



Short Communication

First report of Fusilier Fish family Caesionidae (Perciformes) from Northern part of East coast of India

Dipanjan Ray¹ and Anil Mohapatra^{2*}

¹Bajkul Milani Mahavidyalaya, Kismat Bajkul, Purba Medinipur, West Bengal – 721655, India

²Estuarine Biology Regional Centre, Zoological Survey of India, Gopalpur-on-Sea, Ganjam, Odisha - 761002, India; anil2k7@gmail.com

Abstract

Three species of fishes i.e. of the family Caesionidae, *Caesio caerulaurea* Lacepede, 1801, *Caesio xanthonota* Bleeker, 1853 and *Pterocaesio tessellata* Carpenter, 1987 are reported for the first time from West Bengal coast. The family Caesionidae has also been reported for the first time from the northern part of east coast of India. The said species are the first record from northern part of east coast of India.

Keywords: First report, *Caesio caerulaurea*, *C. xanthonota*, *Pterocaesio tessellata*, West Bengal Coast

Introduction

The fishes of family Caesionidae are commonly known as fusilier and 21 species have been reported from this family (Holleman *et al.*, 2013) throughout the world. They are associated mainly with coral reefs of tropical and subtropical areas. These reef inhabitants are usually schooling fishes and migrate from one reef to another through near shore soft bottom. This is the reason for which occasionally they were caught by trawl nets along with sardines, anchovies, and other pelagic species (Carpenter, 1988). In Indian waters 16 species of Caesionidae fishes were reported under four genera (Gopi and Mishra, 2015).

During local survey around West Bengal coast the authors collected three species of Caesionidae and identified as *Caesio caerulaurea* Lacepede, 1801, *Caesio xanthonota* Bleeker, 1853 and *Pterocaesio tessellata* Carpenter, 1987. This paper reports all these three species and the family Caesionidae first time from West Bengal coast as well as Northern part of east coast of India.

Material and Methods

Six specimens of family Caesionidae were collected from fish landing centre Digha Mohona (21°37.843'N,

87°32.827'E) & Shankarpur. The specimens were identified as *Caesio caerulaurea* Lacepede, 1801, *Caesio xanthonota* Bleeker, 1853 and *Pterocaesio tessellata* Carpenter, 1987 following Carpenter (1988). Detailed morphometric measurements were taken in the field and presented in Table 1. The specimens were preserved in 10% formalin after taking the fresh photographs and the specimens were deposited in the museum of Marine Aquarium and Regional Center of Zoological Survey of India, Digha.

Results

Caesio caerulaurea Lacepede, 1801

Materials examined: MARC/ZSI/F1598, 2 Specimens, 135-172mm, 27.12.10, Digha Mohana & MARC/ZSI/F2603, 1 Specimen, 01.08.2012, Digha Mohana.

Characters: Body elongated and moderately compressed with a small mouth, protrusible with small conical teeth in jaw, vomer and palatine. Eyes large having diameter longer than snout; a longitudinal axis through tip of snout to middle of caudal fin passing through centre of eye. Maxilla reaches anterior part of eye, posterior end of maxilla blunt; single postmaxillary process. Lateral line scales 60-61; scale rows above lateral line 9, below lateral line 16-17,

* Author for correspondence

Table 1. Morphometric comparison between *Caesio caerulaurea* Lacepede, 1801, *Caesio xanthonota* Bleeker, 1853 and *Pterocaesio tessellate* Carpenter, 1987

| Characters | <i>Caesio caerulaurea</i> Lacepede, 1801 (n=3) | <i>Caesio xanthonota</i> Bleeker, 1853 (n=2) | <i>Pterocaesio tessellate</i> Carpenter, 1987 (n=1) |
|--------------------|---|---|--|
| Total length | 135-172mm | 195-215mm | 136mm |
| Body depth in SL | 3-3.17 | 2.71-2.86 | 3.61 |
| Head length in SL | 3.3-3.56 | 3.19-3.3 | 3.33 |
| Eye diameter in SL | 12.27-13.75 | 10.42-9.04 | 17.57 |
| Snout in SL | 13.5-14.4 | 12.05-12.37 | 15.29 |
| Eye diameter in HL | 3.5-4.1 | 2.83-3.15 | 5.07 |
| Snout in HL | 3.9-4.5 | 3.7-4.28 | 4.58 |

predorsal scales 24-25, scale rows on cheek 4. Gill rakers 25-26+9=34-35. A V-shaped scale less area present anteriorly at midline intruding between the supratemporal band of scales. Dorsal and anal fins scaled; horizontal scale rows on spinous portion of dorsal fin; caudal fin deeply forked.

Colour: Upper part of body bluish, lower part whitish. A yellow stripes runs above the eye and lateral line to caudal peduncle (Figure 1). Caudal fin lobes with black median streaks, bordered in white. Pectoral, ventral and anal fin whitish; pectoral fin axil black. Dorsal fin pale blue with dark distal margin; anal fin whitish.

Distribution: Widely distributed in tropical Indo-West Pacific, from East Africa to Red Sea, Samoa (except Persian Gulf); north to southern Japan and south to Mauritius and New Caledonia (Carpenter, 1988). In Indian coastal waters this species previously reported from Andhra Pradesh (Barman *et al.*, 2004); Andaman and Nicobar Island (Rajan *et al.*, 2013); Maharashtra (Barman *et al.*, 2012); Karnataka (Barman *et al.*, 2013); Lakshadweep (Rao, 1991).



Figure 1. *Caesio caerulaurea* Lacepede, 1801

Caesio xanthonotus Bleeker, 1853

Materials examined: MARC/ZSI/1868, 2 Specimens, 195-215mm TL, 06.07.11, Digha Mohana

Characters: Body compressed fusiform and moderately deep. Mouth small, protrusible with small conical teeth in jaw, vomer and palatine. Eye large and its diameter longer than snout; longitudinal axis through tip of snout to middle of caudal fin passing through centre of eye. Post maxillary process single, posterior end of maxilla blunt. Lateral line scales 58-59; scales above lateral line 10; scales below lateral line 19; 5 scales rows on chick; predorsal scales 23. Scales of supratemporal interrupted by narrow scale less zone. Scale rows on spinous portion of dorsal fin oblique; caudal fin deeply forked.

Colour: Upper part of body bright yellow, middle part of body bluish and lower part of body whitish. Dorsal fin and caudal fin yellow; pectoral, ventral and anal fins whitish. Upper base and axil of pectoral fin blackish (Figure 2).

Distribution: In Indian coast this species distributed in Andhra Pradesh (Barman *et al.*, 2004); Andaman and Nicobar Island (Rao, 2004) and Lakshadweep (Rao, 1991).



Figure 2. *Caesio xanthonota* Bleeker, 1853

Pterocaesio tessellata Carpenter, 1987

Materials examined: 1 Specimen, TL: MARC/F4719, Reg. No. MARC/ZSI/1868, Date of collection: 22.12.14, Shankarpur.

Characters: D: X, 15; A: III, 12; P: 21; V: I, 5. Body moderately compressed, elongated and fusiform. Eye large, maxilla cross anterior margin of eyes. Postmaxillary processes two; posterior end of maxilla tapered. Mouth small with small conical teeth on jaws and vomer; palatine without teeth, premaxilla with small teeth. Dorsal and anal fin scaled; caudal fin deeply forked. Lateral line scale 73; scale rows above lateral line 10, scale rows below lateral line 17, scale rows on cheek 5; predorsal scales 25.

Colour: Upper part of the body light bluish green, lower part of the body reddish white. A single yellow longitudinal stripe runs from dorsal to lateral line to caudal peduncle and covering the lateral line most of its length. Pectoral, ventral and anal fin whitish, pectoral fin axil black; dorsal fin bluish green and caudal fin dusky, lobes of caudal fin black (Figure 3).



Figure 3. *Pterocaesio tessellata* Carpenter, 1987

Distribution: Reported from Andhra Pradesh (Barman *et al.*, 2004) and Andaman (Rajan *et al.*, 2013).

Discussion

The family Caesionidae has been reported for the first time from the northern part of east coast of India. *Caesio caerulea* Lacepede, 1801, *Caesio xanthonota* Bleeker, 1853 and *Pterocaesio tessellata* Carpenter, 1987 are recorded for the first from northern part of east coast of India. Carpenter (1988) has shown distribution of these three species in maps along Northern Bay of Bengal. However, there was no substantial report of these species from West Bengal coast till date. Further, in the distribution maps provided by Carpenter (1988), seven more fusilier, namely *Caesio cunning* (Bloch, 1791), *C. lunaris* Cuvier 1830, *C. teres* Seale, 1906, *Dipterygnotus balteatus* (Valenciennes, 1830), *Gymnocaesio gymnoptera* (Bleeker, 1856) and *P. pisang* (Bleeker, 1853) are shown as to available. But it requires to be confirmed with material evidence.

Acknowledgements

We thank the Dr. Kailash Chandra, Director, Zoological Survey of India, for providing the necessary working facilities.

References

- Barman, R.P., Kar, S., Mukherjee, P. 2004. Marine and Estuarine fishes. *Fauna of Andhra Pradesh, State Fauna Series*. Zoological Survey of India, Kolkata, **5**(2): 97-311.
- Barman, R.P., Mishra, S.S., Kar, S., Mukherjee, P., Saren, S.C. 2012. *Marine and estuarine fish. Fauna of Maharashtra, State Fauna Series*. Zoological Survey of India, Kolkata, **20**(1): 369-480.
- Barman, R.P., Mishra, S.S., Kar, S., Saren, S.C., 2013. Marine and estuarine fishes. *Fauna of Karnataka, State Fauna Series*. Zoological Survey of India, Kolkata, **21**: 277-388.
- Carpenter, K. E. 1987. Revision of the Indo-Pacific fish family Caesionidae (Lutjanioidea), with descriptions of five new species. *Indo-Pacific Fishes*, **15**: 1-56.
- Carpenter, K. E. 1988. *Fusilier fishes of the World. An annotated and illustrated catalogue of caesionid species known to date*. FAO Species Catalogue. FAO Fisheries Synopsis, 125, **8**: 75 pp. FAO, Rome.
- Gopi, K.C. and Mishra, S.S. 2015. Diversity of marine fish of India. *Marine Faunal Diversity in India, Taxonomy, Ecology and Conservation*. Chapter 12; 171-194. DOI: 10.1016/B978-0-12-801948-1.00015-X. ISBN: 978-0-12-801948-1.
- Holleman, W., Connel, A.D. and Carpenter, K.E. 2013. *Caesio xanthalytos*, a new species of fusilier (Perciformes: Caesionidae) from the Western Indian Ocean, with records of range extensions for several species of Caesionidae. *Zootaxa*, **3702**(3): 262-272.
- Rajan, P.T., Sreeraj, C.R., Immanuel, T. 2013. Fishes of Andaman and Nicobar Islands: A Checklist. *J. Andaman Sci. Assoc*, **17**(1): 47-87.
- Rao, G.C. 1991. Lakshadweep: General features, *Fauna of Lakshadweep, State Fauna Series*. Zool. Surv. India **2**: 5-40.