

FISHES OF THE ORDER SYNGNATHIFORMES

M. RAHIMULLAH QURESHI

Fishermen's Cooperative Society Ltd., Karachi

(Received October 31, 1968).

Some fishes, belonging to the Order Syngnathiformes were collected from Pakistan waters. These were placed under families Aulostomidae, Fistularidae, Centriscidae and Syngnathidae. Since these are small and live usually in the sea weeds, few are caught by the fishermen. As food also these fishes are not considered good. Their habits are also briefly described.

These are less-known fishes owing to their habitat and as these are of no commercial importance, these are not even collected by fishermen. Of small size and generally escaping the net, excepting that some are caught occasionally in a trawl or small-meshed net when fishing in the weeds. These are generally characterised by their very small mouth which is situated at the end of a tube-like snout. Body is covered with minute scales or a protective bony sheath, or encased in stout bony rings. These are sluggish, slow-moving fishes, generally inhabiting the weeds where they conceal themselves.

This order is divided into two sub-orders which are stated below:

1. Mouth toothed. Body covered with scales, lateral line continuous, minute spines or naked. Sub-order *Aulostomoidei*.

2. Mouth toothless. Body covered in dermal plates, no lateral line. Sub-order *Syngnathoidei*.

Families of Sub-order *Aulostomoidei*:

(i) Body compressed, scaly. Dorsal fin divided into spinous and soft parts. Anus far behind pelvic fins. Family Aulostomatidae.

(ii) Body depressed, without scales. Short soft dorsal fin only. Anus close to pelvic fins. Family Fistularidae.

Families of Sub-order *Syngnathoidei*:

(i) Two dorsal fins. Trunk encased in cuirass or body plates. Family Centriscidae.

(ii) One or two dorsal fins, pelvic absent. Body completely encased in armour of bony rings. Family Syngnathidae.

Family Aulostomidae.

Fishes with pronounced tube-like snout with small mouth at the end. Body elongated, com-

pressed, covered with minute scales. Spinous dorsal fin present but reduced to a row of spines. A barbel below chin.

1. *Aulostoma chinensis* Lacépède.

Painted Flutemouth

1955. *Aulostoma chinensis*, Munro, Fishes Ceylon p. 80.

D. VIII-XII, 24-27; A. 4, 22-45; p. 17; V. 6.

Body elongate, a barbel below the chin. Snout long. Second dorsal and anal fins at extreme posterior. Pelvics beneath spinous dorsal and midway between eye and caudal base. *Colour*: Varies according to age and the environment. Generally brownish or yellowish with cross-bars or narrow longitudinal white patches. (Fig. 1). *Habitat*: Only one specimen, 14 in long, was studied by me in the catches of M.F.V. Jalwa of the Marine Fisheries Department in 1964.

Family Fistularidae.—Body is much depressed, long. Skin smooth. Dorsal and anal fins composed of undivided rays. Caudal forked, with one or two of its median rays much elongated.

2. *Fistularia villosa* Klunzinger

Flute mouth

1889. *Fistularia serrata*, Day, Faun. Brit. Ind., Fish. II, p. 357

1955. *Fistularia villosa*, Munro, Fishes Ceylon, p. 80

D. 13-15; A, 13-15; p. 13; V. 1/5

Body elongate. Snout long. Mouth terminal, slightly cleft. A serrated ridge from anterior upper angle of eye to nostril and extending to about middle of snout. Caudal forked, one median filament very much elongated.

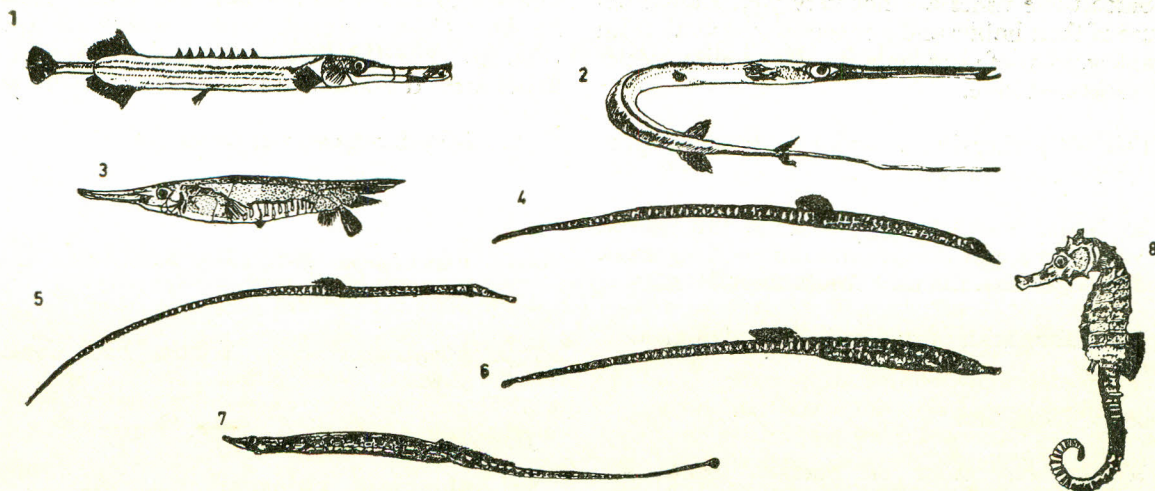


Fig. 1.—*Anlostoma cheninsis*. Fig. 2.—*Fistularia villosa*. Fig. 3.—*Centriscus scutatus*. Fig. 4.—*Syngnathus serratus*. Fig. 5.—*Syngnathus longirostris*. Fig. 6.—*Ichthyocampus carce*. Fig. 7.—*Dorichthys ocellatus*. Fig. 8.—*Hippocampus kuda*.

Colour: Brownish above, whitish below with traces of broad cross-bars. Tips of fins dusky. Grows to 3 ft (Fig. 2).

Habitat: In the catch of *M.F.V. Jalwa*, from Bay of Bengal, I have studied some specimens, measuring from 2 to 3 ft and a few specimens in the catches of *M.F.V. 'Machhera'* from the Arabian Sea.

Family Centriscidae.—Body elongate, strongly compressed, blade-like, covered with bony plates, lower edge sharp. Anterior bones of the skull produced, forming a long tube bearing a small mouth at its extremity. First dorsal spine is at end of body and most of the dorsal and caudal fins are on lower surface.

3. *Centriscus scutatus* Linn.

Razor fish

1889. *Amphisile scutata*, Day, Faun. Brit. Ind., Fish II, p. 358.

1955. *Centriscus scutatus*, Munro, Fishes Ceylon, p. 81.

D. III, 10-12; A. 11-12; p. 10; V. 3; C. 10

Body strongly compressed. The dermal skeleton ends behind in a long spine, close beneath which are the three spines of the first dorsal fin. Below

this is the second dorsal. Caudal fin is situated on the lower surface of the body just behind the anal. *Colour*: Silvery with dark lateral band. Ventral plates golden with some cross-bars. Grows to 6 in in length. Swims in shoals vertically with head up (Fig. 3). *Habitat*: It is very rare in the catches of the fishermen. I have studied many specimen in the catch of trawlers in the Philippines. The body is more or less transparent.

Family Syngnathidae.—Fishes included in this family are pipe fishes and sea-horses. These are characterised by having more or less elongated body encased in bony rings. Fins are small. Caudal fin sometimes absent. Pelvics absent. These fishes are found living amongst weeds. Eggs are usually attached to the belly of male, sometimes enclosed in a pouch.

Day (1889) has reported six species of the genus *Syngnathus*, one of genus *Ichthyocampus*, three of genus *Dorichthys*, one of *Nerophis* under the group *Syngnathina*, and under group *Hippocampina* has mentioned one species of the genus *Gastrosteus*, one of genus *Acentronura* and three of genus *Hippocampus*.

The broad difference between the groups *Syngnathina* and *Hippocampina* is that the fishes belonging to the former group do not possess prehensile tail but in the latter group the tail is prehensile.

Munro (1956) has described twelve species under this family.

Since these fishes are not very well known because of their habits and not considered at all from culinary point of view, only the commonest species are described here.

Tail not prehensile, a caudal fin generally present. Pectorals present.

(a) Males with an egg-pouch on tail, dorsal edges of trunk and tail not continuous *Syngnathus*. Dorsal edges continuous. *Ichthyocampus*.

(b) Males with egg-pouch on abdomen. *Dorichthys*

Genus *Syngnathus*.

(a) No bony ridge on opercle. Snout less than half the length of head. A serrated crest present *S. serratus*. Snout more than half the length of the head. No serrated crest *S. longirostris*.

4. ***Syngnathus serratus*** Temm. & Schl.

Crested pipe-fish.

1889. *Syngnathus serratus*, Day, Faun. Brit. Ind., Fish. II, p. 461.

1955. *Trachyrhamphus serratus*, Munro, Fishes Ceylon, p. 83.

D. 25-29, A. 3-4, p. 14-19.

Bony ridge on opercle absent. A spinous or serrated crest along upper edge of posterior two-third length of the snout. Length of snout less than half of the length of head. Opercle finely striated. Dorsal fin with elevated base. Caudal fin present, small. *Colour*: It has uniform brown colour with broad dark diffused cross bands. Caudal fin black (Fig. 4). *Habitat*: Common near St. Martin Island, East Pakistan.

5. ***Syngnathus longirostris*** Kaup.

Long-snouted pipe-fish

1889. *Syngnathus longirostris*, Day, Faun. Brit. Ind., Fish. II, p. 461.

1955. *Trachyrhamphus longirostris*, Munro, Fishes Ceylon, p. 84.

D. 27, A.4, p. 18.

Bony ridge on operculum absent. No serrated crest. Snout more than half the length of head.

Opercle covered with fine radiating lines. Dorsal fin low. *Colour*: greyish brown with dark spots (Fig. 5). *Habitat*: One of the commonest species found around St. Martin Island, near Cox's Bazar.

6. ***Ichthyocampus carce*** (Ham).

Brown pipe-fish

1889. *Ichthyocampus carce*, Day, Faun. Brit. Ind., Fish. II, p. 464.

1955. *Ichthyocampus carce*, Munro, Fish Ceylon, p. 82.

D. 23-27, A.2-3, P. 13-17.

Body elongate. Dorsal edge of trunk and tail continuous. Tail length more than twice that of the trunk. Males with an egg-pouch on tail. Pectorals and caudal present. No cutaneous appendages. *Colour*: Brown with white or black-edged ocellus on each trunk ring. Ventral surface of tail with brown and yellow dots. (Fig. 6). *Habitat*: Found in coastal waters of East Pakistan, entering estuaries and fresh water.

7. ***Dorichthys cunculus*** (Ham.).

Toothed pipe-fish

1889. *Doryichthys cunculus*, Day, Faun. Brit. Ind., Fish. II, p. 465.

1955. *Dorichthys cunculus*, Munro, Fish Ceylon, p. 83.

D.50-53, A.2-3, p. 18-20.

A fine ridge along upper surface of snout. Pectoral and caudal fins present; D.50 on 11 rings. Lateral line uninterrupted, it passes into lower border of first caudal ring.

Colour: Green above, dirty-white below. Network of dusky lines on back. Longitudinally spotted on sides, Opercle silvery. Caudal reddish. (Fig. 7) *Habitat*: Found in tidal rivers of East Pakistan.

8. ***Hippocampus kuda*** Bleeker.

Sea horse

1905. *Hippocampus fisheri*, Jordon & Evermann, Bull. U.S. Fish. Comm.

1955. *Hippocampus kuda*, Munro, Fish Ceylon, Karachi, Sonmiani Bay and Pasni on the west coast, p. 84.

D. 15-18, A. 4, p. 17-18.

Body very deep in thoracic region. Dorsal fin on 2+2 rings. Head at right angle to trunk. The shields covered with tubercles. Tail prehensile. Male has an egg-pouch. *Colour*: dark brown or blackish with darker transverse bands or elongate spots. Sometimes with white dots. Grows to 10 in (Fig. 8). *Habitat*: This is not uncommon round St. Martin Island in East Pakistan and also found near

These are small fishes not exceeding 10 in in length. Pipe fishes are slow-moving fishes, swimming amongst the weeds. Sea horse is also a slow swimmer and its movement is usually vertical, it attaches itself to the weeds by its prehensile tail. The study of these fishes will be a very interesting subject for ichthyologists, specially in East Pakistan where they should survey the waters with very small-meshed nets near the shore of St. Martin Island and in the estuaries of rivers.