

ON A NEW SPECIES OF THE GENUS *Danio* HAMILTON FROM BURMA  
(PISCES : CYPRINIDAE)

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ABSTRACT

A lot of 14 specimens labelled erroneously as *Danio (Brachydanio) shanensis* Hora was found to be referable to a hitherto undescribed species. It is related to *Danio (Brachydanio) feegradei* and *Danio (Brachydanio) shanensis* from which it differs in the lateral line scale count and absence of barbels. The species is named as *Danio (Brachydanio) jayarami* and fully described with a photograph.

INTRODUCTION

During the course of the revisionary studies on the Cyprinid fishes of the genus *Danio* from India and Burma, 14 uncatalogued specimens of a species referable to this genus under subgenus *Brachydanio* were found labelled as *Danio shanensis* Hora. When compared with the eight species belonging to subgenus *Brachydanio* known from the Indian region (Jayaram, 1981), they proved to be a hitherto undescribed species. The species is described here and named after Dr. K. C. Jayaram, Deputy Director, Zoological Survey of India, Calcutta and one of the prominent workers of the fishes of India of the present decade.

SYSTEMATIC ACCOUNT

Order —CYPRINIFORMES

Family —CYPRINIDAE

Genus —**Danio** Hamilton

**Danio (Brachydanio) jayarami** sp.  
nov.

*Material* : *Holotype* (Fig. I) : 46 mm. in standard length. Reg. No. Z. S. I. FF. 1805.

*Locality* : Streams near Mongyai, N. Shan States, Burma, Coll. B. N. Chopra & H. S. Rao, date : Jan. 1927.

*Paratypes* : 13 examples, 40 mm.-43 mm. in standard length. Reg. Nos. Z. S. I. FF. 1806-FF 1818. Locality, Collector and date same as in holotype.

*Diagnosis* : Lateral line scales 39-41, complete ; least height of caudal peduncle 2.5 times in its own length ; anal rays 18-19 ; conical snout, 3.74 (3.66-4.00) in head length ; eye diameter 3.21 (3.14-3.42) in head length ; depth of body 4.17 (4.00-4.30) in standard length.

## DESCRIPTION

**Danio (Brachydanio) jayarami** sp. nov.

D. 2/7, A. 3/15-16, P. 12, V. 7, C. 20,  
L. 1.39-41, L. tr.  $7\frac{1}{2}/1\frac{1}{2}$

Head conical structure, length 3.79 (3.63-3.90) in standard length, height considerably

concave. The commencement of the dorsal fin nearer to caudal base than to the tip of snout, its height 5.34 (5.00-5.75) in standard length, it contains two spines and seven branched rays. The origin of pelvic fin nearer to the tip of snout than to the caudal base. The distance between origin of the pelvic to

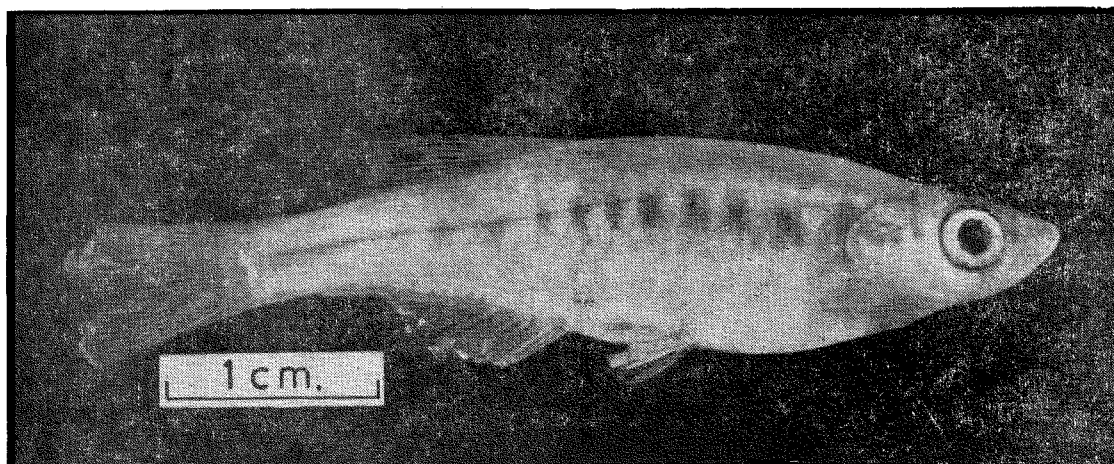


Fig. 1. *Danio (Brachydanio) jayarami* sp. nov.

shorter than head length, width shorter than the height of the head. Eyes large, dorso-lateral, anterior, diameter 3.21 (3.14-3.42) in head length, greater than the snout length and 1.07 (1.00-1.14) in the interorbital width. Mouth obliquely directed upwards and moderate width, lower jaw longer than upper jaw. No barbels. Body depth 4.17 (4.00-4.30) in standard length, shorter than head length. Lateral line scales 39-41 and lateral transverse scales 9 rows ( $7\frac{1}{2}/1\frac{1}{2}$ ). Predorsal scales 18-19.

The dorsal profile rises gently from the tip of the snout to the origin of dorsal fin, beyond which it slopes downwards in the manner of a convex plan. The convex ventral profile extending upto the commencement of anal fin, beyond which it becomes

tip of snout 1.27 (1.23-1.35) in distance between origin of pelvic to base of caudal fin. The length of pectoral is shorter than the head length. The length of pelvic is shorter than that of the pectoral and the height of the anal is greater than that of pelvic. Caudal length 5.18 (5.11-5.37) in standard length, emarginate. The least height of caudal peduncle 2.5 (2.5-2.5) in its length and there are 12 scales round the caudal peduncle.

The colour pattern of this species is peculiar. There are 12-13 transverse brown colour spots which progressively decrease in size posteriorly.

Frequency distribution of some meristic characters are given in Table No. 3.

## AFFINITIES

*Danio* (*Brachydanio*) *jayarami* is characterised by the presence of 39-41 lateral line scales and absence of barbels. The new species is closely related to *Danio* (*Brachydanio*) *shanensis* Hora and *Danio* (*Brachydanio*) *feegradei* Hora from Burma. This present new species may be easily distinguishable from the former species in having lateral line scales 39-41 vs. 34, anal rays 18-19 vs. 13-15, body depth 4.17 (4.00-4.30) vs. 3.50 (3.30-3.70) in standard length, snout length 3.74

(3.66-4.00) vs. 4.87 (4.50-5.50) in length of head and height of caudal peduncle 2.5 (2.5-2.5) vs. 1.76 (1.60-1.90) in its own length. From *Danio* (*Brachydanio*) *feegradei* this new species may be separated in the absence of barbels vs. rostral and maxillary barbels present-maxillary being as long as head or longer than head, greater number of anal rays vs. lesser number of anal rays (18-19 vs. 15) and height of caudal peduncle 2.5 times vs. 1.5 times in its own length. A comparison of the new species is given in table No. 2.

TABLE No. 1

| Proportions  | Range       | Mean  |
|--|-------------|-------|
| Standard length/Head length                            | 3.63-3.90   | 3.79  |
| Standard length/Body length                            | 4.00-4.30   | 4.17  |
| Standard length/Predorsal distance                     | 1.53-1.68   | 1.61  |
| Standard length/Prepelvic distance                     | 2.15-2.35   | 2.22  |
| Standard length/Caudal peduncle length                 | 4.00-4.60   | 4.27  |
| Standard length/Least height of caudal peduncle        | 10.00-11.25 | 10.60 |
| Caudal peduncle length/least height of caudal peduncle | 2.50-2.50   | 2.50  |
| Head length/Eye diameter                               | 3.14-3.42   | 3.21  |
| Interorbital width/Eye diameter                        | 1.00-1.14   | 1.07  |
| Head length/height of head                             | 1.25-1.50   | 1.38  |
| Head length/width of head                              | 2.00-2.20   | 2.14  |
| Head length/Snout length                               | 3.66-4.00   | 3.74  |
| Interorbital width/Snout length                        | 1.16-1.33   | 1.20  |
| Standard length/height of dorsal                       | 5.00-5.75   | 5.34  |
| Standard length/height of Anal                         | 5.71-6.57   | 5.98  |
| Standard length/Pectoral length                        | 4.44-4.60   | 4.58  |
| Standard length/Pelvic length                          | 7.66-8.60   | 8.27  |
| Standard length/length of caudal fin                   | 5.11-5.37   | 5.18  |

TABLE 2. Comparison of *Danio* (*Brachydanio*) *jayarami* with related species.

|   | <i>Danio</i><br>( <i>Brachydanio</i> )<br><i>jayarami</i> sp. nov. | <i>Danio</i><br>( <i>Brachydanio</i> )<br><i>shanensis</i> Hora | <i>Danio</i><br>( <i>Brachydanio</i> )<br><i>feegradei</i> Hora |
|---|--|---|---|
| Lateral line scales                         | 39-41  | 34  | 39  |
| Barbel                                      | absent   | absent  | present   |
| Depth of body in standard length            | 4.00-4.30  | 3.30-3.70   | 3.9-3.9   |
| Head length in standard length              | 3.63-3.90  | 3.80-4.00   | 3.9-3.9   |
| Snout length in head length                 | 3.66-4.00  | 4.50-5.50   | 3.66-3.66   |
| Height of caudal peduncle in its own length | 2.5-2.5  | 1.60-1.90   | 1.50-1.50   |
| Anal rays                                   | 3/15-16  | 3/10-12   | 3/12  |
| Lateral line                                | complete   | incomplete  | complete  |

TABLE 3. Frequency distribution of some meristic characters of *Danio (Brachydanio) jayarami*

| Lateral line scales |    |    | Predorsal scales |    | Anal rays |    |
|---------------------|----|----|------------------|----|-----------|----|
| 39                  | 40 | 41 | 18               | 19 | 18        | 19 |
| 9                   | 3  | 2  | 8                | 6  | 9         | 5  |

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## REFERENCES

- DAY, F. 1889. *The Fauna of British India, including Ceylon & Burma*, Fishes, I. Taylor & Francis, London, XX+548.
- HORA, S. L. 1928. Notes on Fishes in the Indian Museum. XV—Notes on Burmese Fishes, *Rec. Indian Mus.*, **30** : 37-40.
- HORA, S. L. & MUKERJI, D. D. 1934. Notes on fishes in the Indian Museum, XXII. On the collection of fish from the S. Shan States and the Pegu Yomas, Burma. *Rec. Indian Mus.*, **36** : 123-138.
- HORA, S. L. 1937. Notes on the Fishes in the Indian Museum, XXXI—On a small collection of Fish from Sandoway. Lower Burma. *Rec. Indian Mus.*, **39** : 323-331.
- JAYARAM, K. C. 1981. *The Freshwater Fishes of India, Pakistan, Bangladesh, Burma & Sri Lanka*, Govt. of India, XXII+475, plates XIII.