LONG-TERM SIGHTINGS OF ELASMOBRANCHS BY RECREATIONAL DIVERS IN THE ISLAND OF GRAN CANARIA (CENTRAL-EAST ATLANTIC).

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ABSTRACT

The potential of data collection by recreational divers for coastal elasmobranchs is illustrated with trends of long-term sightings data in the island of Gran Canaria (Central-East Atlantic). There is an increasing trend in using observations and experiences of persons to describe and estimate the population aspects of wild animals. Elasmobranchs are highly valued as attraction in tourism and their important role in the marine ecosystems. This aspect becomes more important when the studied species have difficult access and are vulnerable to extinction. Additionally, the study of elasmobranchs requires a high effort due to their low abundance. Therefore it is important to explore this type of data and to contrast it with findings of systematic research.

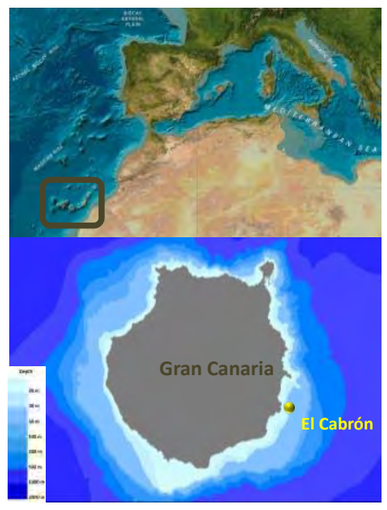

Figure 1: Location of the Canary Archipelago, and the study area of El Cabrón in the island of Gran Canaria.

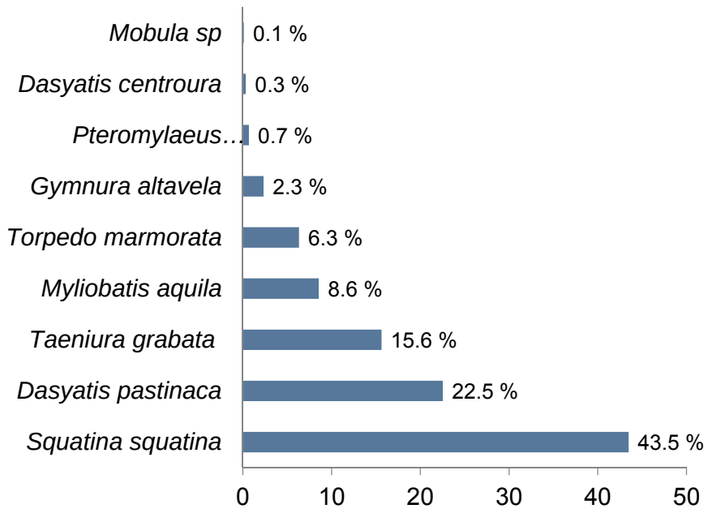

Figure 2: Sightment percentage of elasmobranchs species.

RESULTS

Sightings data from elasmobranch species collected in the area of El Cabrón (Fig. 1) during a 6-year period (June 2006 – May 2013, excluding 2011) reveal an average probability to spot one of in total nine species per three dives. The Angelshark Squatina squatina is the most common sighted species (43.5%), followed by the Common Stingray Dasyatis pastinaca (22.5%), the Round ray Taeniura grabata (15.6%), the Eagle Ray Myliobatis aquila (8.6%), the Marbled Electric Ray Torpedo marmorata (6.3%) and the Butterfly Ray Gymnura altavela (2.3%). The Bull Ray Pteromylaeus bovinus (0.7%), the Rough Tailed Ray Dasyatis centroura (0.3%) and the Devil Ray Mobula sp. (0.1%) are very rarely sighted (Fig. 2).

Trends of the sighting probability from the most frequent sighted elasmobranchs species, pooled by julian week, show a clear seasonal pattern for S. squatina with low sighting probability during summer until mid autumn (Fig. 3), suggesting avoidance of temperatures above 22˚C (Fig. 4). Dasyatis pastinaca and T. grabata have a less pronounced fluctuation with maximum sighting probability during autumn and winter (Fig. 3).

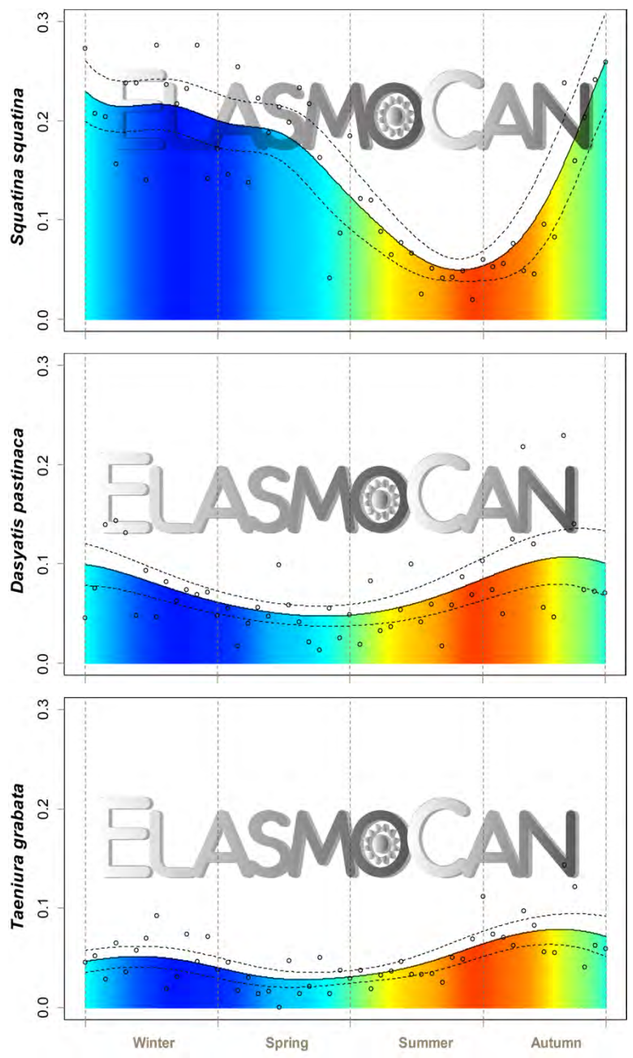

Figure 3: Trends of the sighting probabilities of pooled data by julian week for *Squatina squatina*, *Dasyatis pastinaca* and *Taeniura grabata* with temperature gradient as calculated in Fig. 4.

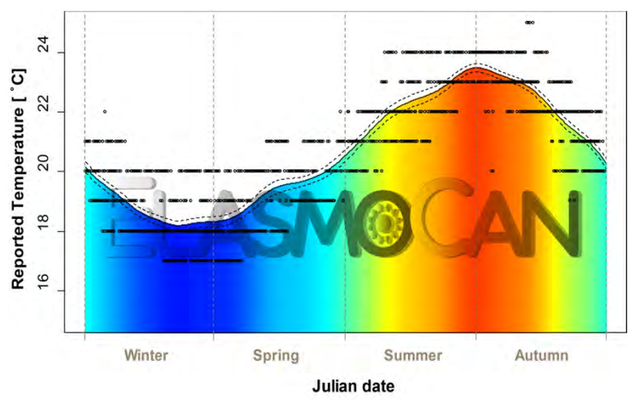

Figure 4: Trend of the reported temperatures pooled by julian date.

CONSIDERATIONS

Elasmobranchs species can be spotted all year round in the area of “El Cabrón”, and in particular *S. squatina*, with bigger probability during the autumn -and winter seasons.

The achievement of 6-year data sightings illustrates the dedication of the general public to collaborate in monitoring coastal elasmobranchs. Although the potential of this sighting program as a monitoring mechanism with relatively easy implementation in areas with recreational diving practices is obvious, rigorous research will be required to validate the data and to describe the regulating factors of the sighting pattern.

ACKNOWLEDGEMENTS

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