

## A new species of genus *Laubuca* Bleeker, 1860 cyprinid fish from Bangladesh (Cypriniformes, Cyprinidae)

Sitthi Kulabtong<sup>1</sup>, Siriwan Suksri<sup>2</sup> & Chirachai Nonpayom<sup>3</sup>

<sup>1</sup>Department of Fishery Management, Faculty of Fisheries, Kasetsart University, Bangkok, Thailand 10900; e-mail: kulabtong2011@gmail.com.

<sup>2</sup>Reference Collection Room, Inland Fisheries Resources Research and Development Institute, Department of Fisheries, Thailand 10900; e-mail: Siriwan.suksri@gmail.com.

<sup>3</sup>534/26 Soi Phaholyothin 58 Phaholyothin Rd. Sai Mai, Bangkok, Thailand; e-mail: sorn133@hotmail.com.

### ABSTRACT

A new species of cyprinid fish (Cypriniformes, Cyprinidae), *Laubuca brahmaputraensis* n. sp. from Brahmaputra River, Bangladesh, is described. This species is distinguished from other species of genus *Laubuca* Bleeker, 1860 by the combination of the following characters: lateral line scales comprising 31-32 + 1-2 scales, transverse line scales of  $\frac{1}{2}6\text{-}\frac{1}{2}7 / 1 / 2\frac{1}{2} - 3\frac{1}{2}$  scales, body depth ranging from 25.1 to 29.3 % Standard length (SL), pelvic fin not reaching beyond the anus, anal fin with 3 unbranched rays and  $19\frac{1}{2}\text{-}20\frac{1}{2}$  branched rays, black blotch above the pectoral fin base and no tubercles on lower jaw.

### KEY WORDS

*Laubuca*; Cyprinidae; Brahmaputra River; Bangladesh; new species.

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### INTRODUCTION

Freshwater fishes genus *Laubuca* Bleeker, 1860 (Pisces, Cypriniformes, Cyprinidae) has been reported for Indian subcontinent and Indo-Australian archipelago (Hamilton, 1822; Weber & de Beaufort, 1916; Smith, 1931; Menon, 1952; Silas, 1958; Deraniyagala, 1960; Pethiyagoda et al., 2008).

Currently the genus *Laubuca* comprises eight valid species: *L. caeruleostigmata* Smith, 1931 from Thailand; *L. laubuca* (Hamilton, 1822) widely distributed in Indian subcontinent and Indo-Australian archipelago; *L. dadyburjori* Menon, 1952 and *L. fasciata* Silas, 1958 from India; *L. lankensis* Deraniyagala, 1960 from Sri Lanka; and *L. insularis*, *L. ruhuna* and *L. varuna* described by Pethiyagoda et al. (2008) from Sri Lanka.

In Bangladesh, Ataur Rahman (2003) reported that *L. laubuca* is the only species of genus *Laubuca* found in the country area.

In October 1995, the inland aquarium fish collector who caught all the specimens of *Laubuca* employed in this study (collection site: Brahmaputra River, Bangladesh), sent these specimens to the Inland Fisheries Resources Research and Development Institute, Department of Fisheries, Thailand [NIFI] under the name *L. laubuca* [NIFI 2799].

In 2012 after having reviewed all the specimens sent by Mr. Kittipong Jaruthanin, we concluded that these fish are significantly different not only from specimens belonging to *L. laubuca* as described by Ataur Rahman (2003) from Bangladesh, but also from all other species of *Laubuca* hitherto known, by the combination of the following characters: lateral line scales, transverse line scales, body depth, caudal peduncle depth, fin rays and the absence of tubercles on lower jaw.

Hence, the population collected from Brahmaputra River is described herein as a new species.

*Laubuca brahmaputraensis* n. sp.

EXAMINED MATERIAL. Holotypus, NIFI 4532: Brahmaputra River, Bangladesh, 12.X.1995, legit Kit-tipong Jaruthani, (Fig. 1); Paratypi, NIFI 2799: 2 specimens, same data of holotypus.

DESCRIPTION OF HOLOTYPE (sexual external characters cannot be specified). *L. brahmaputraensis* n. sp. is slender, body depth is 26.1%SL. The fish is very compress, body width is 8.7%SL. Scales in lateral series are medium to large, lateral line scales include 31 + 1-2 scales, transverse line scales on body comprises  $\frac{1}{2}6 - \frac{1}{2}7 / 1 / 2\frac{1}{2} - 3\frac{1}{2}$  scales and predorsal scales are 16. Head length (HL) is 24.1%SL, head depth (HD) is more than half of body depth (BD) and head length (66.6%BD or 72.2%HL or 17.4%SL). The eye is large, eye diameter is 36.1%HL (50.0%HD or 8.7%SL). Post orbital length is 38.9%HL (10.7%SL), snout length is short, with 18.1%HL (4.3%SL) and interorbital width is 51.4%HL (12.4%SL) longer than postorbital width (44.4%HL or 10.7%SL).

Dorsal fin origin is posterior behind anal fin origin, predorsal fin length is 66.9%SL, prepectoral fin length is 31.4%SL, prepelvic fin length is 48.2%SL and preanal fin length is 66.9%SL. Caudal peduncle depth is 9.8%SL. Pectoral fin is long but not reaching beyond the anus, the pectoral fin length is 31.4%SL and 9 branched fin rays.

Pelvic fin is short not reaching beyond anus, the pelvic fin length is 20.1%SL and 5 branched fin rays. Anal fin base is longer than dorsal fin base, the anal fin base length is 28.4%SL, dorsal fin with 3 unbranched rays and 8 branched rays and anal fin with 3 unbranched rays and  $19\frac{1}{2}$  branched rays. The dorsal fin base length is 12.7%SL.

VARIABILITY. 30.7-33.9 mm SL. Variation of male and female are unknown.

ETYMOLOGY. from Brahmaputra River, Bangladesh, where this species was collected.

DISTRIBUTION. This species is known only from Brahmaputra River, Bangladesh.

COMPARATIVE NOTES. *L. brahmaputraensis* n. sp. is distinguished from other species of genus *Laubuca* by the combination of the following characters: lateral line scales complete, with 31-32 + 1-2 scales;

transverse line scales on body showing  $\frac{1}{2}6 - \frac{1}{2}7 / 1 / 2\frac{1}{2} - 3\frac{1}{2}$  scales; body is slender, body depth is 25.1-29.3%SL; caudal peduncle depth is 8.9-9.8%SL; anal fin with 3 unbranched rays and  $19\frac{1}{2}$ - $20\frac{1}{2}$  branched rays; pelvic fin is short (43.2-83.3%HL) not reaching beyond the anus; a black blotch above the pectoral fin base; lower jaw smooth, lacking tubercles on skin.

Particularly, *L. brahmaputraensis* n. sp. is clearly different from *L. caeruleostigmata* of Thailand in many characters: body depth is 3.4-4.0 times SL (in *L. caeruleostigmata* is 2.25), lateral line scales includes 31-32 scales (vs 34-35 scales in *L. caeruleostigmata*).

Moreover, *L. brahmaputraensis* n.sp. has one black blotch above the pectoral fin base (vs. 4-5 dark vertical stripes above pectoral fin base on sides of body in *L. caeruleostigmata*) (Smith, 1931; Smith, 1945; Silas, 1958).

*L. brahmaputraensis* n.sp. is different from other species of genus *Laubuca* of Sri Lanka by the combination of the following characters: lower jaw smooth, lacking tubercles on skin (vs. some densely tubercles in *L. insularis* and *L. lankensis*); pelvic fin is short not reaching beyond the anus (vs. a long pelvic fin reaching beyond posterior anal fin origin in *L. insularis*); body depth is 25.1-29.3%SL (vs. 32.8-34.6%SL in *L. ruhuna*, 27.9-32.4%SL in *L. varuna*, 27.2-29.8%SL in *L. lankensis*, and 26.0-28.8%SL in *L. insularis*); anal fin is  $19\frac{1}{2}$ - $20\frac{1}{2}$  branched rays (vs.  $15\frac{1}{2}$ - $17\frac{1}{2}$  in *L. varuna*, 17-18 $\frac{1}{2}$  in *L. ruhuna*,  $17\frac{1}{2}$ - $19\frac{1}{2}$  in *L. insularis*, and  $16\frac{1}{2}$ - $20\frac{1}{2}$  in *L. lankensis*) (Pethiyagoda et al., 2008).

*L. brahmaputraensis* n.sp. is distinguished from *L. dadyburjori* of India by a complete lateral line scales (vs. an incomplete one in *L. dadyburjori*).

*L. dadyburjori* has a black stripe on lateral series, with 2-5 black circular spots on it, the stripe is extend from the anterior of eye to caudal peduncle whereas *L. brahmaputraensis* n. sp. does not show any black stripe along the body (Menon, 1952; Silas, 1958). *L. brahmaputraensis* n. sp. is distinguished from *L. fasciata* of India by short pelvic fin not reaching beyond the anus (vs. a long pelvic fin reaching beyond the anus in *L. fasciata*), lower jaw smooth (vs. scattered tubercles in *L. fasciata*), a black blotch above the pectoral fin base (vs. a black longitudinal stripe in *L. fasciata*); anal fin shows  $19\frac{1}{2}$  -  $20\frac{1}{2}$  branched rays (vs.  $14\frac{1}{2}$  -  $16\frac{1}{2}$  in *L. fasciata*) (Pethiyagoda et al., 2008; Silas, 1958).



Figure 1. *Laubuca brahmaputraensis* n. sp. from Brahmaputra River, Bangladesh.

*L. brahmaputraensis* n. sp. is distinguished from *L. laubuca* of Bangladesh by body depth which is 3.4-4.0 times SL (vs. 2.7-3.3 times SL or 3.5-4.2 times total length, TL, in *L. laubuca*), lateral line scales comprises 31-32 scales (vs. 34-36 in *L. laubuca*), branched anal fin rays include 19½-20½ branched rays (vs. 18-19 in *L. laubuca*), predorsal scales are 16-17 (vs. 20-21 in *L. laubuca*) (Ataur Rahman, 2003).

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