

SECOND RECORD OF THE COBIA, *RACHYCENTRON CANADUM* (ACTINOPTERYGII: PERCIFORMES: RACHYCENTRIDAE), FROM THE MEDITERRANEAN SEA

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Abstract. On 2 August 2013, a specimen of the cobia, *Rachycentron canadum* (Linnaeus, 1766), was caught off Marmaris, south-eastern Aegean coast of Turkey. The fish was examined and morphometric characteristics of the specimen collected were determined. The species is being reported from the second time in the Mediterranean, preceded by its first occurrence off Haifa, Israel in 1978. The newly caught specimen was larger (SL) than the previously recorded individual (923 mm vs. 766 mm). All measurements, counts, and colour patterns determined were consistent with earlier published descriptions of the species.

Keywords: *Rachycentron canadum*, cobia, Lessepsian migration, Mediterranean

Cobia, *Rachycentron canadum* (Linnaeus, 1766) is a large, migratory, pelagic fish of the monotypic family Rachycentridae, which are found mainly close to the shore with the depth range of 0–1200 m. The young fish are mainly solitary, which later become gregarious (Golani et al. 2006, Froese and Pauly 2013). Cobia has been observed occurring over a variety of bottom types, such as: mud, sand and gravel, coral reefs; off rocky shores and in mangrove sloughs; inshore around pilings and buoys, and offshore around drifting and stationary objects; occasionally in estuaries (Froese and Pauly 2013). They feed on pelagic and benthic fish, crustacean (especially crabs, so called ‘crabeater’) and cephalopods (Golani et al. 2002, 2006). Cobia is considered an excellent game fish (Golani et al. 2002).

Cobia adults reach lengths of up to 2 m and weights of 68 kg (Froese and Pauly 2013) and due to its rapid growth, it has been an excellent candidate for aquaculture with research on spawning and grow-out has been underway in Taiwan and the USA since the early 1990s; PR China, Vietnam, and the Philippines are currently farming cobia in cages and recently research and production have been initiated in the EU, Brazil, and Panama. To date, research and development of cobia aquaculture has been initiated in over 23 countries, half of which reside in the Asian-Pacific region (Holt et al. 2007, Nhu et al. 2011). Cobia is initially reared in outdoor and subsequently transferred to open ocean cages grow to 6–10 kg within 1–1.5 years (Liao et al. 2004).

Cobia is distributed nearly worldwide in tropical and subtropical waters, except for the central and eastern Pacific, covering the areas: from Canada to Bermuda and

Massachusetts; from USA to Argentina, including the Gulf of Mexico and entire Caribbean in Western Atlantic; from Morocco to South Africa in Eastern Atlantic and East Africa and Hokkaido; from Japan to Australia in Indo-West Pacific (Tortonese 1986, Shaffer and Nakamura 1989, Golani et al. 2006, Froese and Pauly 2013). In the Mediterranean Sea, only a single specimen was recorded in Haifa Bay, Israel in 1978 (Golani and Ben-Tuvia 1986).

On 2 August 2013, a specimen of *Rachycentron canadum* (Fig. 1) was caught by a longline fisherman targeting grouper on a boat from which sardine and squid flesh was used as bait. The fish snapped the bait at the surface of the sea while the fisherman was hauling the longline (diameters of main and branch line were 0.9 mm and 0.8 mm, respectively). Location of the capture was the Marmaris coast (36°42'N–28°15'E), South-eastern Aegean Sea (Fig. 2), at the depth of 30–50 m on a sandy bottom. The specimen was fixed in 4% formaldehyde solution and deposited in the fish collection of the Ege University, Fisheries Faculty (ESFM-PIS/2013-002). Diagnostic characters were counted and recorded.

The specimen measured 923 mm standard length (SL, and 10 826 g weight); the percentage of SL to fork and total lengths were 107.5% and 119.3%, respectively. The ratio head length (HL) to SL was 21.9%, while the pre-dorsal length accounted for 24.8% of SL, the pre-anal length 55.3% of SL, pre-pectoral length 22.3% of SL, and maximum body depth 17.3% of SL. Based on the HL, the eye diameter was 9.4% and pre-orbital length 42.6%. In percentage of HL: eye diameter 13.3%, pre-orbital length 38.7% and inter-orbital length 52.5%. The meristics

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of fins were: dorsal fin rays VIII + 32, anal fin rays III + 23, pectoral fin rays 20, and ventral fin rays I + 5. All measurements, counts, and colour patterns determined were in accordance with of Tortonese (1986), Shaffer and Nakamura (1989), Golani et al. (2006), and Froese and Pauly (2013).

The specimen caught from Marmaris was larger (923 mm SL) than the previously recorded individual (766 mm SL, Golani and Ben-Tuvia, 1986).

According to Golani et al. (2002), the mode of introduction of cobia was presumably via the Suez Canal but an

Atlantic origin is also possible. Golani and Sonin (1996) debated that the occurrence of some tropical eastern Atlantic species in the Levant is reasonable and do not represent isolated populations but rather a sparsely continuous distribution. Although, distribution of some common fishes such as—*Epinephelus haifensis* (Ben-Tuvia, 1953); *Sphyræna viridensis* Cuvier, 1829; *Acanthurus monroviae* Steindachner, 1876; *Arius parkii* Günther, 1864 — extending from West and North Africa to the Levant, is known (Golani and Sonin 1996), *R. canadum*, the first



Fig. 1. Cobia, *Rachycentron canadum*, caught off Marmaris, SE Aegean, Turkey, 923 mm SL

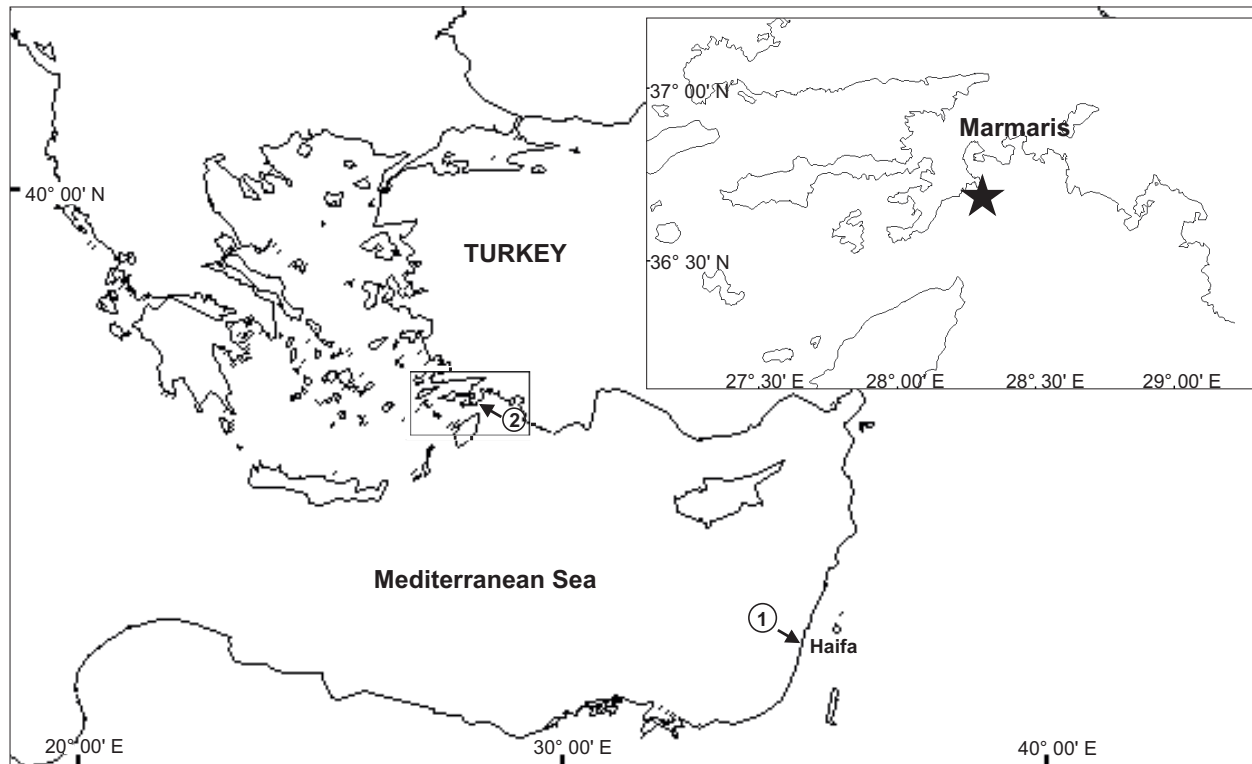


Fig. 2. Records of cobia, *Rachycentron canadum*, in the Mediterranean Sea: 1 = Haifa, Israel, 10 November 1978, 2 = Marmaris, Turkey 2 August 2013

record in the Mediterranean Sea was considered to be a Lessepsian migrant by Golani and Ben-Tuvia (1986). In that case, the second record from Turkey shows that an introduction to the Levantine basin via Suez Canal is rational, because there has been no record from the western basin of the Mediterranean so far.

The occurrence of *Rachycentron canadum* in Marmaris, south-east Aegean Sea was not unexpected but did not clearly indicate an established population. However, this short report contributes to the knowledge of a new Lessepsian fish for the Turkish ichthyofauna.

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