

## NEW NOEMACHEILINE LOACHES FROM INDIA (PISCES, COBITIDAE)

ASKET SINGH, NIBEDITA SEN, PETRU BĂNĂRESCU, TEODOR T. NALBANT

On décrit deux nouveaux genres de Cobitidés de l'Inde: *Mesonoemacheilus* Bănărescu et Nalbant (Type: *Namacheilus triangularis* Day) et *Physoschistura* Bănărescu et Nalbant (type: *Noemacheilus brunneanus* Annandale) et trois nouvelles espèces: *Mesonoemacheilus herrei* Nalbant et Bănărescu de l'Inde du Sud, *M. reticulofasciatus* Singh et Bănărescu et *Physoschistura elongata* Sen et Nalbant du bassin de la Brahmaputra dans le nord-est de l'Inde.

Until recently, most of the approximately 200 described species of Noemacheilinae were included within the very large *Noemacheilus* Van Hasselt, 1823 (type: *N. fasciatus* Van Hasselt), the only other genera accepted as distinct being *Oreonectes* (= *Lefua*), *Aborichthys* and *Turcinoemacheilus*. Actually *Noemacheilus* in its wide acceptance is a composite genus; several papers (Bănărescu and Nalbant, 1964, 1966, 1968) recognized groups of species or subgenera within it and later (Bănărescu and Nalbant, 1974) the old generic name *Schistura* McLelland, 1839 (type: *S. rupecola* McClelland) was restored as full genus; it includes most species of striped loaches from India, Burma, Thailand and a few Chinese ones. *Noemacheilus* in a restricted sense includes above all species from Indonesia, Thailand and a few from southwestern and northern India. Most Himalayan species belong to *Triplophysa* Rendahl, 1933; other valid genera ranging in the subcontinent are *Acanthocobitis* Peters, 1861, *Noemachilichthys* Day, 1878 and *Acoura* Swainson, 1839, while some Indian species have to be ascribed to new genera.

The first two authors made intensive collections of Noemacheiline loaches from Meghalaya and Manipur, that were studied in collaboration by the four authors. Four species were found: *Schistura rupecula* (McClelland), *S. manipurensis* (Hora) and two new ones, belonging to genera for which there are no available names and which also include some already known species. The third and fourth authors decided the erection of the two new genera before having examined the two new species from Meghalaya. The paper also includes the description of another new species from South India.

The specimens of the new species are deposited at the following institutions: California Academy of Sciences, San Francisco (CAS), Institutul de Științe Biologice, București (ISBB), Stanford University (SU), now in the

CAS, Muzeul de istorie naturală "Grigore Antipa" București (MINB), National Museum of Natural History, Washington (USNM), Zoological Survey of India, Calcutta (ZSI), Zoological Survey of India, Eastern Regional Station, Shillong (V/ERS), British Museum, Natural History (BMNH).

### SYSTEMATIC ACCOUNT

#### *Mesonoemacheilus* Bănărescu and Nalbant new genus

Derivatio nominis: after *meson* (= middle) and *Noemacheilus*. Gender masculine.

Type species: *Noemacheilus triangularis* Day, 1865.

**Diagnosis:** Noemacheiline loaches with scaled body, incomplete lateral line; dorsal fin with 7, 8 or 10 branched rays, its outer edge being slightly convex or straight; lips usually more deeply furrowed than in *Schistura*; forked caudal fin; a well marked roundish spot in the middle of the caudal base; colour pattern consisting of an irregular net of dark-brownish and whitish-yellow bars and stripes, often split into independent spots, the dark prevailing over the light colour. Second, free chamber of air bladder rudimentary.

**Additional remarks.** The body is slightly or moderately compressed anteriorly, strongly posteriorly; head slightly depressed or compressed; snout usually blunt; no nasal barbels. In four of the five species the two rostral barbels of each side are confluent at their bases; in *M. reticulofasciatus* they are totally independent. The processus dentiformis of the upper jaw is moderately developed; there is no corresponding incision on the lower jaw. No adipose crest on the caudal peduncle. The lateral line is, in four species, long, reaching far beyond the middle of the body; in *M. reticulofasciatus* it is short. The two halves of the air bladder capsule are roundish and distant, connected by a long manubrium.

Sexual dimorphism is present in one species: *M. herrei*, in which the males have a suborbital flap and the rays of the pectoral are broadened and covered by breeding tubercles; there are no such tubercles on body or head sides. We did not find sexual dimorphism in the four other species, but from *M. guentheri* and *M. pulchellus* we had too few available specimens.

The body is covered by a net of irregular dark bars and stripes, many or most of them having an oblique direction; in *M. pulchellus*, *M. guentheri* and *M. herrei* this net acquires a quite large extension, the fundamental whitish coloration becoming reduced to a few roundish spots. The black spot on the middle of the caudal base is roundish in *M. triangularis*, *M. herrei* and *M. pulchellus*, while in *M. guentheri* and in many specimens of *M. reticulofasciatus* it is deeper than long.

**Comparative remarks.** The delimitation of *Mesonoemacheilus* against the largest South Asian genus, *Schistura*, is difficult, since the last one is a variable genus, including several, rather unsimilar but unsharply delimited species groups. The sharpest difference between *Mesonoemacheilus* and all groups of *Schistura* concerns the colour pattern: most *Schistura* have regular crossbars and even in the species with subdivided crossbars, their fragments

are vertical, not oblique as in *Mesonoemacheilus* and never connected in a net. In most *Schistura* there is a dark vertical bar on the base of the caudal, never a median spot as in *Mesonoemacheilus*. Most *Schistura* have no sexual dimorphism: some have the same type of dimorphism as in *Mesonoemacheilus*; a similar type of dimorphism also occurs in *Noemacheilus*, but in this there are breeding tubercles also on the lower part of the posterior body half. In no species of *Schistura* are the rostral barbels confluent at their bases, as in four *Mesonoemacheilus*.

*Mesonoemacheilus* is perhaps closer to the monotypic *Acoura* from Assam, that has regular crossbars, like *Schistura*, but these are much broader than the whitish interspaces and the rostral barbels of each side are confluent

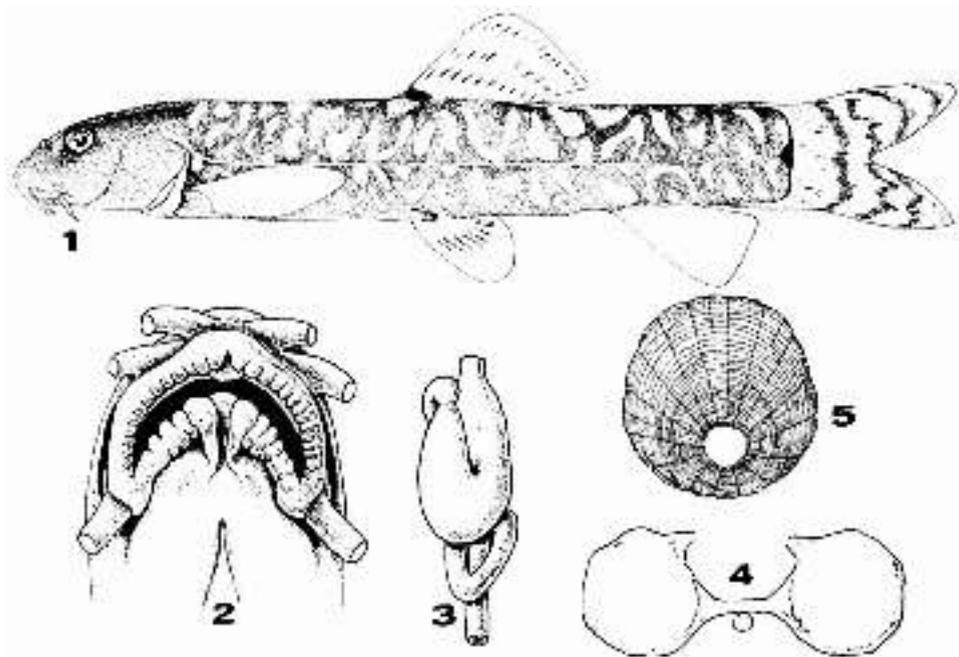


Fig. 1. *Mesonoemacheilus herrei* sp. n., holotype (SU 41307) Fig. 2. Paratype mouth; Fig. 3. Paratype; digestive tract Fig. 4. Paratype: air bladder Fig. 5. Paratype scale.

at their bases as in four of the five species of *Mesonoemacheilus*. These two genera are the only ones within the subfamily having more brownish colour than whitish. Finally, *Mesonoemacheilus* also shares one character with *Noemacheilus*: the presence of a roundish spot on the middle of the caudal base (not a vertical stripe). In *Acanthocobitis* there is a black spot, too, but in the upper part of caudal base.

***Mesonoemacheilus herrei* Nalbant and Bănărescu new species (Figures 1–6)**

Derivatio nominis: after the collector, late A. W. Herre.

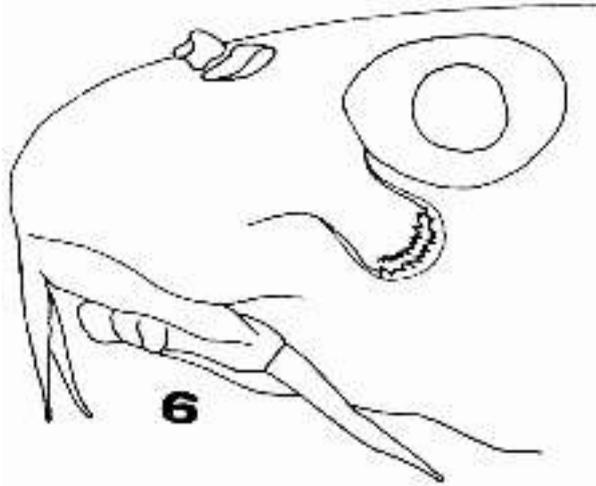


Fig. 6. *Mesonoemacheilus herrei*, paratype, ♂; suborbital flap

**Holotype:** SU 41307 (male, 57.5 mm standard length to the end of skin), India, Anamallai Hills, Valparai, Puthutotam Eastate, A W. Herre collector, 10 January 1941 (determined *N. guentheri* by Herre).

**Paratypes:** SU 68347. ISBB 2983; BMNH 1977.7.5 : 1; USNM 227404; ZSI uncat., 24 specimens in all, 23.0–47.0 mm, collected together with the holotype.

**Diagnosis:** A species of *Mesonoemacheilus* with 8 branched dorsal rays, lateral line usually reaching to above anal, edge of dorsal slightly convex, scales with reduced and eccentric focal zone, basic colour dark with irregular whitish spots, many of these V- or Y- shaped; a small well marked blackish spot in the middle of caudal base.

**Description:** D III 8; A II 5; P I 9–10; V I 7.

Dorsal profile behind nape slightly arched or almost straight. Origin of dorsal in most specimens slightly nearer tip of snout than caudal base, in others equally distant; origin of pelvics usually behind that of dorsal; caudal forked, its shortest (innermost) rays 64.0–75.0% of the longest ones. Lips, above on lower one, rather deeply furrowed (Fig. 2); processus dentiformis strong, but no corresponding incision on lower jaw. The second rostral and the maxillary barbels usually equally long, in some specimens the maxillary one is longer. The two halves of the air bladder capsule are roundish, connected by a narrow manubrium; the second chamber of the air bladder is free and rudimentary (Fig. 4); the intestinal tract is illustrated on Fig. 3.

**Measurements** (values in % of standard length): body depth 15.7–19.4 (in holotype 16.4%; M = 16.8); least depth 12.8–14.6 (12.8%; M = 13.9); caudal peduncle length (to end of skin) 13.9–17.3 (14.6%; M = 15.6); predorsal distance 46.5–51.5% (48.5%; M = 49.5); preanal 73.0–79.0 79.0%; M = 76.0); prepelvic 48.0–51.5 (51.0%; M = 50.4); pectoral-

pelvic distance 27.2–32.0 (31.2%; M = 29.8); pelvic-anal distance 22.3–27.8 (26.3%; M = 25.01); length of pectoral 19.2–25.0 (21.0%; M = 23.4); of pelvic 17.9–22.0 (17.9; M = 20.8); height of dorsal 16.8–21.7 (18.9%; M = 18.4); base of dorsal 13.2–17.8 (16.6%; M = 15.3); height of anal 15.7–18.6 (15.7; M = 17.0); base of anal 7.6–11.5 (8.4%; M = 9.3); head 22.0–24.4 (22.7%; M = 23.0); snout 6.8–9.0 (7.3%; M = 7.89); eye diameter 4.5–5.1 (4.8%; M = 4.8). Snout 31.0–34.1% of head (32.4%; M = 33.6); eye diameter 19.3–22.2% of head (21.3%; M = 20.89) and 62.0–69.0% of interorbital width (62.0%; M = 65.4).

Sexual dimorphism: Most specimens were males; they have a movable suborbital flap (Fig. 6) and the rays of the pectoral are broadened, thickened and covered by breeding tubercles.

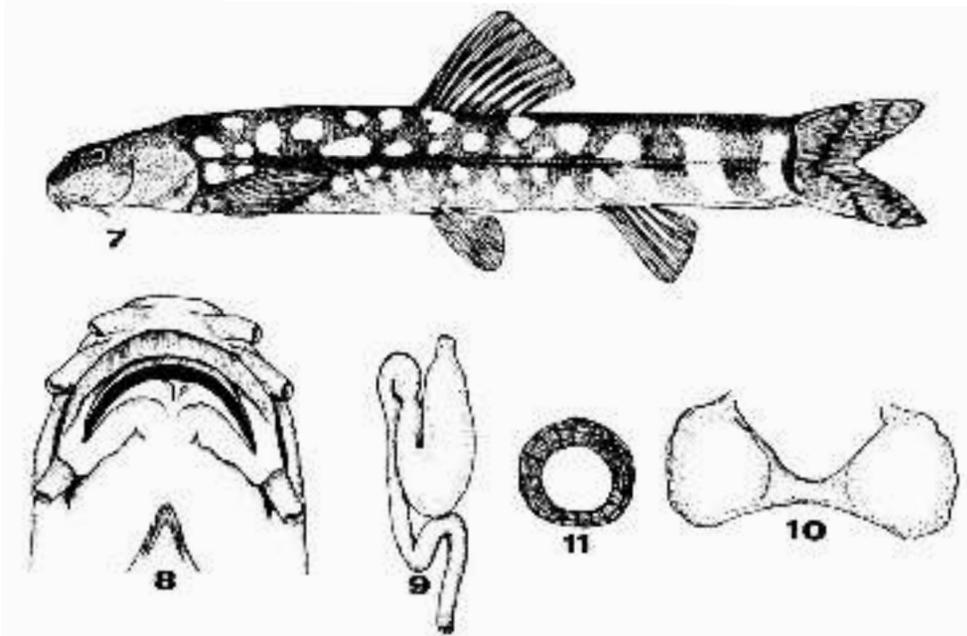


Fig. 7. *Mesonoemacheilus guentheri* (Day), RMNH 8763 Fig. 8. *Mesonoemacheilus guentheri* RMNH 8763; mouth Fig. 9. *Mesonoemacheilus guentheri*, RMNH 8763; digestive tract Fig. 10. *Mesonoemacheilus guentheri*, RMNH 8763; air bladder Fig. 11. *Mesonoemacheilus guentheri* RMNH 8763; scale

Colour (in preserved specimens): the dark-brown net that characterizes the species of *Mesonoemacheilus*, is well developed, covering most of the body sides; the whitish is reduced to irregular spots, many of them undulated, V-, U- or Y-shaped. The blackish spot on the caudal base is smaller than in the other species of the genus but well marked, either roundish or vertical; in a few specimens there is also a second spot, above the median one. There are 3–4 rows of spots on the caudal, 3–4 on the dorsal (those of the median

row better marked), a spot on the dorsal origin and quite slight ones on the pelvics.

**Comparative remarks.** This new species is more similar to *M. guentheri* (we examined two specimens, 45.0 and 40.0 mm — Fig. 7–11), both from Dav's collections from Neilgherries hills. This species differs from *herrei* in having a feebler processus dentiformis on the upper jaw, almost smooth lips (the character may actually be an artefact, the two specimens being not well preserved), the scales with a central and much larger focal zone (Fig. 11), a different shape of the air bladder capsule (Fig. 10) and a different colour pattern, the whitish spots being roundish and more regularly disposed (Fig. 7).

**Distribution.** Known only from the type locality

**Mesoneomacheilus reticulofasciatus** Singh and Bănărescu new species (Figures 12–16)

Derivatio nominis: after *reticulum* (= net) and *fascia* (= bar)

Holotype: V/ERS 3062 (40.2 mm standard length to last vertebra), India, Barani, 20 km from Shillong, Meghalaya, Brahmaputra basin.  
Paratypes: V/ERS 3064 and 3065; ISBB 3592, CAS 48109, MINB uncat., USNM

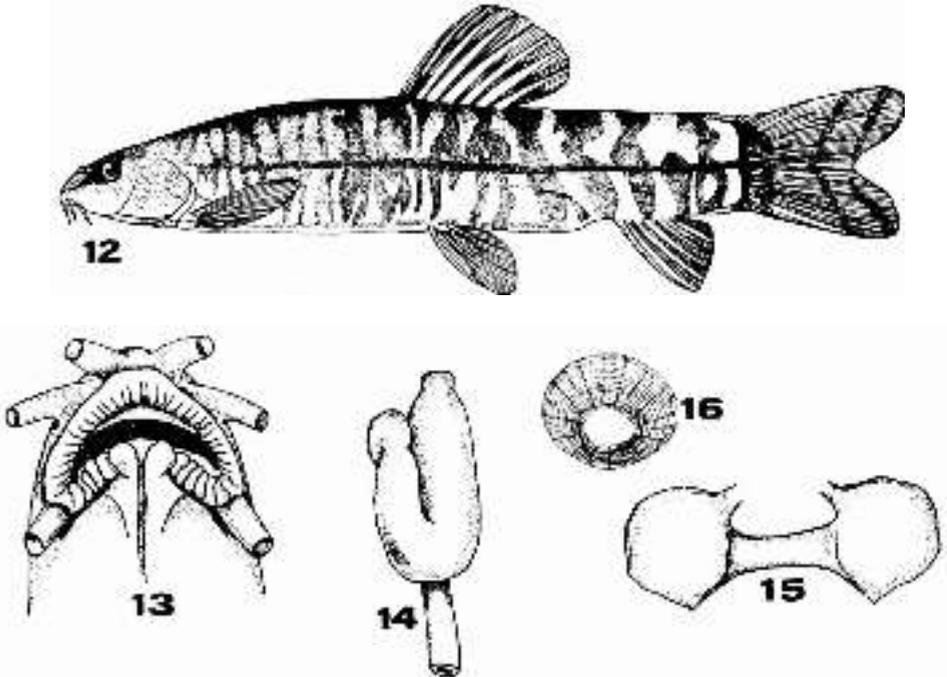


Fig. 12. *Mesoneomacheilus reticulofasciatus* Singh and Bănărescu sp. n., holotype (V/ERS 3062)  
Fig. 13. *Mesoneomacheilus reticulofasciatus*, paratype; mouth Fig. 14. *Mesoneomacheilus reticulofasciatus*, paratype; digestive tract Fig. 15. *Mesoneomacheilus reticulofasciatus*, paratype; air bladder Fig. 16. *Mesoneomacheilus reticulofasciatus*, paratype; scale

227403 and BMNH uncat., 27 specimens in all, 31.8–42.8 mm, same locality as the holotype.

**Diagnosis:** A species of *Mesonoemacheilus* with small and compressed head; 7 or 8 branched dorsal rays; short and interrupted lateral line; slightly convex dorsal fin; no sexual dimorphism; barbels of the rostral pair not confluent at their bases; scales with moderately large focal zone; a net of numerous irregular crossbars, most of which are vertical and connected by one or two longitudinal stripes; often a roundish spot on caudal base.

**Description:** D III 7–8; A II 5; P I 9; V I 6–7.

Body almost cylindrical anteriorly, compressed posteriorly; dorsal profile rather arched. Lips moderately furrowed (Fig. 13); processus denticiformis feeble; the barbels of the two rostral pairs distinct from their bases; the lateral line reaches to below the anterior part of the dorsal fin or slightly in front of it; scales with a rather small and eccentric focal zone (Fig. 16); they are imbricated in the posterior third of the body, isolated anteriorly. Insertion of the dorsal almost equally distant between tip of snout and base of caudal; insertion of the pelvic slightly behind that of dorsal; edge of dorsal slightly convex; caudal forked (shortest rays 65–81% of the longest), its lobes being rounded.

The digestive tract is short and simple (Fig. 14); peritoneum dark greyish; the two halves of the air bladder capsule with a short posterior prolongation connected by a wide manubrium (Fig. 15).

Measurements (in 12 specimens, 32.0–41.0 mm standard length; values in % of st. length): body depth 13.8–22.1 (22.0% in holotype;  $M = 16.9$ ); least depth 9.1–12.6 (10.9%;  $M = 16.79$ ); caudal peduncle length (to last vertebra) 10.5–15.4 (12.4%;  $M = 13.22$ ); caudal peduncle (to end of skin) 12.0–15.5 (14.5%;  $M = 14.76$ ); predorsal distance 48.5–55.0 (52.0%  $M = 51.0$ ); preanal 74.0–80.0 (78.0%;  $M = 77.8$ ); prepelvic 50.0–58.5 (58.5%;  $M = 52.8$ ); pectoral-pelvic distance 29.4–39.8 (39.8%;  $M = 34.1$ ); pelvic-anal distance 23.4–28.8 (24.6%;  $M = 25.9$ ); length of pectoral 19.1–24.2 (19.6%;  $M = 21.4$ ); of pelvic 16.7–21.2 (17.1%;  $M = 18.4$ ); height of dorsal 17.1–20.5 (19.6%;  $M = 19.1$ ); base of dorsal 14.1–18.8 (18.8%;  $M = 17.07$ ); height of anal 13.1–17.8 (17.1%;  $M = 16.0$ ); base of anal 8.9–12.1 (10.2%;  $M = 10.45$ ).

The values of head length, snout and eye diameter undergo a strong variation within the unique available population of the species; one can easily recognize a short-snout form, that includes most specimens (also the holotype) and a long-snout form. These two forms have the following values (19 specimens of the short-snout form, 29.0–41.0 mm and six of the long-snout form, 32.0–41.0 mm):

	long-snout form	short-snout form
head (% of st. length)	23.0–25.0 ( $M = 23.97$ )	18.6–24.7 ( $M = 21.96$ )
snout (% of st. length)	8.4–10.4 ( $M = 9.15$ )	5.3–10.0 ( $M = 7.86$ )
snout (% of head)	37.0–39.2 ( $M = 37.53$ )	28.2–40.0 ( $M = 35.40$ )
eye diam (% of st. l)	4.2– 5.4 ( $M = 4.86$ )	3.2– 5.2 ( $M = 3.96$ )
eye diam. (% of head)	18.7–20.8 ( $M = 20.37$ )	15.4–22.5 ( $M = 18.10$ )
eye diam. (% of interorb. width)	60.0–91.0 ( $M = 73.68$ )	46.0–72.5 ( $M = 60.29$ ).

By comparing these values, one remarks sharp differences between the two forms; the head, snout, even the eye have higher values in the long-snout form (the snout and eye also when expressed in % of head, the eye also on % of interorbital). The differences are sharp when comparing the average values, while there is a wide overlap of the extreme values. The two forms can easily be recognized when looking at the specimens, the snout being blunt and the dorsal profile more convex in the short-snout form.

Colour (in preserved specimens): body light yellowish, with an irregular net of crossbars connected by a longitudinal stripe; many of them are branched (V- or Y-shaped); a blackish spot on the dorsal origin and another on the middle of the caudal base; in some specimens this is perfectly roundish, in others more or less vertical and in some there is also a second spot, above the central one. A dark stripe extends from eye to tip of snout. There is a row of spots on the dorsal fin, two or three on the caudal.

**Comparative remarks.** This new species differs sharply from the other four within the genus *Mesonoemacheilus* in having the colour pattern less typical for the genus and the rostral barbels not confluent at their bases. These differences may justify in the future the separation of *M. reticulofasciatus* in a distinct subgenus.

A special problem is raised by the strong intrapopulation variation within the species: the existence of two forms. One may suggest these actually are sibling species. Field investigations would be necessary in order to verify whether these are reproductively isolated (e. g. full species) or not. Since the two forms are identical in all other characters, differing sharply from all other Neomacheiline loaches, the authors believe the two forms are the phenotypic expression of an intrapopulation polymorphism.

**Distribution:** known only from the type locality in the Brahmaputra basin. This is the only North-Indian species of the genus, the four others ranging in the Western Ghats.

**Physoschistura** Bănărescu and Nalbant new genus

Type species: *Noemacheilus brunneanus* Annandale, 1911

Derivatio nominis: after *physa* (= vesicle) and *Schistura*. Gender feminine.

**Diagnosis:** Neomacheiline loaches with the scaled body, at least posteriorly, incomplete lateral line, never reaching beyond the dorsal fin; forked caudal fin; dorsal with 8 or 9 branched rays and slightly convex edge; feeble to moderately developed processus dentiformis on the upper jaw; the two halves of the air bladder capsule joint and coalescent on their inner face (not connected by a manubrium); posterior chamber of the air bladder well developed, free, more or less conical, in direct contact with the capsule; body with brownish crossbars.

**Additional remarks.** The lateral line is quite short in *Ph. brunneana*, while in *Ph. elongata* it reaches to below the dorsal fin. There is a dark, continuous vertical stripe on the caudal base.

**Comparative remarks.** In respect of general habitus, structure of the lips etc and colour pattern, the two species of this genus do not differ from the numerous ones of *Schistura*; but they differ sharply from these in the

peculiar shape of the air bladder capsule (its two halves being in intimate contact, not connected by a manubrium) and the well developed second chamber of the air bladder. The few other Noemacheilinae in which two parts of the air bladder capsule are intimately connected are: the Central-Anatolian "*Noemacheilus*" *lendli* (that actually belongs to a distinct genus) and a species group of the High Asian *Triplophysa* (*marmorata*, *vittata*, *kullmanni*, *dorsalis* a. o.). But all these species differ sharply from *Physoschistura* in a lot of major characters (e. g. they are devoid of scales, they have a peculiar type of sexual dimorphism). The second chamber of the air-bladder is well developed and free in many other species of *Triplophysa* and in the two species of the South Chinese-

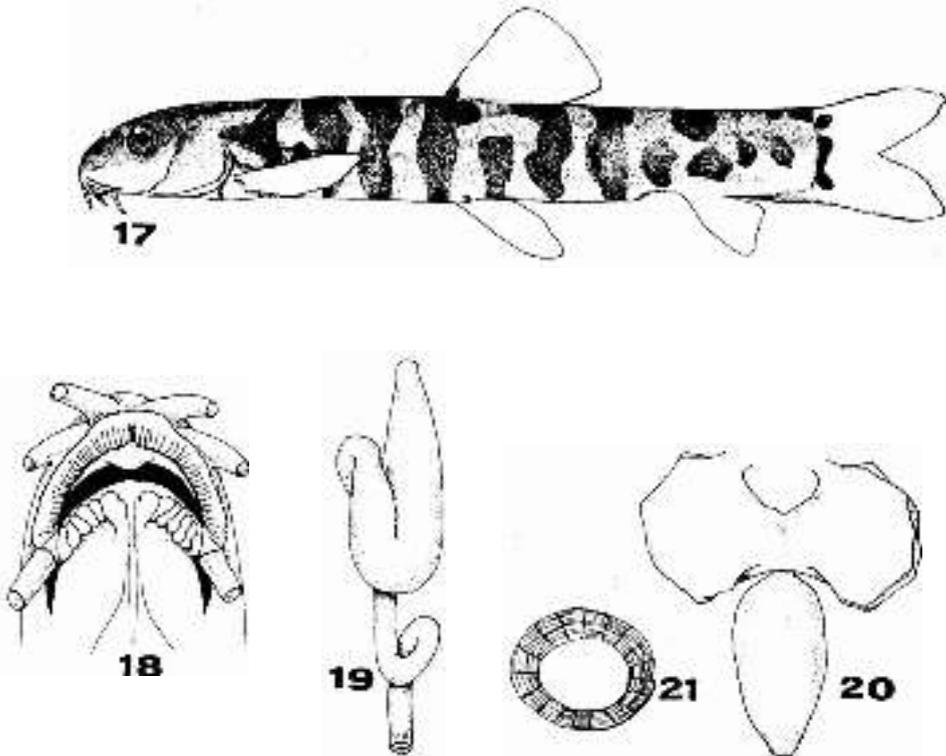


Fig. 17. *Physoschistura elongata* Sen and Nalbant sp. n. holotype (V/ERS 3063) Fig. 18. *Physoschistura elongata*, paratype: mouth Fig. 19. *Physoschistura elongata*, paratype; digestive tract Fig. 20. *Physoschistura elongata*, paratype: air bladder Fig. 21. *Physoschistura elongata*, paratype, scale.

North Vietnamese *Micronoemacheilus* (*pulcher* and *cruciatus*); but in these species the posterior chamber is larger than in *Physoschistura* and connected to the anterior chamber (and to the capsule) by a long and narrow ductus. The only other Noemacheilinae in which the posterior chamber of the air bladder is similar to that of *Physoschistura* are the two species of *Oreonectes* s. str. from South China.

***Physoschistura elongata* Sen and Nalbant new species (Fig. 18—21)**

Derivatio nominis: after *elongatus* (= elongate)

Holotype: V/ERS 3063 (29.0 mm standard length to last vertebra); Barapani, 20 km from Shillong, Meghalaya, north-eastern India, Brahmaputra basin).

Paratypes: V/ERS 3066 and ISBB 3594, three specimens, in all, 22.8—24.8 mm. standard length; same locality.

**Diagnosis:** A species of *Physoschistura* with slender body (depth 13.2—17.1% of standard length) eight branched dorsal rays, 9—14 crossbars and the lateral line reaching below the dorsal fin.

**Description:** D III 8; A II 5; I 9—10; V I 6.

Body elongate, dorsal profile behind nape almost horizontal; lips moderately furrowed (Fig. 18); processus dentiformis somewhat stronger than in *Ph. brunneana*; barbels of the second rostral pair longer than the maxillary ones; edge of dorsal slightly convex, insertion of dorsal slightly nearer tip of snout than base of caudal; insertion of pelvics behind that of dorsal; caudal forked, its shortest rays 73—80% of the longest. Scales present only in the posterior body half; their focal zone is large (Fig. 21). The lateral line reaches in three specimens, including the holotype, under the posterior margin of the dorsal fin, in one only above the tip of the pectoral. The anus lies a short distance in front of the anal insertion. The intestine has a single loop that lies below the stomachal dilatation (Fig. 19). The air bladder capsule is more or less rhomboidal (Fig. 20).

Measurements (in % of standard length): body depth 13.2—17.1 (14.8% in holotype); least depth 9.5—11.7 (11.3%); caudal peduncle length (to last vertebra) 9.7—11.5 (11.3%); caudal peduncle (to end of skin) 13.1—15.7 (13.8%); predorsal distance 48.2—49.0 (49.0%); preanal 75.0—83.0 (75.0%); prepelvic 53.4—53.3 (53.8%); pectoral-pelvic distance 32.5—34.4 (32.5%); pelvic-anal distance 27.0—29.0 (27.6%); length of pectoral 17.9—22.4 (17.9%); of pelvic 15.2—17.5 (15.2%); height of dorsal 17.1—21.0 (17.1%); base of dorsal 14.5—18.1 (14.5%); height of anal 16.5—18.1 (16.5%); base of anal 9.7—12.4 (9.7%); head 21.4—22.8 (21.8%); snout 6.6—7.9 (7.6%); eye diameter 4.5—5.3 (4.5%); snout 28.8—35.0% of head (35.0% in holotype); eye 20.6—23.6% of head (20.6%), 56.0—80.0% of interorbital width (56.5%).

Colour pattern (in preserved specimens) body light yellowish with 9—14 well marked almost vertical brownish crossbars (3—4 in front of dorsal two under and 4—6 behind dorsal); their shape is variable; in three specimens they are continuous from one side across the back to the other side and they are unbranched in the fourth, the crossbars are interrupted on the back and even on the sides most of them are divided in an upper and a lower fragment. There is an incomplete and often divided dark bar on the caudal base and a spot on the dorsal origin.

**Comparative remarks.** There are marked differences between this species and *Ph. brunneana*, the only other known species of the genus. The last named (Fig. 22—25) had nine branched dorsal rays, a deeper body (depth 18.5—19.5% of st. length), more crossbars (13—17), these being narrower than in *elongata* and most of them branched (Fig. 22); the lips of the available *brunneana* seem to be papillose (Fig. 23, yet their mouth not well preserved);

the loop of the intestine is in contact with the stomachal dilatation (Fig. 24); the general shape of the air bladder capsule is similar in both species, but its two halves are perfectly round in *brunneana* (Fig. 25), rhomboidal in *elongata*.

**Distribution:** known only from the type locality in Brahmaputra basin, north-eastern India; *P. brunneana* lives in Burma

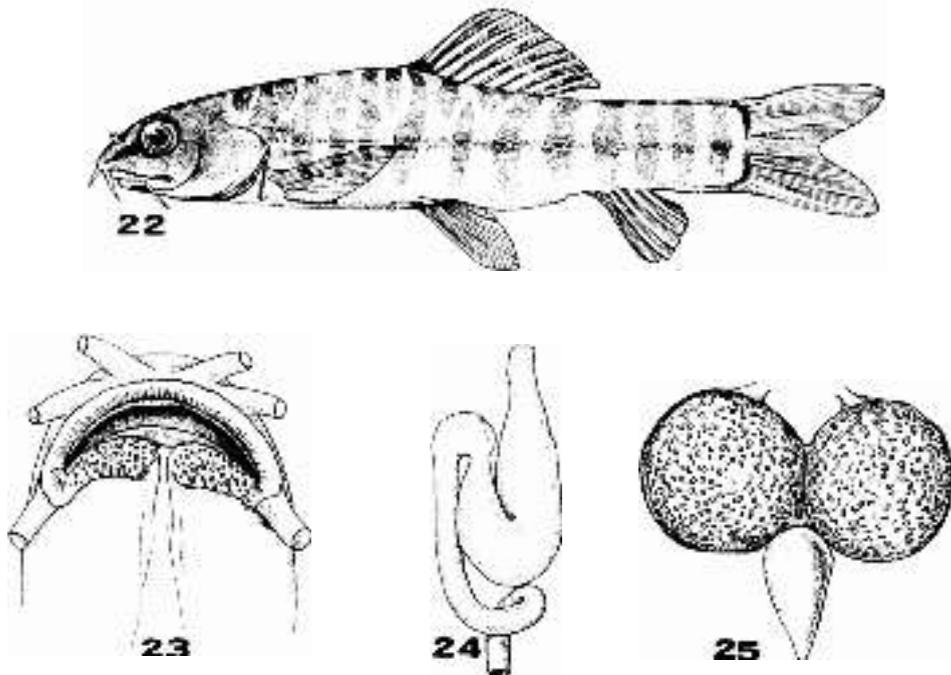


Fig. 22. *Physoschistura brunneana* (Annandale); BMNH 1920.1.20 : 5 Fig. 23. *Physoschistura brunneana*. BMNH 1920.1.20 : 5; mouth Fig. 24. *Physoschistura brunneana*, BMNH 1920.1.20 : 5; digestive tract Fig. 25. *Physoschistura brunneana*, BMNH 1920.1.20 : 5; air bladder

## NOI COBITIDE NOEMACHEILINE DIN INDIA (PISCES, COBITIDAE)

### REZUMAT

Se descriu două genuri noi de Cobitide din subfamilia Noemacheilinae: 1. *Mesonæmacheilus* Bănărescu și Nalbant (tip: *Noemacheilus triangularis* Day), gen intermediar între *Noemacheilus* și *Schistura*, având un colorit caracteristic; el include trei specii cunoscute din sud-vestul Indiei și două specii noi: *M. herrei* Nalbant și Bănărescu din sud-vestul Indiei și *M. reticulofasciatus* Singh și Bănărescu din nord-estul Indiei, care este specia cea mai diferențiată a genului. 2. *Physoschistura* Bănărescu și Nalbant (tip: *Noemacheilus brunneanus* Annandale), gen asemănător cu *Schistura*, dar având cele două jumătăți ale capsulei vezicii cu gaze alăturate și contopite pe fața internă

iar camera posterioară a vezicii puternic dezvoltată și liberă, situată în imediat contact cu capsula. Include două specii: *brunneana* din Birmania și *elongata* Sen et Nalbant specie nouă din bazinul Brahmaputrei, nord-estul Indiei.

#### BIBLIOGRAPHY

- BĂNĂRESCU (P.), NALBANT (T.), 1964 — Süßwasserfische der Türkei. 2. — Teil Cobitidae *Mitt. Hamburg Zool. Mus. Inst.*, **61**: 159—201.  
 BĂNĂRESCU (P.), NALBANT (T.), 1966 — Cobitidae (Pisces) from Afghanistan and Iran. *Vidensk Medd. fra Dansk. naturh. Foren.*, **129**: 149—186.  
 BĂNĂRESCU (P.), NALBANT (T.), 1968 — Cobitidae (Pisces, Cypriniformes) collected by the German India Expedition. *Mitt. Hamburg Zool. Mus. Inst.*, **63**: 327—351.  
 BĂNĂRESCU (P.), NALBANT (T.), 1974 — The species of *Schistura* (= *Homatula*) from the upper Yangtze drainage (Pisces, Cobitidae). *Revue Roum. Biol.*, **19**: 95—99.  
 DAY (F.), 1878 — The Fishes of India *London*, 778 pp

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