

DEMERSAL SELACHIANS IN THE LIGURIAN SEA

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Abstract

Since 1985 national trawl surveys (GRUND) were carried out in the Ligurian Sea (NW Mediterranean) and a considerable set of data about demersal species was collected. In this short note the number of Selachian species caught during 25 surveys was compared with those fished in previous years and the decrease in species richness is outlined.

Key-words: *Selachians, trawl surveys, Ligurian Sea*

Introduction

Twenty-five national trawl surveys (GRUND) have been conducted since 1985 within the framework of national coordination on demersal resource assessment (1-3). The aim of these surveys is the knowledge of the exploitation state of the demersal resources. In this short note the Selachians caught in the Ligurian Sea (NW Mediterranean Sea) are described and compared with previous data. It is well known that Chondrichthyes are very sensitive to fishing pressure and can be used as biological indicator of overexploitation in an area (4).

Material and method

From 1985 to 2002 twenty-five otter trawl surveys were carried out in spring and in late summer/early autumn (2). A total number of 620 daylight hauls were performed at depths between 10 to 800 m off the Ligurian coast. Data was processed to obtain a percentage index of presence (percentage frequency catches of *i* species of Selachians per total number of surveys performed) for the different species and a total number of species caught per surveys.

Results

Overall 13 species (one *Chimaeridae*, four *Rajidae* and eight *Squalidae*) were caught during the surveys. They represented about 30% of the total demersal species recorded in the Italian seas (5) and about 43% of the total number of species known in the area based on historical data (6).

Figure 1 shows the percentage of presence observed in the twenty-five surveys. Only two species *Galeus melastomus* and *Etmopterus spinax* were caught in all surveys. *Scyliorhinus canicula* had a high percentage followed by *Chimaera monstrosa*, *Dalatis licha* and *Raja asterias*. The remaining seven species had values lower than 50%.

The total number of species caught in each survey (Fig.2) ranged from 4 to 9 species and no trend was observed. The most frequent species were represented by *G. melastomus*, *E. spinax*, *S. canicula*, *C. monstrosa*, *D. licha* and *R. asterias*.

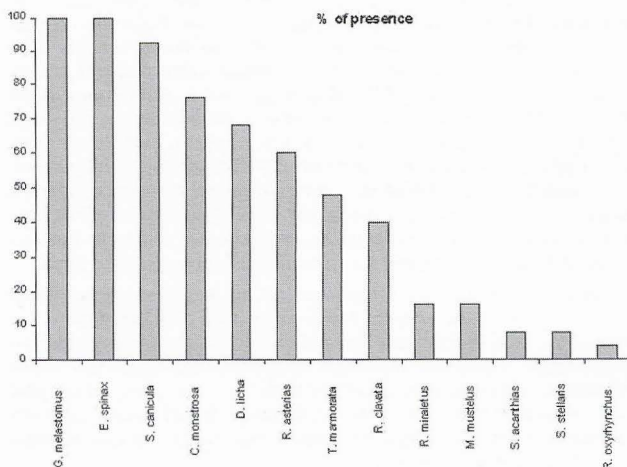


Fig. 1. Demersal Selachians. Percentage index of presence per survey.

Discussion

Selachians, generally caught by bottom trawlers, play an important role not only in the structure of the demersal communities, but also for managing the implicated fisheries despite the fact that they are largely discarded. Selachians are very vulnerable to increased fishing

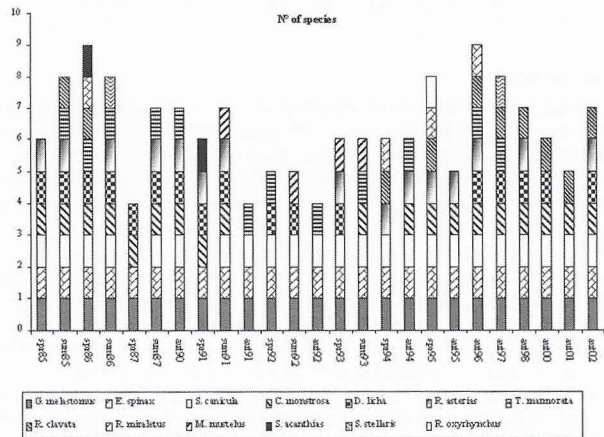


Fig. 2. Demersal Selachians. Total number of species caught per survey.

mortality and their qualitative and quantitative changes reflect high fishing pressure, due to their low fecundity and high age/length of first maturity (4).

The lower diversity in the area when compared to historical data (6) and to the other Italian seas (5), may reflect the overexploitation of local bottoms communities. In fact only two species are caught with a 100% of frequency (*G. melastomus* and *E. spinax*) and only other four with a frequency > 50% of surveys. The remaining species were very rare when compared to early eight's, especially *Mustelus mustelus* and *Squalus acanthias* whereas some, like *R. brachyura*, have disappeared (7). In terms of management a continuous monitoring of this important group, not only at the diversity level (species richness) but also at the biomass/abundance level of the species more frequently caught, is essential.

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