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Aquatic Invasions Records

First record of the Red Sea orangeface butterflyfish *Chaetodon larvatus* Cuvier, 1831 in the Mediterranean

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Abstract

The Red Sea species, the Orangeface Butterflyfish, *Chaetodon larvatus,* is recorded for the first time from the Mediterranean. Its occurrence there is evidentially the result of entering the Mediterranean via the Suez Canal.

Key words: *Chaetodon larvatus*, first record, Mediterranean, Lessepsian migration

Introduction

The influx of Red Sea species into the Mediterranean via the Suez Canal, known as Lessepsian migration, shows no sign of cessation. In total 80 substantiated records of Lessepsian migrant fish species exist (Golani 2010; Bariche and Heemstra, in press), with no less than 26 species recorded since the start of the 21st century. Some of these [*Fistularia commersoni* Rüppell, 1838; *Plotosus lineatus* (Thunberg, 1787), *Nemipterus randalli* Russell, 1986, *Decapterus russelli* (Rüppell, 1830), *Apogon smithi* (Kotthaus, 1970)] established large populations almost immediately following their first record in the Mediterranean.

Methods

On 15 January 2011 an 89.9 mm (SL) specimen of *Chaetodon larvatus* Cuvier, 1831, weighing 37.6 g, (Figure 1) was speared at a depth of 10 m near Tel Shiqmona (32°49′27″N, 34°56′49″E) at the southern edge of Haifa Bay, Israel. The specimen was deposited at the Hebrew University Fish Collection and received the catalogue number HUJ 20053. This report constitutes the 81st substantiated record of Lessepsian fish species in the Mediterranean Sea. Counts and measurements followed Hubbs and Lagler (1947).

Results and discussion

Description

Body deep (90.0% of SL) and very compressed. Small head (26.1% of SL) with protractile and slightly oblique mouth. Long and narrow brush-like teeth located on the anterior of both jaws. No teeth on roof of mouth. Large eye (35.3% of head length), narrow interorbital (39.1% of head length). Continuous dorsal fin with 11 spines and 27 soft rays; spines becoming progressively larger. Deep notch between the first 7 spines. Anal fin with 3 spines and 23 rays also increasing in length. Caudal fin truncated. Pectoral fin round with 15 rays. Pelvic fin with one spine and 5 rays, the first larger, with a short filament and the rest progressively shorter. Lateral line with 22 tubed scales terminating at the vertical of the forth dorsal ray. Series of 36 longitudinal scales. Entire body covered with fine ctenoid scales, including the head and most of the median fin membrane. Pointed axillary scale at the base of the pelvic fin. Preoperculum edge with very small serrae becoming slightly

Figure 1. *Chaetodon larvatus* HUJ 20053, 89.9 mm (SL), 15 January 2011, Haifa Bay, Israel. Photograph by D. Golani.

larger at its angle. Nostrils located at vertical of the upper third of eye; anterior nostril larger and equipped with a flap and located slightly lower.

Color: anterior part of the head brownish-orange. Body with grayish background with 13 chevron-shaped vertical yellowish lines, the last three progressively shorter. Posterior part of dorsal fin, caudal peduncle and most of the caudal fin are black. Posterior edge of caudal fin transparent to white. Membrane between the anal fin spines orange, the rest of the fin dark grey, its posterior portion with orange and black vertical lines and white edge. Pectoral fin transparent. Pelvic fin orange with white spine in front.

Remarks

Chaetodon larvatus is considered to be endemic to the Red Sea and the Gulf of Aden. However, Randall (1995) reports two observations by other people of this species in the Gulf of Oman; these sightings were not substantiated by collection. In reliance upon Randall's (1995) report, Menilo and Bogorodsky (2003) included *C. larvatus* in the ichthyofauna of the Gulf of Arabia (Persian Gulf).

This species can reach 12 cm and, according to several authors, feeds chiefly upon coral polyps in its native region (Randall 1983, 1995; Allen et al. 1993).

This record indicates the presence of this *C. larvatus* as a vagrant species in the Mediterranean Sea. Establishing populations should have the capacity to adapt to new trophic resources, since the poor Mediterranean coral fauna would not be sufficient. *C. larvatus*, like most cogenerics, lives singly or in pairs and actively defends its territory (Zekeria and Videler 2003). *C. larvatus* has been observed in the southern Gulf of Aqaba in pairs in defined territories, while it has been recorded in aggregations of 40-50 specimens in the Gulf of Suez, in poor and discontinuous reef patches,; M. Spigel, pers. comm.).

Chaetodon larvatus can be distinguished from all its co-familiar species in the Red Sea (Golani and Bogorodsky 2010) by its unique color pattern. *C. larvatus* is the second Red Sea chaetodontid recorded from the Mediterranean. It was preceded by the Red Sea bannerfish *Heniochus intermedius* Steindachner, 1893, which was collected from Antalya Bay, Turkey (Gökoglu et al. 2003) and observed from Lebanon (Bariche, pers. comm.). It is interesting to note that in recent years, several typical coral reef fishes [e.g., *Pomacanthus imperator* (Bloch, 1787), *P. maculosus* (Forsskål in Niebuhr, 1775), *Synanceia varrucosa* (Bloch and Schneider, 1801), *Cheilodipterus novemstriatus* (Rüppell, 1838), *Apogon queketti* Gilchrist, 1903, *A. smithi*

(Kotthaus, 1970) and *Ostorhinchus fasciatus* (Linnaeus, 1758)] have been found in the Mediterranean. It will be interesting to monitor how these coral reef species will adapt to the Mediterranean habitats given the absence of coral reefs.

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