

On the fauna of the Egadi Islands marine protected area

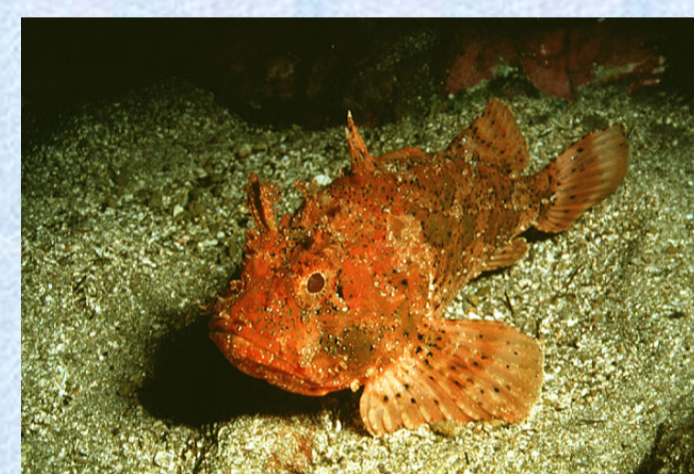
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Introduction

The Marine Protected Areas (MPAs) were considered effective means of biodiversity conservation and of management of environmental and socio-economic resources. For this purpose it is necessary to have useful information to characterize the main environmental and anthropical elements of the area.

The purpose of this work was to provide a preliminary marine fauna list characterising the Egadi Islands MPA, the biggest Italian Marine Natural Reserve, localized in the centre of the Mediterranean Sea.



Materials and methods

The information about fauna was collected weekly, during one year, from May 2002 to April 2003, by interviews to landing. A total of 328 observations on the species captured by several fishing gears from artisanal fishery were gathered from the coastline at a depth of 100 m. 32 experimental fishing were carried out, 8 per each season, by trammel net, combined gill net-trammel net, monofilament, bottom longline using local boats of artisanal fishery. Animals were identified to species.

The species was regrouped considering two areas: Favignana (area 1), Marettimo and Levanzo (area 2). Common species were observed between the two areas and the B diversity was valued by Sorenson index (Pielou, 1978).



Family	Species
Osteichthyes	
Atherinidae	<i>Atherina (Hepsetia) boyeri</i> (Risso, 1810)
Belontiidae	<i>Belone belone</i> (L., 1762)
Bothidae	<i>Bothus podas</i> (Delaroche, 1809)
Carangidae	<i>Lichia amia</i> (L., 1758)
	<i>Seriola dumerilii</i> (Risso, 1810)
	<i>Trachurus trachurus</i> (L., 1758)
Centracantidae	<i>Spicara maena</i> (L., 1758)
	<i>Spicara smaris</i> (L., 1758)
Clupeidae	<i>Alosa fallax nilotica</i> (Lacepède, 1803)
Congridae	<i>Conger conger</i> (L., 1758)
Dactylopteridae	<i>Dactylopterus volitans</i> (L., 1758)
Gadidae	<i>Merluccius merluccius</i> (L., 1758)
	<i>Phycis phycis</i> (L., 1766)
Labridae	<i>Coris julis</i> (L., 1758)
	<i>Crenilabrus tinca</i> (L., 1758)
	<i>Crenilabrus roissali</i> (Risso, 1810)
	<i>Labrus merula</i> (L., 1758)
	<i>Labrus viridis</i> (L., 1758)
	<i>Thalassoma pavo</i> (L., 1758)
Lophiidae	<i>Lophius piscatorius</i> (L., 1758)
Mugilidae	<i>Mugil cephalus</i> (L., 1758)
Mullidae	<i>Mullus barbatus</i> (L., 1758)
	<i>Mullus surmuletus</i> (L., 1758)
Muraenidae	<i>Murena helena</i> (L., 1758)
Pomacentridae	<i>Chromis chromis</i> (L., 1758)
Pomatomidae	<i>Pomatomus saltator</i> (L., 1758)
Sciaenidae	<i>Sciaena umbra</i> (L., 1758)
	<i>Umbrina cirrosa</i> (L., 1758)
Scomberomoridae	<i>Sarda sarda</i> (Bloch, 1793)
Scombridae	<i>Scomber scombrus</i> (L., 1758)
	<i>Scomber japonicus</i> (Houttuyn, 1782)
Scorpaenidae	<i>Scorpaena scrofa</i> (L., 1758)
	<i>Scorpaena notata</i> (Rafinesque, 1810)
	<i>Scorpaena porcus</i> (L., 1758)
Serranidae	<i>Dicentrarchus labrax</i> (L., 1758)
	<i>Epinephelus marginatus</i> (Lowe, 1834)
	<i>Serranus cabrilla</i> (L., 1758)
	<i>Serranus scriba</i> (L., 1758)
Soleidae	<i>Solea solea</i> (L., 1758)
Sparidae	<i>Boops boops</i> (L., 1758)
	<i>Dentex dentex</i> (L., 1758)
	<i>Diplodus annularis</i> (L., 1758)
	<i>Diplodus puntazzo</i> (Cetti, 1777)
	<i>Diplodus sargus sargus</i> (L., 1758)
	<i>Diplodus vulgaris</i> (Geoffroy St. Hilaire, 1817)
	<i>Lithognathus marmyrus</i> (L., 1758)
	<i>Oblada melanura</i> (L., 1758)
	<i>Pagellus acarne</i> (Risso, 1826)
	<i>Pagellus bogaraveo</i> (Brunnich, 1768)
	<i>Pagellus erythrinus</i> (L., 1758)
	<i>Pagrus pagrus</i> (L., 1758)
	<i>Sarpa salpa</i> (L., 1758)
	<i>Spondyliosoma cantharus</i> (L., 1758)
Sphyraenidae	<i>Sphyraena sphyraena</i> (L., 1758)
Synodidae	<i>Synodus saurus</i> (L., 1758)
Thunnidae	<i>Euthynnus alletteratus</i> (Rafinesque, 1810)
Trachinidae	<i>Trachinus draco</i> (L., 1758)
Triakidae	<i>Mustelus mustelus</i> (L., 1758)
Trichiuridae	<i>Lepidopus caudatus</i> (Euphrasen, 1788)
Triglidae	<i>Chelidonichthys lucerna</i> (L., 1758)
Uranoscopidae	<i>Uranoscopus scaber</i> (L., 1758)
Xiphiidae	<i>Xiphias gladius</i> (L., 1758)
Zeidae	<i>Zeus faber</i> (L., 1758)
Cephalopoda	
Loliginidae	<i>Loligo vulgaris</i> (Lamarck, 1798)
Octopodidae	<i>Octopus vulgaris</i> (Cuvier, 1797)
Sepiidae	<i>Sepia officinalis</i> (L., 1758)
Crustacea	
Nephropidae	<i>Homarus gammarus</i> (L., 1758)
Majidae	<i>Maja squinado</i> (Herbst, 1788)
Diogenidae	<i>Dardanus calidus</i> (Risso, 1827)
Palinuridae	<i>Palinurus elephas</i> (Fabricius, 1787)
Chondrichthyes	
Rajidae	<i>Raja clavata</i> (L., 1758)
Scyliorhinidae	<i>Scyliorhinus canicula</i> (L., 1758)
Torpedinidae	<i>Torpedo marmorata</i> (Risso, 1810)

Tab. 1 - Checklist of the Total study area

Area

The Egadi Islands, placed in the centre of Mediterranean Sea (South Italy), have a superficies of 523 km². The Egadi Archipelago is constituted by 3 main Islands (Favignana, Levanzo and Marettimo) and by 2 islets (Maraone and Formica). The particular hydrological characteristics, the Sicilian coasts isolation of the three islands happened in various geologic times and the different geologic nature among them, are the elements that characterize their vegetation and marine fauna.



The terraces of the Lias characterize the high and indented coastlines of Levanzo and Marettimo, whose bottoms are constituted by the compact dolomite. These islands differentiate from the bottoms of Favignana which are constituted by the crystalline limestones. The study area alternates rocky bottom and sandy bottom with *Posidonia oceanica*.

Results

On overall, 73 taxa were recorded, belonging to 45 families (Tab.1).

Particularly, 63 species of fishes, 3 of cephalopods, 4 of crustaceans and 3 of elasmobranchs.

The most abundant family was the Sparidae with 20% of species. In the area 1 and 2, 70 and 43 species were recorded, respectively. The Sorenson index Resulted 0.72.



Conclusions and discussions

This study highlights the main species captured by the artisanal fishery on the Egadi Islands MPA waters. On overall, the Islands show an high similarity of species, as the Sorenson index indicates. The slight increase of the species number found in Favignana is probably due to the use of different fishing gears.

This preliminary list wants to be a baseline data for further studies, to characterize the MPA, according to the dispositions on the census of the existent species and the habitat systems, in order to conserve the biodiversity.



References

Pielou, E.C. (1978). Population and Community Ecology. Gordon and Breach Science Pub.: 424 pp.