

SHORT COMMUNICATION

New records of gravid female and adult male of the angular rough shark, *Oxynotus centrina* (Oxynotidae) from the northeastern Mediterranean

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Abstract

In this study, two individuals of the angular rough shark *Oxynotus centrina* as discard by a commercial trawler were examined. Gravid female of this species was recorded for the first time from the northeastern Mediterranean. Occurrence of a gravid female and adult male of *O. centrina* in the northeastern Mediterranean Sea strongly indicates that there is a nursery area in this region, and mating probably occurs.

Keywords: *oxynotus centrina*, reproduction, eastern Mediterranean, shark, elasmobranchs

The angular rough shark, *Oxynotus centrina*, is one of demersal sharks, inhabiting depths of 50-500 m in the Mediterranean Sea (Golani *et al.* 2006). Occurrence of *O. centrina* in the eastern Mediterranean Sea was reported in Iskenderun Bay (Bařusta and Erdem 2000), in the Sea of Marmara (Kabasakal 2009), in the North Aegean Sea (Eryılmaz 2003) and in various areas of Greek waters (Megalofonou and Dalamas 2004; Nicolaidou *et al.* 2012). Up to date, sightings of *O. centrina* have been extremely rare in the eastern Mediterranean waters. In addition, its reproductive biology is little known in this area. This paper presents some data on the first gravid female specimen caught in the northeastern Mediterranean Sea.

A gravid female and an adult male of *O. centrina* were obtained from the discarded catches by commercial trawl fishing at depth of 120 to 150 m off the Akinci Cape in the northeastern Mediterranean Sea (36°14'02"N-35°45'3.729"E) on 14 May 2014. The samples were transferred to the laboratory where biological data such as sex, maturity stage, weight and length were recorded and

photographed. Total length was measured to the nearest 1 mm and the weight of each specimen was measured to the nearest gram. Upon dissection, liver and gonads were removed and weighed for each specimen. Eggs were counted in each ovary and weighed with a digital scale to the nearest 0.01g.

Weight and total length of gravid female and male of *O. centrina* were 2570g and 841 g, 560 mm and 437 mm, respectively (Figures 1a and b). This length for gravid female is the same with the one reported by Capapé *et al.* (1999). The female had asymmetrically distributed 11 developing yellow yolk oocytes, which were 27.32-36.15 mm in diameter (4 in the right and 7 in the left ovary). The uteri were in resting phase and stomach was empty (Figures 2a and b). These values are similar to those reported by Dragicevic *et al.* (2009) from the eastern Adriatic Sea. Clasper length of the adult male was 2.5 cm which was bigger than the anal fin.

The angular rough shark is considered as critically endangered in the Mediterranean Sea by IUCN (Abdul malak *et al.* 2011). Occurrence of a gravid female and adult male of *O. centrina* in the northeastern Mediterranean Sea strongly indicates that there is a nursery area in this region, and mating probably occurs. Consequently, there is a need of conservation plan for *O. centrina* in the northeastern Mediterranean Sea.



Figure 1. The angular rough shark (*Oxynotus centrina*) from the northeastern Mediterranean Sea; (A) Male TL = 437 mm (B) Female TL = 560 mm



Figure 2. Dissected abdominal cavity of gravid female *O. centrina* (a) and its eggs (b) (4 eggs in right and 7 eggs in left)

Kuzeydoğu Akdeniz'den domuz köpekbalığının, *Oxynotus centrina* (Oxynotidae) olgun erkek ve yumurtalı dişisinin yeni kayıtları

Özet

Bu çalışmada iki domuz köpekbalığı bireyi kuzeydoğu Akdeniz'de ticari trol avcıları tarafından ıskarta olarak yakalandı. *Oxynotus centrina*'nın yumurtalı dişi bireyi kuzeydoğu Akdeniz'den ilk kez kaydedildi. Olgun erkek ve yumurtalı dişi *O. centrina*'nın kuzeydoğu Akdeniz'de görünürlüğü bu bölgede olası bir çiftleşmenin olduğunu ve bir yavru bakım alanının varlığını güçlü bir şekilde işaret etmektedir.

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