



45° Congresso della Società Italiana di Biologia Marina

Venezia, 19-23 maggio 2014



VOLUME DEI PRE-PRINT



**POSTER
COMITATO NECTON E PESCA**

E. DE SABATA¹, G. BELLO², G. CATALDINI³, C. MANCUSI⁴, F. SERENA⁴, S. CLO^{1,5}

¹MedSharks, Via Ruggero Fauro, 82 - 00197 Roma, Italy.
info@medsharks.org

²Arion, Mola di Bari (BA), Italy.

³Museo del Mare, Gallipoli (LE), Italy.

⁴ARPAT Toscana, Italy.

⁵CTS, Roma, Italy.

A SEASONAL HOTSPOT
FOR *CETORHINUS MAXIMUS* IN APULIA,
SOUTHERN ITALY

*HOTSPOT STAGIONALE
DI CETORHINUS MAXIMUS IN PUGLIA*

Abstract - Over 50 records of accidental catches, strandings and sightings dating from 1977 to 2013 reveal the regular presence of basking sharks (*Cetorhinus maximus*) (Chondrichthyes: Lamniformes) in Apulia, south-east coast of Italy. Sightings/captures occur mostly from January to March and are concentrated in the Porto Cesareo/Gallipoli area in the Ionian Sea, an area connected by an underwater canyon to the deep Taranto Valley. This area represents the second identified seasonal hotspot of local abundance for basking sharks in the Mediterranean Sea after North Sardinia.

Key-words: basking shark, *Cetorhinus maximus*, seasonal distribution, Ionian Sea, Mediterranean Sea.

Introduction - The basking shark, *Cetorhinus maximus* (Gunnerus, 1765), is a very large, filter-feeding cold-water pelagic species. It is migratory and widely distributed in temperate waters, but only regularly seen in a few favoured coastal locations feeding at the surface (Sims, 2008). The basking shark's life history, movements, population dynamics and general ecology in the Mediterranean Sea - where it is listed as "Vulnerable" in the IUCN Red List of Endangered species - are not known. The only known seasonal hotspot in the Mediterranean for this species was identified in North Sardinia through the public-sighting scheme 'Operazione Squalo Elefante' (de Sabata and Clò, 2010), mainly in areas characterised by underwater canyons (de Sabata *et al.*, 2013). Recurring media and informal reports suggest that basking sharks are regular visitors of the south-eastern Italian region of Apulia. As for of 2013, the database of the Mediterranean Large Elasmobranchs Monitoring project (MEDLEM), which provides a general picture of the distribution of this species in the area (Mancusi *et al.*, 2005), had only 14 records from the area. The aim of this work was thus to compile all available data from occasional sightings and incidental catches, in order to both assess the importance of this part of the Mediterranean as a seasonal hotspot for basking sharks and update the MEDLEM catalogue.

Materials and methods - Available scientific and grey literature was searched through, combining records of the MEDLEM project, data collected by two of the authors (GB and GC, who are part of the local stranding network), articles of local newspapers, photos/videos retrieved from the internet and social media. A field trip was carried out in Summer 2013 and personal interviews were arranged with personnel from the Coast Guard, Navy, Marine Protected Areas, biologists, recreational and professional fishermen, dive centre operators, yachtsmen and journalists to collect further data and set up a network of observers to report future sightings and captures.

To avoid overestimating shark numbers, in case of multiple sightings over a period up to 10 days in the same area we considered only one entry – selecting the one with the highest number of sharks seen at the same time.

Results - Fifty-seven sightings/captures dating from 1977 to 2013 (31 sightings, 12 captures, 7 strandings and 7 caught/released) were recorded along the Apulian coast, mostly (68%) in the Ionian sea, ranging in size from 300 to 800 cm estimated TL, with aggregations of up to 4 individuals. Sightings peak between January and March (73%). Peak years were recorded in 2001, 2011 and 2013. Most of the records (58%) are from Porto Cesareo/Gallipoli, a 15-nm long stretch of Ionian coast at the mouth of the only canyon leading to the Taranto Valley, one of the most important submarine canyons in the Mediterranean.

Conclusions - Although these reports are not the result of a properly structured survey and the observation effort was not homogeneous in space and time, they suggest that basking sharks are regular seasonal visitors in coastal waters of Apulia, and that the Gallipoli/Porto Cesareo area is a seasonal hotspot of local abundance. This is possibly linked to its proximity to underwater canyons, which are known to act as funnels for water upwelling providing nutrients to the marine ecosystem and enhancing productivity (Wurtz, 2012). The sharp increase in numbers since 2001 (76% of the records) is most likely due to greater public awareness and widespread use of the internet rather than an actual growth in the population of this shark. Likewise, the rise in recorded accidental catches (10 between 1977-99 and 16 between 2001-2013) is most likely due to better reporting than an increase in fishing effort. This information is important as it contributes to the knowledge on the distribution and population structure of basking sharks in the Mediterranean basin and plays an important role in the implementation of conservation measures of such protected species. The enthusiastic participation of members of the public in the “Operazione Squalo Elefante” has significantly increased our current knowledge on the presence of the basking shark in Italian waters and generated considerable public awareness. More interviews will be conducted in the future in the region.

Acknowledgments: This work would not have been possible without the generous support of the Foundation Prince Albert II of Monaco and cooperation of the many people who reported their sightings. Our sincere thanks go to all of them, and especially to Adm. De Tullio, T.V. Tommaso Capodiferro, T.V. Mirco Negro and the personnel of Bari, Mola di Bari, Otranto, Gallipoli, Taranto Coast Guard; Sergio Fai (Porto Cesareo MPA); Nicola Ungaro (ARPA Puglia); Ferdinando Boero and Antonio Terlizzi (Università del Salento); Nicola Zizzo (Università di Bari); the staff at Ionian Dolphin Conservation) and Valeria Lo Presti (Università di Roma La Sapienza).

References

- DE SABATA E., CLÒ S. (2010) - Public sightings scheme reveals the seasonal presence of *Cetorhinus maximus* around North Sardinia, Italy. *Biol. Mar. Mediterr.*, **17** (1): 246-247.
- DE SABATA E., CLÒ S., OLITA A. (2013) - On the occurrence of basking sharks (*Cetorhinus maximus*) in Sardinia in relation to oceanographic variables. *Biol. Mar. Mediterr.*, **20** (1): 180-181.
- MANCUSI C., CLÒ S., AFFRONTI M., BRADAI M., HEMIDA F., SERENA F., SOLDI A., VACCHI M. (2005) - On the presence of basking shark (*Cetorhinus maximus*) in the Mediterranean Sea. *Cybium*, **29** (4): 399-405.
- SIMS D.W. (2008) - Sieving a living: a review of the biology, ecology and conservation status of the plankton-feeding basking shark *Cetorhinus maximus*. *Adv. Mar. Biol.*, **54**: 171-220.
- WURTZ M. (ed) (2012) - *Mediterranean Submarine Canyons: Ecology and Governance*. IUCN: 216 pp.