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A NEW FRESHWATER FISH OF THE GENUS *DANIO* HAMILTON (PISCES : CYPRINIDAE) FROM ASSAM, INDIA, WITH THE KEY TO THE IDENTIFICATION OF THE INDIAN SPECIES OF THE SUBGENUS *DANIO*

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ABSTRACT

A new species of the genus *Danio* Hamilton collected from Assam, India is described under the name *Danio* (*Danio*) *assamensis*. It is distantly related to *Danio* (*Danio*) *regina* Fowler and *Danio* (*Danio*) *aequipinnatus* (McClelland) from which it differs in the lateral line scale count, head length and body depth. The new species is described here in detail with two photographs.

INTRODUCTION

The Cyprinid genus *Danio* Hamilton under subgenus *Danio* is distributed throughout India, Pakistan, Nepal, Bangladesh, Sri Lanka, Burma, Thailand, Malaya, and China. Jayaram (1981) recorded 9 species under this subgenus from the Indian regions. Three examples of freshwater fish collected from Assam, were examined and compared with the known species and were found to be a hitherto undescribed species. The species is being described here and named after its locality, Assam, *Danio* (*Danio*) *assamensis*.

Material : *Holotype* (Plate VII) : 69mm. in standard length. Reg. No. Zoological Survey of India, Calcutta. FF 1861. Locality : Streamlets round about Tangla, Darrang dist., Assam. Date of Collection. 14.11.1939. Collector : *Dr. S. L. Hora.*

Paratypes : 2 exs., 62 mm-78 mm. in standard length. Reg. No. Zoological Survey of India, Calcutta, FF 1862. Locality, collector and date of collection same as in holotype.

DIAGNOSIS

Body depth 2.99 (2.87-3.10) and head length 4.17 (4.05-4.33) in standard length. Eye diameter 3.58 (3.40-3.75) in head length. Eye with a small backward projecting spinosus process on anterior orbital rim. Lateral line scales 40-41. Height of caudal peduncle 1.31 (1.22-1.42) in its own length.

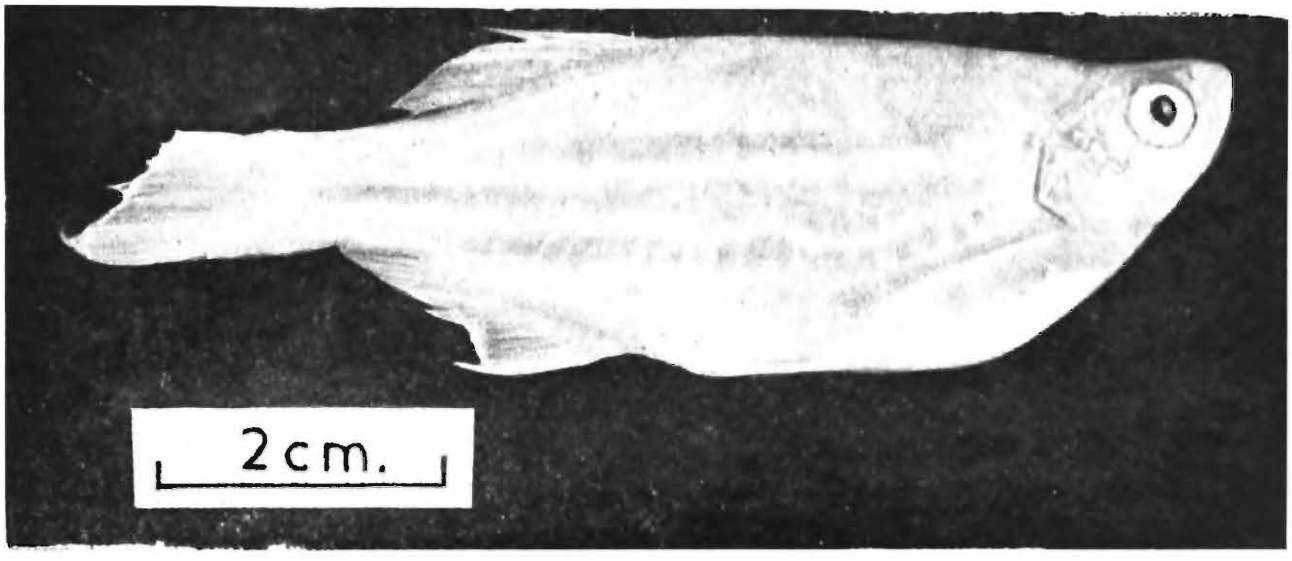
DESCRIPTION

Danio (Danio) assamensis sp. nov.

D. 2/12, A. 2/16-17, P. 12, V. 8. C. 21, L. I. 40-41, L. tr. $7\frac{1}{2}/2\frac{1}{2}$.

Dorsal profile more or less convex and ventral profile bow-shaped. Head triangular, directed upward. Body depth 2.99 (2.87-3.10) and head length 4.17 (4.05-4.33) in standard length. Width of head 1.85 (1.80-1.88) and snout length 3.86 (3.60-4.25) in length of head. Eye anterior, with a small backward projecting spinosus process at the anterior rim of orbit (Fig. 1), diameter 3.58 (3.40-3.75) in length of head and 1.58 (1.40-1.75) in interorbital width. Interorbital width flat or slightly convex.

BARMAN PLATE VII



Lateral view of holotype of *Danio* (*Danio*) *assamensis* Barman.

Mouth, small directed upward. Barbels 2 pairs, rostral pair half the eye diameter and maxillary pair smaller at the junction of upper and lower jaw. Height of caudal peduncle 1.31 (1.22-1.42) in its own length.

Scales : Lateral line complete, covering 40-41 scales, $7\frac{1}{2}$ scales above lateral line and $2\frac{1}{2}$ scales between lateral line and origin of pelvic fin, predorsal scales 16 and scales surrounding caudal peduncle 14.

Fins : Dorsal fin with 2 spines and 12 branched rays, height 5.56 (4.92-6.20) in standard length. Anal fin with 2 spines and 16-17 branched rays, height 6.21 (5.75-6.88) in standard length. Pectoral fins with 12 rays, length 4.87 (4.60-5.16) in standard length. Pelvic fin with 8 rays, length 6.84 (6.27-7.75) in standard length. Pectoral fin & pelvic fin provided with scaly appendages at their superior margins. Caudal fin emarginate with 21 rays.

Colour in alcohol : Two pale (silvery) longitudinal bands extending from opercular end to base of caudal fin on each side. A black spot at the superior margin of the gill opening present. Fins are without any colour markings.

RELATIONSHIPS

In the possession of the preorbital spinosus process the new species, *Danio* (*Danio*) *assamensis* is related to *Danio* (*Danio*) *regina* Fowler and *Danio* (*Danio*) *aequipinnatus* (McClelland). Of the two *D. regina* described by Fowler (1934) from Nakon Sritamarat, peninsular Siam, is more closely related to the new species in having an upturned head and also in general morphological similarities in both the species. The new species can be easily separated from *D. regina* in having a smaller head length 4.05-4.33 vs. 3.66-3.75 in standard length, $2\frac{1}{2}$ scales between the lateral line and base of pelvic fin vs. 1 scale between the lateral line and base of pelvic fin, lateral line scales 40-41 vs. 34-35

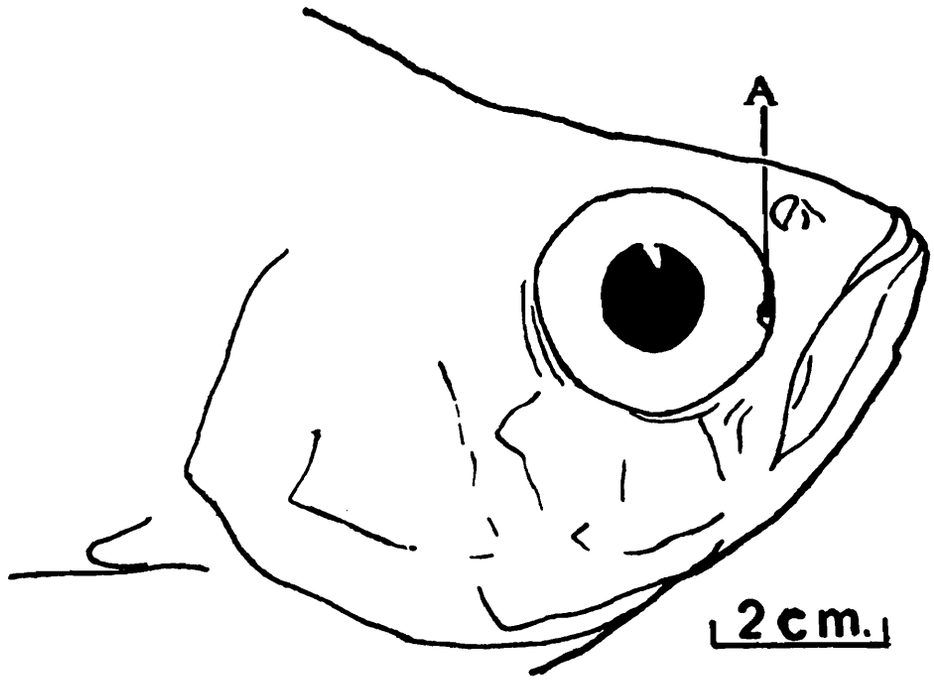


Fig. 1. Head region of *Danio* (*Danio*) *assamensis* Barman showing the preorbital spinosus process (A) on the anterior rim of orbit.

scales and 2 longitudinal bands vs. 5 longitudinal bands from the opercular end to the base pelvic fin.

The new species can be also distinguished from *D. aequipinnatus* in having greater number of lateral line scales 40-41 vs. 34-36, much deeper body depth 2.87-3.10 vs. 3.75-4.00 in standard length, greater number of anal fin rays 18-19 vs. 14-16, least depth of caudal peduncle 1.22-1.42 vs. 1.75-2.00 and 2 longitudinal bands vs. 3 longitudinal bands from head to base of caudal fin on either lateral sides of the body.

Key to the identification of the Indian species of the subgenus **Danio**

1.	A small backward projecting spinosus process on anterior rim of the orbit.	2
	No backward projecting spinosus process on anterior rim of the orbit	6
2.	One or two supraorbital forwardly directed spine in addition to the preorbital spinosus process on anterior orbital rim ...	*D. spinosus* Day
	No supraorbital spine present... ...	3
3.	Lateral line scales 54-56; lateral transverse scales 15 ...	*D. annandalei* Chaudhuri
	Lateral line scales not more than 53	4
4.	Lateral line scales 40-41; lateral transverse scales 10 ...	*D. assamensis* sp. nov.
	Lateral line scales 32-36	5
5.	Lateral line scales 32; dorsal fin rays (total) 10; one pair of maxillary barbels ...	*D. kakhienensis* Anderson
	Lateral line scales 34-36; dorsal fin rays (total) 12-13; two pairs of barbels ...	*D. aequipinnatus* (McClelland)
6.	One pair of maxillary barbels; lateral line scales 45-52 ...	*D. devario* (Hamilton)
	Two pairs of barbels	7
7.	Barbels well developed; both pairs of barbels much longer than eye diameter; lateral line scales 36-42; lateral colour bands breaking up anteriorly to form a mottled pattern ...	D. *dangila* (Hamilton)
	Barbels not well developed; maxillary barbels rudimentary and rostral barbels short	8
8.	Lower lip hypertrophied forming a loose flap along the lower jaw; lateral line scales 40-41; anal fin rays (total) 17-19 ...	*D. fraseri* Hora
	Lower lip not hypertrophied, simple anal fin rays (total) 10-14.	9
9.	Lateral line scales 40-42; dorsal fin rays (total) 10 ...	*D. naganensis* Chaudhuri
	Lateral line scales 37-38 ;dorsal fin rays (total) 12-14. ...	*D. neilgherriensis* (Day)-

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