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An essay on the Coastal Fisheries of North and South Sicily

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Coastal small scale fishery is a prominent activity in Sicily, now under thorough reconsideration due to its relatively low impact on the marine environment and of its favourable economic potentialities which are even more relevant when compared with the high cost/benefits ratio of trawling. Investigation on artisanal fisheries is moreover a well suited means for the assessment of exploitable biological reosurces. Information on the state of the coastal fisheries is provided by critical examination of as many as **242** fishing samples collected in the course of the past eight years from sites on the N and S coasts of the Island. As many as **206** samples were collected from the following stations: Cefalù, S. Nicola l'Arena, Vergine Maria (Palermo), Bay of Carini, Trappeto, all on the Tyrrhenian coast **(Fig. 1, a-e)**. Fine sands make up the seabeds off Cefalù and Carini; the other stations are mixed seagrounds of calcareous rocks and sand. **Thirtysix** samples were obtained from Sciacca, Porto Empedocle and Licata **(Fig. 1, f-g)** along the southern coast, all on a flat uniform layer of soft muddy sediments..

Fig.1

MATERIALS AND METHODS. A trammel net with an inner **40mm** mesh size was employed: Fishing was performed from sunset to sunrise with a mean submergence of **12 hours** at a depth of 18m. Monthly samplings were made. Data of catch were standardized to a **100m** long fishnet for a total duration of survey equal to **12 months.**

RESULTS. A mean yield as high as **376g per 100m** net was recorded. Average yields (in **g/100m** net) in the Tyrrhenian **(386g)** were slightly higher in comparison with the southern coast **(330g)**. Maximum yields were recorded in January (due to the cephalopod catch) and June for the south; in spring- and autumn months for the Tyrrhenian coast. In all samples the **fish** biomass was as much as **64%** of catch composition whereas the **cephalopods** were **33%** and the **crustacea** a mere **3%.** The cephalopod biomass rose however to **42%** in the easternost stations of the Tyrrhenian coast and even more in the South. ***Penaeus kerathurus*** and ***Squilla mantis*** were the only crustacea recorded in appreciable amounts in the Tyrrhenian stations and were related to restricted estuarine areas. The number of species was higher in the rocky stations of the Tyrrhenian and decreased sensibly in the southern coast **(ARCULEO et al., 1989; ARCULEO and RIGGIO, 1989).**

The cuttlefish, ***Sepia officinalis,*** was by far the most common prey. Flatfish such as the **Pleuronectiformes** prevailed in the Bay of Carini; they were replaced by species of the **Rajiformes *(R. miraletus, R. clavata)*** in the southern coast. The most common fish on rocky grounds were the sparidae with ***Diplodus*** spp., ***Pagellus*** spp., ***Lithognathus mormyrus;*** the scorpaenids and the labrids came next. The **Triglidae** were very frequent in the south and increased Eastwards; they were nearly absent from the Tyrrhenian samples. Maximum intersimilarity values were recorded between the rocky stations of Vergine Maria and S. Nicola l'Arena. A similar structure in catch composition appeared between the station in the Bay of Carini and the sites in the south.

DISCUSSION AND CONCLUSIONS. The yields are very low, either in comparison to the average values in the Mediterranean, or to the mean values reported by **Andaloro e Cavallaro (1982)** for the Strait of Messina. The apparent low productivity is very likely consequent to the illegal nearshore trawling as well as to the competitive interactions with the numerous sportfishermen. The lower species richness of the southern stations is merely due to the gently sloping seabeds as well to the environmental uniformity. The greater diversity recorded for the Tyrrhenian grounds is further enhanced by the rocky habitats and by the presence of luxuriant ***Posidonia oceanica*** seagrass beds which are instead missing from off the southern coast. The nature of the bottom accounts for the high similarity of catch composition observed between the Bay of Carini and the fishing grounds in the south. Flatfish such as the Pleuronectids and the Rajids are ecologically equivalent, and their different abundances in the North or in the South should be referred to as biogeographic. As a conclusion, coastal fisheries in Sicily differ sensibily from even nearby sites in relation to the nature of the bottom and to the geographic situation: the W Tyrrhenian coast shows markedly subtropical characters, a greater biotic diversity and a prevalence of highly prized fish; the southern coast is cold, with marked "oceanic" characteristics which are reflected on the fishing yields, the simpler catch composition and the lower prize of species.

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