

## NEW DESCRIPTIONS

*SALARIAS RETICULATUS* (PISCES: BLENNIDAE), A NEW FRESHWATER BLENNY FROM CHALAKUDY RIVER, KERALA (SOUTH INDIA)<sup>1</sup>B. MADHUSOODANA KURUP<sup>2,3</sup>, T.G. MANOJKUMAR<sup>2,4</sup> AND K.V. RADHAKRISHNAN<sup>2,5</sup><sup>1</sup>Accepted December, 2002<sup>2</sup>School of Industrial Fisheries, Cochin University of Science & Technology, Cochin 682 016, Kerala, India.<sup>3</sup>Email: madhukurup@hotmail.com<sup>4</sup>Email: manojkumartg@yahoo.com<sup>5</sup>Email: krishnaradh76@yahoo.co.in

Genus *Salaria* Day (1878) has been recorded from the freshwaters of the Indian subcontinent for the first time with the description of a new species *Salaria reticulatus* from the Vettilappara region of Chalakudy river system, Kerala (southern India). The new species can easily be diagnosed by the distinct variations in morpho-meristic characters and colour pattern from species hitherto described. The species name is derived from its reticulated colour pattern.

**Key words:** *Salaria reticulatus* sp. nov., Blennidae, Chalakudy river, Vettilappara

## INTRODUCTION

Family Blennidae comprises five genera accommodating 30 species; all the genera are distributed in Indian waters (Day 1878). Among the five genera, *Salaria* (Cuvier) has the greatest number of species, i.e. 18. Members of the genus *Salaria* can be differentiated from other related genera by the wide gill openings, single row of movable teeth in the jaws and by the absence of a sucker beneath the lower jaw (Day 1878). Hitherto there is no record of blennies from the freshwaters of the Indian subcontinent. While investigating the fish fauna of Chalakudy river system, we came across a single specimen of blenny, whose morphometric and meristic characters were found to be totally different from species hitherto described. We have, therefore, described it as a new species.

## MATERIAL AND METHODS

The type locality of the new species is Vettilappara, Chalakudy river, Kerala, South India between 10° 17' 32" N and 76° 34' 66" E. Morphometric measurements were recorded with dial callipers to the nearest millimetre, and expressed as proportion of standard length. Meristics were counted following Talwar and Jhingran (1991).

**Holotype:** Deposited in ZSI Kozhikode, Regn. No.: ZSI (WGRS) CLT. No. V/F 13031. 100.71 mm SL, Vettilappara, Chalakudy river, Kerala, India, 26.i.2001.

**Paratype:** None.

**Diagnosis:** Elongated, body with irregular reticulations and circular interspaces, oblong mouth, strong pectoral girdle and leathery skin. Ventrals jugular, having two flexible spines. A moderately long fringed supraorbital cirrus, a simple cirrus at nape and another short one at the posterior rim of the

nostril, with 6 filaments at its base. No crest on the head and the pre-opercle has a posterior projection.

**Description:** (based on a single specimen with 100.71 mm SL.) (Fig. 1)

D.xii, 15; P.14; V.2; A.18; C.12.

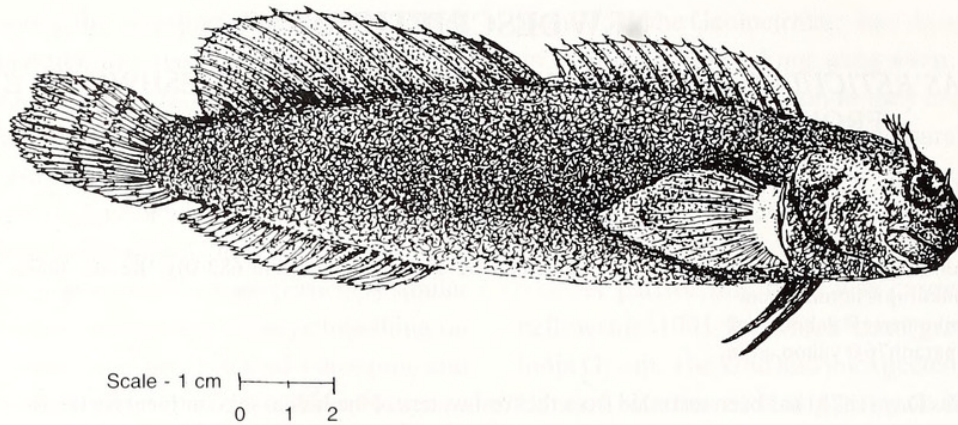
Ventral profile of body more convex than dorsal. Length of head 4.84, of pectoral 5.72, of caudal 5.23, height of body 6.00 times in the total length. Body depth 4.9 in standard length. Eyes high up, diameter 5.2 in head length and 20.6 in standard length. Diameter of eye less than snout length (1.1) and head length (5.2), but higher than inter-orbital width (0.52). Snout length 18.5 and inter-orbital width 32.9 in standard length. Head depth 1.2 in head length, width of the snout a little higher than the post-orbital length (0.96). A single row of incisor-like movable teeth on each jaw and a strong posterior canine on each side of the lower jaw. Gill openings continuous from one side of the head to the other, across the ventral surface of the head. Branchiostegal rays six.

**Fins:** Dorsal fin with 12 spines and 15 rays, deeply notched, the first lower than the second, which is nearly ½ of body height, while posteriorly it does not extend to the caudal fin. Length of dorsal 1.38 in standard length and 1.71 in TL. Length of pectoral fin 0.97 in head length and 3.8 in standard length.

Length of pelvic fin 6.00 in standard length (SL) and 7.4 in TL. Origin of anal fin opposite to origin of second dorsal fin. Distance from pelvic to anal 3.06 in SL. Caudal fin with 12 rays, middle rays posteriorly branched. Pre-anal length 1.9 in SL and pre-dorsal 4.36 in SL. Lateral line complete, forming an angle beyond 8<sup>th</sup> dorsal spine. Scales totally absent.

**Colouration:** Head blackish, body and fins, except ventral, reticulated with brown lines enclosing circular or irregularly formed spaces. Reticulation more prominent on



Fig. 1: *Salarias reticulatus* sp. nov. - Lateral view

lateral and ventral sides. Ventral side from snout tip to origin of anal fin whitish without any prominent markings. Ventral fin hyaline with blackish tinge.

**Etymology:** The specific name is derived from the reticulus pattern on the dorsal side.

**Remarks:** *Salarias reticulatus* sp. nov. shows close similarity with *S. vermiculatus* and *S. marmoratus*, but differs strongly from them in most of the morphometric characters and meristic counts, namely number of caudal rays and ventral spines, length of head to total length, height of the body to total length, presence of supra-orbital cirri, position of the

anal fin and colour pattern (Table 1).

Day (1889) described Family Blennidae with 7 genera and 37 species. Of these, 25 were described from India under the genus *Salarias* (Cuvier 1817). De Beaufort and Chapman (1951) described 20 species under the genus *Salarias* from the Indo-Australian Archipelago. However, *Salarias marmoratus* described by Day (1878) was not given independent status by these authors and the specimens collected from Sri Lanka were treated as a synonym of *E. eplazeochilos*. *S. marmoratus* of Gray was synonymised under *Entamocordus lighti*, *E. decussates*, *E. caudofasciatus* and *E. striatus*. Similarly, a change in the generic status of *S. vermiculatus* was also made by describing it as *Entamocordus vermiculatus*. The new species *S. reticulatus* shows distinct variation from *S. sinuosus* (De Beaufort and Chapman 1951) and *S. periophthalmus* (De Beaufort and Chapman 1951) in most of the morpho-meristic characters such as the number of dorsal and anal fin rays, colour pattern and in the nature of attachment of anal fin rays with the caudal peduncle. According to Munro (1955), Family Blennidae accommodated 8 genera and 16 species, whereas Fischer and Bianchi (1984) described 98 species from the western Indian Ocean in 29 genera under this family. Pillay (1929) reported four species, namely *Salarias steindachneri*, *S. kirki*, *S. bilitonensis* and *S. unicolor* from the coastal waters of Travancore. However, hitherto there has been no report on the occurrence of *Salarias* species in freshwaters of India. The description of a new species of blenny from the Vettilappara region of Chalakudy river in the present study increases the number of species of this family from 98 to 99 and also supports Day's (1878) view that some blennies can extend their geographical range of distribution to fresh water. According to him, this peculiar distribution pattern happens due to the migration undertaken by these species upstream during heavy floods, against the floodwaters, in the monsoon months, and a sudden subsidence thenceforth may result in their being trapped in isolated pools on the mainland. Those

**Table 1:** Comparison of morphometric and meristic characters of *Salarias reticulatus* sp. nov., *S. vermiculatus* and *S. marmoratus*

Characters	<i>S. reticulatus</i> sp. nov.	<i>S. vermiculatus</i>	<i>S. marmoratus</i>
1. Number of caudal rays	12	11	11
2. Number of ventral spines	2	2	3
3. Length of head to total length	4.85	5-5.5	4.75
4. Pectoral length to total length	5.72	5.5	-
5. Caudal length to total length	5.23	6	7.5
6. Height of the body to total length	6.00	5-5.5	5.5
7. Length of supra-orbital cirri	Longer than eye diameter	Longer than eye diameter	Equal to eye diameter
8. Position of the anal fin	Opposite to second dorsal	A little in advance of second dorsal	-
9. Colour pattern	Body and fins except ventrals reticulated	Body and fin reticulated with brown line	Brownish yellow



fish which can survive in the new habitat will later reach their original habitat along with subsequent floodwaters.

### ACKNOWLEDGEMENTS

We sincerely thank the Officer-in charge and scientists of ZSI for help in the identification of the new species,

Dr. K. Rema Devi and Dr. T.J. Indra for their sincere effort in differentiation of the new species from other *Salarias* spp. Financial support from the NAT-ICAR Project is thankfully acknowledged. We also thank Prof. (Dr.) C. Hridayanathan, Director, School of Industrial Fisheries for facilities. Deep gratitude is extended to C.P. Sunil Kumar and M.D. Mahesan, who assisted the team for the survey.

### REFERENCES

- CUVIER, (1817): Regne Anim. II: 251 pp. Sea Slug Forum, Australian Museum, Sydney.
- DAY, F. (1878): The Fishes of India, being a natural history of Fishes known to inhabit the seas and fresh waters of India, Burma and Ceylon, Dawson, London. Pp. i-xx+553-779.
- DAY, F. (1889): The Fauna of British India, Ceylon and Burma. Fishes. Vol. II: 509 pp. Taylor and Francis, London.
- DE BEAUFORT, L.F. & W.M. CHAPMAN (1951): The Fishes of the Indo-Australian Archipelago. Vol. 9: 484 pp. E.J. Brill, Leiden, Holland.
- FISCHER, W. & G. BIANCHI (1984): FAO species identification sheets for fishery purposes, Western Indian Ocean (Fishing area 51). Food and Agriculture Organisation of the United Nations, Rome. Pp. 1-9.
- MUNRO, I.S.R. (1955): The marine and freshwater fishes of Ceylon. Dept. of External Affairs, Canberra. 349 pp.
- PILLAY, R.S. (1929): A list of fishes taken in Travancore. *J. Bombay Nat. Hist. Soc.* 33(2): 347-379.
- TALWAR, P.K. & A.G. JHINGRAN (1991): Inland fishes of India and adjacent countries. Oxford & IBH Publishing Co. Ltd., New Delhi. Vols. I & II. 1158 pp.





Kurup, B Madhusoodana, Manojkumar, T G, and Radhakrishnan, K V. 2005. "Salarias Reticulatus (Pisces : Blennidae), a new Freshwater Blenny from Chalakudy River, Kerala (South India)." *The journal of the Bombay Natural History Society* 102, 195–197.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/188389>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/154809>

**Holding Institution**

Smithsonian Libraries and Archives

**Sponsored by**

Biodiversity Heritage Library

**Copyright & Reuse**

Copyright Status: In Copyright. Digitized with the permission of the rights holder

License: <http://creativecommons.org/licenses/by-nc/3.0/>

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.