected only in the Tuscan Archipelago and along Sicilian coast, with only one specimen per each site. *Chaetaster longipes,* considered scarce in the Tyrrhenian Sea, was collected only along Sicilian coast by trawl net (two specimens). As regard the distribution in the Mediterranean Sea of this species, the recent literature reveals that it is not more so rare as thought in the past (24).

As regard Holothurioidea taxon, in addition to *O. petiti* mentioned above, other two little rare species were found: *Molpadia musculus* (Tuscan Archipelago and Calabrian coast) and *Leptosynapta minuta,* recorded for the second time in the Italian Mediterranean Sea (25 and Rinelli not yet published). However also this species is now more widespread in the Mediterranean (5, 17) than was stated in the older literature.

It is not easy to make a confront with the echinoderm fauna of other Italian sectors, because of the scarce literature. Besides the two synthesis works of Tortonese (3, 5) the few data available regard the central and south-western Adriatic Sea (26, 27), the Ligurian Sea (28, 29, 30, 31, 32) and the Sardinia seas (33). It is worth underlining the presence in the italian waters of 14 mediterranean species not yet found in the Tyrrhenian Sea, namely *Labidoplax buski, Sclerasterias neglecta, (Adriatic Sea), Thyone gadeana, Pseudothyone raphanus, Ceramaster grenadensis, Allopatiria ocellifera, Amphilepis norvegica, Ophiocten abyssicolum, Ophiura grubei, Ophiura carnea, Hemiaster expergitus, Echinocardium fenauxi, Plagiobrissus costai* (Ligurian Sea) and *Odontaster mediterraneus* (Sardinia).

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