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Faunistic Composition of Catches from the Spanish Bottom-longline Fishery in Deep-waters of Mauritania

by

A. Ramos, F. Salmerón, A. Carroceda and L. Fernández

Instituto Español de Oceanografía. Centro Oceanográfico de Málaga.
Puerto Pesquero s/n, E-29640-Fuengirola (Málaga), Spain
ana.ramos@ma.ieo.es

Abstract

The Spanish bottom-longline fleet started fishing in Mauritania in the 1990s targeting the hakes. In November 2000, an experimental longliner survey was carried out. The data showed 85% of the catches were used commercially and 15% were discarded, 84% of the commercial catches belonged to two hakes, *Merluccius senegalensis* and *Merluccius polli*. The areas of greatest abundance and species richness seem to correspond to upwelling zones, located by satellite imagery, where the highest values of both chlorophyll concentrations and pelagic resources were detected.

Introduction

The Spanish bottom-longline fleet started fishing in Mauritania during the decade of the 1990s with the hakes being the target species in the fishery.

The experimental survey PALMAU-2000, carried out in November 2000 onboard two longliners fishing in the Mauritanian EEZ between 175 and 500 m depth showed that commercial catches accounted for 85% of the total catch (86,600 kg), while the remaining 15% corresponded to discards.

According to the faunistic composition of landings recorded in the port of Algeciras (Spain), the highest percentage of commercial species (84%) belonged to the two hakes mainly found along the northwest African coast: the Senegalese hake, *Merluccius senegalensis* Cadenat, 1950, and the Benguela hake, *M. polli* Doutre, 1960. The remaining species present in the landings were, in order of abundance, the large-eye dentex, *Dentex macrophthalmus* (Bloch, 1791) (10.5%); the pomfret, *Brama brama* (Bonaterre, 1788) (5%); and the imperial blackfish, *Schedophilus ovalis* (Cuvier and Valenciennes, 1833) (2%). Other commercial species were the Berycidae (*Beryx splendens* Lowe, 1838 and *Beryx decadactylus*, Cuvier, 1829); the conger, *Conger conger* (Linnaeus, 1758), and *Helicolenus dactylopterus* (Delaroche, 1809).

The information about discards, which is presented in this work, constitutes the first data from the bottom-longline fishery in Mauritanian waters and shows that more than 70 different species could be discarded during fishing operations. The main percentage of discards, in terms of weight, corresponded to damaged specimens of the two hakes species, not useful for commercialization (21%). They were followed by some pelagic fishes such as horse-mackerel, *Decapterus* sp., and mackerel, *Scomber japonicus*, which represented percentages of 19% and 9%, respectively. Other components of discards were *Trichiurus lepturus* (17%), *Mistryophis crosnieri* (7%) and *Coloconger cadenati* (5%).

The areas of greatest abundance and species richness seem to correspond to up-welling zones, located by satellite imagery, where the highest values of both chlorophyll concentrations and pelagic resources were detected.

The great abundance of the target species in the fishery, the hakes, in the Mauritanian deep bottoms, the high selectivity of longlines, and the possibilities of survival of the discarded individuals, make this fishery an alternative option for a rational exploitation of the deep resources occurring in the country.

The Fishery

Although Spanish trawling fleets have exploited the Mauritanian fishing grounds from 50 years ago, bottom-longliners started fishing during the decade of the 1990's, having increased the boats number during this period from one unit in 1992, to 17 in 2000. In this year the efforts have arrived almost 1000 fishing days and the landings of hakes, the target species of the fishery, 1500 tons; while that the yields have been stable during the last 5 years around 1 500-2 500 kg by fishing day (Fig. 1).

The Survey

An experimental survey 'PALMAU-2000' was carried out in November 2000 on board two bottom-longliners fishing in the Mauritanian EEZ between 175 and 500 m depth (Fig. 2).

Results

Catch survey

Total catch obtained during the survey was 99,819 kg corresponding to 128,822 individuals.

Commercial species accounted 83.7% (in weight) and 79.0% (in number) of total catch (Fig. 3). According to the faunistic composition of landings recorded in the port of Algeciras (Spain), almost the 75% of total weight (Fig. 4) corresponded to two hakes mainly found along the northwest African coast: the Senegalese hake, *Merluccius senegalensis* Cadenat, 1950, and the Benguela hake, *Merluccius polli* Doutre, 1960; while considering the abundance number this average was only the 58.5%.

The remaining commercial species constituted 10.3% and 20.5% in weight and number, respectively, and were, in order of abundance, the large-eye dentex, *Dentex macrophthalmus* (Bloch, 1791); the pomfret, *Brama brama* (Bonaterre, 1788); and the imperial blackfish, *Schedophilus ovalis* (Cuvier and Valenciennes, 1833) (Fig. 4-5).

The information about discards, which is presented in this work, constitutes the first data from the bottom-longline fishery in Mauritanian waters.

Although more than 70 different species could be discarded during fishing operations, discarding only constituted 16.3% and 21.0% in weight and abundance number of total catch.

The main weight percentage corresponded to damaged specimens of hakes, not useful for commercialization (3.1%), and some pelagic fishes such as horse-mackerel, *Decapterus* sp., and mackerel, *Scomber japonicus* (4.0%). Other components of discards were *Trichiurus lepturus*, *Mistryophis crosnieri* and *Coloconger cadenati* (Fig. 6)

Conclusions

The *great abundance* of the target species, the hakes, in the Mauritanian deep bottoms; the *high selectivity* of longliners, which produce a low discarding rate, and the possibilities of *survival of discardings*, make the bottom-longline fishery an alternative option for a rational exploitation of the deep resources occurring in the country.

Always taking in account measures for protection of reproductive period because longliners catch can be constituted to 70% by females biggest than 45 cm.

References

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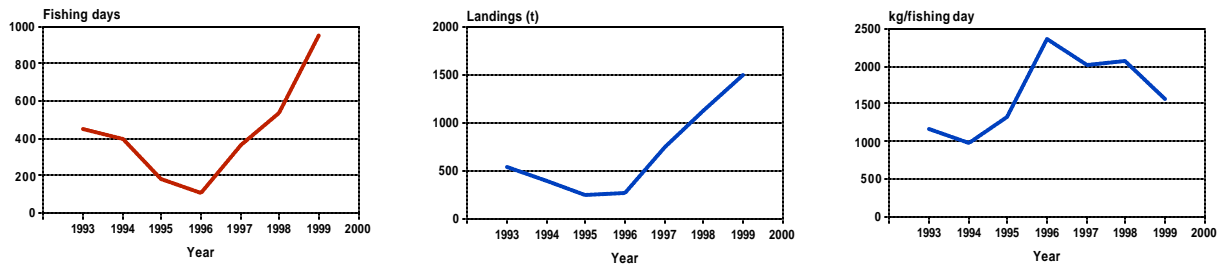


Fig. 1. Efforts (fishing days), landings (tons) and yields (kg by fishing day) of Spanish bottom longliners fishing during 199's decade in Mauritanian EEZ.

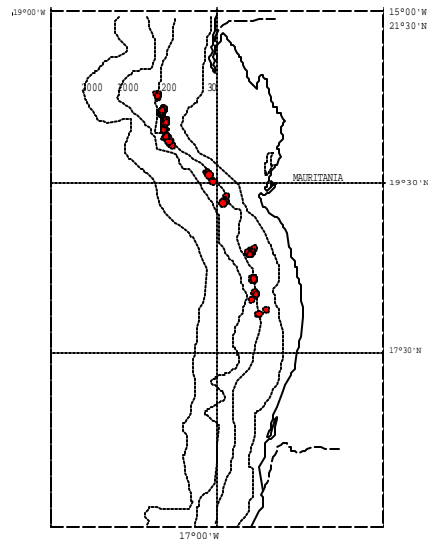


Fig. 2. Sampling points during 'PALMAU-2000'.

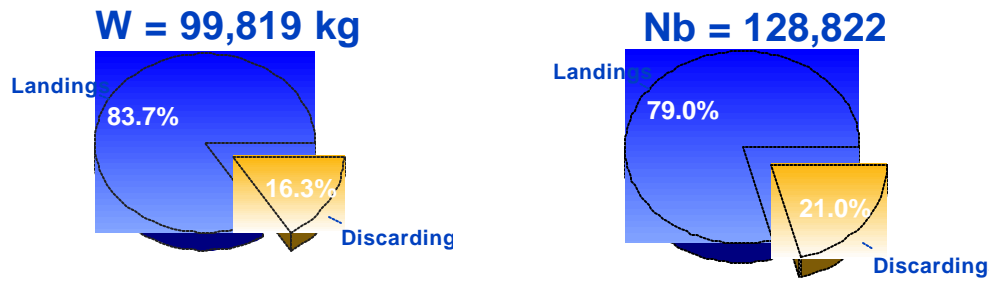


Fig. 3. Percentages of landings and discardings in the total survey catch (weight and individuals number).

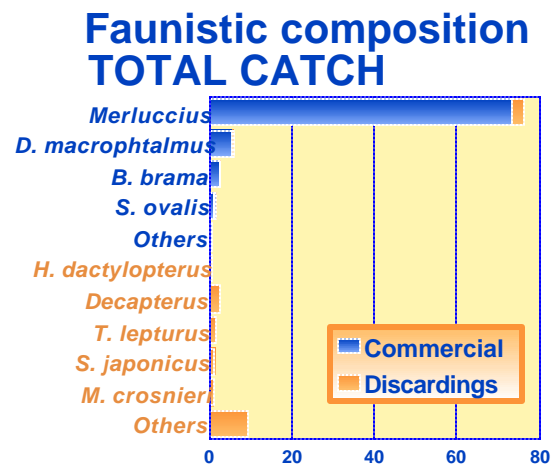


Fig.4. Faunistic composition of total catch.



Fig. 5. Composition of commercial landings of total survey catch (weight and individuals number).