First record of *Terapon theraps* (Terapontidae) in the Aegean Sea (Greece)

by

George MINOS* (1), Anastasia IMSIRIDOU (1) & Panos S. ECONOMIDIS (2)

**MATERIALS AND METHODS**

On 10 September 2008 a specimen of *T. theraps* (Fig. 1) with a total length of 153 mm and a weight of 68 g was captured alive by gillnets in 20 m depth in Thermaikos Gulf, Northern Aegean Sea, Greece, (Fig. 2). The water temperature was 20 °C, the salinity 36.5‰ and the seabed was covered with sea grass. The specimen of *T. theraps* was deposited in the Ichthyological collection of the Alexander Technological Educational Institute of Thessaloniki, Department of Fisheries and Aquaculture Technology (catalogue number 2008-010).

Total DNA was extracted from muscle and the mitochondrial COI gene was amplified according to Ward *et al.* (2005). The size of the PCR product was checked against a 100 bp DNA ladder and was approximately 700 base pairs. A sequencing analysis on a 3730 × 1 DNA Analyzer (Applied Biosystems, Inc.; www.appliedbiosystems.com) followed, using both forward and reverse primers for cross-checking.

**RESULTS**

**Description**

On the base of one specimen; body oval, compressed, and robust; lower opercular spine extending clearly beyond the opercular flap; post-temporal bone exposed posterior and serrate; color dusky dorsally, silvery-white ventrally; body, head and fins with an iridescent sheen; four longitudinal brown stripes extend on the upper side from the head; similar brown stripes run across the caudal fin; a large prominent black blotch between 3rd and 7th spines in the spinous portion of the dorsal fin; soft part of dorsal fin with a dark band along upper portions of anterior rays and a horizontal band on posterior rays, anatomically, an amount of fat concentrations between internal organs was observed, approximately 3 g.

**Meristics**

Dorsal (D) = XII + 10; anal (A) = II + 8; ventral (V) = I + 5; pectoral (P) = 13; lateral line scales (L.L.) = 55; scale rows above lateral line, 8.

**Genetic analysis**

A total of 670 base pairs of the COI gene fragment were successfully sequenced. The DNA sequence was deposited in GenBank (accession number: JF340158).

**DISCUSSION**

The species *T. theraps* and *T. puta* are morphologically similar, and they differ on the number of lateral line scales (46-56 in *T. theraps* and 70-85 in *T. puta*) and on the number of rows of scales above lateral line (6-8 in *T. theraps* and 10-13 in *T. puta*) (Fischer & Whitehead, 1974; Vari 1984). Also, the maximum length for *T. theraps* is 32 cm (commonly to 22 cm) while for *T. puta* is 15 cm (commonly 11-13 cm) (Vari, 2001). So, the Chalkidiki specimen having 8 rows of scales above lateral line, 55 lateral line scales and being 15.3 cm in...
Some remarkable coincidences must be underlined, such as: both specimens of *T. jarbua* were collected close to the area where ships enter the port of Haifa (Golani and Appelbaum-Golani, 2010). The previous are reinforced by the report of one individual of *T. jarbua* that was found in the ballast tank of a cargo ship that had been traveling for 14 days from the origin to the destination port (Williams et al., 1988). Consequently the ballast carrying hypothesis seems to be more appropriate. On the other hand, it is almost impossible for the fish to cross such an extremely long distance, from Suez Canal up to the upper limits of the Adriatic and/or of the Aegean Seas, on its own. Additionally, it has never been reported in the between area, given that all family members are easily distinguishable by fishermen, due to their special color pattern. Furthermore, another question is also rising: is this tropical species able to live and to establish viable populations in this upper latitude of 40° N, as in the northern Mediterranean and withstand the water temperatures, that varies in summer from 19.5 to 24°C and in winter from 11.5 to 16°C? Probably not, given that while it has the opportunity to do that in its natural range in the Indo-Pacific Ocean it never reaches high latitudes. As it is known in literature, the species *T. jarbua* is common as southward as 30° S, in the coasts of East Africa, Madagascar (Vari, 1984) and to Perth and southward to Queensland (Australia) (Fisher and Whitehead, 1974) to northward as 30° N, in Red Sea, Persian Gulf (Vari, 1984) and Southern Japan (Masuda et al., 1984).

Acknowledgements. - We would like to thank Mrs. Vasilia Paraskeva, Mr. George Kiosses and Mr. Lialiaris Nikolaos for providing the specimen and Mrs. Alexia Dara for her comments on the editing of the manuscript. Also the port authorities of N. Moudania and Thessaloniki for providing data on the list of ships approached these ports.

REFERENCES


Reçu le 23 mai 2011.

Accepté pour publication le 23 août 2011.