



Short Communication

First report of *Roa jayakari* (Norman, 1939) (Perciformes: Chaetodontidae) from Odisha coast, India

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Abstract

The paper reports *Roa jayakari* (Norman, 1939) (Perciformes:Chaetodontidae) first time from Chandipur coast of Odisha with description of morphometric character and measurement. The present report extends the range of the species from Visakhapatnam coast to the northern part of the east coast of India.

Keywords: Chaetodontidae, Chandipur, First Record

Introduction

Perciformes is the largest order of vertebrates, comprises 2 suborders, 62 families, 365 genera and about 2,248 species (Nelson *et al.*, 2016). Chaetodontidae (Butterflyfishes) set a unique place in order perciformes due to its small size, shape, attractive colour and wide use in ornamental trade. The family Chaetodontidae consists of 12 genera with 133 species (Eschmeyer and Fong, 2018) of which 8 genera with 48 species were reported from India (Gopi and Mishra, 2015). Only 4 species belonging to 3 genus of butterfly fishes have been reported from Odisha coast *i.e.* *Heniochus acuminatus* (Linnaeus, 1758), *Chaetodon vagabundus* Linnaeus, 1758 (Barman *et al.*, 2007) reported earlier and *Chaetodon decussatus* Cuvier, 1829 and *Apolemichthys xanthurus* (Bennett, 1833) reported as photographic evidence by Roy *et al.*, (2017). The genus *Roa* Jordan, 1923 of family Chaetodontidae is represented by only one species from Indian waters *i.e.*, *Roa jayakari* (Norman, 1939) and reported from Visakhapatnam coast (Behera *et al.*, 2015; Krishna *et al.*, 2016); from cochin, Kerala (George and Dayanandan 1966); from Gulf of Mannar (Padate *et al.*, 2014). Recently 2 specimens were collected from Chandipur coast, Odisha and reported here as the first report of the species from Odisha coast along the northern part of the east coast of India.

Material and Methods

During a survey at Chandipur coast of Odisha, two specimens of family Chaetodontidae were collected by trawl net operated at a distance of 25-27 km from the coast. After collection of the fish specimens, photography and the detail morphometric measurements were taken and the specimen was preserved in 10% formaldehyde solution. All measurements were made by digital callipers. Subsequently the samples identified as *Roa jayakari* (Norman, 1939). The taxonomic identification was carried out following Burgess (1978). The specimens were deposited in Marine Aquarium and Regional Centre, Zoological Survey of India, Digha.

Result and Discussion

The details of morphometric observations of *Roa jayakari* (Norman, 1939) were presented in Table 1 and species description of different characters were given below.

Roa jayakari (Norman, 1939)

Indian golden-barred butterflyfish

1939. *Coradion jayakari*, Norman; Fishes. *The John Murray Expedition 1933-34*. Scientific Reports, John Murray Expedition v. 7 (no. 1): 1-116.

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1939. *Chaetodon jayakari*, Norman; Fishes. *The John Murray Expedition 1933-34*. Scientific Reports, John Murray Expedition v. 7 (no. 1): 1-116.

Material examined: 2 specimens; Standard Length (SL): 81-77 mm; Collection Site: Chandipur Coast (21°30' - 21°43' N; 87°13' - 87°24' E), Odisha, Date of collection : 14. 02. 2017; Registration No. MARC/ZSI/F 4646.

Meristic Formula: D: XI, 22; A: III, 18; P: 15; V: I, 5.

Characters: The details of morphometric measurements were presented in Table 1. The body is disc shaped and strongly compressed (depth 66.93-70.76% in SL). Body and head covered with large ctenoid scales gradually become smaller towards the snout. Head profile concave; Head length (HL) 48.38 – 49.23% in SL; snout moderately long, snout length 21.87-23.33% in head length; eye diameter slightly greater than length of snout, 31.25-33.33% in head length; interorbital space small with 21.87-23.33% in HL; origin of dorsal fin above posterior end of head, the fin base long, the base of spinous section almost horizontal curving gradually downward and the posterior margin of fin vertical, 4th dorsal spine length 30.64-30.76% in SL. Anal fin with 3 spines and 18 soft rays; 2nd anal spine length 40.62-43.33% in HL. Pectoral fin rays 15, its length 32.30-33.87% in SL; ventral fin with single spine and 5 rays. Lateral line with 19-20 scales in an almost straight line, gradually become downward. Caudal fin truncated.

There are three vertical dark brown bands with golden tint altered with whitish inter spaces. The first band is narrow and extends from anterior tip of dorsal fin along the eye to the jaw; second band broadest and extends from 3rd and 5th dorsal spines to the abdomen, third band extends below the last three dorsal spines towards caudal peduncle. All fin spines are white in colour, two broad white bands present on the body. Caudal fin clear with pale yellow colour; pelvic fin rays are brown to dusky. Pelvic fin is blackish in colour. A black, round ocellus with white border is present in between the second and seventh soft dorsal fin (Figure 1).



Figure 1. *Roa jayakari* (Norman, 1939) collected from Chandipur coast.

Table 1. Morphometric characters of *Roa jayakari* from Chandipur coast of Odisha

Morphometric characters	<i>Roa jayakari</i> (Norman, 1939)
Total length (mm)	77-81
Standard length	62-65
Body depth	41.5-46
Head length	30-32
Pre dorsal length	33.5-34
Pre pectoral length	31-33
Pre pelvic length	31-33
Pre anal length	46-50
4 th Dorsal spine height	19-20
2 nd anal spine height	13
Pectoral length	21
Pelvic spine length	16.5-17
Soft pelvic length	19-21
Head depth	24-25
Head width	11
Eye diameter	10
Pre orbital length	9
Post orbital length	8
Inter orbital space	7
Upper jaw length	5-5.5
Lower jaw length	5
Maxillary width	6-6.5
Snout length	7

Distribution: *Roa jayakari* (Norman, 1939) distribution ranges from Red Sea, Gulf of Aden, Gulf of Oman, southern Arabian coast, and west coast of India (Burgess, 1978). From Indian waters this species is reported from Visakhapatnam coast, Andhra Pradesh, (Behera *et al.*, 2015; Krishna *et al.*, 2016) Gulf of Mannar, Tamil Nadu (Padate *et al.*, 2014), Kerala (George and Dayanandan, 1966).

Discussion

White-edged round black ocellus slightly larger than eye diameter present in between 2nd and 7th soft dorsal rays. It differs from its only two congeners *Roa australis* (Kuitert, 2004) and *Roa excelsa* (Jordan, 1921) in the shape of the black ocellus on the dorsal fin which is elongated in the latter two species (Kuitert, 2004). Additionally, *R. jayakari* shares the character “white-edged round black ocellus on the soft portion on the dorsal fin” with *Roa modesta* (Temminck and Schlegel, 1844) and differs

from it in having straight profile of the spinous portion of dorsal fin and the lack of black edged bars. However, Froese and Pauly, 2013 reassigned the latter species to the genus *Chaetodon* due to moderately long 3rd-5th dorsal fin spines. The present specimen has been recorded for the first time off Chandipur coast, Odisha. Record of this species off Chandipur coast is a new addition to the list of butterfly fishes from Odisha coast.

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