

A New record of Hoogly Halfbeak, *Zenarchopterus striga* (Blyth, 1858) (Beloniformes, Hemiramphidae) from Kerala, India

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Abstract

While conducting ichthyofaunal studies in Muvattupuzha River, Kerala, India three specimens (two males and one female) of the Hoogly Halfbeak, *Zenarchopterus striga* were collected from Brahmamangalam in Kottayam district. The total length of the specimens ranged from 15mm to 156mm. The present study highlights the first record of the species from the inland waters of Kerala.

Key words

Zenarchopterus striga, Muvattupuzha River, Hoogly halfbeak, Kerala, New record.

Introduction

Zenarchopterus striga, the common Hoogly halfbeak, comes under the family Hemiramphidae of the Order Beloniformes. The family contains 2 subfamilies, Hemiramphinae and Zenarchopterinae. According to Meisner and Collette (1999) & Meisner (2001), the subfamily Zenarchopterinae contains 5 genera and 54 species of small, sexually dimorphic Indo-West Pacific estuarine or freshwater species. Halfbeaks are surface dwelling forms with protective colouration, green or blue on the back and silvery white on the sides and belly.

Fishes of the genus *Zenarchopterus* were described as *Hemiramphus* and subsequently synonymised as *Zenarchopterus* (Mohr 1926). *Hemiramphus striga* was described by Blyth (1859) from Sandheads near Calcutta, while Day (1878) recorded *H. buffonis* from Bombay, Hoogly, Andamans and the waters of Malay Archipelago. Mohr (1926) revised the genus *Zenarchopterus* and reported a new species *Z. beauforti* from Muar River, Selangor (Malay Peninsula). Tilak (1972) described the presence of *Z. striga* in Zuari River, Goa which was a new report of the fish from the west coast of India. The objective of the present study is to report the presence of *Zenarchopterus striga* in Muvattupuzha River, Kerala.

Materials and Methods

Three specimens of *Z. striga* were collected from the Muvattupuzha River

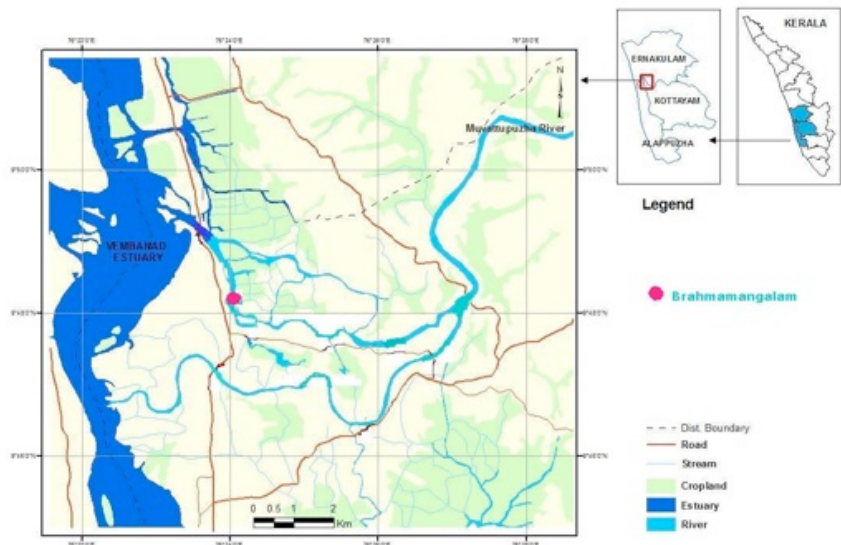


Fig.1 Map showing the sampling station.



Fig.2 *Zenarchopterus striga* (Male specimen) Scale 1cm= 1.15 (Accession No. F. 8474, deposited in the Southern Regional Centre, Zoological Survey of India, Chennai).

at Brahmamangalam, Kottayam district, Kerala (Fig 1) during an ichthyofaunal survey on 12th May 2010. Fishes were collected using a cast net and preserved in 10% formalin. The biometric characters are provided in Tables 1, 2 & 3. The identification of the specimens were carried out using Day (1878), Talwar and Jhingran (1991), Jayaram (1999) and Nelson (2006) and subsequently confirmed by scientists at the Zoological Survey of India (ZSI), Chennai. The specimens have been deposited with the accession number F.8474.

Results and Discussion

Zenarchopterus striga shows sexual dimorphism. Of the three specimens collected two were males and one was a female (Figs. 2 & 3). The total length of the specimens ranged from 151mm to 156mm. Male specimens differed from female in having elongated and thickened dorsal and anal fin rays.. The body of the fish is yellowish with a distinct black lateral stripe. The beak is black in colour.

Zenarchopterus striga has an elongated, slender and laterally compressed body. Depth of the body (BD) in Standard Length (SL) is 9.8 in

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Fig. 3. *Zenarchopterus striga* (Female specimen) Scale 1cm= 1.23 (Accession No. 454, deposited in the Zoology Museum of Maharaja's College, Ernakulam, Kerala).

Table 1. Biometric characters of *Zenarchopterus striga*

Parameters (in mm)	Female mm	Male (1) mm	Male(2) mm	Mean mm	Standard Deviation mm
Total Length	151	156	154	153.7	2.5
Standard Length	135	138	136	136.3	1.5
Body depth	13	14	14	13.7	0.6
Head Length	66	63	62	63.7	2.1
Head Depth	12	12	12	12.0	0.0
Eye Diameter	7	7	6	6.7	0.6
Inter Orbital Distance	4	4	4	4.0	0.0
Snout Length	51	49	47	49.0	2.0
Pre Dorsal Length	112	113	114	113.0	1.0
Post Dorsal Length	210	210	210	210.0	0.0
Pre Pectoral Length	69	66	64	66.3	2.5
Pre Ventral Length	106	104	104	104.7	1.2
Pre Anal Length	115	116	117	116.0	1.0
Caudal Length	5	4	5	4.7	0.6
Caudal Depth	6	7	7	6.7	0.6
Dorsal fin Length	6	15	15	12.0	5.2
Dorsal Fin Base	16	17	17	16.7	0.6
Pectoral Fin Length	15	16	15	15.3	0.6
Pectoral Fin Base	4	4	4	4.0	0.0
Ventral Fin Length	7	7	7	7.0	0.0
Ventral Fin Base	3	3	3	3.0	0.0
Anal Fin Length	7	21	21	16.3	8.1
Anal Fin Base	6	10	9	8.3	2.1
Caudal Fin Length	17	19	18	18.0	1.0

males and 10.4 in female. Upper jaw is as long as broad at its base and its front margin forms a prominent triangular projection. Lower jaw is prolonged into a long beak bordered by a fold of skin along the side and middle of the underside. Free lower jaw is eight times longer than the upper jaw. The Head length (HL) is 2–2.2 in SL. Lower side of the head especially below the beak and snout is dark yellow in colour. Predorsal scales 29. Predorsal length (PreDL) is 1.2 times in SL.

Lateral line runs low down from pectoral fin origin and backward along the ventral profile of the body. Behind the anal fin it is directed upwards and ends at the middle of the caudal fin. Lateral line is complete with 42 scales.

There is a lateral stripe extending from the angle of operculum to the base of the caudal. This lateral stripe becomes slightly wide in front of the dorsal fin up to the base of caudal. In addition to this, three dusky narrow streaks run dorsally from the nape to the dorsal fin origin: the central one ends at the base

of the dorsal fin while the two lateral ones extend to the base of the caudal on either side of dorsal fin base. Dorsal fin is with 12 rays, placed posteriorly and slightly in front of anal fin. In male, 4th and 5th dorsal fin rays are elongated and the length of the 4th ray is twice the first one and extends to caudal fin base. Pectoral fin is placed high up with 10 rays. Ventral fin is small with 6 rays and is nearer to the caudal region. The anal fin originates below the 4th dorsal fin ray. In male, 5th and 6th anal fin rays are thick and 6th ray extends beyond the caudal fin base. The anal papilla is well developed with a basal bulbous part and a terminal nipple-like part. Caudal fin is truncate with 15 fin rays. *Hemiramphus striga* Blyth was considered as a synonym of *Z. buffonis* (Day 1878 and Weber & Beaufort, 1922). But both Mohr (1926) and Herre (1944) considered them to be distinct species. *Zenarchopterus buffonis* resembles *Z. striga* and *Z. beauforti* in the shape of the upper jaw and the number of dorsal fin rays but differs in the length of the edentulous part of the lower jaw in relation to that of the upper jaw and the number of rays in the anal fin and its shape. The length of the edentulous part of lower jaw is 6.6–7.5 times in the length of upper jaw in *Z. buffonis*, 8.5 times in *Z. striga* (Blyth) and 7.5 times in *Z. beauforti*. In *Zenarchopterus buffonis*, the anal fin is with 11–14 fin rays whereas in *Z. striga* it is only 9. Jones *et al* (1958) described the presence of three larval specimens and one juvenile of *Z. buffonis* from Frasergunj near the mouth of Bhagirathi in West Bengal. *Zenarchopterus dispar* was reported from Vembanad Lake in Kerala and is categorized as a "Data Deficient" species (Shaji 2011). *Zenarchopterus dispar* differs from *Z. striga* in the number of anal fin rays (11–12 vs 9).

The specimens of *Z. striga* recorded by us from Muvattupuzha River resembled specimens of *Z. striga* from Goa in fin formula but differed in the shape of anal fin rays. The 5th and 6th anal fin rays were enlarged and thickened in *Z. striga* from Muvattupuzha River, whereas, 6th and 7th anal fin rays were enlarged and thickened in *Z. striga* from Goa. *Zenarchopterus buffonis* reported from West Bengal is with 11–14 anal fin rays. Another species *Z. dispar*

Table 2. Meristic characters of *Zenarchopterus striga*

Meristic Counts	Female	Male(1)	Male (2)
Dorsal fin rays	12	12	12
Pectoral fin rays	i/9	i/9	i/9
Ventral fin rays	i/5	i/5	i/5
Anal fin rays	ii/7	ii/7	ii/7
Caudal fin rays	15	15	15
Pre dorsal scales	29	29	29
Lateral line scales	42	42	42

Table 3. Morphometric Proportions of *Zenarchopterus striga*.

	Female	Male(1)	Male(2)
TL/HL	2.3	2.5	2.5
TL/BD	11.6	11.1	11
SL/HL	2	2.2	2.1
SL/BD	10.4	9.9	9.7
SL/PreDL	1.2	1.2	1.2
SL/PostDL	0.6	0.7	0.6
HL/SnL	1.3	1.3	1.3
HL/ED	9.4	9	10.3
HL/InterOrbital Distance	17	16	16

reported from Vembanad Lake, Kerala is with 11–12 anal fin rays.

Conclusion

Although *Z. striga* recorded from Goa was a new report from the Western coast of India, a perusal of literature revealed that there is no report of *Z. striga* from Kerala;. Hence the specimens collected from Muvattupuzha River extends the species range to the rivers of Kerala.

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