

# MUCH MORE THAN ONE SKATE AND TWO CATSHARKS: THE UNRELIABILITY OF OFFICIAL STATISTICS FROM FISH AUCTIONS IN NE SPAIN



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## INTRODUCTION

The accuracy of fishing statistics is key to the management and conservation of marine resources. In the case of cartilaginous fishes in the Mediterranean, one of the main data sources are the official statistics stemming from the fish auction sales. The accuracy of these data is absolutely essential to do an effective management of these fisheries and to assure the sustainability of the resources. In order to study the reliability of this information and to identify the main source of error, a pilot study was conducted at the artisanal and bottom trawl fish auctions of the Blanes harbour

## MATERIAL AND METHODS

This study was conducted mainly at the artisanal and bottom trawl fish auctions of the Blanes harbour (NE Spain) (fig.1) from February to April 2007. During this time, 35% of the auctions were monitored. The study investigated accuracy of data collection along the different steps of the auction, from the primary treatment to the classification of the species, labelling, and the quality of the collected data (fig.2-3). Fish auctions were monitored to check the consistency between observed sales and declared sales. Pictures from boxes (and labels) which contained cartilaginous fishes were taken to compare real species with the commercial denomination (fig.4-5). In the case of sharks, due to identification problems caused by the species' treatment, some specimens could not be identified at the species level. To solve this problem, their classification was done in upper taxonomic levels, or in "other groups" when it was not possible. These groups were:

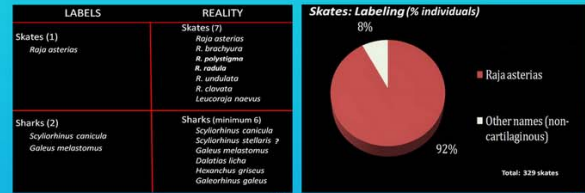
- *Scyliorhinidae undet*: external characteristics of the *Scyliorhinidae* family, but impossible to identify at minor levels due to a lack of other important external characteristics (fig.6).

- *NO Scyliorhinidae undet*: presented typical external characteristics for shark, but characteristics differing from those of the family *Scyliorhinidae*. Impossible to be defined at any other level (fig.7).



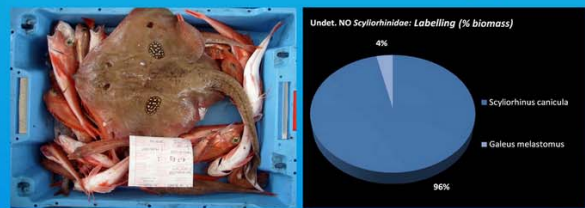
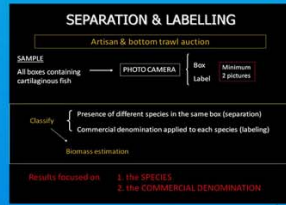
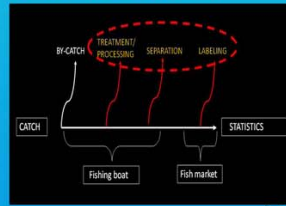
## RESULTS

Although up to seven different skates were sold during the study period (fig.8), only one commercial denomination, *Raja asterias*, was used to label and identify 92% of them (fig.9). The remaining 8%, was a mix of skates with different species labelled as "other non cartilaginous" (fig.10).



*Raja asterias* represented only 2% of the individuals and 1% of the biomass labeled as *Raja asterias*. This means that, of 849 kg of fish labeled as *Raja asterias*, only 8 kg were really *R. asterias*.

In the case of sharks, despite the fact that the 84% of the sold biomass came from non-cat shark species, only two denominations were used, and both referred to cat shark species (96% as *Scyliorhinus canicula* and 4% as *Galeus melastomus*) (fig.11)



Despite the only two commercial denominations, reality revealed that at least five different species of sharks of three different families were observed and sold in the auctions (fig.8). These results shows that **100% of non-Scyliorhinidae was wrong labeled**. These species are fished and sold, but declared with other names, which results in another mistake: extra weight on the statistics of other species, *S. canicula* and *G. melastomus*. Reality revealed that **of 266 kg of fish labeled as *S. canicula*, only 23 kg were really *S. canicula***.

Therefore, estimated **Lost Biomass of the cat shark species study after treatment resulted around 50%** as it is shown in figure 12.

SPECIES	%LB	SD	n
<i>S. canicula</i>	50,98	4,25	22
<i>G. melastomus</i>	51,70	5,40	33

In order to obtain an estimation of the loss of cat sharks biomass caused by the on board treatment and its implication in its no declaration process, an study during May 2007 was conducted in the frame of a MEDITS ES Survey (fig.3). Percentage of lost biomass (LB) was calculated as:  $\%LB=100-(Wat*100/Wbf)$  where *Wat* means weight after treatment and *Wbf* means weight before treatment.

## ACKNOWLEDGMENTS

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## CONCLUSIONS

This pilot study clearly shows that there are strong discrepancies between declared and observed sales in terms of species determination and biomass.

Data on captured species, gears involved and fishing effort are essential to know the real situation of the populations and the pressure suffered by them, this good knowledge of the elasmobranchs fisheries is key in order to achieve a true management and assure the sustainability of the resources. This study shows a clear breach in the current law, which demands sales reports at species level. Furthermore, the current practices on board and in the auctions omit the sale of many species, underestimate the total biomass of captured sharks and completely ignore the discards. An urgent improvement of the auctions' methodology and a control over procedures carried out on board fishing vessels are needed.