

STUDIES ON LOACHES
(PISCES: OSTARIOPHYSI: COBITIDAE).
I. AN EVALUATION OF THE VALID GENERA
OF COBITINAE

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On mentionne comme valides 16 genres: *Misgurnus*, *Somileptes*, *Enobarbichthys*, *Lepidocephalichthys*, *Lepidocephalus*, *Neoeucirrichthys*, *Eucirrichthys*, *Acanthopthalmus*, *Acantopsis*, *Acanthopsoides*, *Cobitis*, *Niwaëlla*, *Sabanejewia*, *Iksookimia* et *Paralepidocephalus*. *Kottelatlimia* est décrit comme un genre nouveau.

Among all the loaches, the subfamily Cobitinae forms a natural (monophyletic) group largely distributed in the Old World. Till now the subfamily contains 16 genera and about 100 species but the number of new taxa is increasing constantly. From a previous paper, published more than 30 years ago (N a l b a n t, 1963) when I have recognised 12 genera of Cobitinae, now I consider as valid 16 genera, two being described in 1968 and 1993, one is described in the present contribution and one was erected to a full genus. A general evaluation of the valid genera is as follows:

1. *Misgurnus* Lacépède, 1804 (type: *Cobitis fossilis* Linnaeus, 1758, by subsequent designation of Bleeker, 1863). About 6 species. Euro-east Asia.

2. *Somileptes* Swainson, 1839 (type: *Cobitis gongota* Hamilton-Buchanan, 1822, by subsequent designation of Bleeker, 1863). A monotypic south-asiatic genus (India and Bangladesh).

3. *Enobarbichthys* Whitley, 1931 (type: *Platacanthus maculatus* Day, 1867, taking same type species of *Jerdonia* Day, 1870, *nomen praeoccupatum* in Molluscs, Blandford, 1861). A monotypic genus. South Asia (south east India).

4. *Lepidocephalichthys* Bleeker, 1863 (type: *Cobitis hasselti* Valenciennes, 1846, by original designation). About 12 species. South and south-east Asia.

5. *Lepidocephalus* Bleeker, 1859 (type: *Cobitis macrochir* Bleeker, 1854, by subsequent designation of Bleeker, 1863). About 3 species. South and south-east Asia.

6. *Neoeucirrichthys* Bănărescu and Nalbant, 1968 (type: *Neoeucirrichthys meydelli* Bănărescu and Nalbant, 1968, by original designation). A monotypic south-asiatic genus.

7. *Kottelatimia* new genus, see description below.

8. *Eucirrichthys* Perugia, 1892 (type: *Eucirrichthys doriae* Perugia, 1892, by monotypy). A monotypic south-asiatic genus.

9. *Acanthopthalmus* Bleeker, 1859 (type: *Acanthopthalmus fasciatus* Van Hasselt, 1823, by original designation, but *Cobitis kuhlii* Valenciennes, 1846, is the virtual type of the genus since *fasciatus*, which is conspecific with *kuhlii*, is considered as *nomen nudum*). About 12 species. South and south-east Asia.

Note. In the nomenclatorial case of *Acanthopthalmus*, the action of Kottelat (1986: 360–362) is at least strange if not a serious error. The problem of the name of this genus was already discussed by Kottelat (1987: 371), Roberts (1989: 95) and BurrIDGE (1992: 175) and I do not present it again. However, we must understand that in the former century nomenclatorial rules were not in use and therefore the authors of zoological names could be wrong and now we must correct them *carefully* without producing a nomenclatorial chaos. The name *Pangio* Blyth, 1860, as proposed by Kottelat, was never in use since its original description, while *Acanthopthalmus* Bleeker, 1859, rejected by him, has been used since then. Therefore, I never follow him concerning this proposal which in my opinion is a wrong one (see above priority of Bleeker's name).

10. *Acantopsis* Van Hasselt, 1823 (type: *Acantopsis dialuzona* Van Hasselt, 1823, by monotypy). About 4 species. South-east Asia.

11. *Acanthopsoides* Fowler, 1934 (type: *Acanthopsoides gracilis* Fowler, 1934, by original designation). About 3 species. South-east Asia.

12. *Cobitis* Linnaeus, 1758, (type: *Cobitis taenia* Linnaeus, 1758, by subsequent designation of Bleeker, 1863 and by the Opinion 1500, BZN 45 (2), 1988 at a proposal of Kottelat, 1986). About 40 species distributed in north-west Africa, Europe and Asia.

13. *Sabanejewia* Vladykov, 1928 (type: *Cobitis balcanica* Karaman, 1922, by original designation). About 5 species. East Europe and west Asia.

14. *Paralepidocephalus* Tchang, 1935 (type: *paralepidocephalus yui* Tchang, 1935, by monotypy). Monotypic genus in east Asia.

15. *Niwaella* Nalbant, 1963 (type: *Cobitis delicata* Niwa, 1937, by original designation). Two species in east Asia.

16. *Iksookimia* Nalbant, 1993 (type: *Cobitis koreensis* Kim, 1976, by original designation). About 5 species in east Asia.

Because the characters of "*Lepidocephalichthys*" *katik* Kottelat and Lim, 1992, are different enough from those of the genus *Lepidocephalichthys* (Figs 1–6, for the type of the genus, *L. hasselti*), I am proposing a new generic name for *katik* with the following description:

Kottelatlimia new genus

Type species: *Lepidocephalichthys katik* Kottelat and Lim, 1992.

Etymology: after Maurice Kottelat, a Swiss ichthyologist and Kelvin K. P. Lim, a Singaporean ichthyologist, the authors who described this extremely interesting loach. The name must be regarded as a noun in apposition, gender feminine.

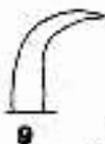
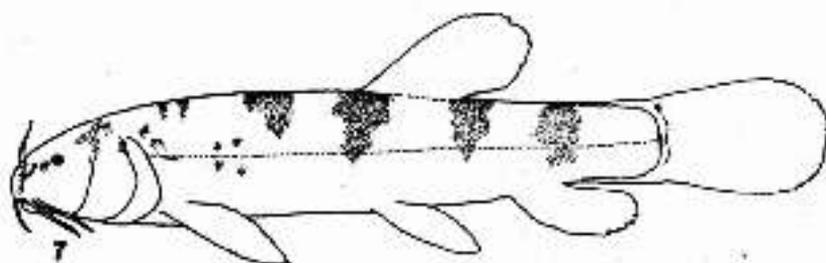
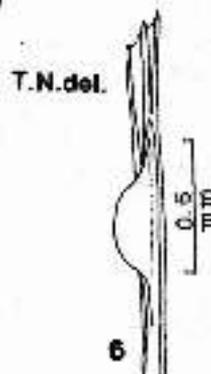
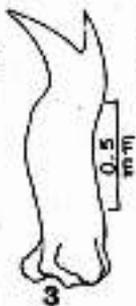
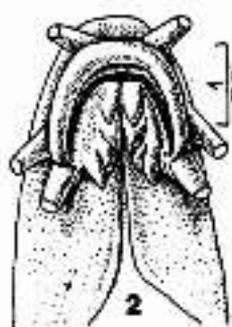
Diagnose. A dwarf species, but with a relatively large head, small eyes, a pair of nasal barbels, simple suborbital spine, head completely naked, a reduced number of vertebrae and a sexual dimorphism based on a saw-like formation at the second pectoral ray in males.

Description. D III 6; A III 5; V I 5–I 5; P I 7–I 7; C n6+7n or 5+7. Vertebrae: 28–29. The bony capsule of gas bladder without a pair of spinous processes at its ventral part.

Body very small, this fish being one of the smallest vertebrates as adult, the dimensions of the body being comprised between 12.5 and 13.5 mm standard length (Fig. 7). All fins are long. Head large with small eyes. Anterior pair of nostrils transformed in barbel-like appendages. Posterior pair as small orifices before the eyes. Suborbital spine simple, without two thorns as in majority of Cobitinae (Fig. 9). Mouth (Fig. 8) is arched with fleshy lips with three pairs of barbels: one rostral, one maxillary and one maxillo-mandibular. Mental lobes well developed, each lobe with three diverticles. Head naked and the rest of body being covered by scales except the belly in front of pelvic fins. Dorsal fin on the same line of insertion with the ventral fins. Sexual dimorphism (Figs 10 and 11): in males the second ray of each pectoral fin, has from its middle till its diverging part, an articulated saw-like formation.

Remarks. This genus has a lot of unusual characters for a lepidoccephalichthyn loach, i.e., a very small body, head without scales, nasal barbels, simple and very curved suborbital spine and an apparent sexual dimorphism. I presented first the illustration of characters of *Lepidocephalichthys hasselti*, the type species of the genus, to compare them with those of *Kottelatlimia katik*. It is very clear that the two genera represent two lineages much different one another. The illustrated specimen of *hasselti* is 29.2 mm SL, from a lot of six specimens of about same standard length, from Indonesia: Java, in a river close to Sukabumi, July 1930, Miss Walsh coll. (ISBB 2775). The illustrated specimen of *Kottelatlimia katik* is reproduced from Kottelat and Lim (1992: 212–213, Figs 6 and 7) and it is based on a material which came from Malaysia without other data. I had no material of *katik* at my disposal.

Now, in analysing zoogeographically the subfamily Cobitinae the results are extremely interesting. From 16 genera, 10 are tropical south and south-east Asiatic and 6 being Palearctic but as a number of species, ca 60 are Palearctic and from these, 40 belonging to a single genus, *Cobitis*. The richest genera among the tropical ones are *Acanthopthalmus* with about 15 species and *Lepidocephala-*



lichthys with about 12 species. On the other hand, phyletically speaking, the Palearctic genera appear more apomorphic, more competitive and more speciose than the tropical ones. In my opinion, the genera *Lepidocephalichthys*, *Lepidocephalus* and *Neoeucirrichthys* are closely related the latter being the sister lineage of the former two. Another group, formed by two genera *Acanthopthalmus* and *Eucirrichthys*, is possibly the sister lineage of the *Lepidocephalus* – *Neoeucirrichthys* group. A compact lineage is formed by the genera *Cobitis*, *Iksookimia*, *Niwaëlla*, *Paralepidocephalus* and *Sabanejewia*. The lineage formed by *Acantopsis* and *Acanthopsoides* appear in their features closer to *Cobitis* – *Sabanejewia* lineage than to the other ones. The genus *Misgurnus* is also closer to *Cobitis* – *Sabanejewia* group than to other lineages. The genera *Enobarbichthys*, *Somileptes* and *Kottelatlimia* in their unusual features, appear isolated enough from all lineages.

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STUDII ASUPRA COBITIDELOR (PISCES: OSTARIOPHYSI: COBITIDAE). I. O EVALUARE A GENURILOR VALIDE DE COBITIDAE

REZUMAT

Sunt menționate ca valide 16 genuri: *Misgurnus*, *Somileptes*, *Enobarbichthys*, *Lepidocephalichthys*, *Lepidocephalus*, *Neoeucirrichthys*, *Eucirrichthys*, *Acanthopthalmus*, *Acantopsis*, *Acanthopsoides*, *Cobitis*, *Niwaëlla*, *Sabanejewia*, *Iksookimia* și *Paralepidocephalus*. Este descris ca nou genul *Kottelatlimia*.

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EXPLANATION OF THE FIGURES

1. *Lepidocephalichthys hasselti*, ISBB 2775, river close to Sukabumi, Java, Indonesia, 29.2 mm SL.
2. View of the mouth, same specimen.
3. Right suborbital spine, same specimen.
4. Subdorsal scale of a 30.3 mm SL, same lot specimens (ISBB 2775).
5. Scale from operculum, same specimen as previous.
6. Last (inner) ray of 29.2 mm SL specimen.
7. *Kottelatlimia* new genus. The holotype, female, of the species *katik*, Malaysia.
8. View of the mouth, same specimen (slightly modified the position of the barbels).
9. Suborbital spine, schematic.
10. Pectoral fin of a 12.5 mm SL male.
11. Details of the second ray of pectoral, same specimen.

Note. The figures 7–11 are from Kottelat and Lim, 1992: 211–212, with a very few modifications of figure 8.

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