

**FIRST RECORD OF MARBLED STINGRAY, *DASYATIS MARMORATA* (ELASMOBRANCHII: MYLIOBATIFORMES: DASYATIDAE), ON THE COAST OF TURKEY, NORTH-EASTERN MEDITERRANEAN**

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**Abstract.** Two specimens of marbled stingray, *Dasyatis marmorata* (Steindachner, 1892), were captured for the first time on 24–25 October 2013 in the Iskenderun Bay, located in the north-eastern Mediterranean coast of Turkey. This is the first record of *D. marmorata* in Turkish coastal waters and the seventh dasyatid species reported to date from the area.

**Keywords:** stingray, description, morphometric measurements, Iskenderun Bay

The family Dasyatidae is represented by seven species in the Mediterranean Sea: *Dasyatis centroura* (Mitchill, 1815), *Dasyatis marmorata* (Steindachner, 1892), *Dasyatis pastinaca* (Linnaeus, 1758), *Dasyatis tortonesei* Capapé, 1975, *Himantura* (Gmelin, 1789), *Pteroplatytrygon violacea* (Bonaparte, 1832), and *Taeniura grabata* (Geoffroy Saint-Hilaire, 1817) following Bilecenoglu et al. (2002), Golani and Capapé (2004), and Fricke et al. (2007). *Himantura uarnak* is a Red Sea immigrant, entering into the Mediterranean Sea through Suez Canal (Golani et al. 2002, Ali et al. 2010).

*Dasyatis* species occur in marine, estuarine, and freshwater habitats in temperate and tropic areas (McEachran and Capapé 1984). *Dasyatis marmorata*—a tropic-Atlantic species—rapidly dispersed throughout the Mediterranean Sea (Quignard and Tomasini 2000) and it is presently considered as frequent in the western Basin and in large areas of the eastern Basin (Golani et al. 2002). *Dasyatis marmorata* was first recorded in the Gulf of Gabès and the Bahirat El Biban, southern Tunisia, by Maurin and Bonnet (1970) and latter by Capapé and Zaouali (1992, 1995). The subsequent records were from the Mediterranean coast of Israel (Golani and Capapé 2004). Additionally, El Kamel et al. (2009) reported the migration of the species in northern Tunisian areas and recorded it in a perimediterranean lagoon (*sensu* Quignard and Zaouali 1980): the Lagoon of Bizerte. *Dasyatis marmorata* was previously considered a junior synonym of

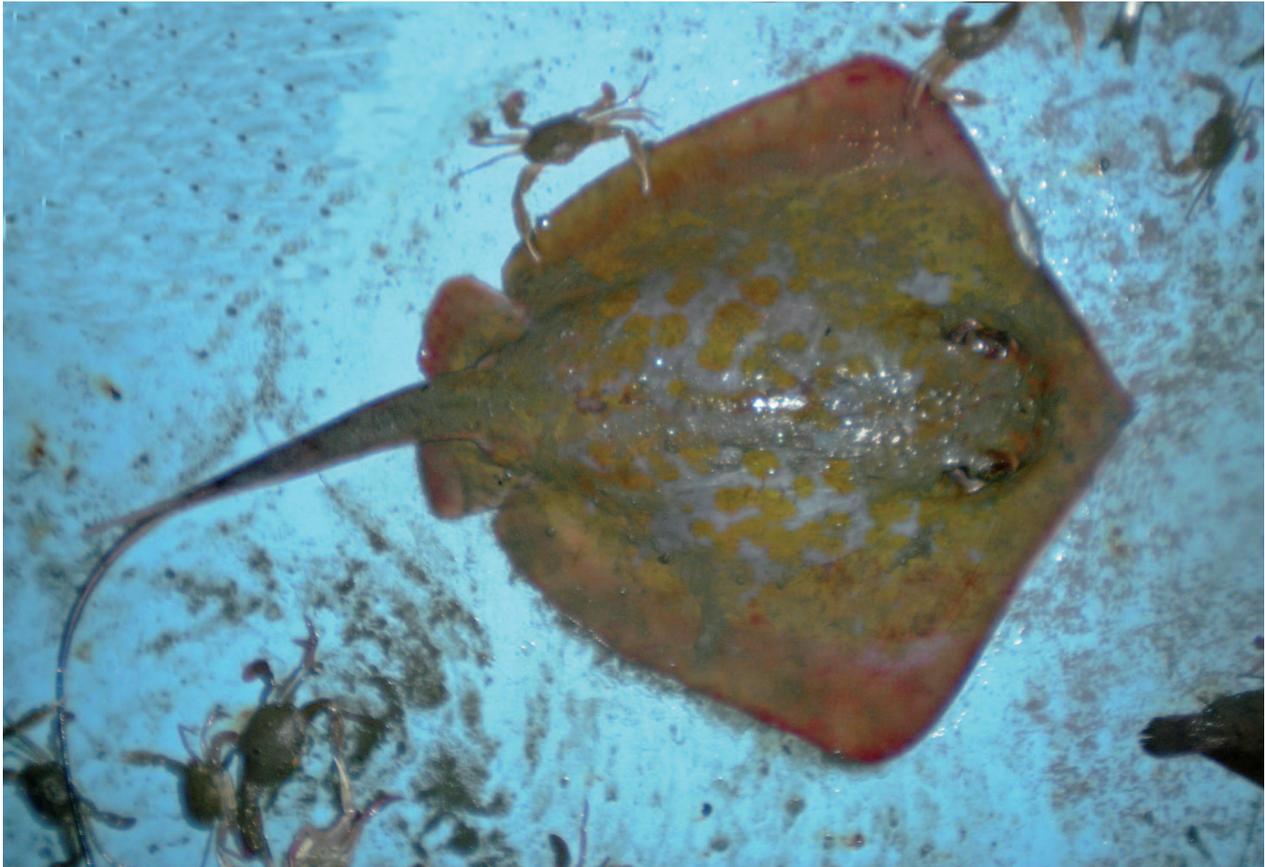
the blue stingray *D. chrysonota* (Smith, 1828), however the status of both species still remains doubtful and needs further studies (Golani and Capapé 2004, Notarbartolo di Sciara et al. 2009).

On 24–25 October 2013, two female specimens of marbled stingray *Dasyatis marmorata*, were captured from the Iskenderun Bay (Yumurtalik Bight; 36°39'N, 35°41'E), north-eastern Mediterranean part of Turkey (Fig. 1).



**Fig. 1.** Map showing record locations of marbled stingray, *Dasyatis marmorata*, in the North-Eastern Mediterranean coast of Turkey; Black dot represents the collection locality

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**Fig. 2.** Marbled stingray, *Dasyatis marmorata*, from the Iskenderun Bay (MSM-PIS/2013-4; TL = 405 mm, DW = 209 mm); Photograph: Deniz Erguden

The specimens were obtained by commercial trawler on sandy-muddy bottoms. Specimens were trawled at depth 32 m on sandy-muddy bottom. These specimens were preserved in 10% buffered formalin and deposited in the Museum of the Faculty of Fisheries, Mustafa Kemal University, under the following catalogue numbers: MSM-PIS/2013-4 and MSM-PIS/2013-5 (Fig. 2).

All morphometric measurements of the captured *Dasyatis marmorata* were recorded to the nearest 0.01 mm using digital callipers. The total lengths of two specimens were 405 and 452 mm and their weights were 335.71 and 529.16 g, respectively. Some ratios (percent of the disk width) of the marbled stingray were determined for the first and the second specimen, respectively, as: the disk depth was 14.7%–16.7%, disk length was 82.8%–83.2%, pre-oral length was 17.5%–20.1%, pelvic span was 31.1%–31.4%, pelvic fin of anterior margin was 16.7%–17.7%, and ventral tail fold was 29.7%–31.1%. The picture of the captured female specimen (MSM-PIS/2013-4) is given in Fig. 2. All measurements, morphological description, and the colouration of the marbled stingray are in agreement with previous descriptions given by Cowley and Compagno (1993), Golani and Capapé (2004), and El Kamel et al. (2009).

*Dasyatis marmorata* is closely related to *D. pastinaca*, which in the past resulted in misidentification. These two species can be distinguished by the ratio of the disk length

vs. disk width and by the snout to vent length vs. disk width, smaller in *D. pastinaca* (see Cowley and Compagno 1993). Moreover, the dorsal fold of tail is higher in *D. marmorata* in comparison to *D. pastinaca* while dorsal fold of tail is lower than ventral fold in *D. pastinaca*. In addition, *D. marmorata* differs in colouration: The dorsal surface is irregularly shaped, yellowish to slate blue blotches; on the other hand, the dorsal surface is uniformly dark brown to olive in *D. pastinaca* (see Golani and Capapé 2004).

The marbled stingray, *Dasyatis marmorata*, has a widespread distribution throughout eastern Atlantic, Mediterranean and South Africa to Naval (Compagno et al. 1989, Cowley and Compagno 1993). Capapé and Zaouali (1995) noted that *D. marmorata* prefer warm waters, inhabiting sandy and muddy bottoms at depths between 12 and 65 m. Sometimes it is found near rocky reefs (Michael 1993). Males mature at around 30 cm total length (TL) and females at 34 cm TL. Gestation period lasts for about three months for *D. marmorata* which reaches a maximum size of 30 cm disc width and 60 cm total length (Capapé and Zaouali 1995, Capapé et al. 1996), and feeds predominantly on crustaceans such as crabs, shrimps, amphipods, and also on small fishes and worms (Capapé and Zaouali 1992).

Up to date, of the 66 cartilaginous species occurring in the Mediterranean coast of Turkey (Fricke et al. 2007,

Yaglioglu et al. 2013), six belong to the family Dasyatidae, and with the present report, the number of stingrays species reported in the Turkish coast waters has reached seven. Although *D. marmorata* has been recorded from the Eastern Atlantic and eastern Mediterranean (Cowley and Compagno 1993, Capapé et al. 1995, 1996), it has not been reported from the north-eastern Mediterranean. Consequently, our finding constitutes the first report of this species in the Iskenderun Bay from the north-eastern Mediterranean coast of Turkey. *Dasyatis marmorata* is a non-target fishery species in the area, but is occasionally caught as by-catch in bottom trawl fisheries; and further study is required to get information and assess the impact of fisheries and life history of *D. marmorata* off the Mediterranean Sea coast of Turkey.

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