

#### **APOGONIDAE**

cardinalfishes

# Cheilodipterus novemstriatus

Rüppell, 1838



Relevant synonyms: None

Misidentification: None

Meristic formula: D1,VI; D2, I+9; A, II+8; P, 11-13; V, I+5; LL, 23-24

## SHORT DESCRIPTION

Body slender, short snout. Terminal mouth with canine teeth in both jaws, although lacking at the symphysis of lower jaw. Large eye, its diameter more than half at vertical of its center. Two dorsal fins, the origin of the first slightly beyond pelvic fin origin. Anal fin opposite to second dorsal fin. Caudal fin forked.

**color:** body silver-grey with five black stripes along the body. The upper runs near dorsal fin base. The third runs from the snout through the eye to caudal peduncle. The lower stripe runs along ventral surface, curving upward ending in front of pectoral fin base. Large black spot surrounded by yellow background on the caudal peduncle. Another black spot on the dorsal surface of caudal peduncle.

common size: 2-6 cm (max. 8 cm).

## DISTINGUISHING CHARACTERISTICS

- $\bullet \ A pogon \ imberbis, A pogonich thyoides \ pharaonis, Jaydia \ smithi: \ no \ longitudinal \ stripes.$
- Jaydia queketti, Ostorhinchus fasciatus: no black spots on the caudal peduncle.

**Teraponidae:** single dorsal fin (although with deep notch between the spines and rays portion in some species); two flat spines on the operculum.



#### **BIOLOGY / ECOLOGY**

Nocturnal fish. During the day finds shelter among rocks and corals, often observed among urchin spines. During the night leaves the rocky habitat to feed in open areas. Feeds on zooplankton. In the northern Red Sea many specimens were collected at night along sandy shores at depths of 0.5-1.5 m. In the Mediterranean coast of Lebanon and Israel it was sighted in large groups hovering over rocky substrate at depths of up to 50 m.

**habitat:** during the day among corals and rocks, at night found in shallow open areas near soft substrate.

#### DISTRIBUTION

Worldwide: Red Sea and Persian Gulf.

**Mediterranean:** Recorded first in Israel (Goren et al., 2010), then in Lebanon (Bariche and Azzurro, 2013), Turkey (Turan et al., 2015), Cyprus (Kleitou et al., 2015).

#### MODE OF INTRODUCTION

Via the Suez Canal.

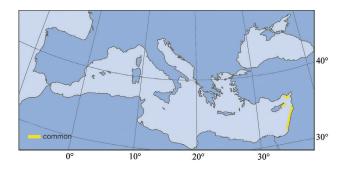
#### **ESTABLISHMENT SUCCESS**

Common.

speculated reasons for success: paucity of nocturnal competitors.

## **IMPORTANCE TO HUMANS**

None



1<sup>st</sup> Med. record Israel, 2010.

### KEY REFERENCES

- Bariche M. and Azzurro E. 2013. New records and establishment of the Indian Ocean twospot cardinalfish Cheilodipterus novemstriatus (Rüppell, 1838) in the Mediterranean Sea. BioInvasions Records, 4(1): 299-301.
- Gon O. and Randall J.E. 2003. A review of the Cardinalfishes (Perciformes: Apogonidae) of the Red Sea. Smithiana. Publications in Aquatic Biodiversity, 1: 1-46.
- Goren M., Lipsky G., Brokovich E. and Abelson A. 2010. A 'flood' of alien cardinal fishes in the eastern Mediterranean first record of the Indo-Pacific *Cheilodipterus novemstriatus* (Rüppell, 1838) in the Mediterranean Sea. *Aquatic Invasions*, 5 (Suppl. 1): S49-S51.
- Rothman B.S., Goren M. and Galil B.S. 2013. *Cheilodipterus novemstriatus* (Rüppell, 1838) along the Levantine coast of the Mediterranean Sea: a forthcoming invasion? *Biolnvasions Records*, 2 (1): 85-88.
- Turan C., Erguden D., Uygur N., Gurlek M., Erdogan Z. A. et al. 2015. First record of the Indian Ocean twospot cardinalfish, *Cheilodipterus novemstriatus* (Actinopterygii: Perciformes: Apogonidae), from Turkish marine waters. *Acta Ichthyologica et Piscatoria*, 45(3): 319-322.