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The Gillnet Fishery for Anglerfish (*Lophius piscatorius*) in Deep-water in the Northwest of Iberian Peninsula

by

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Abstract

In the slope of the NW Spain (400-900 m) the gillnets ("rasco") fish for anglerfish (*Lophius piscatorius*). Red crab is caught as by catch when the gear is baited and interesting rare species of ictiofauna are incidentally caught. Length and age compositions of anglerfish catches are given, comparing with that from trawl fishing in shallow water. Seasonality of yields and age composition suggests movements of the adult over the bathymetric range, probably related to feeding or reproduction.

Introduction

A direct gillnet (*rasco*) fishery for white anglerfish (*Lophius piscatorius*) is described in deep waters (300-900 m) of the NW of Spain (ICES Division VIIIc) (Figure 1), a fishery close to the one in the Cantabrian Sea which has previously been described (Pereda *et al*., 1998). Anglerfish has also appeared in the area as a by-catch in the trawl fishery of the shelf and upper slope (100-400 m).

Materials and Methods

This study is based on the gillnet fleet targeting anglerfish throughout the year, whose homeport is in Cedeira (A Coruña, Spain). Two categories of vessels were studied (>30 GRT: mean 15.6 m, 263 CV and crew of 9 persons; and <30 GRT: 14.8 m, 160 CV and 7 persons). Fishing activity was considered similar in both categories, and only differences in capacity are highlighted. The gillnets had 250-400 nettings with 280 mm mesh size (Figure 2) and a soaking time of 3-7 days. Fishing effort index was number of trips (one trip consisted of handling the gillnet, leaving a new gear and landing the catches).

Results

Species composition

The white anglerfish (*Lophius piscatorius*) is the target species of the gillnet, making up 84 % of landings (Figure 3). Other commercial species are caught as a small proportion of the total (*Lophius budegassa*, *Raja spp.*, *Chaceon affinis*, etc.). Rare species (*Clamydoselachus anguineus*, *Neocyttus helgae*, *Grammicolepis brachiusculus*) are caught incidentally and in some cases represent new records for the area.

Landings

The average catch (1996-2000) of white anglerfish from the gillnet fishery in NW Spanish deep waters was 260 t, which represents 14 % of Spanish white anglerfish landings and 10 % of those of the Southern stock (ICES, 2000). The time series of landings (1980-2000) of gillnet and trawl in the N and NW Spain (ICES Division VIIIc) shows an overall decreasing trend (Figure 4).

CPUE

Fluctuations in CPUE (April 1996-July 2001) of white anglerfish indicate the overall decreasing trend for the two CPUE data sets (Figure 5). They also show a seasonal pattern in CPUE of the >30 GRT vessel category, with peaks in January and February in most years. Seasonality in CPUE of the <30 GRT category is less evident. Peaks in early winter suggest a high density of individuals in deep waters, corresponding to a possible aggregation for reproduction, which may lead to an increase in catchability of adults. White anglerfish spawning is not well known and probably occurs in deep water along the continental slope (Anonymous, 2000; Hislop *et al*., 2001).

Age composition of landings

Gillnet catches medium and large specimens of white anglerfish, mainly between 6 and 20 years of age (Figure 6). In comparison, trawl catches small and medium-sized specimens, mainly between 1 and 14 years. Considering age at first maturity to be 7-8 years (Quincoces *et al*., 1998), practically all landings of juveniles are made by trawl, whereas practically all specimens caught by gillnet are adults.

During recent years the mean age of landings by both fishing gears have increased, more notably trawl in which a smaller proportion of juveniles has been landed in recent years. This rise in the mean age of landings probably reflects the low recruitments of preceding years.

Acknowledgements

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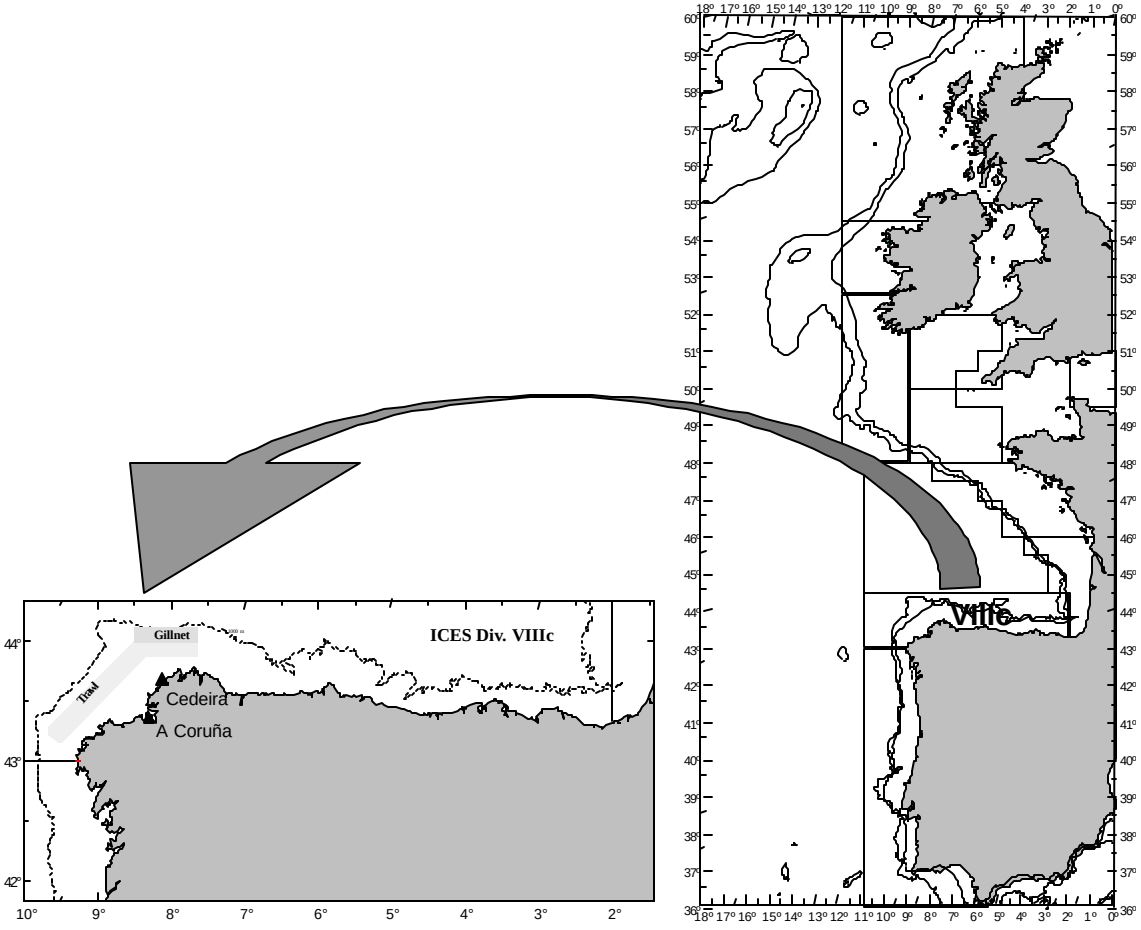

Fig. 1. Map of the study area, showing the location of gillnet and trawl grounds.

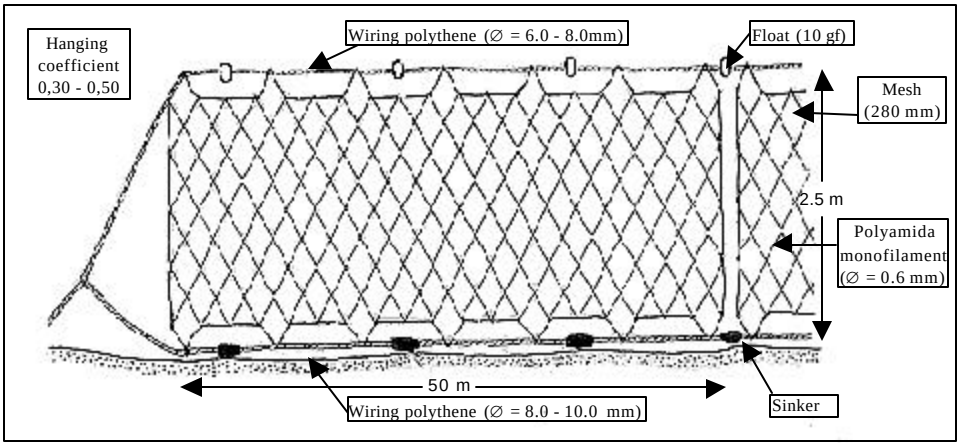

Fig. 2. Scheme of gillnet for anglerfish.

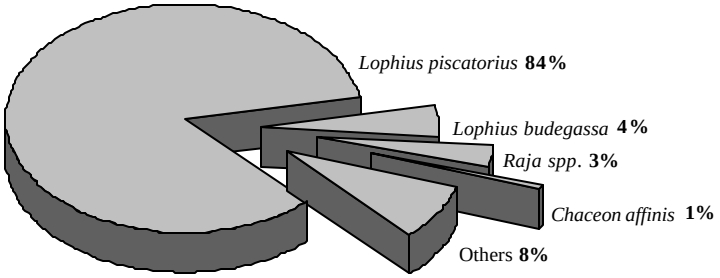

Fig. 3. Species composition of landings (average 1997-2000) from the deep water gillnet fishery in the NW of Spain.

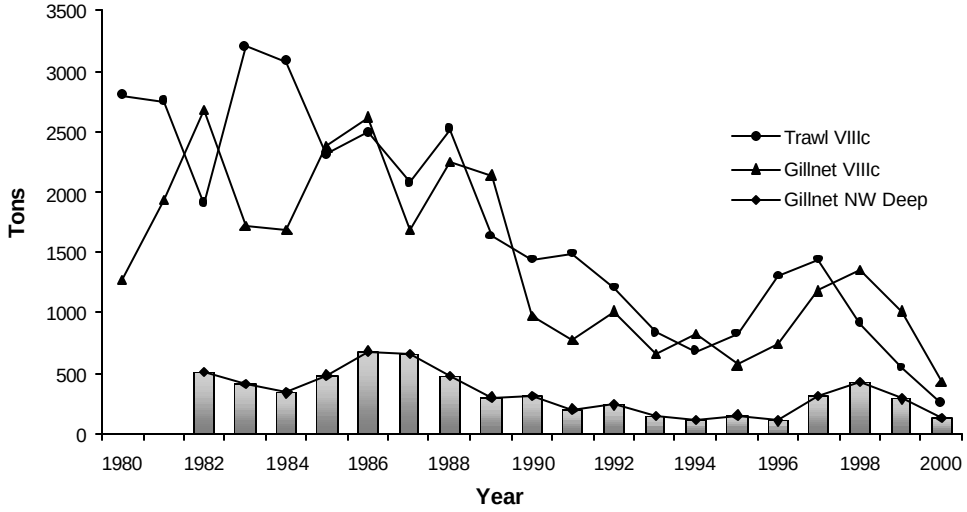

Fig. 4. Landings (1980-2000) of white anglerfish by trawl and gillnet fleets in the N and NW of Spain (ICES Division VIIIc) and landings from the deep water gillnet fishery in the NW.

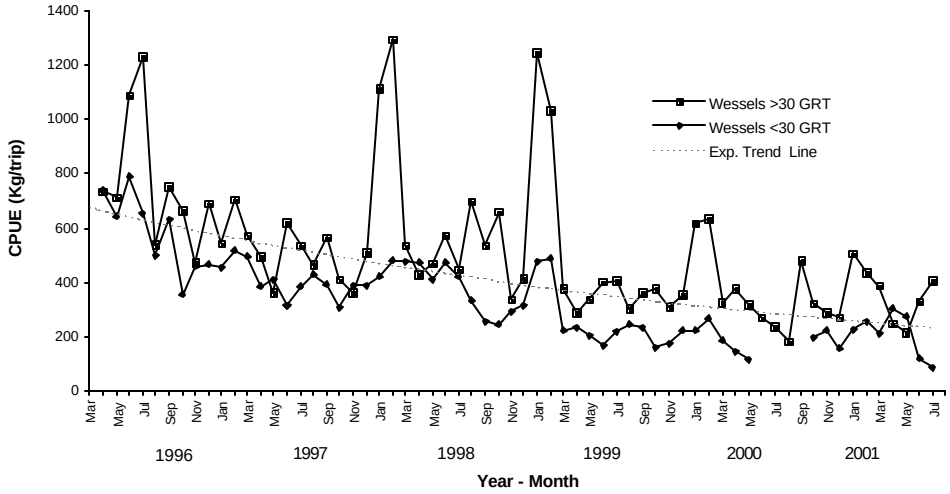

Fig. 5. Monthly CPUE of white anglerfish (kg/trip) for two gillnet vessel categories between April 1996 and July 2001.

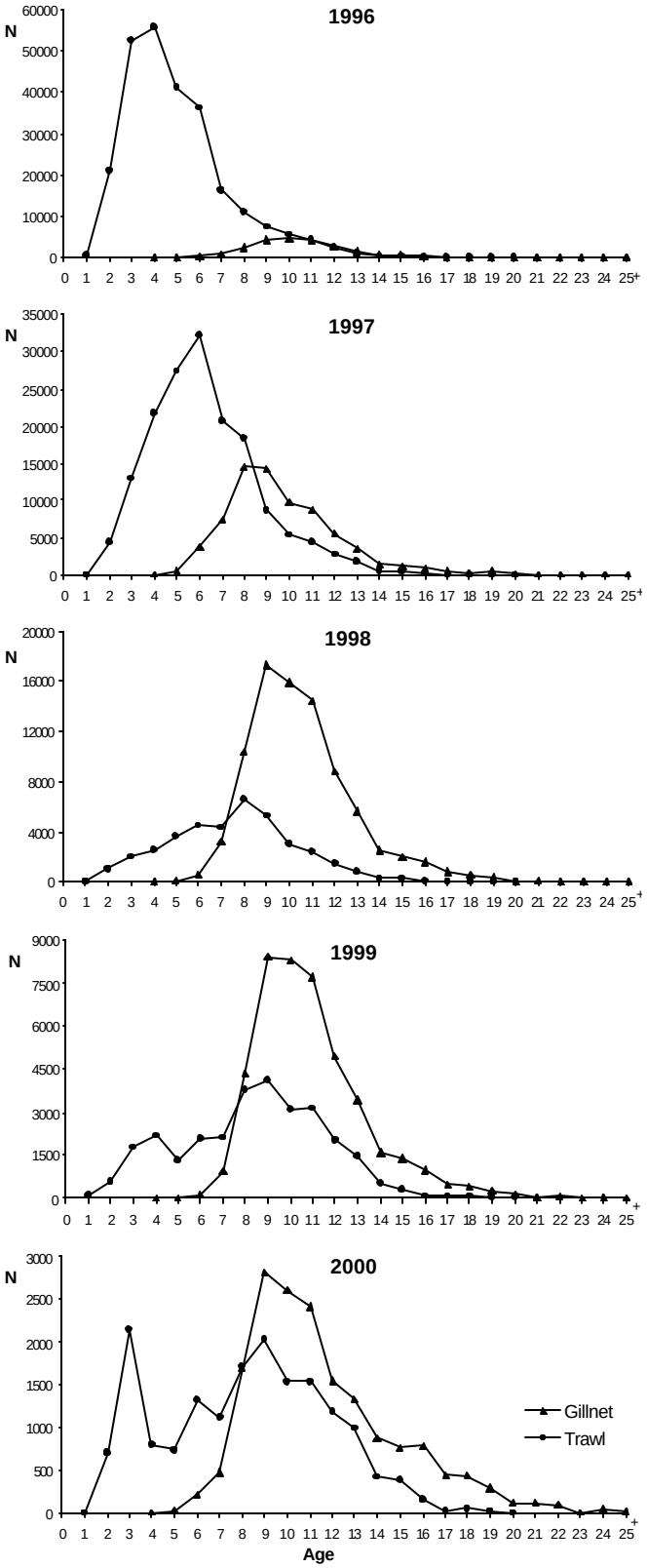

Fig. 6. Landings by age of white anglerfish from gillnet and trawl fisheries in the Northwest of Spain (1996-2000).