

OCCURRENCE OF BASKING SHARK, *CETORHINUS MAXIMUS* (ELASMOBRANCHII: LAMNIFORMES: CETORHINIDAE), OFF THE SYRIAN COAST (EASTERN MEDITERRANEAN)

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Abstract

The authors report in this paper the first record of basking shark, *Cetorhinus maximus* (Gunnerus, 1765), off the coast of Syria (eastern Mediterranean). The specimen was an adult female, 690 cm total length and weighing approximately 2.5 t. It was a pregnant female at the beginning of gestation and contained 34 egg cases. The first description of *C. maximus* egg case is provided with short comments on the reproductive biology of the species.

Keywords: *Elasmobranchii, Fishes, Systematics, Biodiversity, Latakia Basin*

Basking shark, *Cetorhinus maximus* (Gunnerus, 1765), is a large shark, distributed worldwide, generally found in boreal to warm temperate waters, frequently sighted in open seas, and which often enters into enclosed bays where it is usually captured; additionally, some dead specimens are found stranded on the beach [1]. The presence of basking shark is known in the Mediterranean, but most of the reported captures were from western and central areas [2], especially off the Maghreb coast [3] and the Adriatic Sea [4, 5]. Conversely, *C. maximus* appears to be less frequently captured in the eastern Mediterranean basin, from the Turkish coast [6, 7, 8] to Levant Basin [9]. It has hitherto not been reported off Lebanon [10, 11] and Syria, where through surveys conducted from January 2000 to date, 42 elasmobranch species have already been identified [12, 13]. During these surveys, a female *C. maximus* was captured on 20–21 April 2012 by gill-net, spread from the beach to 150 m in the sea, at a depth of approximately 10 metres, off Raas Albassit, city located in northern Syria (35°50'50"N, 35°48'16"E). The specimen was a female measuring 6.90 m in total length and weighing 2.5 t (Fig. 1). Its identification was aided by Bigelow and Schroeder [14], Compagno [1] and Quero [15], based on: 5 extremely huge gill-slits virtually encircling the head, gill arches with bristle-like rakers, pointed snout, large sub-terminal mouth with numerous minute hooked teeth, caudal peduncle with strong lateral keels, lunate caudal fin nearly asymmetrical. Measurements were carried out directly at Lattakia fishmarket, following methodology of Compagno [1] for sharks, and recorded to the nearest cm. The absolute values were also related to the percentage of total length. The female was cut up in a hurry by fishermen and rapidly sold, the abdominal cavity was opened and 34 egg cases were found in the body liquids. Unfortunately, a single egg case could be collected; it was deposited in the Ichthyological Collection of the Marine Sciences Laboratory, Agriculture Faculty, Tishreen University of Syria, under the catalogue number 251 M.S.L. This large female *C. maximus* contained egg cases in the uterus, was at the beginning of the gestation, and it could be considered as a pregnant specimen, the second recorded to date. The first record was made by a Norwegian fisherman who caught a female ready to give birth to large near-term embryos [16]. Catches of basking sharks exclusively concern non-pregnant females [17, 18]. Matthews [19] recorded a nonpregnant female *C. maximus* having large number of small eggs in their ovaries. Compagno [1] and Kunzlik [20] suggest that the species is ovoviviparous and has uterine cannibalism like other lamnoids, with embryos feeding on the small eggs. Such hypothesis is not suitable due to the fact that the species exhibits minute teeth and is planktonophagous. Additionally, the eggs found in this female—rather large and heavy—showed that *C. maximus* is unable to assume this reproductive strategy. On the other hand, *C. maximus* is not a true ovoviviparous elasmobranch species such as whale shark, *Rhincodon typus* Smith, 1828, in which embryo development is protected by a rigid capsule in female uterus [21]. At maturity, female basking sharks reach the size of 8.1–9.8 m [1]. The specimen described in the present paper showed that females could mature at smaller-size, which would be consistent with Bigelow and Schroeder [22] who noted that they matured between the length of 457 and 610 cm. Gilmore [23] noted that parturition size occurred when the embryos reached 150 cm total length and the smallest free-swimming specimen was 165 cm total length. Compagno [1] noted that gestation period of basking shark lasted between 12 and 36 months. The small size and low weight of eggs collected and—on the contrary—the large size

of neonates (observed elsewhere) suggest a substantial transfer of nutrients from the mother to the embryos. Such transfers probably require a long period of time. The length of this period, however, still remains obscure and requires further records to be clearly assessed. The presently reported fecundity per litter (34 eggs) does not appear very low for an elasmobranch species, for instance, Capape [24] recorded a minimum fecundity of one specimen per litter in gulper shark, *Centrophorus granulosus* [25]. This first record of *C. maximus* off the Syrian coast confirms the rarity of the species throughout the Mediterranean Sea. The capture of a pregnant female in shallow coastal waters is probably occasional, but remains also questionable with special regard to an isolate and declining population still existing in the region



Fig. 1. Pregnant female of *Cetorhinus maximus* captured off the coast of Syria. Entire specimen loaded on a truck.

References

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