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Diploprion bifasciatum Cuvier, 1828 (Teleostei: Serranidae) from the Gujarat coast, India

Piyush Vadher[1], Hitesh Kardani[1]*, Imtiyaz Beleem[2] and Rajkumar Dabhi[1]
[1]Fisheries Research Station, Kamdhenu University, Sikka-361 140, Gujarat, India.
[2]Estonian Marine Institute, University of Tartu, Mäealuse 14, Tallinn 12618, Estonia.

*Correspondence e-mail: hiteshkardani@gmail.com

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Short communication

Abstract

Two specimens of barred soapfish *Diploprion bifasciatum* Cuvier, 1828, were trapped in a gillnet from the Goose Reef, Gulf of Kachchh, Gujarat, in December 2022. Formerly, *D. bifasciatum* was reported from Tamil Nadu, Lakshadweep Islands, and Andaman and Nicobar Islands. This species has extended its distribution range to the Gulf of Kachchh, Gujarat. The occurrence of the species at the Gujarat coast is reported here, with morphometric and meristic characters.

Keywords: *Barred soapfish, coral reef, goose reef, Gulf of Kachchh.*

Introduction

Serranidae fishes belonging to the genus *Diploprion* Cuvier, 1828 are commonly found in coral reefs, distributed from the temperate to the tropical Indo-Western Pacific region (Randall *et al*., 1971). *Diploprion* genus was originally described in Java, Indonesia (Pacific Ocean) (Cuvier and Valenciennes, 1828). *Diploprion* Cuvier, 1828, genus comprises two species: *Diploprion bifasciatum* Cuvier, 1828 and *Diploprion drachi* Roux-Estève, 1955 worldwide (Randall *et al*., 1971; Parenti and Randall, 2020). *Diploprion bifasciatum* Cuvier, 1828 distributed in the Indo-pacific region and *Diploprion drachi* Roux-Estève, 1955 is endemic to the Red sea (Randall *et al*., 1971; Bogorodsky and Randall, 2019; Parenti and Randall, 2020). Studies of *Diploprion* on the Indian coast are limited to a few studies by Murugan and Namboothri, 2012; Prabhakaran *et al*., 2013 and Rajan and Sreeraj, 2015. In the present report, we have recorded two specimens of *Diploprion bifasciatum* Cuvier, 1828 for the first time from the Goose Reef, Gulf of Kachchh, Gujarat. Here, both the genus and species were recorded for the first time from the Gujarat coast. The species is reported herewith along with its morphological characters, illustrations and geographical distribution.

Material and methods

Diploprion bifasciatum was caught in a fisherman's gillnet operated at around 15 to 20 meters depth at Goose Reef (22° 30' 19.2" N 69° 47' 37.0" E). Two live specimens were collected, transferred to the laboratory, and narcotized for further fin formula and meristic characteristics measurements (Table 1). The species were identified with the taxonomic keys of standard literature of Cuvier and Valenciennes (1828) and Randall *et al.* (1971). The collected specimens were preserved in formaldehyde solution and deposited in the museum of Fisheries Research Station, Kamdhenu University, Sikka,

Table 1. Morphometric measurements of *Diploprion bifasciatum* Cuvier, 1828 collected from the Gulf of Kachchh, Gujarat

No.	Characters	Value (mean ± SD)	Range
1	Total length (mm)	191.5 + 2.12	190-193
2	Standard length (mm)	156.5 + 0.71	156-157
3	Body depth (mm)	75 + 1.41	74-76
4	Head length (mm)	54.5 + 0.71	54-55
5	Orbit diameter (mm)	13.05 + 0.07	13-13.10
6	Inter-orbital width (mm)	16.05 + 0.07	16-16.10
7	Caudal peduncle depth (mm)	25.1 + 0.14	25-25.20
8	Pre-dorsal length (mm)	43.15 + 0.21	43-43.30
9	Pre-pelvic length (mm)	41.05 + 0.07	41-41.10
10	Pre-anal length (mm)	98.1 + 0.14	98-98.20
11	Base of first dorsal fin (mm)	51.5 + 0.71	51-52
12	Base of second dorsal fin (mm)	36.5 + 0.71	36-37
13	Base of anal fin (mm)	33.05 + 0.07	33-33.10
14	Pectoral fin length (mm)	29.5 + 0.71	29-30
15	Pelvic fin length (mm)	48.5 + 0.71	48-49
16	Caudal fin length (mm)	31.05 + 0.07	31-31.10

with an accession number FRSCVG-10. The total length (TL) and standard length (SL) were measured according to the standard literature of Randall and Anderson (1993). These measurements determine the size of the specimen, with TL measured from the snout to the end of the caudal fin and SL, measured from the snout to the base of the caudal fin, as indicated in Table 1. See the Fig. 1 for general appearance and Table 1 for morphological measurements and meristic details.

Fig. 1. Barred soapfish *Diploprion bifasciatum* Cuvier, 1828, collected from the Gulf of Kachchh, Gujarat. (scale bar= 10 mm)

Results and discussion

Systematics

Order : Perciformes Bleeker, 1863
Family : Serranidae Swainson, 1839
Genus : *Diploprion* Cuvier, 1828

Diploprion bifasciatum Cuvier, 1828 (Fig. 1)

Diploprion bifasciatum Cuvier and Valenciennes, 1828: 140 [type locality: Java, Indonesia].

Diploprion bifasciatum Randall *et al.*, 1971: 172, Fig. 13.

Diploprion bifasciatum Monkolprasit, 1983: 3.

Diploprion bifasciatum Yusuf and Motomura, 2011: 81.

Diploprion bifasciatum Rajan and Sreeraj, 2015: 180.

Materials examined

02 specimens, unsexed, FRSCVG-10 (1) tl: 190 mm; sl: 156 mm (2) tl: 193 mm; sl: 157 mm (22°30'19.2"N 69°47'37.0"E) of Goose reef, coll. by Piyush Vadher, 28 December, 2022.

Diagnosis

Dorsal fin rays VIII, 15; anal fin Rays II, 12; pectoral fin rays 17; caudal fin rays 20; pelvic fin rays I, 5. lateral series scale 102 to 104 and lateral transverse scale rows 84 to 85. Body compressed, moderately deep body, fish is 2.5 to 2.6 times longer than body depth; mouth oblique; interorbital space convex. The mouth is protruding and teeth are villiform found on the premaxilla. The lateral line is more convex on the anterior than posterior. Preopercle, subopercle and interoperclular margin serrated, caudal fin rounded. Pelvic fins are long, the tip reaches the spinous portion of the anal fin; a deep fissure between spinous and soft portions of the dorsal fin; the third dorsal spine longest among the rest. Scale ctenoid, embedded shallow on skin. Scales are absent on the preorbital portion of the head. Body light yellowish with two large dark bands. The first dark band is thin and runs from the nape to the branchiostegal region and the second thicker band runs from the first dorsal spines to the anal region. Pelvic fins are light dark with a slight tinge of yellow.

Habitat

Previously, this species was found in coral reefs and adjacent habitats at depths of 5 to 50 m. (Yusuf and Motomura, 2011; Rajasuriya, 2014). Present species were caught in a gillnet at a depth of 15 to 20 m in the coral reefs.

Distribution

Australia (Francis, 1993); Indonesia (Cuvier and Valenciennes, 1828; Allen and Adrim, 2003; Allen and Erdmann, 2009); Japan (Randall *et al.*, 1971; Iwatsuki *et al.*, 2017); Malaysia (Yusuf and Motomura, 2011; Ali *et al.*, 2022); Maldives (Randall and Anderson, 1993); New Caledonia (Whitley, 1961; Fricke *et al.*, 2011); Papua New Guinea (Baldwin *et al.*, 1991; Drew *et al.*, 2012); Singapore (Hui *et al.*, 2010); South China Sea (Randall and Lim, 2000); South Korea (Kim *et al.*, 2009); Sri Lanka (Bruin *et al.*, 1994; Dalpathadu, 2012; Rajasuriya, 2014); Thailand (Monkolprasit, 1983; Satapoomin, 2000; Scaps, 2006). In India, the species is distributed along the Andaman and Nicobar Islands (Rajan and Sreeraj, 2015); Odisha (Barman *et al.*, 2007; Pati *et al.*, 2018); Tamil Nadu (Murugan and Namboothri, 2012) and Lakshadweep Islands (Prabhakaran *et al.*, 2013). In the present study, this species is reported from Goose Reef, Gulf of Kachchh, Gujarat, India.

Remarks

The taxonomical characters of the present specimen examined agree well with the detailed description of Cuvier and Valenciennes, 1828 and Randall *et al.*, 1971. *Diploprion bifasciatum* is identical to *Diploprion drachi* Roux-Estève, 1955, but is immediately distinguished by the presence of two black bars on the body and having more body depth

than *D. drachi*. *Diploprion bifasciatum* contains 17-18 pectoral rays, while *D. drachi* contains 15-16. *Diploprion bifasciatum* is yellowish, while *D. drachi* is bluish-grey with a small patch of light yellow colour on the side of the head (Roux-Estève and Fourmanoir, 1955; Randall *et al.*, 1971).

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