

A New Noemacheiline Loach from Thailand and Burma

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Abstract *Noemacheilus labeosus* sp. nov. is described from the Salween drainage in northwestern Thailand and the Karen State, Burma. It is characterized by the position of the mouth, in a cavity closed by very thick lips, and by a caudal peduncle distinctly longer than high.

Hora (1929) described *Noemacheilus peguensis* from the Pegu Yoma, a mountain range in central Burma. It was especially characterized by the anterior lip, "which is produced upwards and forms a funnel-like structure". The species was known from a single damaged specimen.

While determining loaches in the collections of U.S. National Museum of Natural History and National Inland Fisheries Institute of Thailand, I found out several specimens having a same type of mouth and representing a new species.

All measurements are taken in a straight line from point to point. Head length is measured from tip of snout to posterior end of supraoccipital bone. Examined specimens are deposited in U.S. National Museum of Natural History, Washington (USNM), National Inland Fisheries Institute, Bangkok (NIFIB), Zoological Survey of India, Calcutta (ZSI) and author's collection (CMK).

Noemacheilus labeosus sp. nov.
(Figs. 1~3)

Holotype. USNM 230060, 49.8 mm SL, male, Thailand, province of Mae Hong Son, Salween River at Mae Sahn Leap (17°59'N, 97°44'E), T. R. Roberts, 30 April 1973.

Paratypes. USNM 230061, 13 specimens, subadults, 17.9~36.1 mm SL, same data as holotype; NIFIB unnumbered 'A', 2 specimens, males, 44.5 and 47.6 mm SL, Thailand, province of Mae Hong Son, approximately 20 km N of Mae Sarieng (18°20'N, 97°55'E), November 1978; NIFIB unnumbered 'B', 1 specimen, 46.2 mm SL, female, Thailand, province of Mae Hong Son, Mae Sarieng River at Mae Sarieng (18°09'N, 97°55'E), November 1978; CMK 3171~3172, 2 specimens, 44.2 and 45.3 mm SL, females, same data as NIFIB 'B'.

Diagnosis. The new species is distinguished from other species in the genus by its very thick lips surrounding a pre-oral cavity on the posterior top of which the mouth is situated, and by a long caudal peduncle (at least 1.25 times longer than deep).

Description. The following morphometric data are given in the sequence: (holotype) range (mean). Head length (20.1) 20.1~23.8 (22.1) % of standard length (SL); lateral length of head (from snout tip to end of opercle) (22.7) 21.4~25.6 (23.6) % SL, (113.0) 101.6~113.9 (106.7) % of head length (HL); predorsal length (48.8) 48.8~52.7 (50.5) % SL; prepelvic length (52.8) 50.1~54.5 (52.7) % SL; pre-anus length (67.7) 64.0~73.0 (67.5) % SL; preanal length (77.9) 71.5~80.8 (76.8) % SL; head depth (at eye) (11.0) 10.4~11.5 (11.2) % SL, (55.0) 47.2~55.0 (50.7) % HL; head depth (at neck) (12.3) 11.7~14.1 (12.8) % SL, (61.0) 54.4~61.0 (57.8) % HL; body depth (17.1) 14.3~17.1 (15.4) % SL, (85.0) 61.2~85.0 (70.0) % HL; depth of caudal peduncle (10.4) 9.5~11.2 (10.2) % SL, (52.0) 40.3~52.0 (46.2) % HL; length of caudal peduncle (16.5) 12.1~17.7 (15.3) % SL, (82.0) 59.7~83.3 (69.6) % HL; length of dorsal crest on caudal peduncle 2.8~11.5 % SL; length of ventral crest 3.8~8.3 % SL; snout length (9.6) 8.3~10.8 (9.8) % SL, (48.0) 41.7~48.1 (45.2) % HL; head width (at nares) (9.6) 8.7~11.2 (9.7) % SL, (48.0) 37.3~48.6 (43.9) % HL; greatest head width (13.7) 12.8~15.6 (14.0) % SL, (68.0) 60.4~68.1 (63.4) % HL; body width (at dorsal fin origin) (12.7) 9.3~12.7 (10.7) % SL, (63.0) 43.3~63.0 (48.8) % HL; body width (at anal fin origin) (8.0) 5.7~8.5 (7.0) % SL, (40.0) 23.9~40.0 (31.8) % HL; eye diameter (5.4) 4.9~7.0 (5.9) % SL, (27.0) 20.8~31.0 (26.6) % HL; interorbital width (6.8) 5.4~7.1 (6.5) % SL, (34.0) 20.8~34.0 (29.4) % HL; length of maxillary barbel

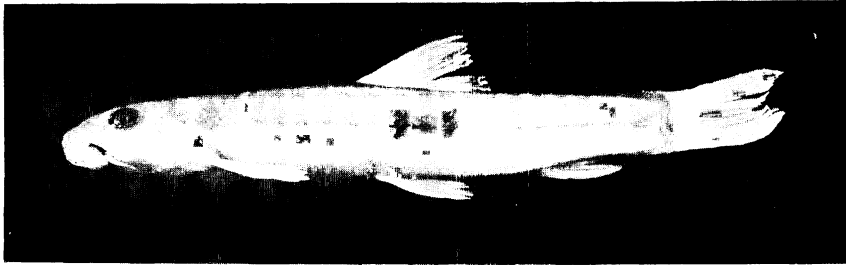


Fig. 1. *Noemacheilus labeosus* sp. nov., holotype, 49.8 mm SL, male, USNM 230060.

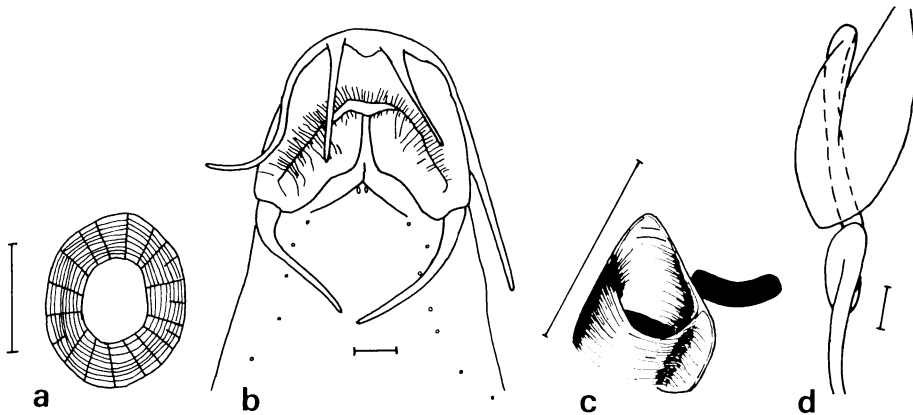


Fig. 2. Characteristics of *Noemacheilus labeosus* sp. nov. a: Scale from side under dorsal fin of NIFIB 'A'; scale bar: 0.1 mm. b: Ventral view of head of CMK 3171; scale bar: 1 mm. c: Left nares of CMK 3171; scale bar: 1 mm. d: Digestive duct of CMK 3171; scale bar: 1 mm.

5.4~7.9% SL, 25.0~33.0 HL; length of inner rostral barbel 3.5~5.9% SL, 16.7~28.0% HL; length of outer rostral barbel 5.4~9.0% SL, 26.0~41.0% HL; height of last simple dorsal ray (16.7) 16.0~23.5 (18.7)% SL, (83.0) 73.4~106.9 (84.9)% HL; length of upper caudal lobe (23.1) 22.0~24.3 (23.1)% SL, (115.0) 92.5~115.0 (105.0)% HL; length of lower caudal lobe (22.7) 22.0~24.6 (23.3)% SL, (113.0) 94.0~117.0 (106.3)% HL; length of median caudal ray (16.5) 15.4~19.3 (16.3)% SL, (82.0) 61.5~89.2 (74.0)% HL; length of anal fin (17.3) 13.6~18.6 (15.9)% SL, (86.0) 61.3~86.2 (72.2)% HL; length of pelvic fins (15.9) 15.0~19.5 (16.3)% SL, (79.0) 64.2~93.8 (74.3)% HL; length of pectoral fins (19.7) 16.9~21.4 (19.8)% SL, (98.0) 80.6~104.0 (89.9)% HL.

D 4/8; C 17 branched rays; A 3/5; V 8; P 12; Vertebrae 37.

The caudal peduncle is (1.58) 1.23~1.78 (1.50) times longer than deep. The caudal fin is emarginated, the two lobes being subequal, the upper one being (1.40) 1.33~1.53 (1.41) times longer than the median rays. The superoposterior edge of dorsal fin is straight. The pectoral fins do not reach the bases of pelvic fins, which reach beyond anus but not anal fin origin. The anus lays somewhat nearer to anal fin than pelvic basis. There is an axillary lobe at pelvic basis. The first pelvic ray is inserted under first or second branched dorsal ray.

Belly and under part of head are flat, the sides are slightly compressed. The body is covered by scales (all of the same size) except between pectoral fins. Scales nearly roundish with a focal zone whose diameter is 1/2 to 2/3 of scale diameter (Fig. 2a). There are (97) 82~107 (94.8) pores on the complete lateral line.

The lips are very thick, feebly but regularly

pleated, particularly the anterior one (Fig. 2b). They are covered externally by rows of papillae, internally by small denticles. They form a prebuccal cavity on the posterior top of which the mouth is hidden. The lower jaw has a horny shelf (Fig. 3). The inner rostral barbels do not reach corner of mouth, the outer ones reach below middle of eye. Maxillary barbels reach beyond vertical of hind border of eye.

Nostril closer from eye than from snout extremity. The anterior one at the anterior extremity of a small tentacle (Fig. 2c). Loop of the intestine below the stomachic dilatation (Fig. 2d).

Colour pattern: Body light brown with 18 to 19 vertical stripes which do not reach mid-ventral line. The stripes are approximately as wide as interspaces, the anterior ones being somewhat wider and the posterior ones thinner. A dark vertical band at the base of caudal fin. All fins hyalin. Head brown, darker on the top and on opercle. In NIFIB paratypes, the stripes are not very well marked posteriorly and there is a tendency to form a mid-longitudinal line from approximately above beginning of anal fin to caudal base. The stripes are not so regular. The mid-dorsal line on caudal peduncle is dark brown. The differences are thought to be due to age, local (eventually seasonal) variation, possibly fixation.

As usual in noemacheilines from this area, younger specimens have thin vertical stripes which seem to divide vertically by fading of the median area, to form two stripes.

Sexual dimorphism: In males, there is a well developed preocular flaplet. The first branched pectoral ray is somewhat thickened.

Range. The new species is known from the Salween River and its affluents of the Mae Yuan River drainage in Thailand. In this area, the Salween forms the border between Thailand and Burma (Karen State).

Ecology. At the type locality, the Salween is in a gorge and flows swiftly over a rocky and stony substrate interspersed with sand and gravel (T. R. Roberts, in litt.). The digestive duct of CMK 3171 contained a larva of Trichoptera approximately 6 mm long.

Etymology. The latin *labeosus* means "with thick lips".

Relationships and discussion. The shape and

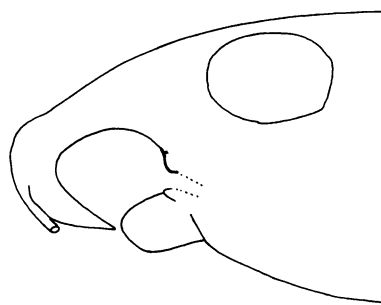


Fig. 3. Diagrammatic longitudinal section of head of *Noemacheilus labeosus* sp. nov. showing pre-oral cavity.

structure of the mouth are only shared with *N. peguensis* Hora, 1929. The new species is easily distinguished by its lower caudal peduncle (9.5~11.2% SL, vs. 13.2; 1.23~1.78 times longer than deep, vs. 1.09), smaller head width (8.7~11.2% SL, vs. 11.8; 37.3~48.6% HL, vs. 56.3) at nares, shorter prepelvic length (50.1~54.5% LS, vs. 55.2). In *N. peguensis* the nares have the shape described for *N. labeosus*, but the anterior part of the tube is very low.

Noemacheilus peguensis is known from the Pegu Yoma, a north-south oriented mountain range approximately 400 km long, laying north of Rangoon between the Irrawady and Sittang drainages. The exact locality is not known. The new species has been collected in the Salween drainage.

Remarks. Until quite recently, most noemacheilines were placed in the catch-all genus *Noemacheilus*. Bănărescu and Nalbant (1966, 1968) proposed several divisions in genera and subgenera. Some of them certainly are unnatural. I am very reluctant to use all these names until the majority of the taxa (approximately 450, of them possibly up to 200 represent valid species) are revised and their relationships understood. Any zoogeographic discussion is useless and objectively impossible until we have a good classification. In fact, these remarks may be applied to most major groups of Ostariophysi in South-East Asia.

Comparative material. *Noemacheilus peguensis*: ZSI F 11057/1, holotype.

Acknowledgments

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(Naturhistorisches Museum, Augustinergasse 2, 4001 Basel, Switzerland)

タイ、ビルマから得られたドジョウ科の1新種

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タイ北西部 Salween 水系とビルマの Karen 州から得られた標本に基づいて、新種 *Noemacheilus labeosus* を記載した。本種は口の位置と、きわめて肥厚した口唇によって口腔が開まっている点で *Noemacheilus peguensis* に似るが、尾柄が長いことで区別される。