



Note

On the occurrence of pipefishes in Vellar estuary, Parangipettai

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Abstract

Two species of pipefishes, *Ichthyocampus carce* (Hamilton Buchanan, 1822) and *Microphis cunocalus* (Hamilton Buchanan, 1822) were recorded for the first time from Vellar estuary. Descriptions of the two species are presented.

Pipefishes belonging to the family Syngnathidae with 215 species under 52 genera (Dawson, 1985) commonly occur in the coastal and estuarine habitats. A few brooders have been reported from freshwater environments. Two species viz., *Ichthyocampus carce* and *Microphis cunocalus* were collected during push net operations along the banks of Vellar estuary (11° 29'N; 79° 46'E) during November – December, 2006 coinciding with the northeast monsoon. Standard lengths (SL) of *I. carce* and *M. cunocalus* ranged from 4.8 to 9.4 cm and 8.1 to 9.3 cm respectively. The two species have not been recorded earlier from the Vellar estuary.

Description: Meristic counts and morphometric measurements were taken to the nearest millimeter following Dawson (1985). The morphometric characters included Standard Length (SL), Head Length (HL), Snout Length (SnL) and Snout Depth (SnD).

Ichthyocampus carce (Hamilton Buchanan, 1822), Freshwater Pipefish.

Description: D 25 - 27; P 14 - 15; C 10; trunk rings 14 -15; tail rings 39 - 40; sub-dorsal rings 4.5

- 5.5; HL 9.3 – 10.0 (9.6) in SL; SnL 0.04 – 0.05 (0.05) in SL; SnD 0.01 – 0.02 (0.02) in SL.

Body elongate, anterior portion of trunk deep with a tapering tail. Superior and inferior trunk ridges continuous with the respective tail ridges. Lateral trunk ridge deflected ventral near the anal ring. Deflected portion of the lateral ridge not reaching the continuous inferior body ridge. Dorsal fin origin from rear margin of first tail ring to middle of 3rd ring. Median dorsal snout ridge entire and little elevated. Opercle possess a complete, straight, longitudinal ridge. Brood pouch situated under tail and pouch closure is everted type with pouch plates and folds (Fig.1).

Colour: In fresh condition, body brownish with diffuse bands on the body. A pale spot on or above the inferior ridge on each trunk ring.

Distribution: *I. carce* has been recorded from India and Malay Archipelago Region (Day, 1878) and along the West coast of India to Celebes (Dawson, 1985).

Microphis cunocalus (Hamilton Buchanan, 1822), Crocodile-tooth pipefish.



Fig. 1. *Ichthyocampus carce* (Hamilton Buchanan, 1822)

Description: D 51 – 56; P 16 – 19; C 9; trunk rings 16 – 18; tail rings 24 – 27; sub-dorsal rings 2.0 - 3.5 + 6.5 - 7.75; HL 0.13 – 0.14 (0.14) in SL; SnL 0.06 – 0.07 (0.06) in SL; SnD 0.010 – 0.015 (0.011) in SL.

Body elongate, trunk region heptagonal and tail tetragonal. Superior trunk and tail ridges discontinuous. Inferior trunk ridge ends at anal ring, lateral trunk ridge confluent with inferior tail ridge. Sub-dorsal rings without supplemental body ridges and scutella without keel. Dorsal fin origin on the trunk rings. Opercle without supplemental ridges below the longitudinal ridge. Brood pouch present under the trunk (Fig. 2).



Fig. 2. *Microphis cuncalus* (Hamilton Buchanan, 1822)

Colour: In fresh condition, the body is olive green above and dirty white below with a silvery opercle. A spotted stripe along the sides of the body. Caudal fin reddish in colour with yellow margin.

Distribution: *M. cuncalus* has been reported from India, Sri Lanka and Bangladesh (Dawson, 1985).

Discussion

Genus *Ichthyocampus* is monotypic and endemic to the coastal waters of Indian and western Pacific oceans. Genus *Microphis* includes five subgenera, eighteen species and one subspecies in the Indo-Pacific region and distributed over the marine, estuarine and freshwater habitats. Though juveniles and subadults of some species occur in oceans and estuaries, adults are commonly found in streams, rivers and low salinity habitats (Dawson, 1985). Jayaram (1999) studied six species of pipefishes of the genus *Microphis* and found *M. cuncalus* and *I. carce* visiting freshwaters distributed throughout India. *M. cuncalus* was also collected from the western ghats by Kurup and Radhakrishnan (2006). Bayer (1980) observed that the bay pipefish, *Syngnathus leptorhynchus* undergoes intra-estuarine migration related to sea-

sonal salinity fluxes. Day (1878) reported another pipe fish *Doryichthys cuncalus* from the tidal rivers ascending far above the tidal influence. These reports show that the two pipefish species *I. carce* and *M. cuncalus* prefer freshwater or low salinity regimes. Vellar estuary is an example of bar-built estuary with salinities exceeding 35 ppt in peak summer season. However, during the northeast monsoon months, freshwater prevails in the estuary due to input from the river and land runoff. Salinity drops to less than 5 ppt during this season. The prevalence of low salinity in the lower reaches during monsoon might have caused the migration of the pipefishes or they might have been carried downstream by the copious water flow. The artificially

developed mangroves along the banks of Vellar estuary also appear to provide shelter and abundant food supply for these pipefishes.

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