

**CONSPECTUS COBITIDUM\*:  
AN INVENTORY OF THE LOACHES OF THE WORLD  
(TELEOSTEI: CYPRINIFORMES: COBITOIDEI)**

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**ABSTRACT.** — The taxonomy and nomenclature of the fishes of the superfamily Cobitoidea (suborder Cobitoidei minus Catostomidae) are reviewed. Original descriptions of all 1499 recorded species-group names and 185 genus-group names have been checked for correct spelling, types and bibliographic references. The bibliography includes about 1010 titles. 1043 valid species in 111 valid genera are recognised. Synonymies are given, based on published information as well as unpublished observations. Endings consistent with the three possible Latin grammatical

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\* Cobitidum is formed on the common name *cobites* or *cobitis*, meaning loaches in general, and not on the formal name of the suborder Cobitoidei.

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genders of genus-group names are indicated for all species-group names; basic tools are provided to establish the correct endings in most simple cases. The main nomenclatural acts are:

- new family-group names: Serpenticobitidae, Barbuccidae;
  - new genera: *Ambastaia* (type species: *Botia nigrolineata*), *Theriodes* (type species: *Acanthopthalmus sandakanensis*), *Speonectes* (type species: *Sundoreonectes tiomanensis*);
  - lectotype designation: *Cobitis stephanidisi* (sensu Economidis, 1992);
  - declaration as nomen protectum: *Cobitis biwae*;
  - declaration as nomen oblitum: *Cobitis schlegeli*;
  - first reviser action on precedence of simultaneous synonyms: *Parabotia kimluani* over *P. vancuongi*, *Cobitis taenia turcica* over *Cobitinula anatoliae*, *Sewellia medius* over *S. grandis*, *Parasewellia monolobata* over *P. polylobata*, *Cobitis turio* over *C. bilturio*, *Triplophysa bashanensis* over *T. longchiensis*, *Yunnanilus macrositanus* over *Y. forkicaudalis*;
  - first reviser action on correct spelling of: *Parabotia vancuongi*, *Cobitis fahireae*, *Hemimyzon songamensis*, *Sewellia analis*, *Parasewellia polylobata*, *Vanmanenia monofasciodorsalata*, *V. trifaseudorsala*, *Oreonectes microphthalmus*, *Paracobitis posterodorsalus*, *Yunnanilus macrositanus*, *Y. forkicaudalis*, *Y. spanisbripes*.
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Μία χελιδόν ἔαρ οὐ ποιεῖ  
 [One nucleotide does not a species make \*]  
 Aristotle (384–322 BC)

[\*apocryphal; usually translated as  
 "one swallow does not a summer make"]

## INTRODUCTION

Loaches, fishes of the suborder Cobitoidei, are small benthic fishes known throughout Eurasia, with two named species in Africa (Morocco and Ethiopia). Most of them inhabit rivers and streams in hilly areas but they are also known from streams in rainforest, in the black waters of peat swamp forests, or in oases (in the Taklamakan Desert). Many of them are specialised cave fishes, others inhabit rapids and waterfalls. The fishes reported from the highest altitude in Asia are loaches (*Triplophysa stolickai* at 5200 masl, in hot springs near Lungmu Co [lake], Ngari County in western Tibet [34°37'N 80°28'E]; Zhu, 1981: 1063); those reported from the lowest altitude are also loaches (*Triplophysa zhaoi* in swamps of the Lükqün oasis, about 50 m below sea level in the Turpan depression, Xinjiang, China).

The suborder Cobitoidei derives its name from *Cobitis*, a genus established by Linnaeus (1758). This name has an old history. It first appears as κωβίτις in Aristotle's *Περὶ ζῴων ἱστορίαι* for small fishes that bury in the bottom (Aristotle, ca. 343 BC; first printed edition in 1476, *Historia animalium, Inquiries on animals*, book VI, chapter XIV). *Cobitis* means 'like the gudgeon' (κωβιόζ). The word was first transcribed in the Latin alphabet by Rondelet (1555) who used it for three small fishes identifiable as today's *Cobitis taenia*, *Barbatula barbatula*, and, apparently, *Alburnus alburnus*. The name was then used by classical authors like Gesner, Aldrovandi, Jonston and Willughby. *Cobitis* is the second genus in Artedi's system (1738), who also added *Misgurnus fossilis*. As Artedi's system was adopted by Linnaeus (1758), *Cobitis* entered formal zoological nomenclature.

Work on this checklist began around 1980 when I became interested in the taxonomy and ecology of Southeast Asian loaches. On 10 November 2012 the superfamily includes 1043 valid species, out of 1499 nominal species (valid species plus all their synonyms, emendations, nomina nuda and some incorrect subsequent spelling occasionally used). They are presently placed in 111 genera (out of 185 nominal genera). I have examined the original description of all. About 1400 publications have been checked and about 1010 relevant ones are listed.

By loaches I understand here the suborder Cobitoidei. Some authors have considered the family Catostomidae as the sister-group of all other Cobitoidei (e.g. Šlechtová et al., 2007).

Other authors have found that Catostomidae are the sister-group of all other Cypriniformes (e.g. Mayden et al., 2009; Chen et al., 2009 [labelled as part of Cobitoidea in their tree, but clearly sister-group to all other Cypriniformes]); part of these same authors had also found Catostomidae as sister-group of all other Cobitoidei (Tang et al., 2010) or as sister-group of Gyriinocheilidae, together being the sister-group to Cyprinidae (He et al., 2008). In a morphological study, Conway (2011) found that Catostomidae are the sister-group of Gyriinocheilidae, these together are sister-group of the remaining Cobitoidei, which is sister-group of Cyprinidae + Psilorhynchidae.

In view of these conflicting conclusions (and awaiting the next ones ....), I follow Šlechtová et al. (2007) and exclude Catostomidae from Cobitoidei. Among the above analyses, theirs is based on the largest number of genera and species of Cobitoidei.

**Content.** — First, the following checklist is far from an ultimate inventory of the loaches of the world: it merely presents what is known today. Many discoveries are still ahead of us and a great amount of work remains to be done before we reach an acceptable level of knowledge. I am aware of the existence of about 100 unnamed species which, hopefully, should be described in the next few years, from throughout the range of the superfamily.

This list deals with taxonomy and nomenclature. The two topics are intimately related but should not be confused. Taxonomy is about species (the animals) and studies their distinctness, their morphology, their phylogeny and ultimately organises them in a system, under scientific or philosophical concepts that may vary among individual scientists. Nomenclature is **only** about the names of animals; it is governed by a set of rules (the *International Code of Zoological Nomenclature*; ICZN, 1999; hereunder *Code*) intended to be applied universally. Nomenclature is not concerned by scientific conclusions and hypotheses, or philosophical concepts, and leaves total taxonomic freedom to individual scientists; it is concerned only with the names applied to an animal.

In using the checklist, attention should be paid so as to not confuse taxonomic and nomenclatural discussions. Taxonomy is a matter of hypotheses and open to discussion, while

nomenclature is a more objective issue, almost administrative, automatically decided by application of the *Code*.

The checklist aims to include all the known species and their correct names. Synonymies are usually based on published information, but in some cases I used personal communication from colleagues, my own interpretation of the literature, or unpublished personal observations.

The list includes references to the original descriptions of all species and their synonyms, of all the genera and their synonyms, and all relevant nomenclatural acts. All the cited references have been checked in the original publications. The details that I could not check are marked in **bold face**. A few references have been checked by trusted colleagues.

Names based on fossil taxa and which have never been used for Recent taxa are not included in this checklist.

Taxonomy and systematics have two main goals. One is primarily of academic interest: the study of the diversity of living organisms and their phylogenetic relationships. The other is of immediate practical interest: inventories, surveys, documentation of biodiversity, and compilation of identification tools. For the proper management of natural resources, we need information on numbers of species and their identification now, not sometime in the distant future. If definitive conclusions are not possible with the available data, then tentative decisions are needed. As for other components of environmental management strategies, the precautionary approach should be the rule. In the present context, in case of doubt on the distinctness of two species, the precautionary approach would be to retain them as distinct awaiting (possible) further research.

This precautionary approach, however, has its limits. The development of molecular techniques has led some to recognise as 'species' populations distinguished only by very few nucleotides; complex statistics have been used to justify the recognition of 'species' otherwise not distinguishable by human eyes. These species I have not given the benefit of the doubt. The now fashionable discussions about 'cryptic' species do not change the situation very much: Aristotle (384–322 BC) already commented "one nucleotide does not a species make", be it ever so cryptic [apocryphal translation of *Μία χελιδὼν ἔαρ οὐ ποιεῖ*, usually translated in English as "one swallow does not a summer make"]. Further, in fishes, the 'cryptic' species discovered by molecular techniques that I have been told about have been cryptic not because taxonomists could not distinguish them, but because no trained taxonomist ever had an opportunity to examine them.

Another problem with the precautionary approach in Southeast Asian fishes is shown by the huge number of 'new' species that have been described from Vietnam in recent years. The description of many is in a quality that makes it impossible to even guess whether or not they might be valid. Their identity and possible distinctness will remain in limbo as long as they are not competently re-described.

**Limitations.** — One of the limitations of the checklist is that I started work on it around 1980. In 30 years, its scope, coverage and format unavoidably evolved and this caused slight internal inconsistencies in formatting. It has been updated continuously so that the technical content is not affected by this 'formatting evolution'. Further, between 1980 and today, three different editions of the *International Code of Zoological Nomenclature* (ICZN, 1964, 1985, 1999) have been in use, which differ slightly. I have tried to update all entries affected by the changes in the *Code* but I may have missed details.

Another limitation is that the core target of my work and my own experience is Southeast Asian freshwater fishes. My treatment of these taxa is probably quite complete. But I am likely to have missed some literature on the species occurring outside this area. When I encountered nomenclatural problems concerning Southeast Asian species I had no hesitation in introducing changes to clear the problems. When it came to the same situation with taxa from other areas, I tried to solve the routine problems but decided not to address the more complex ones. However, I discuss these cases and their possible solutions where pertinent.

**Families vs. subfamilies.** — The family-level organisation is based on the phylogeny established by Šlechtová et al. (2007) and Bohlen & Šlechtová (2009), and on my personal considerations (see below and Appendix). The naming and ranking of supraspecific taxa (genera, tribes, families, etc.) is partly a matter of individual taste, that is, some may prefer to have, for example, a family Balitoridae divided into subfamilies A, B, C, or a superfamily Balitoroidea divided into families A, B, C, or a subfamily Balitorinae divided into tribes A, B, C. What is important is not the rank, but that the organisation reflects phylogeny.

The recognition of sublineages within a lineage (e.g. subfamilies within a family) implies that the relationships of the lineage have been resolved and that it is demonstrated that the lineage is monophyletic. If it is not demonstrated, then there is no justification to recognise sublineages within this lineage and they are better either ignored or each recognised as a separate lineage.

Various published phylogenies (Šlechtová et al., 2007; Bohlen & Šlechtová, 2009; Chen et al., 2009; Mayden et al., 2009) are congruent in recognising that *Ellopostoma*, *Barbucca*, *Serpenticobitis*, Balitoridae and Nemacheilidae form a monophyletic lineage, but they show different relationships within this lineage, or between some of the branches. In such a situation I consider that it is not justified to recognise some lineages at family rank and others at subfamily rank; this is why I treat all at the same rank. Because of their very distinctive morphology and because they are not positioned within any of the sublineages, *Barbucca* and *Serpenticobitis* are treated at the same rank and two family-group names (Barbuccidae, Serpenticobitidae) are established for them.

I use only the family rank; in my opinion intermediate ranks such as subfamily, subtribe, etc., are rarely justified. But

others may disagree and might prefer to recognise a family Balitoridae with subfamilies Ellopostomatinae, Nemacheilinae, Balitorinae, Barbuccinae, Serpenticobitinae and Gastromyzontinae; this makes no difference.

Note that a family-group name retains its original author and date even if used at different ranks. For example Nemacheilinae Regan, 1911 retains Regan, 1911 as author even if treated as family Nemacheilidae or tribe Nemacheilini.

**Listed names.** — I list all the names I found, including infrasubspecific names, which are given in their original form. The headings of all generic and specific accounts have the correct spelling of all valid names. In the synonymies, however, all names are given with their original combination (except that interpolated subgeneric names are omitted) and with their *original spelling*, including misspellings and diacritic marks [ü, è, ñ, etc.]. Capitalised letters and diacritic marks are not permitted by the *Code* (arts. 27, 28, Glossary) in species- and genus-group names and must be corrected. Incorrect original spellings are used only in the synonymies but they have been corrected in all other circumstances, especially in the discussions under Taxonomic notes and Nomenclatural notes.

**Genera and species.** — Genera are listed in alphabetic sequence within families. Species are listed in alphabetic sequence within genera.

Entries for genera include the valid name of the genus (in bold, as a heading), the name of the genus with the spelling in the original description, the author, the year of publication, and the number of the page with principal information. This is followed by information on possible subgeneric status in the original description, type species, mode of designation, information on possible nomenclatural acts associated with the name, and grammatical gender. This information is provided for all names considered to be synonyms, in chronological sequence.

Entries for species include the valid name of the species (in bold, as a heading), the name of the species with the spelling in the original description, the author, the year of publication, the number of the page on which the actual description starts (or where the elements necessary to make the name available occur) and the number of the main illustration (ignoring those showing maps, anatomical details, portrait of collector, etc.). This is followed by a block in parentheses with information on type locality, primary types and possible nomenclatural acts associated with the name. If the name is based largely or totally on references to the older literature, this information is listed first in the block in parentheses. The block in parentheses also includes information on the spelling of the end of the name associated with the three grammatical genders of genera (see explanation below). This information is provided for all names considered to be synonyms, in chronological sequence.

**Transliteration of non-Latin alphabets.** — Author names, place names, and journal names in non-Latin alphabets, and

in languages using other notations, have been transcribed; titles of books and papers have been translated. When a transliteration is used in the original work (e.g. in the text, in an abstract, in a table of contents), the same spelling is used here. There are some inconsistencies as it happens that transliterations or translations used in abstracts or tables of contents may be different from the actual title of a paper. Frequently, transliteration systems have changed with time and no standardisation has been attempted here. Older bibliographies or indexes may have used earlier transliteration systems and I consider that a standardised use could actually complicate bibliographic search, especially for those not familiar with these languages.

Unfortunately, some accents and diacritic marks may have disappeared as standard western European keyboards and softwares do not support them. This especially applies in the case of the Vietnamese alphabet.

**Type localities.** — The type locality is the locality at which the holotype, lectotype or neotype was collected. Although mentioned in the *Code*, the type locality has no nomenclatural role. Simply, it is a convenient wording, it is shorter to say 'type locality' than 'the locality at which the primary name-bearing type was collected', or to give the locality data in full.

In cases where there is no primary type but a series of syntypes from different localities, the type locality is the sum of all the localities of the syntypes, and all their localities are listed (separated by a slash [ / ] where clarity requires it). Localities are *usually* given with the original spelling; this sometimes results in different spellings being used for the same locality under different headings; I have tried to introduce some consistency, but only in cases where I was certain that the different spellings were really referring to the same place, or when the different spellings were used for the locality of the very same specimen, or referring to the very same bibliographic source.

Alternative spellings, modern equivalents, present names of political entities, transliterations and coordinates (if any) have been added in square brackets, but this has not been systematically attempted. Most text in square brackets is not from original authors.

Locality descriptions have been translated into English when possible and/or justified. In some cases, words meaning river, lake, etc. are part of the name in the original language and they have not been deleted in order to avoid ambiguities when using local maps (but the word river, lake, etc. has been added). Local names have been used, except for a few well known rivers and lakes with a common English name used in international literature (e.g. Mekong, Irrawaddy, Salween, Ganges, Red River). For most localities, when feasible I have tried to add information on present political entities (country, province, state, etc.) and river drainages as an aid to the reader. For larger topographic features which have several different names, a single one has been consistently used; this especially applies to those extending in dif-



ferent countries (e.g. Mekong River); I usually retained the name easiest to find for readers not familiar with local toponymy or, when it exists, the English name used in international literature (e.g. Salween River and not Nu Jiang, Salawin, Thanlwin, Salouen, or *fGyl mo rNGul chu* [a Tibetan transcription]; Irrawaddy and not Ayeyarwady; Red River and not Song Hong, Yuan Jiang or Fleuve Rouge).

Infrasubspecific names and nomina nuda having no nomenclatural status, they do not have type specimens and therefore do not have a type locality and I thus list only a 'locality', when justified. Localities are usually not indicated for infrasubspecific names based on aberrant specimens; they are given only if the name has been created for a particular geographical area.

When a neotype has been designated, the type locality is the locality of the neotype. The original type locality (the locality of the primary type mentioned in the original description), if different, is usually listed in square brackets in order not to lose the information.

When a lectotype has been designated, the type locality is the locality of the lectotype. The original type locality [the sum of the localities of all the syntypes mentioned in the original description], is not listed since it is no longer relevant.

**Available name.** — An available name is a name that satisfies the criteria of the *Code* and may be used for a valid species. An available name is not automatically a valid name.

**Valid name.** — A valid name is the correct name applied to a species. To be valid, a name must first be available. But an available name is not automatically valid; junior synonyms are available names but invalid. A 'valid name' should not be confused with a 'valid species'.

**Nomen oblitum, nomen protectum.** — The earliest of two synonyms always has priority. In some circumstances defined by *Code* art. 23.9. it is possible to ignore an old name and instead use a younger synonym. The older name is then called nomen oblitum (forgotten name) and the younger one is called nomen protectum (protected name). To be declared nomen oblitum, a name must have been unused after 1899 and the nomen protectum must have been used at least 25 times in the last 50 years.

**Incertae sedis, genera inquirenda, species inquirendae, nomina dubiae.** — Incertae sedis are valid family, genera and species of uncertain taxonomic position. Species incertae sedis are listed at the beginning of the family they belong to. Sometimes they are placed in the genus in which my experience or the experience of knowledgeable colleagues suggests they belong. Alternatively, for species placed in genera where there is a suspicion they do not belong, the generic name is placed in single quotation marks (e.g. '*Genus*' species), sometimes with a comment under Taxonomic notes. The fate of a species incertae sedis is to be placed in a genus.

A species inquirenda (plural: species inquirendae) is a species of doubtful identity. Often they can be placed in a genus but the description and the known material do not allow a decision as to whether or not it is valid. These names are listed immediately under the heading of the genus to which they belong. Species inquirendae that cannot be placed in any genus are listed immediately under the heading of the family to which they belong. A species inquirenda may have great similarity to a valid species but its identity may remain open to doubt; these are listed in the synonymy of that species, and are indicated by a question mark in front of the name. Some species inquirendae are poorly described but are nevertheless tentatively accepted as possibly valid, for example because an illustration in the original description suggests they may be valid; awaiting confirmation or a usable description, they are listed as 'normal' species but with a question mark. It is noteworthy that a substantial number of the taxa described from Vietnam in the last 15 years falls into the category species inquirendae. The fate of a species incertae sedis is that future studies will allow to decide in which genus or family to place them.

A species inquirenda should not be confused with a nomen dubium. A nomen dubium (plural: nomina dubia) is a name of doubtful application that is impossible to link with a known species, or may apply to several species, etc. Typically, a nomen dubium would have been described in the 18<sup>th</sup> or 19<sup>th</sup> century, with a few laconic sentences including no diagnostic characters usable today, may be based on a painting or on artificially prepared specimens (examples include species described from Chinese paintings in the 19<sup>th</sup> century; these paintings usually were not based on a given specimen but often were an artistic or idealised view of the species, copied from earlier classical paintings, or sometimes simply imaginary). The fate of a nomen dubium is not to remain so, but to become either a valid name or a synonym after either taxonomic examination or appropriate nomenclatural decisions.

A genus inquirendum (plural: genera inquirenda) is a generic name that can be placed in a family but whose description and associated species (usually species inquirendae and nomina dubia) do not allow a decision as to whether or not it is valid.

**Nominal species.** — Any of the available names created for a species, irrespective of its validity. If a valid species has *x* synonyms, the valid name and the *x* synonyms are *x*+1 nominal species.

## NAME-BEARING TYPES

It is not the place here to detail all basic principles of nomenclature (for details, see Kottelat, 1997; Kottelat & Freyhof, 2007). It is however necessary to clarify a few concepts that are often misunderstood.

**Type specimens.** — Each species-group name has a type. The *type* of a species name is the specimen on which the name is based; the phrase *name-bearing type* is more appro-

appropriate but, in order to simplify texts, is not usually used. The type specimen is the type of a name, not of a species. It is therefore erroneous to understand the type as a 'model' representation of a species or a specimen to which all specimens must be identical in order to be called the same species. The type concept is **exclusively** a nomenclatural standard and totally independent of any taxonomic judgements or philosophical theory. The type is only used to objectively relate to which species the name must be applied. After its original description, if a species X is redescribed, re-defined or re-diagnosed and it is found that the type specimen of name Y belongs to that species, then this fixes Y as the name to be applied to species X. If type specimens of more than one name are found to belong to that same species X, this makes these names synonyms.

Only *primary types* (name bearing types) are listed here. Primary types belong to the categories *holotype*, *lectotype*, *neotype* and *syntypes*. Other type categories recognised by the *Code* are *paratypes* and *paralectotypes* but have no nomenclatural status. Other 'type' categories (e.g. *allotypes*, *topotypes*, *paratopotypes*, *paraneotypes*) are not recognised by the *Code*, should not be used and are ignored here. Among them, the word *allotype* is sometime used to designate one of the paratypes of a sex different from that of the holotype; the word *topotype* is used as a shortened way to say "specimens collected at the locality where the primary type was collected".

The *holotype* is the specimen that has been explicitly designated so (or by a similar wording) in the original description, or if there is clear evidence that the author based the nominal species on a single specimen. There is only one holotype per nominal species. In all cases where there is clear evidence that the author based the species name on more than one specimen (including literature records) but did not designate a holotype, then all these specimens are *syntypes*. If it is not possible to determine from the original description if a name is based on one or several specimens, I am usually listing 'syntypes' or 'holotype ?').

If the nominal species is based on a specimen explicitly designated as holotype and a number of additional specimens are also explicitly designated as types, these are *paratypes*; *allotypes* are thus *paratypes*. The sum of the holotype and paratypes or the sum of the syntypes is called *type series*.

In cases where there is no holotype but only a series of syntypes, one of the syntypes may be selected as *lectotype*; it then has the same value as the holotype. The remaining syntypes then become *paralectotypes* and lose their status as primary types. *Lectotypes* are designated when it is demonstrated or suspected that the type series includes more than one species; it allows the name to be definitively fixed to the nominal species to which the lectotype belongs. Incidentally, the designation of a lectotype also restricts the type locality to the locality of the lectotype, no longer the sum of the localities of the syntypes. *Paratypes* and *paralectotypes* are not listed hereunder as they are not name-bearing types.

If none of the specimens of the original type series remains, or if the holotype or lectotype no longer exist (they have not been preserved, are lost, or destroyed) and if the name cannot be unambiguously linked to a valid species, then (and only then) a specimen can be designated as *neotype* that will have the same function as the holotype. All designations of neotypes that do not fully satisfy these conditions are invalid and must be ignored. Incidentally, the designation of a neotype also fixes the type locality to the locality of the neotype.

A number of neotype designations are invalid because the need for a neotype is not stated or demonstrated. This requirement did not exist in the 1985 *Code* (art. 75(b)) and an implicit justification was enough. The requirement became explicit in the 1999 *Code*, with an added clause (art. 75.3.1) requiring "a statement that [the neotype] is designated with the express purpose of clarifying the taxonomic status or the type locality of a nominal taxon".

After the original description, it may be necessary for later authors to re-examine the primary type of a nominal species in order to decide to which taxonomic species it applies, for example in cases when several similar species are later discovered and the original description does not mention the characters now decisive to determine to which of these species the name must be applied. It is, however, not a necessity to examine a primary type if the original description provides all the information needed for identification. In fact, types may be fragile specimens, and they should not be handled if not justified, and persons without experience should not be permitted to handle them. Primary types must be deposited in museums or other responsible institutions and with staff able to conserve them and make them accessible to later researchers. Even if there is political pressure in some countries to consider that types are a national property, types do not belong to a country but to science and must be accessible to competent scientists irrespective of their nationality. Neotypes must be deposited in a museum (*Code* art. 75.3.7).

A number of species described by earlier authors do not have known types or they have been lost since the original description. This does not affect the availability of a name. For example, a specimen described in the field and later eaten by a hungry author remains the type specimen. Or a specimen used as model for a figure remains the type specimen, even if it has not been preserved.

When known, institutions in which primary types are deposited are listed, together with register numbers and, when known, the number of specimens in square brackets (example: "AAA 1234 [2], AAA 1233 [1]"). When the primary types were deposited in a collection but cannot presently be located, the institution is listed as they may still be present (misidentified, misplaced, uncatalogued), or as a starting point for further search. The source for the catalogue number is given when it is not the original description; besides, many catalogue numbers listed in the original descriptions have also been checked in published catalogues or in the institutions themselves. When there is a series of syntypes, I

listed those I could trace in the literature, but made no effort to trace the whole series; this would have been tedious, many of them having possibly been later used for exchanges between institutions, etc. **NT** indicates that there is no (or apparently no) preserved type material, **LU** that there was apparently preserved type material but that its whereabouts are not known. A question mark in front of the abbreviation of an institution indicates that the type(s) is possibly there or that the type status of the specimen is not certain.

Institutional abbreviations used in the text are listed below. For institutions for which no abbreviations have been used in literature, the abbreviations follow current use by workers at these institutions (where possible) or Leviton et al. (1985; Leviton & Gibbs, 1988) or Eschmeyer & Fricke (2010). I did not automatically follow Leviton et al. and Eschmeyer & Fricke as a standard because for non-US collections the abbreviations they list are often not those actually used by the institutions themselves. In case the abbreviations used in these lists differ from those used by workers at these institutions, I retain the second one (as long as they make sense and do not represent personal, bureaucratic or chauvinistic idiosyncrasy). I use the word abbreviation, not acronym. The word acronym means an abbreviation that can be pronounced as a word, which is not the case here.

**Type species.** — Each genus-group name has a type species. The type species of a genus name is the species whose name determines the validity of a genus. If several species are placed in genus *X*, with type species *Xx* and this genus is later divided into two genera, the genus which include species *Xx* will continue to be genus *X* while the other genus will have another name. If two genera have the same type species, they are objective synonyms.

**Type genus.** — Each family-group name has a type genus. The type genus is the genus whose name has been used to form the name of the family. For example *Cobitis* is the name of the genus used to form the family group names Cobitidae, Cobitoidei, Cobitinae, etc. For nomenclature purposes these three words are a single name. Whatever the rank within the family-group, a given family-group name retains the same author and date. In this example, Cobitidae Swainson, 1838, Cobitoidei Swainson, 1838, etc.

## ENDING AND SPELLING OF SPECIES NAMES

The following discussions refers only to scientific names, which are written in a language supposed to be Latin. When the system of binominal nomenclature was created, the genus was the important entity and the species was of secondary significance. As a result, the names of the species were made of a noun (the genus name) and a qualifying word (the species name), in most cases an adjective or a noun in the genitive. As genus names are nouns, they have a grammatical gender (masculine, feminine or neuter). In Latin, French, German and most western languages the ending of adjectives varies to agree with the gender of the noun (English is a notable exception in which adjectives are not variable).

When new research shows that a species must be transferred from one genus to another, if the two genera have names with different grammatical genders, it may happen that the ending of the name of the species must be changed to agree in gender with the name of the genus (*Code art. 31.2*).

This may seem complicated, but actually it does not require to learn Latin, but only to follow a handful of trivial rules:

- check the gender of the name of the genus in the original publication or on a reliable list;
- if the species name is a noun, its spelling remains unchanged;
- if the species name is an adjective, the name must agree in gender with the genus.

Besides, answers to most questions can be found in dictionaries and, in case of doubt, it does not take a great effort to ask knowledgeable colleagues. In the last resort, if nobody knows or if it seems too time consuming, one should treat the name as a noun in apposition and retain the original spelling or follow common practice.

Hereunder, the grammatical gender of all genus names is listed. For all species names, the list includes the three possible endings (for the three genders), so that it is instantly possible to check the correct ending when moving a species from one genus to another. The names marked 'indeclinable' never change; for those which change, the ending in masculine, feminine and neuter is indicated. For example, for *maculatus*, "-us, -a, -um" means that if the name is placed in a genus with a masculine name, the species must be spelled *maculat-us*, if placed in a genus with a feminine name it must be spelled *maculat-a* and if placed in a genus with a neuter name it must be spelled *maculat-um*.

Out of about 1391 available names, 439 are adjectives ending in *-us*, 317 adjectives ending in *-is*, 7 other declinable adjectives, 306 nouns in genitive, 154 compound nouns, 143 nouns in apposition, 14 indeclinable adjectives, and 11 indeclinable participles.

**Common situations.** — The basic principles above and the information in the list below are enough to determine the correct ending of names in any combination. For those interested in more details, this chapter presents examples of the main types of name constructions, how to distinguish which existing names are declinable and which are not, and the status of corrections of the original spelling. Note that this is for existing names and not for creating new names. These common cases cover the vast majority of existing names; a few rare cases make exceptions and are not discussed.

### 1. Names based on personal names

**1.1.** Names in the genitive case are indeclinable. They mean "of".

**1.1.1.** If the name is based on a modern name, the genitive ending is *-i* for men (e.g. *bleekeri*, of Bleeker); *-ae* for woman (e.g. *pfeifferae*, of Mrs. Pfeiffer), *-arum* for several women together (e.g. *mariarum*, of Mary Inger and Mary Chin), *-orum* for several men together (e.g. *grummorum*, of the



brothers Grigorii and Vladimir Grumm-Grzhimaylo) or for men and women together (e.g. *potaninorum*, of Grigorii Potanin and Aleksandra Potanina, *baluchiorum*, of the inhabitants of Balochistan).

**1.1.1.1.** Exception: names of men ending in *-a* may be considered Latinized and become *-ae* (e.g. *vinciguerrae*, of Vinciguerra).

**1.1.1.2.** If the name ends with *-i*, the ending is *-ii* (e.g. *choii*, of Choi; *modiglianii*, of Modigliani).

**1.1.1.3.** Names may be formed by adding the endings *-i*, *-ae*, etc. to the name or to the stem of the name. Example: *agassizi* is based on Agassiz and *agassii* is based on the stem *agassi* [this corresponds with the pronunciation, since the final *-z* in Agassiz is not pronounced in French in the area of Switzerland where he was born].

**1.1.2.** If the name is based on a Latin name, or the Latinized form of a modern name, the name is formed of the Latin root and the endings as above (often becomes *-ii*, *-is*, *-iorum*, *-iarum*). Examples: *cuvieri* is based on Cuvier's name, *cuvierii* is based on the Latinized form *Cuvierius*.

**1.2.** Nouns in apposition are indeclinable (but the *Code* recommends that species-group names should not be created as personal names in apposition as this may lead to confusion with the author of the name).

**1.3.** Adjectives formed on a personal name are declined to agree in gender with the genus name. Examples: *bleekerianus*, *-a*, *-um* (P. Bleeker; means Bleekerian), *pavianus*, *-a*, *-um* (A. Pavie).

**2. Names based on geographical names.** Same rules as names based on personal names (see **1**).

**2.1.** If the name is in the genitive case, it is indeclinable. Examples: *italiae* (of Italy), *cyri* (of Cyrus, the Latin name of Kura River).

**2.2.** If the name is in apposition, it is indeclinable: Examples: *Nemacheilus marang* (Marang loach; for Marang karst).

**2.3.** If the name is an adjective, it is declined to agree in gender with the genus name. The most common cases are:

**2.3.1.** names based on classical and modern Latin adjectives. Examples: *hispanicus*, *-a*, *-um* (Hispanic, Spanish), *helveticus*, *-a*, *-um* (Helvetian, Swiss), *sumatranus*, *-a*, *-um* (Sumatran);

**2.3.2.** names based on modern place names with the addition of the ending *-ensis*, *-ensis*, *-ense*. Example: *yunnanensis*, *-is*, *-e*.

**2.3.2.1.** The final letter(s) can be omitted, or a letter can be added (usually to smoothen pronunciation). Examples: *borneensis* instead of *borneoensis* (Bornean), *sumatrensis* instead of *sumatraensis* (Sumatran; but *sumatranus* would be preferable), *tientainensis* instead of *tientaiensis* (of Tientai).

**3. Latin adjectives.** Names that are Latin adjectives or participles, or end with Latin adjectives or participles, are declined to agree in gender with the name of the genus. (For nomenclature purposes, only the nominative case is relevant; Latin has five more cases, but they are irrelevant here).

**3.1.** The most common declinable endings are:

**3.1.1.** *-us*, *-a*, *-um*. Examples: *maculatus*, *maculata*, *maculatum* (spotted), *barbatus*, *barbata*, *barbatum* (bearded);

**3.1.2.** *-is*, *is*, *-e*. Examples: *lateralis*, *lateralis*, *laterale* (lateral); *meridionalis*, *meridionalis*, *meridionale* (southern);

**3.1.3.** *-ger*, *-gra*, *grum*. Example: *niger*, *nigra*, *nigrum* (black);

**3.1.4.** *-ger*, *-gera*, *-gerum*. Example: *filiger*, *filigera*, *filigerum* (that carries a filament);

**3.1.5.** *-fer*, *-fera*, *-ferum*. Example: *aurifer*, *aurifera*, *auriferum* (that carries or contains gold).

**3.2.** When declined, some adjectives are identical in the three genders in the nominative case. They are labelled here as indeclinable. Examples: *elegans* (nice), *splendens* (brilliant, shining), *pallens* (pale). Some common endings of indeclinable adjectives are:

**3.2.1.** adjectives ending in *-oides* (sometimes *-ides*). Examples: *siluroides* (silurus-like), *elongatoides* (like [*Cobitis*] *elongata*), *misgurnoides* (misgurnus-like), *salmonoides* (salmon-like);

**3.2.2.** adjectives ending in *-color*. Examples: *discolor* (differently coloured), *unicolor* (of a single colour).

**3.3.** Participles (verbs in the conjugation tense ending in *-ing* in English) usually end in *-ens* or *-ans* and are indeclinable in the nominative case. Examples: *alternans* (alternating), *ridens* (smiling).

**3.4.** If an adjective has been erroneously declined in cases other than nominative it is treated as a noun in apposition. Example: *albicoloris* (should have been *albicolor*, indeclinable).

**4. Latin nouns.** Names that are Latin or Latinized nouns are indeclinable. Examples: *Schistura cataracta* (cataract), *Ellopostoma mystax* (mustache).

**5. Compound names (noun-phrases)**

**5.1.** A compound name made of two nouns is a noun and indeclinable (examples: *ophiolepis*, from *ophius*, snake, and *lepis*, scale, with snake scales; *bellibarus*, from the incorrectly Latinized English nouns belly and bar, for the six bars on the belly); names made of an adjective and a noun are also nouns and indeclinable (example: *alticorpus*, from *altus*, high, and *corpus*, body, with high body; *flavicauda*, from *flavus*, yellow, and *cauda*, tail, with yellow tail).

**5.2.** If a compound name ends with a non-Latin word, it is indeclinable. This applies to all languages. Some Greek words are used as ending of compound names. The *Code* makes a distinction between Greek words and Latinized Greek words. For example *kephale* is a Greek word (meaning head) while *cephalus* is Latinized Greek; *oura* is a Greek word (meaning tail)

while *ura* is Latinized Greek. If the compound name ends with a Greek word (thus non-Latin), the name is indeclinable, irrelevant of whether it is a noun or an adjective (examples: *hipporhynchus*, from *hippos*, horse, and *rhynchus*, snout or snouted, that has a horse muzzle; *microphthalmus*, from *micros*, small, and *ophthalmos*, eye, small-eyed). If the compound name ends with a Latinized Greek word, it is indeclinable if that last word is a noun, or declinable if that last word is an adjective.

Many (not all) compound names ending with a Latinized Greek word are adjectives. Among the most common ones in ichthyology are *-ophthalmus*, *-a*, *-um* (-eyed; example: *microphthalmus*, small-eyed), *-rhynchus*, *-a*, *-um* (-snouted; example: *macrorhynchus*, big-snouted), *-cheilus*, *-a*, *-um* (-lipped; example: *pachycheilus*, thick-lipped); *-cephalus*, *-a*, *-um* (-headed; example: *pachycephalus*, broad-headed), *-stomus*, *-a*, *-um* (-mouthed; example: *macrostomus*, large mouthed), *-urus*, *-a*, *-um* (-tailed; example: *stenurus*; slender-tailed), *-gnathus*, *-a*, *-um* (-jawed; example: *prognathus*, prognathous). However, not all Latinized Greek words in compound names are adjectives. Some are nouns; examples: *-pomus* (from *poma*, cover, lid, opercle; the adjective is *-pomatus*, *-a*, *-um*), *soma* (body; the adjective is *-somatus*, *-a*, *-um*). Some nouns may be both; example: the Latinized adjective *-pterus*, *-a*, *-um*, winged, and the Latin noun *ptera*.

**5.3.** A compound name made of two words of which the last word is an adjective qualifying the genus name is treated as an adjective and has to agree in gender (see **3**). Examples: in *Xus flavicaudatus* (yellow-tailed *Xus*), *caudatus* is an adjective and *flavicaudatus* must agree in gender, in *Xus flavicauda* (yellow tail *Xus*, *Xus* with yellow tail), *cauda* is a noun in nominative and *flavicauda* does not have to agree in gender with the genus name.

**5.4.** A compound name made of two words of which the last word is an adjective qualifying the first word is a noun in apposition and indeclinable. Examples: in *Nemacheilus lacusnigri*, *nigri* (genitive of *niger*) qualifies *lacus* (lake) and *lacusnigri* is indeclinable; the name means loach of Black Lake and not black lake-loach.

## 6. Names that can be a noun or an adjective in Latin

- 6.1.** If it was first used as an adjective, it is treated as an adjective and must be declined;
- 6.2.** If it was first used as a noun, it is a noun and is indeclinable;
- 6.3.** If its first use does not allow a decision as to whether it was treated as a noun or an adjective, then it is treated as a noun in apposition and is not declinable. Note that in some cases, although the spellings of the noun and of the adjective do not differ, syntax and meaning may allow to make a decision.
- 6.4.** Example 1. In *Barbatula sellaefer*, *Barbatula* is feminine, *sellaefer* can be a noun in apposition or an adjective in the masculine nominative; because in *Barbatula sellaefer* it is spelt *sellaefer* it is a noun in ap-

position and indeclinable; if it had been spelt *sellaefera* it would have been an adjective and declinable.

**6.5.** Example 2. Imaginary case: in *Nemacheilus criniger*, *Nemacheilus* is masculine, *criniger* can be a noun in apposition or an adjective in nominative masculine and the author did not indicate which one he used; therefore it is treated as a noun in apposition.

**7. Non-Latin words.** Names (or the final word of a compound noun) that are not Latin words are treated as nouns in apposition and are indeclinable. Examples: *Botia zebra* (*zebra* comes from an African language), *Botia helodes* (*helodes* is a Greek word meaning marshy).

## 8. Distinction between some adjectives and nouns

**8.1.** There is often confusion between a noun and adjectives based on the same noun. The most common ones are compound names ending in *-atus*, *-ata*, *-atum*. Example: *lateristriga* and *lateristrigata* in which *striga* is a noun (stripe) and *strigata* is an adjective (striped). A simple 'rule' to decide if the last word is an adjective or a noun (beside checking a dictionary) is that words ending in *-atus*, *-ata*, *-atum* are usually adjectives and declinable (*flavilinea* [with yellow stripe] vs. *flavilineata* [yellow-striped], *anguillicauda* [with eel-tail] vs. *anguillicaudata* [eel-tailed]). There are exceptions to the 'rule'.

**8.2.** If a Latin adjective has been explicitly treated as a noun in apposition in the original description (*Code art. 11.9.1.2.*), then it is indeclinable.

**8.3.** If a Latin noun has been explicitly treated as an adjective in the original description (*Code art. 11.9.1.1*), then it is treated as adjective and is declinable. Example: names ending in *-cola* (inhabitant) are nouns and indeclinable; but some names have been created as *-colus* with the erroneous statement that they were adjectives (e.g. *Nemacheilus arenicolus*) and must be retained as adjectives and declined.

**8.4.** If a name has been treated as a Latin noun in the original description but is not Latin, then it is a noun in apposition and indeclinable.

**8.5.** Some words are adjectives in Latin, but in ichthyology they are used as nouns. These are treated as noun in apposition. The most common ones are *ventralis* and *pectoralis*, which originally are the adjectives ventral and pectoral but in ichthyology are commonly used as substantives to mean the ventral (pelvic) and pectoral fins. In such cases, they are used as nouns in apposition (e.g. in *longiventralis*, *longipectoralis*); but in case they had been used as adjectives in the original descriptions, they would of course be treated as adjectives. In *Cobitis pectoralis*, *pectoralis* was obviously treated as a noun in apposition, otherwise the name would not make sense. The words *analis* (anal fin), *dorsalis* (dorsal fin) and *caudalis* (caudal fin) do not exist in Latin and are treated as nouns in apposition.

## 9. Correction of spelling of names

**9.1.** The spelling used in the first description making a

name available is called the original spelling. The original spelling is the correct spelling and cannot be changed. There are only few exceptions.

**9.1.1.** If in a later work the spelling is changed unintentionally, it is called an *incorrect subsequent spelling*. If it is changed intentionally, then it is an *emendation*. An emendation is *justified* if it is made to follow requirements of the *Code*; all other emendations are *unjustified*.

**9.1.2.** Incorrect spellings are not available names (they do not exist in nomenclature). Unjustified emendations are available names, although often invalid.

**9.2.** The original spelling can be corrected if there is evidence of an inadvertent error. An inadvertent error is an incorrect spelling not intended by the author. The *Code* mentions lapsus calami, copyist's error and printer's error as examples of inadvertent error. This is sometimes interpreted as a list of accepted cases. The *Code* lists these as examples, which means that the list is not exhaustive. Additional cases would include, for example, damaged font (a case is described by Bogutskaya et al., 2005), errors introduced by a translator (see under Triplophysini) or, with modern technology, a file-conversion problem. An error by the printer in deciphering a hand-written manuscript is an inadvertent error, but it is debatable whether an error by the author in deciphering hand-written information (his own notes, a place name on a label, or the signer of a letter) is an inadvertent error.

Speech recognition softwares and the commands 'search and replace' in word processors are promising fields for inadvertent errors.

**9.2.1.** Latinization errors cannot be corrected. For example, *nujiangensa* should have been *nujiangensis* but cannot be corrected; the erroneous use of *ovis* (sheep) or *ovalis* (ovation) instead of *ovum* (egg, oval) or *ovatus* (oval) for an animal with an oval shape cannot be corrected.

**9.2.2.** Special letters must be replaced (e.g. German ü, ä, ö become ue, ae, oe) or modified (e.g. Spanish ñ becomes n, non-German ö becomes o, etc.), spaces and hyphens are suppressed, capitalised initials become lower case, numbers must be spelled out, etc.

**9.3.** Erroneous spellings of names based on personal names is a potentially sensitive issue, resulting from a loophole in the *Code*.

**9.3.1.** Article 31.1 explains how names based on names of persons must be formed (see **1**). Art. 31.1.3. says that a name based on a personal name formed under arts. 31.1.1 and 31.1.2 (see **1**) must be preserved unless it is incorrect. The corollary is that if the name is incorrect it must not be preserved. But this article does not say what to do if a name is not formed correctly. Common sense is that "a name must be preserved unless incorrect" implies that an incorrectly formed name is not to be preserved, and that the only things that can be done is to render it correct or to replace it. Art.

32.5 lists the spellings that must be corrected but the list does not include the incorrect names mentioned in art. 31.1.3. Some authors argue that these names therefore cannot be corrected. My interpretation is that, if a name based on a person's name must be formed following art. 31.1, those formed incorrectly must be emended. This is implicit in art. 31.1 and therefore it was not needed to repeat it in art. 32.5. Therefore, erroneous original spellings of names based on person's names must be corrected.

**9.3.2.** This art. 31.1.3 applies only for the aspects of the names formed under art. 31.1.1 and 31.1.2, that is mainly ending (formed under **1** above). This means that a name formed, for example, on the name of a woman but with the ending *-i* must be corrected in *-ae*. Bleeker created the name *Cobitis pfeifferi* explicitly for Ida Pfeiffer, a woman, and the name must be emended into *C. pfeifferae*. If the gender of the person is not known the original ending does not change.

**9.3.3.** If the name of the person is mentioned (correctly spelt or not) and the name of the species is misspelt, it must be corrected. Example: Sykes (1839a) described *Cobitis rupelli*, which he named for Eduard Rüppell, whose name is explicitly mentioned. The omission of one 'p' is an inadvertent error. The spelling of the name should have been, and must be corrected into, *ruppelli*. [The omission of the umlaut is correct; if Sykes had written "Rüppell", *ü* should have been corrected into *ue*, but as Sykes used "Ruppell", *u* should not be corrected].

**9.3.4.** If the name of the person is not mentioned in the paper and can only be guessed to possibly be a misspelling of a known name, it must remain unchanged.

**9.3.5.** If there is external evidence (for example by the author himself in a later publication) or indication that the name is formed on a misspelling of the name of a person unambiguously identifiable, there are two conflicting opinions. Some authors consider that the *Code* art. 32.5.1 does not allow the emendation since it can be known that the name is misspelt only by recourse to external information. Others think that art. 32.5.1 allows to correct the spelling because to misspell the name of a person to which the species is dedicated can only be an inadvertent error. Art. 32.5.1 lists some kinds of inadvertent errors to be corrected but does not mention misspelling of personal names; this is not a problem since the *Code* explicitly states that these are examples ("such as ..."), and a list of examples is, by definition, not exhaustive [see **9.2** above].

A classical example is *Barbus schwanenfeldii*, originally described by Bleeker (1854a: 517) and dedicated to the collector "H. W. Schwanenfeld". Later, Bleeker (1860d: 63) emended it as *schwanefeldi* because the correct spelling of this

person's name is Schwanefeld. Elsewhere in the same issue of the journal including the 1854 description, but not in the same paper (pp. 540, 545), Schwanefeld's name was spelt correctly, as it is also in lists of members of societies (of which Bleeker was president or secretary) and subscribers to journals (edited by Bleeker). In addition Schwanefeld was a professional relation of Bleeker. The misspelling could not have been intentional. Despite all this, because we can know that the name was misspelt only from information external to the original paper, some conclude that the name cannot be corrected (this was my earlier point of view; Kottelat, 1999: 595). But, in the case of personal names dedicated to a clearly identified person, when the original author himself

corrected the spelling and when it is shown from numerous sources that it was misspelt, it is obvious that it was an inadvertent error and it would be against common sense not to correct it. I would be unhappy to see a species name dedicated to me but with a misspelling of my name; and if I have to write a paper on this species I would certainly not use a misspelling of my own name; I think that everybody can share these feelings. It therefore seems that nobody should really complain if the emended but possibly 'illegal' spelling is used.

Note that Bleeker's change of the original ending *-ii* into *-i* is not permitted and the original ending *-ii* remains.

#### ABBREVIATIONS USED

AMNH	American Museum of Natural History, New York, USA	FSJF	Fischsammlung Jörg Freyhof, Berlin, Germany
AMS	Australian Museum, Sydney, Australia	GCMNH	Government College Museum (Natural History), Lahore, Pakistan
ANSP	Academy of Natural Sciences, Philadelphia, USA	GIF	Guangxi Institute of Fisheries, Nanning, China
ASIZB	Academia Sinica, Institute of Zoology, Beijing, China	GUIC	Ichthyological Museum, Department of Fisheries, Natural Resources Faculty, University of Guilan, Soumeh Sara, Iran
BIKU	Institute of Biology and Ecology, University of Kragujevac, Kragujevac, Serbia	HACW	Department of Fisheries, Huazhong Agriculture College, Wuhan, China
BLG	Biological Laboratory, Sun Yat-Sen University, Guangzhou, China	HFRI	Heilongjiang Fisheries Research Institute, Harbin, China
BMAM	Beijing Museum of Natural History, Beijing, China	HNUE	Department of Zoology, Faculty of Biology and Agricultural Technology, Hanoi National University of Education [also Hanoi University of Pedagogy], Hanoi, Vietnam
BMNH	Natural History Museum, London, United Kingdom	HRAS	Heilongtan Reservoir Administration, Shilin, China
CAS	California Academy of Sciences, San Francisco, USA	HUIC	Ichthyology Museum, Department of Biology, Hacettepe University, Ankara, Turkey
CMK	Collection of Maurice Kottelat, Cornol, Switzerland	HUJ	Hebrew University, Jerusalem, Israel
CNUC	Department of Biology, Chonbuk National University, Jeonju, South Korea	IHB	Institute of Hydrobiology, Academia Sinica, Wuhan, China
CRG-SAC	Conservation Research Group, St Albert's College, Kochi, Kerala, India	IRSNB	Institut Royal des Sciences Naturelles, Bruxelles, Belgium
DBJU	Department of Biology, Ji-Nan University, Guangzhou, China	ISBB	Institutul Stiinte Biologice, Bucuresti, Romania
DBLU	Department of Biology, Lanzhou University, Lanzhou, China	IZA	Dipartimento di Scienze Ambientali, Universita, L'Aquila, Italy
DHISUB	Department of Hydrobiology and Ichthyology, Faculty of Biology, University of Sofia, Sofia, Bulgaria	IZSX	Institute of Zoology of Shanxi, Xian, China
DVZUT	Department of Vertebrate Zoology, Vietnam National University of Hanoi, Hanoi, Vietnam	KFRI	Kerala Forest Research Institute, Peechi, India
DZAUT	Department of Zoology, Aristotle University, Thessaloniki, Greece	KIZ	Kunming Institute of Zoology, Academia Sinica, Kunming, China
EAWAG	EAWAG Forschungszentrum für Limnologie, Kastanienbaum, Switzerland	KU	University of Kansas Natural History Museum and Biodiversity Research Center, Lawrence, USA
FACQR	Fishery Administration Center of Qujing Region, Qujing, China	KUMF	Kasetsart University Museum of Fisheries, Bangkok, Thailand
FESC	Fisheries Experimental Station, Guangdong, China [now Pearl River Fishery Research Institute, Chinese Academy of Fishery Sciences, Guangzhou, China]	KUN	Kinki University, Nara, Japan
FFRIJ	Freshwater Fisheries Research Institute of Jiangsu Province, Nanjing, China	LFZFC	Laboratory of Fishes, Zhejiang Fisheries College, Zhoushan, China [now Zhejiang Ocean University, Zhoushan, China]
FM	Department of Nature, Fujian Provincial Museum, Fuzhou, China	LNHSM	Lingnan Natural History Survey and Museum, Guangzhou, China
FMNH	Field Museum of Natural History, Chicago, USA		
FRCL	Fisheries Research Center, Likas, Kota Kinabalu, Malaysia		



MCSNC	Museo Civico di Storia Naturale, Carmagnola, Italy	SCNU	Department of Biology, South China Normal University, Guangzhou, China
MCSNG	Museo Civico di Storia Naturale, Genova, Italy	SCUM	Museum of Sichuan University, Chengdu, China
MCZ	Museum of Comparative Zoölogy, Harvard, USA	SMF	Senckenberg Museum, Frankfurt, Germany
MGAB	Musée d'Histoire Naturelle "G. Antipa", Bucuresti, Romania	SMK	Sarawak Museum, Kuching, Malaysia
MGHNL	Musée Guimet d'Histoire Naturelle, Lyon, France	SNM	Slovak National Museum, Bratislava, Slovakia
MHNG	Muséum d'Histoire Naturelle, Genève, Switzerland	SOU	Shanghai Ocean University, Shanghai, China
MIZASP	Museum, Institute of Zoology, Academy of Sciences, Pyongyang, North Korea	SPNRI	Sichuan Provincial Nature Research Institute, Chengdu, China
MMNHN	Metropolitan Museum of Natural History, Nanjing, China [now Nanjing Museum, Chinese Academy of Sciences, China]	SSCN	Museum of the Biological Laboratory, Science Society of China, Nanking, China [now NRIBAS]
MMNHS	Macedonian Museum of Natural History, Skopje, Former Yugoslavian Republic of Macedonia	SU	Stanford University; now at CAS (as CAS-SU)
MNCN	Museo Nacional de Ciencias Naturales, Madrid, Spain	SUBC	Department of Biology, Seowon University, Cheongju, Korea
MNH	Magyar Nemzeti Múzeum, Budapest, Hungary	SWFC	Museum of Zoology, Southwest Forestry College, Kunming, China
MNHN	Muséum National d'Histoire Naturelle, Paris, France	TAU	Tel Aviv University, Tel Aviv, Israel
MNHV	Museum of Natural History, Varna, Bulgaria	TUK	Department of Zoology, Tribhuvan University, Kathmandu, Nepal
MSINR	Museum of Sichuan Institute of Natural Resources, Chengdu, China	UBD	Universiti Brunei Darussalam, Brunei Darussalam
MUMF	Manipur University Museum of Fishes, Canchipur, India	UF	Florida Museum of Natural History, University of Florida, Gainesville, USA
MUS	Muzium Sabah, Kota Kinabalu, Malaysia	UMMZ	University of Michigan Museum of Zoology, Ann Arbor, USA
MZB	Museum Zoologicum Bogoriense, Cibinong, Indonesia	UMSB	University Malaysia Sabah, Kota Kinabalu, Malaysia
MZH	Finnish Museum of Natural History, Zoological Museum, University of Helsinki, Helsinki, Finland	USNM	National Museum of Natural History, Washington, USA
MZUF	Museo Zoologico "la Specola", Università di Firenze, Firenze, Italy	VUP	Vinh University of Pedagogy, Vinh, Vietnam
MZUP	Museo Zoologico, Università, Pavia, Italy	WIRI	Watanabe Ichthyological Institute, Tokyo, Japan
MZUT	Museo Zoologico, Università, Torino, Italy	YCM	Yokosuka City Museum, Yokosuka, Japan
NCNTTSI	Aquaculture Research Institute No. 1 [earlier Dinh Bang Fish Research Station], Bac Ninh, Vietnam	YU	Department of Biology, Yunnan University, Kunming, China
NGI	Nanjing Geographical Institute, Academia Sinica, Nanjing, China [see NIG]	ZFMK	Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany
NHMG	Natural History Museum, Göteborg, Sweden	ZISP	Institute of Zoology, Academy of Sciences, St. Petersburg, Russia
NHMS	Natural History Museum, Sofia, Bulgaria	ZMA	Instituut voor Taxonomische Zoölogie, Amsterdam, The Netherlands; now at RMNH
NIFI	National Inland Fisheries Institute, Bangkok, Thailand	ZMB	Zoologisches Museum, Berlin, Germany
NIG	Nanjing Institute of Geography and Limnology, Chinese Academy of Sciences, Nanjing, China	ZMCZ	Department of Biology, Zunyi Medical College, Zhuhai, China
NMC	Canadian Museum of Nature, Ottawa, Canada	ZMFIB	Zoological Museum, Fan Memorial Institute of Biology, Beijing, China; now at ASIZB
NMHW	Museum of Natural History, Wrocław University, Wrocław, Poland	ZMH	Zoologisches Museum und Zoologisches Institut, Hamburg, Germany
NMMB	National Museum of Marine Biology and Aquarium, Pingtung, Taiwan	ZMMU	Zoological Museum, Moscow State University, Moscow, Russia
NMSL	National Museum of Sri Lanka, Colombo, Sri Lanka	ZMNH	Zhejiang Museum of Natural History, Hangzhou, China
NMW	Naturhistorisches Museum, Wien, Austria	ZMT	State Museum of Georgia, Georgian Academy of Sciences, Tbilisi, Georgia
NPIB	Northwest Plateau Institute of Biology, Xining, China	ZMUC	Museum of Zoology, University, Kobenhavn, Denmark
NRIBAS	National Research Institute of Biology, Chinese Academy of Sciences, Nanjing, China	ZMUU	Zoologiska Museet, Uppsala Universitet, Uppsala, Sweden
NRM	Naturhistoriska Riksmuseet, Stockholm, Sweden	ZRC	Raffles Museum of Biodiversity Research, National University of Singapore, Singapore
NSMT	National Science Museum, Tokyo, Japan	ZSI	Zoological Survey of India, Calcutta, India
NTOU	National Taiwan Ocean University, Institute of Marine Biology, Keelung, Taiwan	ZSI/APFS	Arunachal Pradesh Regional Station, ZSI, Itanagar, India
NTUM	Museum of the Department of Zoology, National Taiwan University, Taipei, Taiwan	ZSI/ERS	Eastern Regional Station, ZSI, Shillong, India
PMR	Rijeka Museum of Natural History, Rijeka, Croatia	ZSI/NRS	Northern Regional Station, ZSI, Dehra Dun, India
PRFRI	Pearl River Fisheries Research Institute, Chinese Academy of Fishery Science, Guangzhou, China	ZSI/SRS	Southern Regional Station, ZSI, Madras, India
PUCMF	Pachhunga University College Museum of Fishes, Aizawl, India	ZSI/WGRS	Western Ghat Regional Station, ZSI, Calicut, India
RMNH	Nationaal Natuurhistorisch Museum [earlier Rijksmuseum van Natuurlijke Historie], Leiden, The Netherlands	ZSI/WRC	Western Regional Centre, ZSI, Pune, India
ROM	Royal Ontario Museum, Toronto, Canada	ZSM	Zoologische Staatssammlung, München, Germany
SBC	Sarawak Biodiversity Center, Kuching, Malaysia		



## Family GYRINOCHEILIDAE

### 1 Gyrinocheilidae Gill, 1905

Gyrinocheilidae Gill, 1905: 196 (type genus: *Gyrinocheilus* Vaillant, 1902: 107)

#### 1.1 *Gyrinocheilus* Vaillant, 1902

*Gyrinocheilus* Vaillant, 1902: 107 (type species: *Gyrinocheilus pustulosus* Vaillant, 1902: 111, by monotypy). Gender masculine.

*Gyrinocheilops* Fowler, 1937: 160 (type species: *Gyrinocheilops pennocki* Fowler, 1937: 161, by original designation). Gender masculine.

**Taxonomic notes.** Revision by Roberts & Kottelat (1993).

#### 1.1.1 *Gyrinocheilus aymonieri* (Tirant, 1884)

*Pisilorrhynchus Aymonieri* Tirant, 1884: 167, figs. 1–2 (type locality: Cambodia: tributaries of Prek-Tenot in the hills of Samrong Tong, 75 km from Phnom Penh; holotype: MGHNL 42000056, Kottelat, 1987a: 17, Roberts & Kottelat, 1993: 378, fig. 3b–c; noun in genitive, indeclinable)

*Gyrinocheilus kaznakovi* Berg, 1906a: 306, 365 (type locality: Cambodia: Pailin, between Battambang and Schan-

tabun [Chantaburi, in Thailand]; syntypes: ZISP 11254 [2], Roberts & Kottelat, 1993: 381, fig. 3a; noun in genitive, indeclinable)

*Gyrinocheilus monchadskii* Krasnyukova & Gusev, 1987: 67, fig. 1, pl. 2 (type locality: China: Yunnan: Mekong River near Tchili; holotype: ZISP 48103, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

#### 1.1.2 *Gyrinocheilus pennocki* (Fowler, 1937)

*Gyrinocheilops pennocki* Fowler, 1937: 161, figs. 98–99 (type locality: Thailand: Kemarat; holotype: ANSP 68102, Böhlke, 1984: 112; noun in genitive, indeclinable)

#### 1.1.3 *Gyrinocheilus pustulosus* Vaillant, 1902

*Gyrinocheilus pustulosus* Vaillant, 1902: 111, figs. 30–32, pls. 1–2 (type locality: Indonesia: Borneo: Kalimantan Barat: Kapuas River basin: mouth of Raoen [Raun, 0°39'N 113°10'E], upper Sibau; syntypes: RMNH 7796 [1], 7797 [2], BMNH 1921.7.28.1 [1], Roberts & Kottelat, 1993: 378, Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

## Family BOTIIDAE

### 2 Botiidae Berg, 1940

Botiidae Berg, 1940: 270 (type genus: *Botia* Gray, 1831b: 8) Leptobotiini Nalbant, 2002: 315 (type genus: *Leptobotia* Bleeker, 1870: 256)

#### 2.1. *Ambastaia* Kottelat, 2012

*Ambastaia* Kottelat, 2012: 137 [appendix of present work] (type species: *Botia nigrolineata* Kottelat & Chu, 1987: 395, by original designation). Gender feminine.

#### 2.1.1 *Ambastaia nigrolineata* (Kottelat & Chu, 1987)

*Botia nigrolineata* Kottelat & Chu, 1987: 395, fig. 3 (type locality: China: Yunnan: Xishuangbanna: Menghan, about 21°50'N 100°23'E; holotype: KIZ 735198; misspelt *nigrolineata* p. 395, a type setter error, *Code* art. 32.5.1; adjective, *-us, -a, -um*)

#### 2.1.2 *Ambastaia sidthimunki* (Klausewitz, 1959)

*Botia sidthimunki* Klausewitz, 1959: 51, figs. 1–3 (type locality: brooks of northern Thailand ["Loom district, Yom River"; Eschmeyer & Fricke, 2010, no source stated] [Phetchaburi Province: probably Lom Sak district, 16°46'46"N 101°14'32"E]; holotype: SMF 4505; noun in genitive, indeclinable)

#### 2.2 *Botia* Gray, 1381

*Botia* Gray, 1831b: 8 (type species: *Botia almorhae* Gray, 1831b: 8, by monotypy). Gender feminine.

*Hymenophysa* M'Clelland, 1839: 443 (type species: *Cobitis dario* Hamilton, 1822: 354, by subsequent designation by Jordan, 1919: 195). Gender feminine.

*Diacantha* Swainson, 1839: 190, 310 (subgenus of *Canthophrys* Swainson, 1838: 364; type species: *Canthophrys zebra* Swainson, 1839: 310, by subsequent designation by Swain, 1883: 282; also spelt *Diacanthus* p. 190, first reviser [Eschmeyer, 1990: 123] retained *Diacantha* as correct original spelling). Gender feminine.

*Hymenophysa* Bleeker, 1858: 303 (incorrect subsequent spelling of *Hymenophysa* M'Clelland, 1839: 443, see Kottelat, 2004a: 12)

**Nomenclatural notes.** Bleeker (1858: 303) explicitly listed *Hymenophysa* as a name created by M'Clelland, without explaining the spelling change. Therefore it is not an emendation but an incorrect subsequent spelling (*Code* art. 33.1, 33.3).

Nalbant (2002: 317) used the name *Hymenophysa* for the species here placed in *Syncrossus*. Kottelat (2004a: 12) showed that the name *Hymenophysa* could not be used for these species and that, anyway, *Hymenophysa* being an in-



1.1.1 *Gyrinocheilus aymonieri*, CMK 22815, 80.5 mm SL; Laos: Mekong drainage: Nam Theun.



1.1.1 *Gyrinocheilus aymonieri*, CMK 22799, 128 mm SL.

correct spelling it is not available. Nalbant (2004: 270) claimed that the name in prevailing usage (*Hymenophysa*) should be maintained under *Code art.* 33.3.1. Nalbant interpreted *Hymenophysa* and *Hymenophysa* as two different names and therefore *art.* 33.3.1 is irrelevant since it applies only in cases of alternative spellings of a name, and not in case of alternative names for a taxon.

Even though *Hymenophysa* is not a distinct name but an incorrect subsequent spelling of *Hymenophysa*, *Code art.* 33.3.1 could not be used the way interpreted by Nalbant. This article states that an incorrect subsequent spelling has to be preserved when it is "in prevailing usage and attributed to the publication of the original spelling". Nalbant wished to retain *Hymenophysa* as spelt by Bleeker [supposed prevailing usage], and to use it for the genus called here *Syncrossus*, without attributing it to M'Clelland [original spelling] but to Bleeker (1858). Anyway, even if the spelling *Hymenophysa* had been attributed to M'Clelland, the type species remains *Cobitis dario* and the result remains that *Hymenophysa* is a junior synonym of *Botia* and cannot be used instead of *Syncrossus*. Further, *Hymenophysa* having almost never been used as the valid name of a genus, it is difficult to qualify it as 'prevailing usage'.

### 2.2.1 *Botia almorhae* Gray, 1831

*Botia Almorhae* Gray, 1831b: 8 (type locality: India: Uttarakhand: Almorah; holotype: BMNH 2002.9.18.1, Kullander et al., 1999: 137, Grant, 2007a: fig. 30; noun in genitive, indeclinable)

*Botia grandis* Gray, 1832: vol. 1, pl. 94 fig. 3 (type locality: India: Uttarakhand: Almorah [29°37'12"N 79°40'12"E]; holotype: BMNH 2002.9.18.1; objective junior synonym of *Botia almorhae* Gray, 1831b: 8; adjective, *-is, -is, -e*)

*Schistura maculata* M'Clelland, 1839: 307 (unnecessary replacement name for *Botia grandis* Gray, 1832: vol. 1, pl.



2.1.1. *Ambastaia nigrolineata*; top: CMK16043, 32.8 mm SL; Thailand: Chao Phraya drainage: Nan; bottom: CMK 21861, 65.1 mm SL; Laos: Mekong drainage: Xekong.

94 fig. 3; adjective, *-us, -a, -um*)

*Botia Blythi* Bleeker, 1863a: 39 (type locality: India: Uttarakhand: Almorah [29°37'12"N 79°40'12"E]; syntypes: BMNH 2002.9.18.1 [1], ZSI ?; available by indication to *Schistura grandis* of M'Clelland, 1839: 307, 444 and *Syncrossus grandis* of Blyth, 1860: 165; actually, *C. grandis* of M'Clelland is a new combination of *Botia grandis* Gray, 1832; M'Clelland's description is exclusively based on drawing in Gray, 1832; Blyth's record is based on a specimen from Almorah; noun in genitive, indeclinable)

### 2.2.2 *Botia birdi* Chaudhuri, 1910

*Botia birdi* Chaudhuri, 1910a: 339 (type locality: India: Ambala: Rupa [Rupnagar, 30°57'59"N 76°31'59"E], where Sirhind Canal diverges from Sutlej River, Indus River drainage; syntypes: ZSI F 3578–3580/1 [3], Menon & Yazdani, 1968: 120; noun in genitive, indeclinable)

*Botia javedi* Mirza & Syed, 1995: 379, fig. (type locality: Pakistan: Michni, 34°11'N 71°28'E, about 24 km north of Peshawar, Kabul River system, Indus River drainage; holotype: GCMNH 17F; noun in genitive, indeclinable)

### 2.2.3 *Botia dario* (Hamilton, 1822)

*Cobitis dario* Hamilton, 1822: 354, 394, pl. 29 fig. 95 (type locality: India: "northern rivers of Bengal" [Bangladesh: Dumdumma, Dinajpur District, 25°37'N 88°38'E; Hora, 1935a: 49]; types: NT; noun in apposition, indeclinable)

*Cobitis geto* Hamilton, 1822: 355, 394, pl. 11 fig. 96 (type locality: India: "north-eastern parts of Bengal" [Goalpara; Hora, 1935a: 49]; simultaneous subjective synonym of *Cobitis dario* Hamilton, 1822: 354; first reviser [Günther, 1868: 366] gave precedence to *C. dario*; types: NT; noun in apposition, indeclinable)

*Canthophrys flavicauda* Swainson, 1839: 310 (available by indication to Hamilton, 1822: pl. 29 fig. 95 [which is *Cobitis dario*]; type locality: India: "northern rivers of Bengal" [Bangladesh: Dumdumma, Dinajpur District, 25°37'N 88°38'E; Hora, 1935a: 49]; types: NT; compound noun, indeclinable)

*Canthophrys zebra* Swainson, 1839: 310 (available by indication to Hamilton, 1822: pl. 11 fig. 96 [which is *Cobitis geto*]; type locality: India: "north-eastern parts of Ben-

gal" [Goalpara; Hora, 1935a: 49]; types: NT; noun in apposition, indeclinable)

*Botia macrolineata* Teugels, De Vos & Snoeks, 1986: 188, fig. 2 (type locality: India: reportedly from about 100 km from Bombay; holotype: IRSNB 701; adjective, *-us*, *-a*, *-um*)

#### 2.2.4 *Botia histrionica* Blyth, 1860

*Botia histrionica* Blyth, 1860: 166 (type locality: Burma: Tenasserim; holotype: ZSI F 2634/1, Menon & Yazdani, 1968: 120; adjective, *-us*, *-a*, *-um*)

#### 2.2.5 *Botia kubotai* Kottelat, 2004

*Botia kubotai* Kottelat, 2004a: 2, fig. 1 (type locality: Myanmar: Kayin State [Karen]: stream "Chon Son" between Kyondaw and Phadaw, about 20 km northwest of Payathouzu [Payathonzu] (at border with Thailand), about 15°25'N 98°15'E; holotype: MHNG 2644.24; noun in genitive, indeclinable)

#### 2.2.6 *Botia lohachata* Chaudhuri, 1912

*Botia lohachata* Chaudhuri, 1912: 441, pl. 40 fig. 2 (type locality: India: Bihar: Gandak River in Saran; holotype: ZSI F 8068/1, Menon & Yazdani, 1968: 120; adjective, *-us*, *-a*, *-um*)

#### 2.2.7 *Botia rostrata* Günther, 1868

? *Botia nebulosa* Blyth, 1860: 165 (type locality: India: Darjeeling; holotype: ZSI F 2637/1, Menon & Yazdani, 1968: 120; adjective, *-us*, *-a*, *-um*)

*Botia rostrata* Günther, 1868: 367, fig. (type locality: India: Ganges and Assam; syntypes: BMNH 1855.12.26.694 [1], 1860.3.19.114 [1], Grant, 2007a: figs. 11–12; adjective, *-us*, *-a*, *-um*)

*Botia dayi* Hora, 1932b: 571 (type locality: India: Mahanaddi River [Mahananda, flowing through Siliguri, 26°41'52"N 88°23'34"E] at base of Darjiling [Darjeeling] Himalayas; holotype: ZSI F 11299/1, Menon & Yazdani, 1968: 120; noun in genitive, indeclinable)

**Nomenclatural notes.** *Botia nebulosa* has usually been listed as a synonym of *Acanthocobitis botia* but Blyth (1860: 165) unambiguously described it as a species of *Botia*, with the branched suborbital spine. Grant (2007a: unnumb. p. 16) conjectured that it might be a senior synonym of *B. rostrata*. Assuming they are synonyms, *B. nebulosa* cannot be declared *nomen oblitum* under Code art. 23.9.1 because it has been used (though rarely) as the valid name for a species after 1899 (e.g. Negi, 1994: 156). As long as the identity of *B. nebulosa* is not established by examination of the holotype, *B. rostrata* should be retained as the valid name of the species.

#### 2.2.8 *Botia striata* Narayan Rao, 1920

*Botia striata* Narayan Rao, 1920: 60, pl. 2 fig. 4 (type locality: India: Maharashtra: Thunga River in Shimoga town; holotype: BMNH 1919.11.19.8–12 [1 of 5], Eschmeyer & Fricke, 2010 [specimens listed as syntypes by Menon & Yazdani, 1968: 121 are not syntypes]; adjective, *-us*, *-a*, *-um*)

*Botia striata* var. *kolhapurensis* Kalawar & Kelkar, 1958:

677 (type locality: India: Maharashtra: Kolhapur; syntypes: [LU] 6750; adjective, *-is*, *-is*, *-e*)

#### 2.2.9 *Botia udomritthiruji* Ng, 2007

*Botia udomritthiruji* Ng, 2007: 42, figs. 1–3 (type locality: Myanmar: Taninthayi Division: Tenasserim River drainage in the vicinity of Same, 13°36'N 99°02'E; holotype: UMMZ 248184; noun in genitive, indeclinable)

### 2.3 *Chromobotia* Kottelat, 2004

*Chromobotia* Kottelat, 2004a: 13 (type species: *Cobitis macracanthus* Bleeker, 1852: 603, by original designation). Gender feminine.

#### 2.3.1 *Chromobotia macracanthus* (Bleeker, 1852)

*Cobitis macracanthus* Bleeker, 1852: 603 (type locality: Indonesia: Sumatra: Kwanten River [Kuantan]; lectotype: RMNNH 7058, designated by Alfred, 1961: 34; compound noun, indeclinable)

#### 2.4 *Leptobotia* Bleeker, 1870

*Leptobotia* Bleeker, 1870: 256 (type species: *Botia elongata* Bleeker, 1870: 254, by monotypy). Gender feminine.

### Species inquirendae et incertae sedis

*Nemacheilus cheni* Herre & Lin, 1936: 20, fig. 6 (type locality: upper Tsien Tang; holotype: LU [paratypes [2]: CAS-SU 35257 [1], Böhlke, 1953: 40]; noun in genitive, indeclinable). Apparently a *Leptobotia*.

*Botia variegata* Günther, 1889a: 228 (type locality: China: Sichuan: Yangtze-Kiang, Ichang [Hubei: Ychang, 30°43'N 111°17'N]; syntypes: BMNH 1889.6.25.28–29 [2]; secondary junior homonym of *Cobitis variegata* Dabry de Thiersant, 1872: 191, when treated as valid in *Botia*; also in Günther, 1892: 249; adjective, *-us*, *-a*, *-um*)

#### 2.4.1 *Leptobotia elongata* (Bleeker, 1870)

*Botia elongata* Bleeker, 1870: 254, pl. (type locality: China: Yang-Tse-Kiang [Yangtze]; holotype: MNHN 5930, Bertin & Estève, 1948: 94; adjective, *-us*, *-a*, *-um*)

*Cobitis variegata* Dabry de Thiersant, 1872: 191, pl. 49 fig. 5 (type locality: China: Yetchuen; holotype: MNHN ?; adjective, *-us*, *-a*, *-um*)

*Botia citrauratea* Nichols, 1925a: 5 (type locality: China: Hunan: Tungting Lake; holotype: AMNH 8402; adjective, *-us*, *-a*, *-um*)

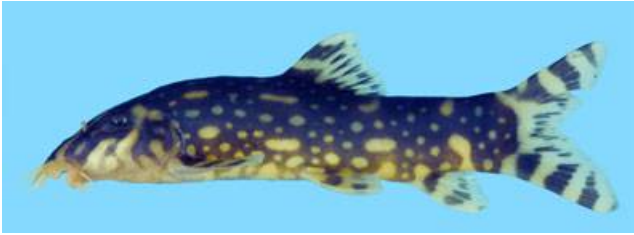
#### 2.4.2 *Leptobotia flavolineata* Wang, 1981

*Leptobotia flavolineata* Wang, 1981: 1, pl. (type locality: China: Beijing: Shidu Fangshan County: Juma River; holotype: BMAM 772196; adjective, *-us*, *-a*, *-um*)

#### 2.4.3 *Leptobotia guilinensis* Chen, 1980

*Leptobotia guilinensis* Chen, 1980: 15, fig. 5 (type locality: China: Guangxi: Guilin; syntypes: IHB 587705, 712, 809, 827, 7541652, 1654–1656, 1705–1707, 1709, 1710, 1712, 2223, 2224 [16]; adjective, *-is*, *-is*, *-e*)





2.2.5 *Botia kubotai*, MHNG 2664.24, 84.9 mm SL, holotype; Myanmar: Ataran drainage.



2.4.7 *Leptobotia pellegrini*, CMK 21967, 71.6 mm SL; Vietnam: Pearl River drainage.



2.3.1 *Chromobotia macracanthus*, CMK 10304, 54.7 mm SL; Indonesia: Borneo: Kapuas drainage.



2.5.4 *Parabotia curtus*, RMNH 28128, 79.7 mm SL; Japan: Osaka.

**2.4.4 *Leptobotia hengyangensis* Huang & Zhang, 1986**

*Leptobotia hengyangensis* Huang & Zhang, 1986: 99 (type locality: China: Hunan: Changjiang River [Xiang-jiang]: Heng-Yang; syntypes: IHB 80037, 80013 [2]; adjective, *-is, -is, -e*)

**2.4.5 *Leptobotia microphthalmalma* Fu & Ye, 1983**

*Leptobotia microphthalmalma* Fu & Ye, 1983: 121, fig. 1 (type locality: China: Sichuan: Leshan County: Min River drainage; syntypes: Dept. Zool. Sichuan Agric. Coll. 6-1040 [1], IHB 6-1118 [1]; compound adjective, *-us, -a, -um*)

**2.4.6 *Leptobotia orientalis* Xu, Fang & Wang, 1981**

*Leptobotia orientalis* Xu, Fang & Wang, 1981: 379, fig. 1 (type locality: China: Shanxi: Danfeng County: Wuguan River; holotype: IZSX 80VI0074; adjective, *-is, -is, -e*)

**2.4.7 *Leptobotia pellegrini* Fang, 1936**

*Leptobotia pellegrini* Fang, 1936: 29 (type locality: China: Sichuan; holotype: NRIBAS 1779; noun in genitive, indeclinable)

**Taxonomic notes.** The species figured as *L. elongata* by Kottelat (2001a: fig. 102) and Nguyen (2005: 206, fig. 103) is apparently *L. pellegrini*.

**2.4.8 *Leptobotia posterodorsalis* Lan & Chen, in Chen & Lan, 1992**

*Leptobotia posterodorsalis* Lan & Chen, in Chen & Lan, 1992: 106, fig. 3 (type locality: China: Guangxi: Huanjiang County; holotype: IHB 87067044; compound noun, indeclinable)

**2.4.9 *Leptobotia punctata* Li, Li & Chen, 2008**

*Leptobotia punctatus* Li, Li & Chen, 2008: 630, fig. 1 (type locality: China: Guangxi. Qianjiang River in Guiping City, 23°24'N 110°24'E; holotype: ASIZB 07 X PRFRI 001; adjective, *-us, -a, -um*)

**2.4.10 *Leptobotia rubrilabris* Dabry de Thiersant, 1872**

*Leptobotia rubrilabris* Dabry de Thiersant, 1872: 191, pl. 49 fig. 8 (type locality: China: Yang-tsee-kiang [Yangtze]; holotype: MNHN 5085, Bertin & Estève, 1948: 84; compound noun, indeclinable)

*Botia pratti* Günther, 1892: 250, pl. 4 fig. A (type locality: China: Sichuan: Kia-tiang-fu, foot of Omie-shan [Omei Shan]; syntypes: BMNH 1891.6.13:35–37 [3], Fang, 1936: 43; noun in genitive, indeclinable)

*Botia fangi* Tchang, 1930: 51, fig. 5 (type locality: China: Sichuan; holotype: LU or possibly MNHN [paratype: MNHN 1934.174, Bertin & Estève, 1948: 94]; noun in genitive, indeclinable)

**2.4.11 *Leptobotia taeniops* (Sauvage, 1878)**

*Cobitis Cha-ny* Dabry de Thiersant, 1872: 191, pl. 49 fig. 9 (name not binominal, not available; locality: China: "rivière de Kouei-tcheou-fou (Sse-tchuen)" [Sichuan: river of Kweichow-fu = river of Guizhou-fu [Guiyang]; this apparently means "in Sichuan, in river that flows from Guiyang", i.e. Nanning He, which becomes Wu Jiang])

*Parabotia taeniops* Sauvage, 1878a: 90 (type locality: China: Yang-tse-kiang [Yangtze]; holotype: MNHN 5086, Bertin & Estève, 1948: 84; compound noun, indeclinable)

*Leptobotia purpurea* Nichols, 1925a: 4, fig. 3 (type locality: China: Hunan: Huping, Tungting Lake; holotype: AMNH 8401; adjective, *-us, -a, -um*)

**2.4.12 *Leptobotia tchangii* Fang, 1936**

*Leptobotia tchangii* Fang, 1936: 40 (type locality: China: Zhejiang: Hsia-chiao-kou near West Tien-mu-shan; holotype: "West Lake Museum" [? paratype: MNHN 1934.175, Bertin & Estève, 1948: 94]; noun in genitive, indeclinable)

**2.4.13 *Leptobotia tientainensis* (Wu, 1930)**

*Botia tientainensis* Wu, 1930: 258, fig. 3 (type locality: China: Tche-kiang: brook in Tien-Tai hill; holotype: MNHN 1934.176, Bertin & Estève, 1948: 84; adjective, *-is, -is, -e*)

*Botia compressicauda* Nichols, 1931c: 2 (type locality: China: northwestern Fukien [Fujian]: Chungan Hsien [Chong'an County]; holotype: AMNH 9682; compound noun, indeclinable)

*Leptobotia tientaiensis hansuiensis* Fang & Hsu, 1980: 265, fig. 1 (type locality: China: Shaanxi: Langao; holotype: IZSX 790236; adjective, *-is, -is, -e*)

## 2.5 *Parabotia* Dabry de Thiersant, 1872

*Parabotia* Dabry de Thiersant, 1872: 191 (type species: *Parabotia fasciatus* Dabry de Thiersant, 1872: 191, by subsequent designation by Fang, 1936: 4). Gender masculine [*Code art. 30.2.3*].

**Nomenclatural notes.** Dabry de Thiersant (1872: 191) did not indicate the gender of the genus *Parabotia* when he created it. As *Parabotia* is not and does not end with a Latin, Greek or Western European word (*Code art. 30.2.1*), its gender is determined by that of adjectival species-group names originally included. Two nominal species were originally included, *P. fasciatus* and *P. rubrilabris*. *Rubrilabris* is a noun in apposition and therefore uninformative. *Fasciatus* is an adjective with a masculine declension, therefore the gender of *Parabotia* is masculine. This is unfortunate, since all other genus names ending in *-botia* are feminine, but it cannot be changed.

### 2.5.1 *Parabotia banarescui* (Nalbant, 1965)

*Leptobotia banarescui* Nalbant, 1965: 2, fig. 4 (type locality: China: Hupeh: Yangtze at Wuchang [Wuhan]; holotype: ISBB 1332; noun in genitive, indeclinable)

### 2.5.2 *Parabotia bimaculatus* Chen, 1980

*Parabotia bimaculata* Chen, 1980: 11, fig. 3 (type locality: China: Sichuan: Lu-Xian; syntypes: IHB 58426, 58530, 58532–536, 585243, 585244, 584284, 583023, 583029, 583053, 583057 [13]; adjective, *-us, -a, -um*)

### 2.5.3 *Parabotia brevirostris* Zhu & Zhu, 2012

*Parabotia brevirostris* Zhu & Zhu, 2012: 448, fig. 1 (type locality: China: Guangxi: Du'an County: Hongshui river, Pearl River drainage; holotype: FLFS 2008005; compound noun, indeclinable)

### 2.5.4 *Parabotia curtus* (Temminck & Schlegel, 1846)

*Cobitis curta* Temminck & Schlegel, 1846: 223, pl. 103 fig. 4 (type locality: Japan [surroundings of Nagasaki]; holotype: RMNH 2708, Boeseman, 1947: 167; adjective, *-us, -a, -um*)

### 2.5.5 *Parabotia dubius* Kottelat, 2001

*Botia elongata* Mai, 1978: 240, fig. 110 (type locality: northern Vietnam: Chay River, Thac Ba reservoir; holotype: DVZUT; junior primary homonym of *Botia elongata* Bleeker, 1870: 254; adjective, *-us, -a, -um*)

*Parabotia dubia* Kottelat, 2001a: 50 (replacement name for *Botia elongata* Mai, 1978: 240; adjective, *-us, -a, -um*)

? *Parabotia kimluani* Nguyen, 2005: 553, fig. 5 (type locality: Vietnam: Tuyen Quang Province: Na Hang district: Gam River; holotype: NCNTTSI; etymology unknown, either noun in genitive or in apposition, both indeclinable)

? *Parabotia vacuongi* Nguyen, 2005: 555, fig. 6 (type locality: Vietnam: Tuyen Quang Province: Na Hang district:

Gam River; holotype: NCNTTSI; subjective simultaneous synonym of *Parabotia kimluani* Nguyen, 2005: 553; as first reviser, I give precedence to *Parabotia kimluani*; also spelt *vacuongi* p. 686, as first reviser I select *vacuongi* as the correct original spelling; etymology unknown, either noun in genitive or in apposition, both indeclinable)

### 2.5.6 *Parabotia fasciatus* Dabry de Thiersant, 1872

*Parabotia fasciatus* Dabry de Thiersant, 1872: 191, pl. 49 fig. 7 (type locality: China: Yang-tsee-kiang [Yangtze]; holotype: MNHN 5088, Bertin & Estève, 1948: 92; adjective, *-us, -a, -um*)

*Nemachilus xanthi* Günther, 1888: 434 (type locality: China: Sichuan: Yangtze-Kiang at Ichang [Hubei: Ychang, 30°43'N 111°17'N]; holotype: BMNH 1888.5.15.43; noun in genitive or in apposition, indeclinable)

*Botia multifasciata* Regan, 1905c: 389, pl. 5 fig. 3 (type locality: China [Tung-Kung, east of Guangdong, on East River; Mahner, 1976: 473]; holotype: MHNG 677.98, Mahner, 1976: 473; adjective, *-us, -a, -um*)

*Leptobotia intermedia* Mori, 1929: 384 (type locality: China: Tsi-nan; holotype: LU; adjective, *-us, -a, -um*)

*Leptobotia hopeiensis* Shaw & Tchang, 1931: 70, fig. 3 (type locality: China: Shao-ho, about 60 li [then about 25 km] north of Beijing; holotype: ZMFIB 5378; adjective, *-is, -is, -e*)

*Leptobotia kudoii* Mori, 1933: 13, fig. (type locality: China: Manchuria [now in Jilin Province]: Sungari River near Kirin [Jilin City]; holotype: LU; noun in genitive, indeclinable)

*Botia kwangsiensis* Fang, 1936: 13 (type locality: China: Guangxi: Ling-yüing-shien / Nan-gning / Pai-Sê; syntypes: NRIBAS 780, 808, 821–824, 907–909, 1085, 1188–1189 [13 ?], MNHN 1940.142, AMNH 12971 [ex NRIBAS 1084], Bertin & Estève, 1948: 92, Eschmeyer & Fricke, 2010; adjective, *-is, -is, -e*)

*Botia wui* Chang, 1944: 48, fig. 2 (type locality: China: Sichuan: Loshan in Min River drainage; syntypes [2]: [LU] 2134 [1], 2135 [1]; noun in genitive, indeclinable)

### 2.5.7 *Parabotia heterocheilus* Zhu & Chen, in Ni & Wu, 2006

*Parabotia heterocheila* Zhu & Chen, in Ni & Wu, 2006: 383, fig. 180 (type locality: China: Jiangsu: Nanjing Municipality: Xi Jiang stream near its mouth, a small tributary of Chiang Jiang River, at Jiangpu; holotype: FFRIJ 200211001; compound adjective, *-us, -a, -um*)

### 2.5.8 *Parabotia kiangsiensis* Liu & Guo, 1986

*Parabotia kiangsiensis* Liu & Guo, 1986: 69, fig. 1 (type locality: China: Jiangxi: Sin River; syntypes: Department of Biology, Jiangxi University 815181, 815326, 840512, 840513 [4]; syntypes because listed as 2 holotypes and 2 paratypes; also spelt *kiangensis* on p. 70, an obvious inadvertent error, thus incorrect original spelling [*Code art. 32.5.1*]; adjective, *-is, -is, -e*)

### 2.5.9 *Parabotia lijiangensis* Chen, 1980

*Parabotia lijiangensis* Chen, 1980: 11, fig. 2 (type locality:



China: Guangxi: Guilin: syntypes: IHB 587746, 780, 782, 802, 806, 751V2263, 2264, 2258 [8]; adjective, *-is, -is, -e*)

#### 2.5.10 *Parabotia maculosus* (Wu, 1939)

*Botia maculosa* Wu, 1939: 121, pl. 3 fig. 6 (type locality: China: Guangxi: Li-Kiang in Yongso; syntypes: [LU] 271–272 [2]; adjective, *-us, -a, -um*)

#### 2.5.11 *Parabotia mantschuricus* (Berg, 1907)

*Leptobotia mantschurica* Berg, 1907b: 420 (type locality: China: Heilongjiang: Mutang-kiang [Mudan Jiang River] near E-ho, a tributary of Sungari River [Songhua Jiang], Amur drainage; syntypes: ZISP 14085 [2]; adjective, *-us, -a, -um*)

#### 2.5.12 *Parabotia parvus* Chen, 1980

*Parabotia parva* Chen, 1980: 12, fig. 4 (type locality: China: Guangxi: Bopai [? Bobai, 22°13'00"N 109°55'00"E]; syntypes: IHB 75V3614, 3616–3623, 3625–3632, 3634–3637 [21]; adjective, *-us, -a, -um*)

### 2.6 *Sinibotia* Fang, 1936

*Sinibotia* Fang, 1936: 19 (subgenus of *Botia* Gray, 1831b: 8; type species: *Botia superciliaris* Günther, 1892: 250, by original designation). Gender feminine.

#### 2.6.1 *Sinibotia longiventralis* (Yang & Chen, 1992)

*Botia longiventralis* Yang & Chen, 1992: 344, fig. 3 (type locality: China: Yunnan: Weixi County: small stream and Lancangjiang [Mekong] near Baijixun [27°21'N 99°06'E]; holotype: KIZ 748660; compound noun, indeclinable)

#### 2.6.2 *Sinibotia pulchra* (Wu, 1939)

*Botia pulchra* Wu, 1939: 124, pl. 2 fig. 4 (type locality: China: Guangxi: Li-Kiang at Yangso; syntypes: LU, 405–406 [2]; adjective, *-er, -ra, -rum*)

*Botia gigantea* Mai, 1978: 239, fig. 109 (type locality: northern Vietnam; types: DVZUT; adjective, *-us, -a, -um*)

#### 2.6.3 *Sinibotia reevesae* (Chang, 1944)

*Botia reevesae* Chang, 1944: 49 (type locality: China: Sichuan: Yaotan at Wachang, Luhsien; syntypes: LU, 3028, 3031, 3051, 3065 [4]; noun in genitive, indeclinable)

#### 2.6.4 *Sinibotia robusta* (Wu, 1939)

*Botia robusta* Wu, 1939: 122, pl. 2 fig. 5 (type locality: China: Guangxi: Li-Kiang at Yangso; syntypes: LU, 278–285 [8]; adjective, *-us, -a, -um*)

*Botia hexafurca* Mai, 1978: 238, fig. 108 (type locality: northern Vietnam: Tay Giang basin; types: DVZUT; compound noun, indeclinable)

#### 2.6.5 *Sinibotia superciliaris* (Günther, 1892)

*Botia superciliaris* Günther, 1892: 250, pl. 4 fig. B (type locality: China: Sichuan: Kia-tiang-fu, foot of Omie-shan [Omei Shan]; syntypes: BMNH 1891.6.13.30–34 [5], Eschmeyer & Fricke, 2010; compound noun, indeclinable)

#### 2.6.6 *Sinibotia zebra* (Wu, 1939)

*Botia zebra* Wu, 1939: 126, pl. 3 fig. 9 (type locality: China: Guangxi: Li-Kiang at Yangso; holotype: LU, 407; noun in apposition, indeclinable)

**Taxonomic notes.** Generic placement follows Tang et al. (2008).

### 2.7 *Syncrossus* Blyth, 1860

*Syncrossus* Blyth, 1860: 166 (type species: *Syncrossus berdmorei* Blyth, 1860: 166, by subsequent designation by Jordan & Fowler, 1903: 772 ["*Schistura grandis* apud McClelland" qualifies as a deliberate application of a previous (mis)identification, *Code art. 67.2.1*, and therefore two species are included; *Cobitis* (*Schistura*) *grandis* in McClelland, 1839: 307, 444 in fact is a new combination of *Botia grandis* Gray, 1832: vol. 1, pl. 94 fig. 3; "apud" means "in an author"). Gender masculine.

**Nomenclatural notes.** See under *Botia* Gray, 1831 for discussion of *Hymenophysa* McClelland, 1839 and *Hymenophysa* Bleeker, 1858, erroneously used for the present genus.

#### 2.7.1 *Syncrossus beauforti* (Smith, 1931)

*Botia beauforti* Smith, 1931: 2, fig. 1 (type locality: Thailand: Nakon Sritamarat Province: Tadi Stream at Ban Kiriwong; holotype: USNM 90285; noun in genitive, indeclinable)

#### 2.7.2 *Syncrossus berdmorei* Blyth, 1860

*Syncrossus Berdmorei* Blyth, 1860: 166 (type locality: Burma: Tenasserim provinces; syntypes: ZSI F 2636/1 [4], Menon & Yazdani, 1968: 120; noun in genitive, indeclinable)

#### 2.7.3 *Syncrossus helodes* (Sauvage, 1876)

*Botia helodes* Sauvage, 1876: 99 (type locality: Cambodia: Tma-Kré; holotype: MNHN 8595, Kottelat, 1984a: 807; noun in apposition, indeclinable)

#### 2.7.4 *Syncrossus hymenophysa* (Bleeker, 1852)

*Cobitis hymenophysa* Bleeker, 1852: 602 (type locality: Indonesia: Sumatra: Palembang; holotype: RMNH 7059, Alfred, 1961: 33; compound noun, indeclinable)

*Hymenophysa MacClellandi* Bleeker, 1859a: 358 (unnecessary replacement name for *Cobitis hymenophysa* Bleeker, 1852: 602; material listed as types by Fricke, 1991: 12 has no type status; noun in genitive, indeclinable)

#### 2.7.5 *Syncrossus lucasbahi* (Fowler, 1937)

*Botia lucas-bahi* Fowler, 1937: 154, fig. 70 (type locality: Thailand: Tachin [Tha Chin, Samut Sakhon; 13°32'22"N 100°15'20"E]; holotype: ANSP 68005, Grant, 2007b: fig. 80; noun in genitive, indeclinable)

*Botia Beauforti* var. *formosa* Pellegrin & Fang, 1940: 119, fig. 5 (type locality: Laos: Ban Nam Khueng, 30 km northwest of Ban Houei Sai, about 6 km from Mekong; syntypes: MNHN 1939.218–220 [5]; adjective, *-us, -a, -um*)

*Botia yunnanensis* Chen, 1980: 6, fig. 1 (type locality: China: Yunnan: Jinghong; holotype: IHB 638040, Grant, 2007b: fig. 84; adjective, *-is, -is, -e*)



**2.6.4** *Sinibotia robusta*, CMK10824, 66.3 mm SL; China: aquarium-fish trade.



**2.7.2** *Syncrossus berdmorei*, CMK 18421, 111 mm SL; Myanmar: Ataran drainage.

**2.7.6** *Syncrossus reversus* (Roberts, 1989)

*Botia reversa* Roberts, 1989: 102, fig. 76 (type locality: Indonesia: Borneo: Kalimantan Barat: Sungei Pinoh, 37 km south of Nangapinoh; MZB 3521; adjective, *-us*, *-a*, *-um*)

**2.8** *Yasuhikotakia* Nalbant, 2002

*Yasuhikotakia* Nalbant, 2002: 317 (type species: *Botia modesta* Bleeker, 1864c: 11, by original designation). Gender feminine.

**2.8.1** *Yasuhikotakia caudipunctata* (Taki & Doi, 1995)

*Botia caudipunctata* Taki & Doi, 1995: 150, fig. 3 (type locality: Laos: Mekong River at Hatsalao, near Pakse; holotype: NSMT P 35935; adjective, *-us*, *-a*, *-um*)

**2.8.2** *Yasuhikotakia eos* (Taki, 1972)

*Botia eos* Taki, 1972: 66, fig. 1 (type locality: Laos: Nam Ngum at mouth of Nam Khon at Tha Ngon, about 22 km north of Vientiane; holotype: NSMT P 14537; noun in apposition, indeclinable)

**2.8.3** *Yasuhikotakia lecontei* (Fowler, 1937)

*Botia lecontei* Fowler, 1937: 156, figs. 71–74 (type locality: Thailand: Kemarat; holotype: ANSP 68006; noun in genitive, indeclinable)

? *Botia pulchripinnis* Paysan, 1970: 156, pl. 13 fig. 10 (type locality: "Southeast Asia" [aquarium material imported from Thailand]; syntypes: at least the specimen on which the figure is based, not preserved; compound noun, indeclinable)

**2.8.4** *Yasuhikotakia longidorsalis* (Taki & Doi, 1995)

*Botia longidorsalis* Taki & Doi, 1995: 148, fig. 1 (type locality: Laos: Mekong River at Hatsalao, near Pakse; holotype: NSMT P 35940; compound noun, indeclinable)



**2.8.2** *Yasuhikotakia eos*, CMK 17124, 57.7 mm SL; Laos: Mekong drainage: Xe Bangfai.



**2.8.2** *Yasuhikotakia eos*, CMK 23084, 88.9 mm SL.

**2.8.5** *Yasuhikotakia modesta* (Bleeker, 1864)

*Botia modesta* Bleeker, 1864c: 11 (type locality: Thailand: Ayuthaya; syntypes: MNHN 1851 [7], Bertin & Estève, 1948: 91; figured in Bleeker, 1870: pl.; adjective, *-us*, *-a*, *-um*)

*Botia rubripinnis* Sauvage, 1876: 100 (type locality: Cambodia: Phnom Penh; lectotype: MNHN 9545, designated by Kottelat, 1984a: 809; compound noun, indeclinable)

**2.8.6** *Yasuhikotakia morleti* (Tirant, 1885)

*Botia Morleti* Tirant, 1885: 155 [1929: 133] (type locality: Vietnam: Thu-dau-mot; syntypes: MGHNL [lost, Kottelat, 1987a: 17]; named for malacologist L.-J. Morlet, not to be confused with P.-A. Morelet, see Crosse, 1893: 75, 78; noun in genitive, indeclinable)

*Botia horae* Smith, 1931: 4, fig. 2 (type locality: Thailand: Kanchanaburi Province: "west fork (Kwe Noi) of the Meklong" [Kwai Noi River]; holotype: USNM 90286; Hora is treated as a Latinized name and *horae* is correct original spelling [Code art. 31.1.1 and Example]; noun in genitive, indeclinable)

**2.8.7** *Yasuhikotakia splendida* (Roberts, 1995)

*Botia splendida* Roberts, 1995: 463, figs. 1–2 (type locality: Laos: Attapu Province: Xe Pian 5–6 km upstream from Ban Hin Lat and 1 km downstream from Se Pa waterfall, 14°45'10"N 106°27'50"E; holotype: ZRC 39215; adjective, *-us*, *-a*, *-um*)



**3.1.1** *Vaillantella cinnamomea*, CMK 21831, 68.3 mm SL; Indonesia: Borneo: Mahakam drainage.



**4.1.1** *Acanthopsoides delphax*, CMK 16178, 56.5 mm SL; Thailand: Salween drainage: Mae Hon Son.



**4.2.3** *Acantopsis spectabilis*, CMK 14683, 146 mm SL; Thailand: Salween drainage: Mae Nam Moei.



**4.2** *Acantopsis* sp., CMK 23079, 88.4 mm SL; Laos: Mekong drainage: Xe Bangfai.

## Family VAILLANTELLIDAE

### 3 Vaillantellidae Nalbant & Banărescu, 1977

Vaillantellinae Nalbant & Bănărescu, 1977: 100 (type genus: *Vaillantella* Fowler, 1905a: 474)

#### 3.1 *Vaillantella* Fowler, 1905

*Vaillantella* Fowler, 1905a: 474 (type species: *Nemacheilus euepipterus* Vaillant, 1902: 137, by original designation). Gender feminine.

##### 3.1.1 *Vaillantella cinnamomea* Kottelat

*Vaillantella cinnamomea* Kottelat, 1994a: 428, fig. 1 (type locality: Indonesia: Borneo: Kalimantan Timur: Mahakam drainage: Sungei Behernas, a blackwater tributary of Mahakam River immediately upriver of Merimun, 0°05'S 115°47'E; holotype: MZB 5893; adjective, *-us*, *-a*, *-um*)

##### 3.1.2 *Vaillantella euepiptera* (Vaillant, 1902)

*Nemacheilus euepipterus* Vaillant, 1902: 137, fig. 41 (type locality: Indonesia: Borneo: Kalimantan Barat: Pontianak; lectotype: RMNH 7781, designated by Nalbant & Bănărescu, 1977: 101; compound adjective, *-us*, *-a*, *-um*)

##### 3.1.3 *Vaillantella maassi* Weber & de Beaufort, 1912

*Vaillantella Maassi* Weber & de Beaufort, 1912: 532, pl. 12 fig. 2 (type locality: Indonesia: Sumatra: Gunung Sahilan on Kampar Kiri; holotype: ZMA 100.993 Nijssen et al., 1993: 216; noun in genitive, indeclinable)

*Vaillantella flavofasciata* Tweedie, 1956: 59, pl. 6 fig. b (type locality: Malaysia: Pahang: King George V National Park [Taman Negara], Tahan River near Kuala Tahan; holotype: BMNH 1957.1.23.4; adjective, *-us*, *-a*, *-um*)

## Family COBITIDAE

### 4 Cobitidae Swainson, 1838

Cobitidae Swainson, 1838: 360 (type genus: *Cobitis* Linnaeus, 1758: 303; correct spelling confirmed by ICZN, 1988: 178 [Opinion 1500]). See Steyskal (1980: 170) for grammatically correct (but nomenclaturally incorrect) spelling of the name.

*Acanthopsides* Heckel & Kner, 1858: 296 (type genus: *Acanthopsis* Agassiz, 1832: 134, not *Acantopsis* van Hasselt, 1823: 133)

Misgurninae Fowler, 1905a: 474 (type genus: *Misgurnus* La Cèpède, 1803: 16)

#### 4.1 *Acanthopsoides* Fowler, 1934

*Acanthopsoides* Fowler, 1934: 103 (type species: *Acanthopsoides gracilis* Fowler, 1934: 103, by original designation). Gender masculine.

*Neacanthopsis* Smith, 1945: 297 (type species: *Neacanthopsis gracilentus* Smith, 1945: 297, by original designation). Gender feminine.

##### 4.1.1 *Acanthopsoides delphax* Siebert, 1991

*Acanthopsoides delphax* Siebert, 1991a: 105, fig. 6 (type locality: Thailand: Salween River at Mae Sahn [Mae



Sahm Leap], west of Mae Sariang; holotype: USNM 229043; noun in apposition, indeclinable)

#### 4.1.2 *Acanthopoides gracilentus* (Smith, 1945)

*Neacanthopsis gracilentus* Smith, 1945: 297, fig. 61 (type locality: Thailand: Mae Ping River, north of Chiang Mai; holotype: USNM 107952; adjective, *-us, -a, -um*)

*Acanthopoides namromensis* Nguyen, 2005: 559, fig. 8 (type locality: Vietnam: Dien Bien Province: Mekong drainage: Nam Rom River; holotype: NCNTTSI; adjective, *-is, -is, -e*)

#### 4.1.3 *Acanthopoides gracilis* Fowler, 1934

*Acanthopoides gracilis* Fowler, 1934: 103, fig. 55 (type locality: Thailand: Chiang Mai; holotype: ANSP 56999; adjective, *-is, -is, -e*)

#### 4.1.4 *Acanthopoides hapalias* Siebert, 1991

*Acanthopoides hapalias* Siebert, 1991a: 106, fig. 7 (type species: Thailand: Nakhon Ratchasima Province: Mekong basin: Mae Nam Mun about 2 km downstream from Phimai, 15°14'N 102°31'E; holotype: USNM 271723; noun in apposition, indeclinable)

#### 4.1.5 *Acanthopoides molobrion* Siebert, 1991

*Acanthopoides molobrion* Siebert, 1991a: 107, fig. 8 (type locality: Indonesia: Borneo: Kalimantan Timur: Boh River; holotype: RMNH 31273; noun in apposition, indeclinable)

#### 4.1.6 *Acanthopoides robertsi* Siebert, 1991

*Acanthopoides robertsi* Siebert, 1991a: 109, fig. 10 (type locality: Indonesia: Borneo: Kalimantan Barat: small oxbow off Kapuas River opposite Empangau, 124 km northeast of Sintang; 0°44'N 112°23'E; holotype: CAS 49345; noun in genitive, indeclinable)

### 4.2 *Acantopsis* van Hasselt, 1823

*Acantopsis* van Hasselt, 1823: 133 (type species: *Acantopsis dialuzona* van Hasselt, 1823: 133, by monotypy). Gender feminine.

*Acantopsis* van Hasselt, 1824: 376, 377 (incorrect subsequent spelling of *Acantopsis* van Hasselt, 1823: 133)

? *Aperioptus* Richardson, 1848: 27 (type species: *Aperioptus pictorius* Richardson, 1848: 27, by monotypy). Gender masculine.

*Prostheacanthus* Blyth, 1860: 167 (type species: *Prostheacanthus spectabilis* Blyth, 1860: 167, by monotypy). Gender masculine.

#### 4.2.1 *Acantopsis dialuzona* van Hasselt, 1823

*Acantopsis Dialuzona* van Hasselt, 1823: 133 (type locality: Indonesia: Java: Batavia [Jakarta]; syntypes: RMNH 2707 [1]; unpublished van Hasselt's figure reproduced in Roberts, 1993: fig. 25; compound noun, indeclinable)

? *Aperioptus pictorius* Richardson, 1848: 27, pl. 10 fig. 4 (type locality: Borneo; syntypes [2]: lost; adjective, *-us, -a, -um*)

*Acantopsis biaculeata* Rüppell, 1852: 28 (nomen nudum)

*Cobitis choirorhynchos* Bleeker, 1854b: 95 (type locality: Indonesia: Sumatra: Palembang: at confluence of Lamatang and Enim Rivers; lectotype: RMNH 4977, designated by Alfred, 1961: 33; compound noun, indeclinable)

*Cobitis macrorhynchos* Bleeker, 1854b: 95 (unnecessary replacement name for *Acantopsis dialuzona* van Hasselt, 1823: 133 [lectotype designation by Alfred, 1961: 34, is invalid as this is a replacement name and not a new name]; compound noun, indeclinable)

#### 4.2.2 *Acantopsis octoactinotos* Siebert, 1991

*Acantopsis octoactinotos* Siebert, 1991b: 910, fig. 2 (type locality: Malaysia: Borneo: Sabah: Kinabatangan District: tributary of Kinabatangan River in lowlands near Sungei Deramakot, approx. 5°18'N 117°33'E; holotype: FMNH 68148; compound noun, indeclinable)

#### 4.2.3 *Acantopsis spectabilis* (Blyth, 1860)

*Prostheacanthus spectabilis* Blyth, 1860: 167 (type locality: Burma: Tenasserim provinces; types: ? ZSI; adjective, *-is, -is, -e*)

? *Acantopsis multistigmatus* Vishwanath & Laisram, 2005: 433, fig. 1 (type locality: India: Manipur: Chindwin drainage: Lokchao stream, a tributary of Yu River; holotype: MUMF 3044; also spelt *mu/tistigmatus* p. 435, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; adjective, *-us, -a, -um*)

#### 4.2.4 *Acantopsis thiemmedhi* Sontirat, 1999

*Acantopsis thiemmedhi* Sontirat, 1997: 99 (not available, name published in meeting material, Code art. 9.9)

*Acantopsis thiemmedhi* Sontirat, 1999: 66, fig. 1 (type locality: Thailand: Uthaitхани Province: Amphoe Lan Sak: Huey Kha Khaeng Wildlife Sanctuary, Huey Nam Khoon; holotype: KUMF 3131; noun in genitive, indeclinable)

### 4.3 *Bibarba* Chen & Chen, 2007

*Bibarba* Chen & Chen, 2007: 105 (type species: *Bibarba bibarba* Chen & Chen, 2007: 105, by original designation). Gender feminine.

#### 4.3.1 *Bibarba bibarba* Chen & Chen, 2007

*Bibarba bibarba* Chen & Chen, 2007: 105, fig. A-B (type locality: China: Guangxi: Du'an County (23°55'–56'N 108°06'E): Chengjiang River, tributary of Hongshuihe River, upper reaches of Pearl River; holotype: IHB 87024411; compound noun, indeclinable)

### 4.4 *Canthophrys* Swainson, 1838

*Canthophrys* Swainson, 1838: 364 (type species *Canthophrys albescens* Swainson, 1839: 310, by subsequent designation by Swain, 1882: 282; no species originally included, first inclusion by Swainson, 1839: 190, 310). Gender feminine.

*Somileptus* Swainson, 1839: 190, 311 (as subgenus of *Canthophrys* Swainson, 1839: 364; type species: *Somileptus bispinosa* Swainson, 1838: 311, by subsequent designation by Bleeker, 1863a: 36, 1863c: 3; also spelt *Somi-*

*leptes* on p. 311, first reviser [Nalbant, 1963: 364] gave precedence to *Somileptus*, see Kottelat, 1998c: 118). Gender masculine.

#### 4.4.1 *Canthophrys gongota* (Hamilton, 1822)

*Cobitis gongota* Hamilton, 1822: 351, 394 (type locality: India: "rivers of Northern Bengal towards the mountains" [Bangladesh: Patgong, Rangpur District, 25°45'N 89°15'E; Hora, 1935a: 49]; types: lost; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 1; noun in apposition, indeclinable)

*Cobitis cucura* Hamilton, 1822: 352, 394 (type locality: India: Kosi River [at Nathpur near the Nepal frontier; Hora, 1935a: 49]; types: lost; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 2; simultaneous subjective synonym of *Cobitis gongota* Hamilton, 1822: 351, first reviser [apparently Günther, 1868: 363] gave precedence to *C. gongota*; noun in apposition, indeclinable)

*Cobitis oculata* M'Clelland, 1839: 303, 433, pl. 51 fig. 1 (type locality: India: Upper Assam / northern parts of Bengal near the foot of the mountains; syntypes: SMF 412 [4], 8979 [1], Eschmeyer & Fricke, 2010 [plus basis of *Cobitis gongota* Hamilton, 1822: 351]; adjective, *-us*, *-a*, *-um*)

*Canthophrys albescens* Swainson, 1839: 310 (available by indication to Hamilton, 1822: "Cob. No. 3" [which is *Cobitis cucura*]; type locality: India: Kosi River [at Nathpur near the Nepal frontier; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 2; participle, indeclinable)

*Somileptes bispinosa* Swainson, 1839: 311 (available by indication to Hamilton, 1822: 351 [which is *Cobitis gongota*]; type locality: India: "rivers of Northern Bengal towards the mountains" [Bangladesh: Patgong, Rangpur District, 25°45'N 89°15'E; Hora, 1935a: 49]; types: lost; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 1; adjective, *-us*, *-a*, *-um*)

? *Cobitis amnicola* Valenciennes, in Cuvier & Valenciennes, 1846: 68 (type locality: India: Bengal; syntypes: MNHN B.2171 [3], Spillmann, 1962: 587; noun in apposition, indeclinable)

#### 4.5 *Cobitis* Linnaeus, 1758

*Cobitis* Linnaeus, 1758: 303 (type species: *Cobitis taenia* Linnaeus, 1758: 303, designated by ICZN, 1988 [Opinion 1500]). Gender feminine.

*Acantophthalmus* van Hasselt, 1823: 132 (type species: *Cobitis taenia* Linnaeus, 1758: 303, by monotypy [see Kottelat, 1987b: 371]; on Official Index of Rejected Names, ICZN, 1988: 178 [Opinion 1500]). Gender masculine.

*Acanthophthalmus* van Hasselt, 1824: 377 (incorrect subsequent spelling of *Acantophthalmus* van Hasselt, 1823: 132; on Official Index of Rejected Names, ICZN, 1992b: 248 [Opinion 1695])

? *Acanthopsis* Agassiz, 1832: 134 (type species: *Acanthopsis angustus* Agassiz, 1835: vol. 5, pl. 50 fig. 2, by subsequent monotypy in Agassiz, 1835: pl. 50; not a junior homonym of *Acanthopsis* van Hasselt, 1824: 377, which

is an incorrect subsequent spelling of *Acantopsis* van Hasselt, 1823: 133, thus does not enter into homonymy [Code art. 33.3]; based on a fossil species, possibly not a cobitid (Kottelat, 1987b: 372)). Gender feminine.

*Cobitinula* Hankó, 1924: 152 (type species: *Cobitinula anatoliae* Hankó, 1924: 152, by monotypy). Gender feminine.

*Acanestrinia* Băcescu, 1962b: 435 (subgenus of *Cobitis* Linnaeus, 1758: 303; type species: *Cobitis elongata* Heckel & Kner, 1858: 305, by original designation). Gender feminine.

*Bicanestrinia* Băcescu, 1962b: 436 (subgenus of *Cobitis* Linnaeus, 1758: 303; type species: *Cobitis simplicispina* Hankó, 1924: 153, by original designation). Gender feminine.

*Iberocobitis* Băcescu, 1962b: 438 (subgenus of *Cobitis* Linnaeus, 1758: 303; type species: *Acanthopsis taenia paludica* de Buen, 1930: 34, by original designation). Gender feminine.

*Beyshehiria* Erk'akan, Atalay-Ekmekçi & Nalbant, 1999: 20 (subgenus of *Cobitis* Linnaeus, 1758: 303; type species: *Cobitis bilseli* Battalgil, 1942: 292, by original designation). Gender feminine.

**Taxonomic notes.** *Cobitis* is obviously a polyphyletic genus. Several chromosome and molecular studies (e.g. Šlechťová et al., 2008; Kitagawa et al., 2011; Perdices et al., 2012) show a very complex situation and future research will certainly result in important changes in the taxonomy of *Cobitis* and the related genera (*Iksookimia*, *Niwaella*, *Kichulchoia*, etc.).

#### Nomina nuda

*Cobitis longimanus* Dybowski, in Sinicyn, 1900: 49 (nomen nudum; material: "Imperial Warsaw University" 2773; locality: Onon River)

*Cobitis poecilopleura* Bleeker, 1872: 146 (nomen nudum; locality: China)

#### Nomen nudum

*Cobitis yeni* Nguyen, 1982: 26 (nomen nudum)

*Cobitis yeni* Nguyen (T. T.), in Nguyen (V. H.), 2005: 227, fig. 114 (not available; locality: Vietnam: Ha Tinh Province: stream Ngam Pho at Huong Son)

**Nomenclatural notes.** Nguyen (V. H.; 2005: 227) listed Nguyen (T. T., 1983: 83, pl. 3 fig. 2) as author of *C. yeni*. Nguyen (1983) is an unpublished thesis and the name is not available from it. As the description in Nguyen (2005) is from Nguyen (1983), I treat the author of the nomen nudum as Nguyen (T. T.), in Nguyen (V. H.). The Code art. 16.1 requires that, after 1999, a new name must be explicitly indicated as intentionally new. This is not the case for *C. yeni* in Nguyen (2005) and the name is not available. Further, to be available, a new specific name published after 1999 must be accompanied by the explicit designation of a holotype or syntypes (Code art. 16.4). Nguyen (2005) mentioned that the description is based on 19 specimens but they are not mentioned as a holotype or syntypes.

#### Species inquirenda

##### 4.5.1 *Cobitis lachnostoma* (Rutter, 1897)

*Acanthopsis lachnostoma* Rutter, 1897: 60 (type locality: China: Guangdong: Swatow; holotype: CAS-SU 1812, Böhlke, 1953: 39; compound noun, indeclinable)





4.3 *Bibarba* sp., GIF 08090070, 56.7 mm SL; China: Guangxi: cave in Luocheng County. (Photograph by Lan Jia-Hu).



4.3 *Bibarba* sp., GIF 08090070, 56.7 mm SL. (Photograph by Lan Jia-Hu).

**Species incertae sedis**

**4.5.2 'Cobitis' arenae (Lin, 1934)**

*Misgurnus arenae* Lin, 1934: 227, figs. 5–6 (type locality: China: Guangdong: Hwei-yang County: shallow stream near Western Lake; holotype: FESC M 10; noun in genitive, indeclinable)

**Taxonomic notes.** Apparently represents an unnamed genus close to *Cobitis*.

**Species incertae sedis**

**4.5.3 'Cobitis' guttata (Nguyen, 2005)**

*Acantopsis guttatus* Nguyen, 2005: 557, fig. 7 (type locality: Vietnam: Ha Giang Province: Lo River, Bac Quang district, Suoi Mu stream in Tan Thanh village; holotype: NCNTTSI; adjective, *-us, -a, -um*)

**Taxonomic notes.** Apparently the species tentatively identified as *Acantopsis arenae* by Kottelat (2001a: 49, fig. 95). Apparently represents an unnamed genus close to *Cobitis*.

**Nomenclatural notes.** If placed in the genus *Cobitis*, then it is a junior secondary homonym of *Cobitis guttata* McClelland, 1839. I do not propose a new replacement name because it will soon be transferred to another genus and the original name will then again be valid.

**4.5.4 *Cobitis amphilekta* Vasil'eva & Vasil'ev, 2012**

*Cobitis amphilekta* Vasil'eva & Vasil'ev, 2012: 177, figs. 2–3 [p. 200 of translation] (type locality: Azerbaijan: Caspian Sea near Port Il'icha between old bed of Kumbashi River and state farm; holotype: ZMMU P-22794; Greek adjective, indeclinable)



4.4.1 *Canthophrys gongota*, CMK 14401, 65.1 mm SL; India: Brahmaputra drainage.



4.5.21 *Cobitis hellenica*, CMK 16951, 82.8 mm SL; Greece: Louros drainage.

**4.5.5 *Cobitis arachthosensis* Economidis & Nalbant, 1997**

*Cobitis hellenica arachthosensis* Economidis, 1991: 28, 1992: 75 (nomen nudum; locality: Greece: Epiros: Louros and Arachthos Rivers)

*Cobitis arachthosensis* Economidis & Nalbant, 1997: 313, fig. 12a–f (type locality: Greece: Epiros: dead branch of Arachthos River near Akropotamia village; holotype: DZAUT 1988-137; adjective, *-is, -is, -e*)

**4.5.6 *Cobitis bilineata* Canestrini, 1865**

*Cobitis taenia* var. *bilineata* Canestrini, 1865: 305 (type locality: Italy: Modenese and Treviso; syntypes: LU; also in Canestrini, 1866: 148; adjective, *-us, -a, -um*)

*Cobitis taenia* var. *puta* Cantoni, 1882: 362, pl. 1 fig. 1 (type locality: Italy: Torino and Vercellese; syntypes: LU; adjective, *-us, -a, -um*)

*Cobitis taenia* var. *septa* Cantoni, 1882: 363, pl. 1 fig. 2 (type locality: Italy; types: NT ?; participle, *-us, -a, -um*)

**4.5.7 *Cobitis bilseli* Battalgi, 1942**

*Cobitis bilseli* Battalgi, 1942: 292, fig. 4 (type locality: Turkey: Lake Beysehir; syntypes: LU; noun in genitive, indeclinable)

**4.5.8 *Cobitis biwae* Jordan & Snyder, 1901**

*Cobitis taenia japonica* Temminck & Schlegel, 1846: 222, pl. 103 fig. 3 (type locality: Japan [surroundings of Nagasaki]; lectotype: RMNH 2703a, designated by Boeseman, 1947: 167; junior primary homonym of *Cobitis japonica* Houuttuyn, 1782: 337; adjective, *-us, -a, -um*)

*Cobitis Schlegeli* Bleeker, 1863a: 41 (replacement name for *Cobitis taenia japonica* Temminck & Schlegel, 1846: 222; here declared *nomen oblitum* under Code art. 23.9.2, as it has not been used as a valid name since 1899 [Code art. 23.9.1.1], and *Cobitis biwae* Jordan & Snyder, 1901: 748 has been used in at least 25 works in the last 50 years [Code art. 23.9.1.2]; noun in genitive, indeclinable)

*Cobitis biwae* Jordan & Snyder, 1901: 748 (replacement name for *Cobitis taenia japonica* Temminck & Schlegel, 1846: pl. 103; here declared *nomen protectum* under Code art. 23.9.2, used in at least 25 works in the last 50 years, listed under Remarks [Code art. 23.9.1.2]; noun in genitive, indeclinable)

**Nomenclatural notes.** *Cobitis schlegeli* has not been used as the valid name of a species after 1899 (Code art. 23.9.1.1)

and *C. biwae* has been used in a large number of works. *Cobitis biwae* is declared a *nomen protectum* and *C. schlegeli* is declared a *nomen oblitum* (Code art. 23.9.2). List of 28 works in which *Cobitis biwae* Jordan & Snyder, 1901: 748 is used as a valid name, published by at least 10 authors, in the immediately preceding 50 years and encompassing a span of not less than 10 years (Code art. 23.9.2): Arai, 2003: 113; Kawanabe et al., 2001: 392; Kimizuka & Kobayasi, 1983: 308; Kitagawa et al., 2001: 250, 2003a: 93, 2003b: 318, 2004: 117, 2005: 116, 2009: 13; Masuda et al., 1984: 58; Matsuura et al., 2000: 162; Nakabo, 1993: 232, 2002: 274; Nakajima, 1987: 208; Sawada, 1976: 176, 1982: 68; Sawada & Azizawa, 1983: 318; Sezaki & Kobayasi, 1978: 851; Sezaki et al., 1988: 149; Shimizu, 2003a: 85, 2003b: 155, 2008: 102; Shimizu et al., 1998: 381, 2004: 241; Suzawa, 2006: 315; Tominaga et al., 2009: 195; Ueno & Ojima, 1976: 446; Watanabe, 1998: 263.

#### 4.5.9 *Cobitis calderoni* Băcescu, 1962

*Cobitis Calderóni* Băcescu, 1962b: 440, pl. 1 figs. 2–3, pl. 2 figs. 6–7 (type locality: Spain: Burgos: stream Arlanzón, tributary of Duero at Cardena-Jimeno, Charcas de San Medel and La Gravera; holotype: MGAB 49415, Kottelat, 1997: 87; must be emended in *calderoni*, Code art. 32.5.2.1; noun in genitive, indeclinable)

#### 4.5.10 *Cobitis choii* Kim & Son, 1984

*Cobitis choii* Kim & Son, 1984: 50, fig. 1 (type locality: South Korea: Chungcheongbug-do province: Cheongwon-gun district: Ochang-myon municipality: Miheocheon stream, a tributary of Geum River at Yecheon-ri; holotype: CNUC 4854; noun in genitive, indeclinable)

#### 4.5.11 *Cobitis dalmatina* Karaman, 1928

*Cobitis taenia dalmatina* Karaman, 1928: 163 (type locality: Croatia: Dalmatia: Cetina River; syntypes: MMNHS, lost; also in Karaman, 1929: 173; adjective, *-us, -a, -um*)

#### 4.5.12 *Cobitis dolichorhynchus* Nichols, 1918

*Cobitis dolichorhynchus* Nichols, 1918: 16 (type locality: China: Fukien [Fujian]: Futsing; holotype: AMNH 7026; compound noun, indeclinable)

#### 4.5.13 *Cobitis elazigensis* Coad & Sarieyyüpoğlu, 1988

*Cobitis elazigensis* Coad & Sarieyyüpoğlu, 1988: 426, fig. 1 (type locality: Turkey: Elazig Province: a creek at Çip, 15 km west of Elazig, in drainage of Murat Nehri, a tributary of Euphrates River; 38°42'N 39°05'E; holotype: NMC 85-0679A; adjective, *-is, -is, -e*)

**Taxonomic notes.** "Provisionally considered" as synonym of *C. simplicispina* by Erkakan et al. (1999: 24).

#### 4.5.14 *Cobitis elongata* Heckel & Kner, 1858

*Cobitis elongata* Heckel & Kner, 1858: 305, fig. 164 (type locality: Slovenia: Krain [Carniola]: Sala River near Idria; syntypes: NMW 48609 [2], 48610 [3], Kottelat, 1997: 88; adjective, *-us, -a, -um*)

#### 4.5.15 *Cobitis elongatoides* Băcescu & Maier, 1969

*Cobitis taenia* var. *elongatoides* Băcescu, 1962a: 294 (in-

frasubspecific, name not available; locality: southwestern Romania: Neajlov, Jiu and Sîu Rivers)

*Cobitis taenia elongatoides* Băcescu & Maier, 1969: 60 [p. 39 of translation], figs. 3a, 7-1 (type locality: Romania: Argesel River, Danube drainage; syntypes: LU; adjective, indeclinable)

*Cobitis taenia danubialis* Nalbant, 1993: 109, fig. 29 (type locality: Romania: Transilvania: Mures River at Sarmas, Harghita; holotype: MGAB 49923; adjective, *-is, -is, -e*)

*Cobitis megaspila* Nalbant, 1993: 108, fig. 24 (type locality: Romania: delta of Danube River at Caraorman; holotype: ISBB 4497; compound noun, indeclinable)

#### 4.5.16 *Cobitis evreni* Erk'akan, Özeren & Nalbant, 2008

*Cobitis evreni* Erk'akan, Özeren & Nalbant, 2008a: 112, fig. 1 (type locality: Turkey: Kömür stream, Göksun, Kahramanmaraş; 38°00'52.24"N 36°30'31.11"E; holotype: HUIC CEY-2; noun in genitive, indeclinable)

#### 4.5.17 *Cobitis fahireae* Erk'akan, Atalay-Ekmekçi & Nalbant, 2008

*Cobitis fahireae* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998: 10, fig. 2 (type locality: Turkey: Küçük Menderes, Selçuk-Aydın; holotype: HUIC uncat.; spelled *fahirae* on p. 10, *fahireae* on p. 11, as first reviser I select *fahireae* as the correct original spelling; noun in genitive, indeclinable)

#### 4.5.18 *Cobitis faridpaki* Mousavi-Sabet, Vasil'eva, Vatandoust & Vasil'ev, 2011

*Cobitis faridpaki* Mousavi-Sabet, Vasil'eva, Vatandoust & Vasil'ev, 2011: 928, figs. 3–4 (type locality: Iran: Mazandaran region: Siahруд River, 36°26'85.05"N 52°56'70.08"E; holotype: GUIC CC1403MA; noun in genitive, indeclinable)

#### 4.5.19 *Cobitis gladkovi* Vasil'ev & Vasil'eva, 2008

*Cobitis melanoleuca gladkovi* Vasil'ev & Vasil'eva, 2008: 9, fig. 9 (type locality: Russia: Severskii Donets River, Don drainage, Starodubovka village, Staraya Stanitsa; holotype: ZMMU R-21654; noun in genitive, indeclinable)

**Taxonomic notes.** Vasil'ev & Vasil'eva (2008) treated *C. gladkovi* as a subspecies of *C. melanoleuca*. They are treated as distinct species as they satisfy the criteria of species under the Evolutionary Species Concept.

#### 4.5.20 *Cobitis hankugensis* Kim, Park, Son & Nalbant, 2003

*Cobitis hankugensis* Kim, Park, Son & Nalbant, 2003: 2, fig. 1 (type locality: Korea: Gyongsangnam-do province: Sanchong-gun district: Dojeon-ri in Sengbirryang-myon municipality; holotype: CNUC 33912; adjective, *-is, -is, -e*)

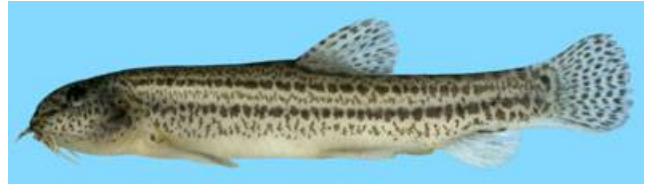
#### 4.5.21 *Cobitis hellenica* Economidis & Nalbant, 1997

*Cobitis hellenica* Economidis, 1991: 28, 41 (figs. 1–2), 1992: 75 (nomen nudum; locality not stated)

*Cobitis hellenica* Economidis & Nalbant, 1997: 311, figs. 10, 12g-i (type locality: Greece: Epiros: Barbanakos spring near Stephani village, Louros drainage; holotype: DZAUT 1989-115; adjective, *-us, -a, -um*)



**4.5.34** *Cobitis melanoleuca*, CMK 18807, 71.3 mm SL; Mongolia: Selenge drainage: Eg Gol.



**4.5.44** *Cobitis punctilineata*, CMK 12914, 46.5 mm SL; Greece: Angitis drainage.

**4.5.22** *Cobitis illyrica* Freyhof & Stelbrink, 2007

*Cobitis illyrica* Freyhof & Stelbrink, 2007a: 270, figs. 1–2 (type locality: Croatia: small lake south of Lake Proložak, 48°28'13"N 17°07'20"E, Imotsko polje; holotype: ZMB 33753; adjective, *-us*, *-a*, *-um*)

**4.5.23** *Cobitis jadonaensis* Mustafić & Mrakovčić, in Mustafić, Marcic, Duplic, Mrakovčić, Caleta, Zanel-la, Buj, Podnar & Dolenc, 2008

*Cobitis jadonaensis* Mustafić & Mrakovčić, in Mustafić, Marčić, Duplić, Mrakovčić, Caleta, Zanella, Buj, Podnar & Dolenc, 2008: 5, fig. 2 (type locality: Croatia: Jadova River at 44°30'14.6"N 15°32'42.5"E; holotype: PMR VP1654; adjective, *-is*, *-is*, *-e*)

**4.5.24** *Cobitis kellei* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998

*Cobitis kellei* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998: 10, fig. 1 (type locality: Turkey: Tigris drainage: Göksu stream, Cinar, Diyarbakir; holotype: ISBB 4682; noun in genitive, indeclinable)

**4.5.25** *Cobitis keyvani* Mousavi-Sabet, Yerli, Vatandoust, Özeren & Moradkhani, 2012

*Cobitis keyvani* Mousavi-Sabet, Yerli, Vatandoust, Özeren & Moradkhani, 2012: 8, figs. 3–4 (type locality: Iran: Mazandaran Province: Keselian stream, Talar River, southeast of Caspian Sea basin, 36°11'74.09"N 53°00'92.01"E, 473 masl; holotype: GUIC CC1389MA; noun in genitive, indeclinable)

**4.5.26** *Cobitis laoensis* (Sauvage, 1878)

*Misgurnus laoensis* Sauvage, 1878b: 241 (type locality: Laos [apparently erroneous; possibly Vietnam; Freyhof & Serov, 2000b: 206]; holotype: MNHN A.840, Kottelat, 1984a: 809, fig. 5; adjective, *-is*, *-is*, *-e*)

? *Cobitis longitaeniatus* Ngo, 2008: 66, fig. 1 (type locality: Vietnam: Quang Binh Province: Bo Trach District, Phong Nha, Son Trach, 17°30'N 106°15'E; holotype: NCNTTSI; also spelt *longitaenia* p. 67, an obvious inadvertent error, thus incorrect original spelling [*Code art. 32.5.1*]; adjective, *-us*, *-a*, *-um*)

? *Cobitis phonghaensis* Ngo, 2008: 68, fig. 3 (type locality: Vietnam: Quang Binh Province: Bo Trach District: Phong Nha, Son Trach, Khe Mon, 17°30'N 106°15'E; holotype: NCNTTSI; adjective, *-is*, *-is*, *-e*)

**4.5.27** ? *Cobitis lebedevi* Vasil'eva & Vasil'ev, 1985

*Cobitis lebedevi* Vasil'eva & Vasil'ev, 1985: 464, fig. 1A (type locality: Russia: Russian Far East: Khabarovsk Krai: Amur River near Elabuga [48°48'N 135°52'E]; holotype: ZMMU P-16252; noun in genitive, indeclinable)

**Taxonomic notes.** Treated as synonym of *C. choii* by, e.g. Bogutskaya et al. (2008: 336). The ranges of *C. choii* and *C. lebedevi* are widely disjunct and it does not seem that Amur and Korean material has yet been compared side by side.

**4.5.28** *Cobitis levantina* Krupp & Moubayed, 1992

*Cobitis levantina* Krupp & Moubayed, 1992: 14, figs. 1–2 (type locality: Syria: outflow of Buhairat Hims near Qattina, 34°40'N 36°37'E; holotype: SMF 24371; adjective, *-us*, *-a*, *-um*)

**4.5.29** *Cobitis linea* (Heckel, 1848)

*Acanthopsis linea* Heckel, 1848b: 267 (type locality: Iran: Persepolis [Marvdasht Plain, about 70 km northeast of Shiraz; 29°56'04"N 52°53'29"E]; syntypes: NMW 48560 or 48450 [7], Eschmeyer & Fricke, 2010; noun in apposition, indeclinable)

**4.5.30** *Cobitis lutheri* Rendahl, 1935

*Cobitis taenia lutheri* Rendahl, 1935: 330, figs. 1–4 (type locality: Russia: Santachesa River, near its confluence with lake Chanka [Khanka]; syntypes: MZH, NRM 10810 [1], 10811 [1], 10812 [1], 10813 [1]; noun in genitive, indeclinable)

**4.5.31** *Cobitis macrostigma* Dabry de Thiersant, 1872

*Cobitis macrostigma* Dabry de Thiersant, 1872: 191, pl. 49 fig. 4 (type locality: lakes of central China; holotype: MNHN 5089, Bertin & Estève, 1948: 92; noun in apposition, indeclinable)

**4.5.32** *Cobitis maroccana* Pellegrin, 1929

*Cobitis taenia* var. *maroccana* Pellegrin, 1929: 525, fig. 1 (type locality: Morocco: Oued Tiflet at Tiflet and Sidi Yahia; syntypes: MNHN 1922.84 [1], 1922.85 [1], 1925.372 [1]; adjective, *-us*, *-a*, *-um*)

**4.5.33** *Cobitis matsubarae* Okada & Ikeda, 1939

*Cobitis taenia matsubarae* Okada & Ikeda, 1939: 91, 101 (type locality: Japan: Kagosima-ken: Hisikari-Mura / Fukuoka-Ken: Siba-Mura, Jôzima, and Naka River / Nagasaki-Ken: near Nagasaki; syntypes: LU [26], Eschmeyer & Fricke, 2010; Matsubara is treated as a Latinized name and *matsubarae* is correct original spelling [*Code art. 31.1.1* and Example]; noun in genitive, indeclinable)

**4.5.34** *Cobitis melanoleuca* Nichols, 1925

*Cobitis taenia melanoleuca* Nichols, 1925d: 3 (type locality: China: Shansi: Chin-ssu; holotype: AMNH 8403; treated as an adjective, *-us*, *-a*, *-um*)





4.5.54 *Cobitis strumicae*, CMK 17331, 86.7 mm SL; Greece: Evros drainage.



4.5.62 *Cobitis vardarensis*, CMK 12982, 49.4 mm SL; Greece: Pinios drainage.

**Taxonomic notes.** Vasil'ev & Vasil'eva (2008) recognised three subspecies on the basis of karyotypes: *C. m. melano-leuca* in China and the Amur drainage, *C. m. sibirica* (as *granoei*) in Siberia, and *C. m. gladkovi* in Europe. They are treated as valid species as they satisfy the criteria of species under the Evolutionary Species Concept.

#### 4.5.35 *Cobitis meridionalis* Karaman, 1924

*Cobitis taenia meridionalis* Karaman, 1924: 75 (type locality: FYROM: Lake Prespa and its small tributaries; syntypes: MMNHS, lost; adjective, *-is, -is, -e*)

#### 4.5.36 *Cobitis microcephala* Chen & Chen, 2011

*Cobitis microcephala* Chen & Chen, 2011: 147, fig. 2 (type locality: China: Guangxi: Bobai County: Nanliu River drainage, 22°28'N 109°95'E; holotype: IHB 0605135; compound adjective, *-us, -a, -um*)

#### 4.5.37 *Cobitis multimaculata* Chen & Chen, 2011

*Cobitis multimaculata* Chen & Chen, 2011: 145, fig. 2 (type locality: China: Guangxi: Bobai County: Nanliu River drainage, 22°28'N 109°95'E; holotype: IHB 75v3203; an obvious adjective but declared to be used as a noun in original description, therefore indeclinable)

#### 4.5.38 *Cobitis narentana* Karaman, 1928

*Cobitis taenia narentana* Karaman, 1928: 163 (type locality: Dalmatia [Croatia and Bosnia-Herzegovina]: Neretva River; syntypes: MMNHS, lost; also in Karaman, 1929: 173; adjective, *-us, -a, -um*)

#### 4.5.39 *Cobitis ohridana* Karaman, 1928

*Cobitis taenia ohridana* Karaman, 1928: 162, figs. 4a, 5 (type locality: FYROM: Lake Ohrid; syntypes: MMNHS, lost; also in Karaman, 1929: 173; adjective, *-us, -a, -um*)

#### 4.5.40 *Cobitis paludica* (de Buen, 1930)

*Acanthopsis taenia* forma *paludica* de Buen, 1930: 34, fig. 48 (type locality: Spain: Fuente del Roble, Talayuela, Cáceres; holotype: LU; available by indication, *Code* art. 12.2.7; adjective, *-us, -a, -um*)

*Cobitis taenia paludicola* Berg, 1932c: 155 (incorrect subsequent spelling of *C. taenia paludica* de Buen, 1930: 34)

*Cobitis taenia haasi* Klausewitz, 1955: 42, fig. 2 (type locality: Spain: Albufera near Valencia; holotype: SMF 3232; noun in genitive, indeclinable)

? *Cobitis vitoriae* Fernandez de la Cigoña Núñez & Ferreira, 1996: 70, fig. (not available, name proposed conditionally after 1960 [*Code* art. 15.1]); locality: Spain: Galicia: lagoon next to Miño River at Caldelas, 7 km upstream of Tuy, Pontevedra)

? *Cobitis victoriae* Fernandez de la Cigoña Núñez, 1999: 21, fig. (type locality: Spain: Miño River; syntypes: model of figure and specimens examined by Fernandez de la Cigoña Núñez & Ferreira, 1996: 66 [by reference on unnumbered p. 1 of Preface]; also spelt *vicroriae*, p. 1 of Preface, an obvious inadvertent error, thus incorrect original spelling [*Code* art. 32.5.1]; noun in genitive, indeclinable)

#### 4.5.41 *Cobitis phrygica* Battalgazi, 1944

*Cobitis phrygica* Battalgazi, 1944: 300, fig. 1 (type locality: Turkey: Vilâyet Afyonkarahisar, Aci Göl [Lake Acigöl, 37°49'N 29°53'E]; syntypes: LU; adjective, *-us, -a, -um*)

*Cobitis Battalgili* Băcescu, 1962b: 436, 437, fig. 1B (type locality: Turkey: Lakes Beyşehir Gölü [37°41'0"N 31°44'0"E] and Gölhisar Gölü [37°06'00"N 29°36'00"E]; syntypes: MCSNG, ZMH 4744 [1], 4745 [4], Wilkens & Dohse, 1993: 412 [as holotype and paratypes]; noun in genitive, indeclinable [should have been *battalgilae*])

**Taxonomic notes.** "Provisionally considered" as synonyms of *C. simplicispina* by Erkakan et al. (1999: 24).

#### 4.5.42 *Cobitis pontica* Vasil'eva & Vasil'ev, 2006

*Cobitis pontica* Vasil'eva & Vasil'ev, 2006: S17, fig. (type locality: Bulgaria: Veleka River; holotype: ZMMU P-21363; adjective, *-us, -a, -um*)

#### 4.5.43 *Cobitis puncticulata* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998

*Cobitis puncticulata* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998: 12, fig. 4 (type locality: Turkey: Karaderetream [Karade stream ?] ath [at ?] outlet of Manyas (Kus) Lake; HUIC uncat.; adjective, *-us, -a, -um*)

#### 4.5.44 *Cobitis punctilineata* Economidis & Nalbant, 1997

*Cobitis punctilineata* Economidis, 1991: 28, 41 (fig. 4), 1992: 75 (nomen nudum; locality: Greece: Macedonia: Philip-pi Plain, stream Aggitis, tributary of Strymon)

*Cobitis punctilineata* Economidis & Nalbant, 1997: 314, figs. 11, 12j-l (type locality: Greece: Macedonia: Drama: channels near Kalambaki village, Strymon-Aggitis drainage; holotype: DZAUT 1992-39; adjective, *-us, -a, -um*)

#### 4.5.45 *Cobitis rara* Chen, 1981

*Cobitis rarus* Chen, 1981: 24, fig. 1 (type locality: China: Shanxi: Lüeyang and Fengxian; syntypes [7]: IHB 596070–74, 731121–122; adjective, *-us, -a, -um*)

#### 4.5.46 *Cobitis satunini* Gladkov, 1935

*Cobitis taenia satunini* Gladkov, 1935: 73 (type locality: Georgia: Kintrich River [entering Black Sea at



41°48'14"N 41°46'09"E]; holotype: ZMMU P 2852, Mousavi-Sabet et al., 2011: 930, fig. 5; noun in genitive, indeclinable)

#### 4.5.47 *Cobitis shikokuensis* Suzawa, 2006

*Cobitis shikokuensis* Suzawa, 2006: 316, figs. 2, 6 (type locality: Japan: Shikoku Island: Kochi Prefecture: Takaoka County: Shimanto Town, Morigauchi, Hinoji River at 33°10'N 133°03'E, Shimanto River drainage; holotype: YCM-P 21981; adjective, *-is*, *-is*, *-e*)

#### 4.5.48 *Cobitis sibirica* Gladkov, 1935

*Cobitis taenia sibirica* Gladkov, 1935 [between 1 Aug and 19 Nov]: 73 (type locality: Russia: Lake Turgoiak, southern Urals [Chelyabinsk oblast: Lake Turgoyak, 55°09'N 60°04'E]; holotype: ZMMU P2853; adjective, *-us*, *-a*, *-um*)

*Cobitis taenia granoei* Rendahl, 1935 [before 16 Oct]: 332, figs. 5–6 (type locality: Russia: Siberia: Irtysh River near Omsk; holotype: MZH; noun in genitive, indeclinable; subjective simultaneous synonym of *Cobitis taenia sibirica* Gladkov, 1935: 73; first reviser [Berg, 1949: 894] gave precedence to *C. t. sibirica*.)

*Cobitis taenia sibirica* morpha *elongata* Berg, 1949: 894 (infrasubspecific, name not available; locality: [Mongolia ?]: Lake Kosogol [? Khuvsgul])

*Cobitis granoei olivai* Nalbant, Holčík & Pivnička, 1970: 121, fig. 2, pl. fig. 1c (type locality: Mongolia: Arhangaj County: Lake Ögijn-nuur and Narijn-gol River, an upper right tributary of Orkhon River, Selenge drainage; holotype: SNM RY-2093; noun in genitive, indeclinable)

**Taxonomic notes.** Nalbant (1993: 108) treated *C. sibirica* (as *C. granoei*) as a synonym of *C. melanoleuca* but convincing evidence was not provided. Chen (1981) treated them as two distinct species. Prokofiev (2007c: 111) considered *C. olivai* as valid based on colour pattern, but Kottelat (2006: 56) had commented that both colour patterns are present in different specimens from the same location in Mongolia. Vasil'ev & Vasil'eva (2008) treated *C. sibirica* (as *C. granoei*) as a subspecies of *C. melanoleuca*. They are treated here as distinct species as they satisfy the criteria of species under the Evolutionary Species Concept.

**Nomenclatural notes.** The exact dates of publication of Gladkov (1935) and Rendahl (1935) are not known. They are discussed by Bogutskaya & Naseka (2004: 105). Rendahl (1935) is recorded in the issue of *Naturae Novitates* (57 (10): 129–144) received at ZISP on 16 October 1935 and could have precedence over Gladkov (1935), which is recorded in *Naturae Novitates* (57 (11): 145–150) received at ZISP on 19 November 1935. On the other hand, Gladkov (1935) is dated as sent to the press on 1 August 1935, but the actual printing and distribution dates are not known. These dates do not allow determination of which work appeared first; they are only indicative of the sequence in which they were received by *Naturae Novitates* in Berlin. It is possible that Gladkov (1935) was published before Rendahl (1935) but dispatched later or travelled more slowly because of some administrative burden, given the political situation in that period. This provides information on the latest possible publication date, but no objective information allowing deter-

mination of which work appeared first and which was first available from its respective publisher. For the time being it is better to consider them as simultaneous subjective synonyms, in which case Berg (1949: 894) is the first reviser and he gave precedence to *C. sibirica*. This is also the conclusion reached by a strict application of *Code* art. 21.7 using the data available today. [*Naturae Novitates* was a journal published in Berlin between 1879 and 1944 that listed new literature on various fields of natural sciences: Schmid, 1984].

#### 4.5.49 *Cobitis simplicispina* Hankó, 1924

*Cobitis simplicispina* Hankó, 1924: 153, pl. 3 fig. 7 (type locality: Turkey: Kötschke-Kissik [Gökçekısıık (39°39'N 30°24'E), a town 15 km southwest of Eskişehir (39°46'36"N 30°31'14"E); Porsuk River drainage]; syntypes: MNH [3], lost; invalid neotype designation by Erkakan, Atalay-Ekmekçi & Nalbant, 1999: 24; compound noun, indeclinable)

**Nomenclatural notes.** Erk'akan, Atalay-Ekmekçi & Nalbant (1999: 24) designated a neotype for *C. simplicispina*. The neotype designation does not fulfill conditions of the *Code* art. 75.3.2, 75.3.3, 75.3.4 and is invalid. Further, at top of p. 24, specimen ISBB 4694 is listed as neotype, and at bottom of same column, specimen HUIC 1 is listed as "selected here as neotype". This last specimen is the one in Fig. 9 but it is not labelled as neotype. In my reprint of the paper, the mention 'neotype' for ISBB 4694 had been crossed out (by Nalbant) indicating that ISBB 4694 was not intended as neotype; however, this information is external and formally irrelevant and, therefore, the simultaneous 'designation' of two neotypes makes the designation invalid in any case. The locality of the purported neotype (HUIC 1) is: Turkey: Eskişehir: Kocadere, Porsuk stream, Sakarya River drainage.

#### 4.5.50 *Cobitis sinensis* Sauvage & Dabry de Thiersant, 1874

*Cobitis sinensis* Sauvage & Dabry de Thiersant, 1874: 16 (type locality: China: brooks of western Sichuan [probably Pingwu County: Long'an; on Fu Jiang river, Jialing Jiang system, Yangtze drainage; 32°24'31"N 104°31'36"E; see below]; syntypes: MNHN 6779 [4], Son & Kim, 2002: 241, fig. 1a, Bertin & Estève, 1948: 92; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** The type locality of the syntypes of *C. sinensis* is given as Western Sichuan. The specimens were collected by A. David. In Sichuan, David visited Chengdu, then travelled to Muping. Muping is now in Western Sichuan, but at David's time it was an independant principedom and David's map shows it in Tibet (see *Oreias dabryi*). After returning to Chengdu, David wanted to visit Kokonoor [now China: Qinghai]. He reached to Lon-gan [Sichuan: Pingwu County: Long'an; also as Lunyan, Lung-yan, Lungan; 32°24'31"N 104°31'36"E], explored that area, returned to Chengdu and Shanghai (David, 1871: 97). This makes Pingwu the only area where he collected within what he called Western Sichuan. Unfortunately, David did not publish a detailed account of this part of his second travel. His map (1875) shows that he made a number of small trips around Pingwu.

**4.5.51 *Cobitis splendens* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998**

*Cobitis splendens* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998: 11, fig. 3 (type locality: Turkey: small stream tributary to Black Sea, about 200 m from sea shore, 16 km east of Akçakoca [41°05'00"N 31°07'00"E] and about 30 km south-west of Ereğli; holotype: HUIC uncat.; adjective, indeclinable)

**4.5.52 *Cobitis stephanidisi* Economidis, 1992**

*Cobitis stephanidisi* Economidis, 1991: 27, 41 (fig. 7) (nomen nudum; locality: Greece: Thessaly: Kefalovrissos spring in Velestino village (Feres))

*Cobitis stephanidisi* Economidis, 1992: 60 (type locality: Greece: Thessaly: Lake Karla and Kefalovrissos spring in Velestino village (Feres); syntypes [material listed by Economidis & Nalbant, 1997: 303]; lectotype: DZAUT 1992-40, by present designation; noun in genitive, indeclinable)

*Cobitis stephanidisi* Economidis & Nalbant, 1997: 303, fig. 6 (type locality: Greece: Thessaly: spring in village Velestino, Lake Karla basin; holotype: DZAUT 1992-40; noun in genitive, indeclinable)

**Nomenclatural notes.** The complete description of *Cobitis stephanidisi* appeared first in Economidis & Nalbant (1997); however, the use of the name accompanied by a diagnosis and a figure in Economidis (1992) makes the name available from this publication and with Economidis as author. As Economidis (1992) referred to the then in-press 1997 paper, the specimens listed as holotype and paratypes by Economidis & Nalbant (1997) are in fact syntypes. Specimen DZAUT 1992-40 is here designated as lectotype of *C. stephanidisi* Economidis, 1992.

**4.5.53 *Cobitis striata* Ikeda, 1936**

*Cobitis taenia striata* Ikeda, 1936: 984, 991, figs. 10-2, 11-4 (type locality: Japan: Shikoku Island: Kagawa-Ken / Honshu Island: Osaka-fu; syntypes [240]: LU, Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

**4.5.54 *Cobitis strumicae* Karaman, 1955**

*Cobitis taenia strumicae* Karaman, 1955: 190, fig. 4 (type locality: FYROM: Monospitovo swamp and Strumica River; syntypes: MMNHS, lost; noun in genitive, indeclinable)

*Cobitis peschevi* Sivkov & Dobrovolov, 1984: 1673, fig. 1 (type locality: Bulgaria: Eleshnitsa River, a tributary of Kamchiya River; holotype: MNHV 1627; noun in genitive, indeclinable)

*Cobitis rhodopensis* Vassilev, 1998: 280, fig. 1 (type locality: Bulgaria: Biala River, a tributary of Maritsa River, downstream of Meden buk village; holotype: DHISUB 199501C; adjective, *-is, -is, -e*)

**4.5.55 *Cobitis taenia* Linnaeus, 1758**

*Cobitis Taenia* Linnaeus, 1758: 303 (based on Artedi [1738: gen. 2 [4], syn. 3, spec. 4 [2], *Cobitis aculeo bifurco* ...], Linnaeus [1746: 126, n. 333, idem] and Gronovius [1754: 2, n. 5, idem]; type locality: "in Europae aquis dulcibus"; syntype: ? ZMUU 205, Wheeler, 1991: 163;

noun in apposition, indeclinable)

*Cobitis spilura* Holandre, 1837: 253 (type locality: Belgium: Liège / France: Moselle River, stream Nied below Malroy, Meuse River below Saint Mihiel; holotype: LU [description explicitly based on a single specimen; "syntypes": Museum of Metz, France, Blanchard, 1866: 288]; author stated as Carlier, but Holandre is responsible for conditions making name available and thus is author; compound adjective, *-us, -a, -um*)

*Cobitis taenioides* Băcescu & Maier, 1969: 52 [p. 39 of translation] (type locality: western Europe and Danube basin; syntypes: LU; adjective, indeclinable)

**4.5.56 *Cobitis takatsuensis* Mizuno, 1970**

*Cobitis takatsuensis* Mizuno, 1970: 133, figs. 1–2 (type locality: Japan: Honshu: Shimane-ken Prefecture: Kanoashi-gun District: Kabatani-gawa River, a tributary of Takatsu-gawa, at Kurobuchi in Kakinori-mura village; holotype: Collection Mizuno; adjective, *-is, -is, -e*)

**4.5.57 *Cobitis tanaitica* Băcescu & Maier, 1969**

*Cobitis taenia tanaitica* Băcescu & Maier, 1969: 52 [p. 39 of translation], fig. 1 (type locality: Ukraine: Don River below Rostov; syntypes: LU [6]; adjective, *-us, -a, -um*)

*Cobitis rossomeridionalis* Vasil'eva & Vasil'ev, 1998: 607, fig. 2 [p. 582 of translation] (type locality: Russia: Rostovskaya oblast: Don River near Rogozhkin [49°24'22"N 41°37'57"E]; holotype: ZMMU P-20240; adjective, *-is, -is, -e*)

**4.5.58 *Cobitis taurica* Vasil'eva, Vasil'ev, Janko, Ráb & Rábová, in Janko, Vasil'ev, Ráb, Rábová, Šlechtová & Vasil'eva, 2005**

*Cobitis taurica* Vasil'eva, Vasil'ev, Janko, Ráb & Rábová, in Janko, Vasil'ev, Ráb, Rábová, Šlechtová & Vasil'eva, 2005: 417, fig. 4a (type locality: Ukraine: Crimea: Chernaya River; holotype: ZMMU P-21358; adjective, *-us, -a, -um*)

**4.5.59 *Cobitis tetralineata* Kim, Park & Nalbant, 1999**

*Cobitis tetralineata* Kim, Park & Nalbant, 1999: 379, fig. 10 (type locality: Korea: Deonranam-do province: Guraegun district: Somjin River at Guraegu; holotype: CNCU 723, Kim, 2009: 11; adjective, *-us, -a, -um*)

**4.5.60 *Cobitis trichonica* Stephanidis, 1974**

*Cobitis trichonica* Stephanidis, 1974: 227, figs. 1–3 (type locality: Greece: Lake Trichonis; syntypes [34]: lost, Kottelat, 1997: 90; adjective, *-us, -a, -um*)

**4.5.61 *Cobitis turcica* Hankó, 1924**

*Cobitis taenia turcica* Hankó, 1924: 154, pl. 3 fig. 8 (type locality: Turkey: Ereğli [apparently the one at 37°31'00"N 34°03'00"E]; syntypes: MNH [2]; adjective, *-us, -a, -um*)

? *Cobitinula anatoliae* Hankó, 1924: 152, pl. 3 fig. 6 (type locality: Turkey: Lake Ak-Göl [several lakes Akgöl in Turkey, probably the one near Ereli, since many of Hankó's (1924) samples are from Ereli; 37°30'51"N 33°43'02"E]; syntypes: MNH [2], lost; noun in genitive, indeclinable; simultaneous subjective synonym of *Cobi-*



**4.6.2** *Iksookimia koreensis*, CMK 21096, 56.1 mm SL; South Korea: Mangyeong drainage.



**4.7.2** *Kichulchoia multifasciata*, CMK 21107, 99.3 mm SL; South Korea: Naktong drainage.



**4.8.1** *Koreocobitis naktongensis*; CMK 27108, 119.6 mm SL; South Korea: Naktong drainage.

*taenia turcica* Hankó, 1924: 154; as first reviser I give precedence to *C. t. turcica*)

#### **4.5.62** *Cobitis vardarensis* Karaman, 1928

*Cobitis taenia vardarensis* Karaman, 1928: 163 (type locality: FYROM: Vardar River drainage; syntypes: MMNHS, lost; also in Karaman, 1929: 172; adjective, *-is, -is, -e*)  
*Cobitis vardarensis kurui* Erk'akan, Atalay-Ekmekçi & Nalbant, 1998: 13, fig. 6 (type locality: Turkey: Menderes River, Selçuk-Aydin, Saplik Bridge; holotype: HUIC uncat.; noun in genitive, indeclinable)

#### **4.5.63** *Cobitis vettonica* Doadrio & Perdices, 1997

*Cobitis vettonica* Doadrio & Perdices, 1997: 53, fig. 1 (type locality: Spain: Arrago River, Cadalso de Gata, Cáceres, Tagus River drainage; holotype: MNCM 18271; adjective, *-us, -a, -um*)

#### **4.5.64** *Cobitis ylengensis* Ngo, 2003

*Cobitis ylengensis* Ngo, 2003: 18, fig. 2 (type locality: Vietnam: Quang Binh Province: Minh Hoa district: Dan Hoa village: Bai Dinh; holotype: NCNTTSSI; adjective, *-is, -is, -e*)  
 ? *Cobitis squataeniatus* Ngo, 2008: 67, fig. 2 (type locality: Vietnam: Quang Binh Province: Minh Hoa District, Dan Hoa, Quy Dat; holotype: NCNTTSSI; adjective, *-us, -a, -um*)

**Taxonomic notes.** Figure 2 in the description of *C. ylengensis* is distorted and shows the fish more slender than described in the text.

#### **4.5.65** *Cobitis zanandreae* Cavicchioli, 1965

*Cobitis taenia zanandreae* Cavicchioli, 1965: 1152, fig. 1 (type locality: Italy: Caserta: Volturno River at Ponte Annibale, Capua; holotype: Istituto di Anatomia Comparata, Università di Ferrara; noun in genitive, indeclinable)

#### **4.5.66** *Cobitis zhejiangensis* Son & He, 2005

*Cobitis zhejiangensis* Son & He, 2005: 237, figs. 2–3 (type locality: China: Zhejiang: Taizhou city: Xianju District: Ling River; holotype: SUBC 9619; adjective, *-is, -is, -e*)

#### **4.6** *Iksookimia* Nalbant, 1993

*Iksookimia* Nalbant, 1993: 101 (type species: *Cobitis koreensis* Kim, 1975: 51, by original designation). Gender feminine.

**Taxonomic notes.** *Iksookimia* is possibly polyphyletic according to the molecular tree in Šlechtová et al. (2008).

##### **4.6.1** *Iksookimia hugowolfeldi* Nalbant, 1993

*Iksookimia hugowolfeldi* Nalbant, 1993: 106, fig. 1 (type locality: South Korea: Yung San River; holotype: ISBB 4495; noun in genitive, indeclinable)

##### **4.6.2** *Iksookimia koreensis* (Kim, 1975)

*Cobitis koreensis* Kim, 1975: 51, fig. 1 (type locality: South Korea: Gyongi-do province: Gapyong-gun district: Jjong River, tributary of Han River at Sang-myong; holotype: CNUC 21674, Kim, 2009: 13; adjective, *-is, -is, -e*)

##### **4.6.3** *Iksookimia longicarpus* (Kim, Choi & Nalbant, 1977)

*Cobitis longicarpus* Kim, Choi & Nalbant, 1977: 172, figs. 1–2 (type locality: South Korea: Jeonrabug Do province: Sunchang Gun district: tributary of Seomjin River at Bogheung Myon; holotype: CNUC 505; compound noun, indeclinable)

##### **4.6.4** *Iksookimia pacifica* (Kim, Park & Nalbant, 1999)

*Cobitis pacifica* Kim, Park & Nalbant, 1999: 380, fig. 12 (type locality: South Korea: Kangwon-do province [Gangwon]: Kangreung-shi [Gangneung]: Yonkokhon stream about 2 km upstream of confluence with Eastern (Japan) Sea, Shingwhang-ri in Yonkok-myong municipality; holotype: CNUC 25111, Kim, 2009: 15; junior primary homonym of *Cobitis pacifica* Forster, in Lichtenstein, 1844: 235; adjective, *-us, -a, -um*)

**Nomenclatural notes.** The name *Cobitis pacifica* was first made available in a manuscript of Forster posthumously published by Lichtenstein (1844: 235). Lichtenstein (footnote) commented that this is *Eleotris fusca* (Schneider, 1801: 453). The name has never been used since the original description and it could probably be declared *nomen oblitum* under Code art. 23.9.2. The case was discovered too late for researching usages of the junior homonym.

##### **4.6.5** *Iksookimia pumila* (Kim & Lee, 1987)

*Cobitis koreensis pumilus* Kim & Lee, 1987: 58, figs. 1–2 (type locality: South Korea: Chollabuk-do province: Puan-gun district: stream Paikchon at Sangso-myong; holotype: CNUC 9374; adjective, *-us, -a, -um*)

##### **4.6.6** *Iksookimia yongdokensis* Kim & Park, 1997

*Iksookimia yongdokensis* Kim & Park, 1997: 250, fig. 2 (type locality: South Korea: Kyongsangbuk-do province: Yong-





**4.9.2** *Kottelatlimia katik*, ZRC uncat., 12.3 mm SL; Indonesia: Borneo: Pembuang drainage. (Photograph by Tan Heok Hui).



**4.9.3** *Kottelatlimia pristis*, CMK 11116, 41.9 mm SL; Indonesia: Sumatra: Batang Hari drainage.

dok-gun district: Dalsan-myon municipality: Yongdoko-ship River in Yongjeon-ri village; 36°23'47"N 129°15'20"E; holotype: CNUC 21827; adjective, *-is, -is, -e*)

#### **4.7** *Kichulchoia* Kim, Park & Nalbant, 1999

*Choia* Kim, Park & Nalbant, 1997: 192 (type species: *Niwaella brevifasciata* Kim & Lee, 1995: 285, by original designation; junior homonym of *Choia* Walcott, 1920: 291 in Spongiae). Gender feminine.

*Kichulchoia* Kim, Park & Nalbant, 1999: 374 (replacement name for *Choia* Kim, Park & Nalbant, 1997: 192). Gender feminine.

##### **4.7.1** *Kichulchoia brevifasciata* (Kim & Lee, 1995)

*Niwaella brevifasciata* Kim & Lee, 1995: 285, figs. 1–2 (type locality: South Korea: Chollanam-do province: Kohûng-gun district: Pungyang-myon municipality: Koûp stream in Yamag-ri village, 34°34'06"N 127°14'16"E; holotype: CNUC 19907; adjective, *-us, -a, -um*)

##### **4.7.2** *Kichulchoia multifasciata* (Wakiya & Mori, 1929)

*Cobitis multifasciatus* Wakiya & Mori, 1929: 31, pl. 2 fig. 1 (type locality: Korea: Rakuto River at Taikyû; holotype: LU, Böhlke, 1953: 39; adjective, *-us, -a, -um*)

**Taxonomic notes.** Generic position follows Šlechtová et al. (2008) and Kim (2009).

#### **4.8** *Koreocobitis* Kim, Park & Nalbant, 1997

*Koreocobitis* Kim, Park & Nalbant, 1997: 191 (type species: *Cobitis rotundicaudata* Wakiya & Mori, 1929: 32, by original designation). Gender feminine.

##### **4.8.1** *Koreocobitis naktongensis* Kim, Park & Nalbant, 2000

*Koreocobitis naktongensis* Kim, Park & Nalbant, 2000: 90, figs. 1a, 2a (type locality: Korea: Chollabuk-do province: Namwon-gun district: Inwol-myon municipality: Naktong River at Jugkun-ri village; holotype: CNUC 21229; adjective, *-is, -is, -e*)

##### **4.8.2** *Koreocobitis rotundicaudata* (Wakiya & Mori, 1929)

*Cobitis rotundicaudata* Wakiya & Mori, 1929: 32, pl. 2 fig. 2 (type locality: Korea: Chung-chonbuk-do province: Dangyang-gun district: Yonsangchon-myon municipality: Youm Hyon stream, tributary of South Han River, at Shingok-ri village [original type locality: Korea: Soun Kan River at Tanyo]; neotype: CNUC uncat., designated by Kim, Park & Nalbant, 1997: 192 but questionable validity since reasons to believe that the original type materi-

al is lost are not explained, *Code* art. 75.3.4; adjective, *-us, -a, -um*)

#### **4.9** *Kottelatlimia* Nalbant, 1994

*Kottelatlimia* Nalbant, 1994: 377 (type species: *Lepidocephalichthys katik* Kottelat & Lim, 1992: 212, by original designation). Gender feminine.

##### **4.9.1** *Kottelatlimia hipporhynchus* Kottelat & Tan, 2008

*Kottelatlimia hipporhynchus* Kottelat & Tan, 2008: 64, fig. 1 (type locality: Indonesia: Borneo: Kalimantan Tengah: Kahayan drainage, blackwater stream at km 80 on road from Palangka Raya to Tumbang Telakian (35 km after turn-off at km 45 on road from Palangka Raya to Kasongan); 1°37.324'S 113°37.569'E; holotype: MZB 10977; compound noun, indeclinable)

##### **4.9.2** *Kottelatlimia katik* (Kottelat & Lim, 1992)

*Lepidocephalichthys katik* Kottelat & Lim, 1992: 212, fig. 6 (type locality: Malaysia; holotype: ZRC 9344; noun in apposition, indeclinable)

##### **4.9.3** *Kottelatlimia pristis* (Roberts, 1989)

*Lepidocephalichthys pristis* Roberts, 1989: 105, fig. 80 (type locality: Indonesia: Borneo: Kalimantan Barat: 30 km west of Sintang on road from Sanggau to Sintang; holotype: MZB 3527; noun in apposition, indeclinable)

#### **4.10** *Lepidocephalichthys* Bleeker, 1863

*Cobitichthys* Bleeker, 1858: 304 (type species: *Cobitis barbatus* Bleeker, 1851: 435, by monotypy; declared *nomen oblitum* under *Code* art. 23.9.2 by Kottelat & Tan, 2008b: 70). Gender masculine.

*Lepidocephalichthys* Bleeker, 1863a: 38 (type species: *Cobitis hasselti* Valenciennes, in Cuvier & Valenciennes, 1846: 74, by original designation; also in Bleeker, 1863c: 4, pl. 103; declared *nomen protectum* under *Code* art. 23.9.2 by Kottelat & Tan, 2008b: 70). Gender masculine.

*Platacanthus* Day, 1865a: 296 (type species: *Platacanthus agrensis* Day, 1865a: 296, by monotypy; junior homonym of *Platacanthus* Fischer von Waldheim, 1849: 80, in fossil fishes; also in Day, 1865b: 204). Gender masculine.

*Jerdonia* Day, 1871: 700 (type species: *Platacanthus maculatus* Day, 1868: 941, by monotypy; junior homonym of *Jerdonia* Blanford & Blanford, 1862: 348, in Mollusca). Gender feminine.

*Enobarbus* Whitley, 1928: 296 (replacement name for *Jerdonia* Day, 1871: 700; not a junior homonym of *Aenobarbus* Agassiz, 1842: 2, in Aves). Gender masculine.



*Enobarbichthys* Whitley, 1931: 107 (unnecessary replacement name for *Enobarbus* Whitley, 1928: 296). Gender masculine.

*Madrasia* Nalbant, 1963: 364 (replacement name for *Jerdonia* Day, 1871: 700). Gender feminine.

**Nomenclatural notes.** Whitley (1931: 107) proposed *Enobarbichthys* as a replacement name for *Enobarbus* which he considered preoccupied by "*Aenobarbus* Temminck, 1835". As the spellings of the two names differ, they are not homonyms and *Enobarbus* is available.

Whitley could not trace the original description of *Aenobarbus*. The reference given by Neave (1939: 73) is Agassiz (1842: 2) but in Agassiz (1842), the name is listed simply as "*Aenobarbus* Temm. Pl. Col. d'Ois. II, 1838. *Nom. propr.* (aenas; barba.) Columbinae." This refers to Temminck & Laugier de Chartrouse (1836), which I have examined. This is an unpaginated collection of plates and text and the name *Aenobarbus* does not appear in volume 2. Volume 1 has a 109-pages "Tableau méthodique" (1839) listing all birds, including those in the work, and I could not find *Aenobarbus*. The word *aenobarbus* only appears as *Allotrius aenobarbus* on plate 589 (dated 1836 by Dickinson, 2001: 46). The genus name *Aenobarbus* is made available by its mention by Agassiz (1842: 2), in which "nom. prop." indicates it is a proper noun, which means that the genus name is based on an existing noun, which can only refer to *Allotrius aenobarbus*. In conclusion, the author of *Aenobarbus* is Agassiz (1842: 2) and it is not a senior synonym of *Enobarbus*.

**4.10.1 *Lepidocephalichthys alkaia* Havird & Page, 2010**  
*Lepidocephalichthys alkaia* Havird & Page, 2010: 140, fig. 4 (type locality: Myanmar: Kachin State: Hpa-Lap stream, of Nam Chim Chaung, of Nan Kwe Chaung, northwest of Myitkyina, 25°31'36"N 97°22'45"E; holotype: USNM 372169; noun in apposition, indeclinable)

**4.10.2 *Lepidocephalichthys annandalei* Chaudhuri, 1912**  
*Lepidocephalichthys annandalei* Chaudhuri, 1912: 442, pl. 40 fig. 3 (type locality: India: Mahananda River at Siliguri and Tista River near Jalgaipuri; syntypes [total 7]: ZSI F 5593–5595/1 [3], Menon & Yazdani, 1968: 121; noun in genitive, indeclinable)

*Lepidocephalichthys menoni* Pillai & Yazdani, 1976: 13, fig. 1 (type locality: India: Meghalaya: South Garo Hills District: Someswari River at Baghmara [22°15'N 88°52'E]; holotype: ZSI/ETS V/ERS 551; noun in genitive, indeclinable)

**4.10.3 ? *Lepidocephalichthys arunachalensis* (Datta & Barman, 1984)**  
*Noemacheilus arunachalensis* Datta & Barman, 1984: 275, pl. 14 (type locality: India: Arunachal Pradesh: Tirap District: Namdapha River, Namdapha Wild Life Sanctuary; holotype: ZSI FF 1713; adjective, *-is, -is, -e*)

**Taxonomic notes.** Apparently a species of *Lepidocephalichthys* (see Kottelat, 1990a: 118). Validity unclear.

**4.10.4 *Lepidocephalichthys barbatuloides* (Bleeker, 1851)**  
*Cobitis barbatuloides* Bleeker, 1851: 435 (type locality: Indonesia: Borneo: Kalimantan Barat: Sambas; holotype:

RMNH 4960, Alfred, 1961: 33; adjective, indeclinable)  
**Taxonomic notes.** Tentatively recognised as valid (Kottelat & Tan, 2008b: 70). Not recorded since original description.

**4.10.5 *Lepidocephalichthys berdmorei* (Blyth, 1860)**

*Acanthopis* [sic] *Berdmorei* Blyth, 1860: 168 (type locality: Burma: Tenasserim provinces; holotype: ZSI F 2646/1, Kottelat & Lim, 1992: 205 [contra statement in Eschmeyer & Fricke, 2010, a single locality is stated in original description]; noun in genitive, indeclinable)

*Lepidocephalus cataractus* Fowler, 1939: 60, fig. 10 (type locality: Thailand: waterfall at Trang; holotype: ANSP 68470; treated as a noun in apposition, indeclinable [should have been *cataracta*])

*Lepidocephalus guntea birmanicus* Rendahl, 1948: 64, fig. 30 (original description; type locality: Myanmar: Shweli Kyaung, 24 miles east of 24°N 96°E; holotype: NRM 20829; adjective, *-us, -a, -um*)

? *Acanthophthalmus longipinnis* Menon, 1992: 93, fig. 10 (type locality: India: Manipur: Kharungpat Lake, 20 km south of Imphal; holotype: ZSI/SRS 3371; compound noun, indeclinable)

**4.10.6 *Lepidocephalichthys coromandelensis* Menon, 1992**

*Lepidocephalichthys coromandelensis* Menon, 1992: 67, fig. 4, pl. 6 fig. 1 (type locality: India: Andhra Pradesh: Araku Valley; holotype: ZSI/SRS F 3369; adjective, *-is, -is, -e*)

**4.10.7 *Lepidocephalichthys furcatus* (de Beaufort, 1933)**  
*Lepidocephalus furcatus* de Beaufort, 1933: 32 (type locality: Malaysia: Perak: Bukit Merah Reservoir; syntypes [6]: ZRC 1445 [3], ZMA 100.979 [1], BMNH 1969.11.13.1 [1], Kottelat & Lim, 1992: 207, Nijssen et al., 1993: 214, Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

**4.10.8 *Lepidocephalichthys goalparensis* Pillai & Yazdani, 1976**

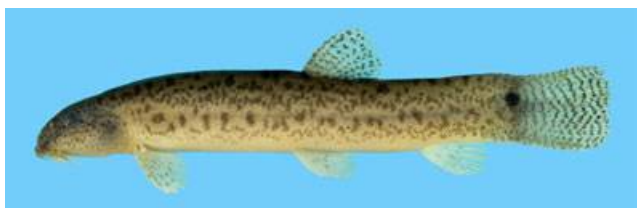
*Lepidocephalichthys goalparensis* Pillai & Yazdani, 1976: 15, fig. 2 (type locality: India: Assam: 6 km west of Dudhna Inspection Bungalow, Goalpara; holotype: ZSI/ERS V/ERS 519; adjective, *-is, -is, -e*)

*Lepidocephalus caudofurcatus* Tilak & Husain, 1979: 60, fig. 2 (type locality: India: Uttar Pradesh: Dehra Dun District: Kalapani nala Rishikesh; holotype: ZSI/NRS V-1186; adjective, *-us, -a, -um*)

**4.10.9 *Lepidocephalichthys guntea* (Hamilton, 1822)**

*Cobitis guntea* Hamilton, 1822: 353, 394 (type locality: Bengal [Goalpara; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 3; noun in apposition, indeclinable)

*Cobitis balgara* Hamilton, 1822: 356, 394 (type locality: India: Kosi River [at Nathpur, near the Nepal frontier; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 53 fig. 2; simultaneous subjective synonym of *Cobitis guntea* Hamilton, 1822: 353; first reviser [Day, 1878a: 609] gave precedence to *C. guntea*; noun in apposition, indeclinable)



**4.10.5** *Lepidocephalichthys bermorei*, CMK 22043, 62.8 mm SL; Thailand: Ranong.



**4.10.12** *Lepidocephalichthys jonklaasi*, CMK 7117, 53.7 mm SL; Sri Lanka: Wilpita.



**4.10.7** *Lepidocephalichthys furcatus*, CMK 16516, 21.5 mm SL; Thailand: Tapi drainage.



**4.10.14** *Lepidocephalichthys lorentzi*, CMK 6967, 27.5 mm SL; Indonesia: Borneo: Kapuas drainage.



**4.11.1** *Lepidocephalus* cf. *macrochir*, about 60 mm SL; Thailand: Chao Phraya drainage. (Photograph by Jörg Bohlen).

*Cobitis Maya* Sykes, 1839a: 162 (type locality: India: Decan [Mola Mola River at Poona; Sykes, 1841: 367 [Pune, 18°28'N 73°48'E]]; syntypes: LU; also in Sykes, 1839b: 59, 1841: 367; noun in apposition, indeclinable)

*Canthophrys vittatus* Swainson, 1839: 310 (available by indication to Hamilton, 1822 "Cob. No. 4" [p. 353, *Cobitis guntea*]; type locality: Bengal [Goalpara; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 3; adjective, *-us*, *-a*, *-um*)

*Canthophrys olivaceus* Swainson, 1839: 310 (available by indication to Hamilton, 1822 "Cob. No. 8" [p. 356, *Cobitis balgara*]; type locality: India: Kosi River [at Nathpur, near the Nepal frontier; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 53 fig. 2; adjective, *-us*, *-a*, *-um*)

? *Cobitis guttata* M'Clelland, 1839: 305, 438, pl. 52 figs. 5–6 (type locality: India: tanks in vicinity of Joorhath; syntypes: SMF 409 [1], Eschmeyer & Fricke, 2010 [as holotype]; adjective, *-us*, *-a*, *-um*)

*Cobitis phoxocheila* M'Clelland, 1839: 305, 439, pl. 52 fig. 4 (type locality: India: Arunachal Pradesh: Mishmee mountains; syntypes: ZSI [2]; compound adjective, *-us*, *-a*, *-um*)

? *Schistura aculeata* M'Clelland, 1839: 307 (type locality: India: Assam; types: LU; adjective, *-us*, *-a*, *-um*)

*Misgurnus lateralis* Günther, 1868: 346 (type locality: India: Bengal; holotype: BMNH 1858.8.15.49, Eschmeyer & Fricke, 2010; adjective, *-is*, *-is*, *-e*)

*Lepidocephalus dibruensis* Sen, 1979: 35, fig. 1 (type locality: India: Assam: Dibru River, Guijan, 60 km from Dibrugarh; holotype: ZSI FF 1203; adjective, *-is*, *-is*, *-e*)

*Lepidocephalichthys nepalensis* Shrestha, 1978: 37 (nomen nudum)

*Lepidocephalichthys nepalensis* Shrestha, 1981: 129, fig. 63 (type locality: Nepal: Biratnagar: Singhia River; holotype: TUK; adjective, *-is*, *-is*, *-e*)

**4.10.10** *Lepidocephalichthys hasselti* (Valenciennes, in Cuvier & Valenciennes, 1846)

*Cobitis Octocirrhus* Kuhl & van Hasselt, in van Hasselt, 1823: 133, 1824: 376 (nomen nudum, see Kottelat,

1987b: 371)

*Cobitis hasselti* Valenciennes, in Cuvier & Valenciennes, 1846: 74 (type locality: Indonesia: Java: Tjelankakan River [Tjelankahan; Kottelat & Lim, 1992: 210]; holotype: LU; based on a drawing sent by Kuhl and van Hasselt [reproduced in Roberts, 1993: fig. 27]; noun in genitive, indeclinable)

*Lepidocephalichthys nudus* Machan, 1931: 221 (type locality: Indonesia: Java: Kalen reservoir near Surabaya; syntypes: NMW 16151–16156 [6], Kottelat & Lim, 1992: 211; adjective, *-us*, *-a*, *-um*)

*Lepidocephalus taeniatus* Fowler, 1939: 63, figs. 11–12 (type locality: Thailand: waterfall at Trang; holotype: ANSP 68486; adjective, *-us*, *-a*, *-um*)

*Acanthopthalmus unistriatus* Roberts, 1993: 25 (not available, name published in synonymy)

**4.10.11** *Lepidocephalichthys irrorata* Hora, 1921

*Lepidocephalichthys irrorata* Hora, 1921b: 196, pl. 9 fig. 5 (type locality: India: Manipur [exact locality not explicitly stated, probably Loktak Lake]; holotype: ZSI F 9904/1; participle, *-us*, *-a*, *-um*)

**4.10.12** *Lepidocephalichthys jonklaasi* (Deraniyagala, 1956)

*Lepidocephalus jonklaasi* Deraniyagala, 1956: 35 (type locality: Sri Lanka: Southern Province: Akuressa; holotype: NMSL FF 727 A; noun in genitive, indeclinable)

**4.10.13** *Lepidocephalichthys kranos* Havird & Page, 2010

*Lepidocephalichthys kranos* Havird & Page, 2010: 149, fig. 8 (type locality: Thailand: Ubon Ratchathani: Mun River (tributary of Mekong River), marsh near University Ubon Ratchathani campus, 15°10'45.84"N

104°45'44.76"E; holotype: UF 171980; noun in apposition, indeclinable)

**4.10.14 *Lepidocephalichthys lorentzi* (Weber & de Beaufort, 1916)**

*Acanthophtalmus lorentzi* Weber & de Beaufort, 1916: 32, fig. 12 (type locality: Indonesia: Borneo: Kalimantan Barat: Upper Kapuas [at Putussibau; Roberts, 1989: 104]; holotype: ZMA 103.259, Nijssen et al., 1993: 213; noun in genitive, indeclinable)

**4.10.15 *Lepidocephalichthys micropogon* (Blyth, 1860)**

*Acanthopis* [sic] *micropogon* Blyth, 1860: 168 (type locality: Burma: Tenasserim provinces; types: lost, Kottelat & Lim, 1992: 209; compound noun, indeclinable)

*Lepidocephalichthys manipurensis* Arunkumar, 2000b: 1097, fig. 4 (type locality: India: Manipur: Chindwin drainage: Chandel District: Lairak Maru, tributary of Lokchao River near Moreh; holotype: MUMF2250/1A; adjective, *-is, -is, -e*)

**Taxonomic notes.** The figure of the mouth of *L. manipurensis* in the original description (Arunkumar, 2000b: 1099, fig. 5a) is a crude copy of the drawing of the mouth of *Kottelatlimia katik* in Kottelat & Lim (1992: 213, fig. 7c). The figure of the pectoral fin (fig. 3d) is based on that of *K. katik* in Kottelat & Lim (1992: fig. 7) in which the serrae have been removed, a second simple ray has been added (unlikely in Cobitidae and contradicting the text) and a structure added on branched ray 5 (not 6–7 as in text, and in all other species of the genus).

**4.10.16 *Lepidocephalichthys thermalis* (Valenciennes, in Cuvier & Valenciennes, 1846)**

*Cobitis thermalis* Valenciennes, in Cuvier & Valenciennes, 1846: 78 (type locality: Sri Lanka: hot waters of Cania; syntypes: MNHN 1082 [7], Bertin & Estève, 1948: 93; adjective, *-is, -is, -e*)

*Cobitis Carnaticus* Jerdon, 1849: 331 (type locality: India: Carnatic; types: NT; adjective, *-us, -a, -um*)

*Cobitis Mysorensis* Jerdon, 1849: 332 (type locality: India: Mysore; syntypes: NT; adjective, *-is, -is, -e*)

*Cobitis rubripinnis* Jerdon, 1849: 332 (type locality: India: Malabar; syntypes: NT; junior homonym of *Cobitis rubripinnis* Temminck & Schlegel, 1846: 222, pl. 103 fig. 1; compound noun, indeclinable)

*Platacanthus agrensis* Day, 1865a: 296 (type locality: India: Kerala: Trichoo near Cochin; holotype: BMNH 1865.7.17.25 [1], 1867.5.10.17–19 [3] or 1975.9.30.12 [1], Whitehead & Talwar, 1976: 156, Eschmeyer & Fricke, 2010; also in Day, 1865b: 204, pl. 14 fig. 1; adjective, *-is, -is, -e*)

*Platacanthus maculatus* Day, 1868: 941 (type locality: India: Madras; holotype: BMNH 1868.10.28:36, Harant & Bohlen, 2010: 2446, fig. 1a, Whitehead & Talwar, 1976: 157, Menon, 1992: 85; adjective, *-us, -a, -um*)

**4.10.17 *Lepidocephalichthys tomaculum* Kottelat & Lim, 1992**

*Lepidocephalichthys tomaculum* Kottelat & Lim, 1992: 216, fig. 9 (type locality: Malaysia: Selangor: Sungai Bernam

basin: North Selangor peat swamp forest, stream at 34 km mark on road from Sungai Besar to Tanjong Malim; approx. 3°40'N 101°20'E; holotype: ZRC 14938; noun in apposition, indeclinable)

**4.10.18 *Lepidocephalichthys zeppelini* Havird & Tangjitjaroen, in Havird, Page, Tangjitjaroen, Vidthayanon, Grudpan & Udduang, 2010**

*Lepidocephalichthys zeppelini* Havird & Tangjitjaroen, in Havird, Page, Tangjitjaroen, Vidthayanon, Grudpan & Udduang, 2010: 6, fig. 1 (type locality: Thailand: Ubon Ratchathani Province: Mun River (Mekong drainage), isolated pools in rice field, Ubon Rajathani University campus, 15°08'03.18"N 104°55'27.78"E; holotype: UF 174131; noun in genitive, indeclinable)

**4.11 *Lepidocephalus* Bleeker, 1858**

*Lepidocephalus* Bleeker, 1858: 303 (type species: *Cobitis macrochir* Bleeker, 1854b: 97, by subsequent designation by Bleeker, 1863a: 38, 1863c: 4). Gender masculine.

**4.11.1 *Lepidocephalus macrochir* (Bleeker, 1854)**

*Cobitis macrochir* Bleeker, 1854b: 97 (type locality: Indonesia: Sumatra: Palembang: confluence of Lamatang [Lematang] and Enim Rivers / Central Java: Surakarta, in Pepeh River; syntypes [5, 64–91 mm TL]: RMNH, BMNH 1866.5.2.55 [1], Eschmeyer & Fricke, 2010; compound noun, indeclinable)

*Lepidocephalichthys pallens* Vaillant, 1902: 153, fig. 47 (type locality: Indonesia: Borneo: Kalimantan Barat: Kapuas River, possibly at Sintang; holotype: RMNH 7783, Eschmeyer & Fricke, 2010; adjective, indeclinable)

*Acanthophtalmus pahangensis* de Beaufort, 1933: 31 (type locality: Malaysia: 'fish-drive' off Mentakab, Pahang River; holotype: ZRC 490, Alfred, 1970: 70; adjective, *-is, -is, -e*)

**4.11.2 *Lepidocephalus spectrum* Roberts, 1989**

*Lepidocephalus spectrum* Roberts, 1989: 106, fig. 81 (type locality: Indonesia: Borneo: Kalimantan Barat: Sungai Melawi near confluence with Kapuas, about 0.5 km upstream from Sintang; holotype: MZB 3533; noun in apposition, indeclinable)

**4.12 *Microcobitis* Bohlen & Harant, 2011**

*Microcobitis* Bohlen & Harant, 2011: 296 (type species: *Cobitis misgurnoides* Rendahl, 1944: 21, by original designation). Gender feminine.

**4.12.1 *Microcobitis misgurnoides* (Rendahl, 1944)**

*Cobitis misgurnoides* Rendahl, 1944: 21, fig. 10 (type locality: Vietnam: Annam: Thua Luu, 50 km south-east of Huế; holotype: NHMG; adjective, indeclinable)

? *Cobitis nuicocensis* Nguyen & Vo, in Nguyen, 2005: 560, fig. 9 (type locality: Vietnam: Thai Nguyen Province: Dai Tu district: Cong River, flowing to Nui Coc lake; holotype: NCNTTSI; adjective, *-is, -is, -e*)



**4.13 *Misgurnus* La Cepède, 1803**

*Misgurnus* La Cepède, 1803: 16 (type species: *Cobitis fossilis* Linnaeus, 1758: 303, by monotypy). Gender masculine.

*Ussuria* Nikolski, 1904: 362 (type species: *Ussuria leptcephala* Nikolski, 1904: 362, by monotypy). Gender feminine.

*Mesomisgurnus* Fang, 1935b: 129 (type species: *Nemacheilus bipartitus* Sauvage & Dabry de Thiersant, 1874: 16, by original designation). Gender masculine.

**Taxonomic notes.** Several chromosome and molecular studies (e.g. Šlechtová et al., 2008; Kitagawa et al., 2011; Perdices et al., 2012) show that the genus *Misgurnus* is polyphyletic.

**4.13.1 *Misgurnus anguillicaudatus* (Cantor, 1842)**

*Cobitis anguillicaudata* Cantor, 1842: 485 (type locality: China: Chusan Island; syntypes: BMNH 2007.9.17.2 [1], 2007.9.17.3–10 [8], Günther, 1868: 345; adjective, *-us*, *-a*, *-um*)

*Cobitis bifurcata* M'Clelland, 1844: 400, pl. 23 fig. 1 (type locality: China: Chusan Island; types: LU; adjective, *-us*, *-a*, *-um*)

*Cobitis pectoralis* M'Clelland, 1844: 400, pl. 23 fig. 3 (type locality: China: Chusan Island; types: LU; noun in apposition, indeclinable)

*Cobitis psammismus* Richardson, 1846a: 300 (type locality: China: Canton; holotype: specimen on which is based Reeves's unpublished drawing, reproduced in Whitehead, 1970: 210, pl. 19 fig. a; noun in apposition, indeclinable)

*Cobitis haematopterus* Richardson, 1846a: 301 (type locality: Japan; holotype: ? BMNH; compound adjective, *-us*, *-a*, *-um*)

*Cobitis rubripinnis* Temminck & Schlegel, 1846: 220, pl. 103 fig. 1 (type locality: Japan: surroundings of Nagasaki; lectotype: RMNH 2705b, designated by Boeseman, 1947: 166; compound noun, indeclinable)

*Cobitis maculata* Temminck & Schlegel, 1846: 221, pl. 103 fig. 2 (type locality: Japan [surroundings of Nagasaki]; holotype: ? RMNH 2705f, Boeseman, 1947: 166 [Boeseman commented that the specimen on the plate is not the specimen described in the text and that RMNH 2705f is very similar to the plate; if the plate appeared before the text and if the plate is really based on this specimen, it is the holotype; if the text and plate appeared together, it is possibly a syntype]; adjective, *-us*, *-a*, *-um*)

*Cobitis micropus* Valenciennes, in Cuvier & Valenciennes, 1846: 29 (type locality: China; holotype: MNHN 5688, Bertin & Estève, 1948: 95; compound noun, indeclinable)

*Cobitis decemcirrosus* Basilewsky, 1855: 239, pl. 7 fig. 2 (type locality: China: stagnant waters near Beijing; types: ZISP ?; adjective, *-us*, *-a*, *-um*)

*Cobitichthys enalios* Bleeker, 1859b: 259 (nomen nudum)

*Cobitichthys dichachrous* Bleeker, 1859b: 259 (nomen nudum)

*Cobitichthys polynema* Bleeker, 1859b: 259 (nomen nudum)

*Cobitichthys enalios* Bleeker, 1860b: 88, pl. 2 fig. 4 (type locality: Japan: Kaminoseki; holotype: BMNH 1862.5.2.26 [1], Günther, 1868: 346; treated as noun in apposition, indeclinable)

*Cobitichthys dichachrous* Bleeker, 1860b: 89, pl. 2 fig. 2

(type locality: Japan: Jedo [Tokyo]; holotype: BMNH 1866.5.2.96 [1], Günther, 1868: 347; etymology unknown, indeclinable)

*Cobitichthys polynema* Bleeker, 1860b: 90, pl. 2 fig. 3 (type locality: Japan: Jedo [Tokyo]; holotype: BMNH 1866.5.2.24, Günther, 1868: 346; compound noun, indeclinable)

*Cobitis erythropterus* Günther, 1868: 345 (not available, unpublished name in collection)

*Misgurnus maculatus* Bleeker, 1872: 146 (nomen nudum; locality: China)

*Cobitis He-tsieou* Dabry de Thiersant, 1872: 191, pl. 49 fig. 1 (name not binominal, not available; locality: Central China)

? *Cobitis cirrhifurcata* Dabry de Thiersant, 1872: 191, pl. 49 fig. 2 (type locality: China: lakes of the inner of China, Yang-tsee-kiang [Yangtze]; holotype: NT; adjective, *-us*, *-a*, *-um*)

*Cobitis ny-tsieou* Dabry de Thiersant, 1872: 191, pl. 49 fig. 3 (name not binominal, not available; China: Yang-tsee-kiang [Yangtze], lakes and ponds of China)

*Nemachilus lividus* Sauvage & Dabry de Thiersant, 1874: 15 (type locality: China; syntypes: MNHN 5237 [2], Fang, 1935b: 139, fig. 9, Bertin & Estève, 1948: 95; adjective, *-us*, *-a*, *-um*)

*Misgurnus crossochilus* Sauvage, 1878a: 89 (type locality: China: Fujian: high mountains of Koaten [Fujian: Kuantun, 27°51'N 117°48'E; see *Crossostoma davidi*]; syntypes: MNHN 9822 [4], Bertin & Estève, 1948: 95; compound adjective, *-us*, *-a*, *-um*)

*Misgurnus anguillicaudatus tungting* Nichols, 1925f: 3 (type locality: China: Hunan: Huping, Tungting Lake; holotype: AMNH 8393; noun in apposition, indeclinable)

*Misgurnus mizolepis fukien* Nichols, 1925f: 4 (type locality: China: Fukien [Fujian]: Yenping [Yanping]; holotype: AMNH 8394; noun in apposition, indeclinable)

*Misgurnus mizolepis hainan* Nichols & Pope, in Nichols, 1925f: 4 (type locality: China: Hainan: Nodoo; holotype: AMNH 8363; also in Nichols & Pope, 1927: 337, fig. 9, pl. 16 fig. 1; noun in apposition, indeclinable)

*Misgurnus mizolepis grangeri* Nichols, 1925f: 5 (type locality: China: Sichuan: Yen-ching-kaio; holotype: AMNH 8395; noun in genitive, indeclinable)

*Misgurnus mohoity yunnan* Nichols, 1925f: 5 (type locality: China: Yunnan: Yunnanfu [Kunming]; holotype: AMNH 8396; noun in apposition, indeclinable)

*Misgurnus mohoity leopardus* Nichols, 1925f: 6 (type locality: China: Hunan: Tungting Lake; holotype: AMNH 8397; noun in apposition, indeclinable)

*Misgurnus punctatus* Oshima, 1926: 5 (type locality: China: Hainan: Kachek River near Kachek; holotype: LU; adjective, *-us*, *-a*, *-um*)

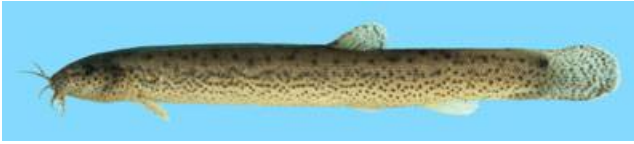
*Misgurnus anguillicaudatus formosanus* Rendahl, 1936: 302 (type locality: Taiwan: Lake Candidius; holotype: NRM 10354; adjective, *-us*, *-a*, *-um*)

*Misgurnus mizolepis heungchow* Lin, 1932a: 66 (type locality: China: Guangdong: Heungchow; syntypes: LU; noun in apposition, indeclinable)

*Misgurnus mizolepis unicolor* Lin, 1932a: 66 (type locality: China: Guangdong: East Fisheries Experiment Station



**4.12.1** *Microcobitis* cf. *misgurnoides*, CMK 19846, 31.1 mm SL; Laos: Mekong drainage: Nakai reservoir.



**4.13.1** *Misgurnus anguillicaudatus*, CMK 14918, 81.3 mm SL; Vietnam: Mong Cai.

Canton; holotype: LU; adjective, indeclinable)

*Misgurnus elongatus* Kimura, 1934: 158, pl. 5 fig. 1 (type locality: China: Shanghai; holotype: LU; adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** Synonymy largely follows Chen (1981) but needs re-evaluation. Chromosome and genetic data (e.g. Yu et al., 1989: 160; Dong et al., 1999; Shimizu & Takagi, 2010; Kitagawa et al., 2011; Perdices et al., 2012) suggest that several species are confused under the name *M. anguillicaudatus*. See also comments under *Paramisgurnus dabryanus*.

**4.13.2** *Misgurnus buphoensis* Kim & Pak, 1995

*Misgurnus buphoensis* Kim & Pak, 1995: 54, fig. (type locality: North Korea: North Hamgyong province: Sonbong county: Bupori; holotype: MIZASDPK 93-65; adjective, *-is*, *-is*, *-e*)

**4.13.3** *Misgurnus fossilis* (Linnaeus, 1758)

*Cobitis fossilis* Linnaeus, 1758: 303 (based on J. F. Gronovius [1748: 79, pl. 3, *Cobitis aculeo bifurco* ...], Artedi [1738: gen. [spec.] 2, syn. 3, *Cobitis caerulescens* ...] and Linnaeus [1754: 76, idem]; type locality: "in Europa"; syntypes: BMNH 1853.11.12:121 [1], NRM 69 [1], Wheeler, 1958: 213, Fernholm & Wheeler, 1983: 218; adjective, *-is*, *-is*, *-e*)

? *Petromizon* [sic] *variegatus* Wulff, 1765: 16 (type locality: Borussia [Prussia]; type material: NT; adjective, *-us*, *-a*, *-um*)

**4.13.4** *Misgurnus mohoity* (Dybowski, 1869)

*Cobitis fossilis* var. *mohoity* Dybowski, 1869: 957 (type locality: Russia: Siberia: Zabaykalsky Krai: muddy lakes of Onon and Ingoda drainages [near Duldurga, on Ila River; Vasil'eva, 2001: 553]; syntypes: NMW 80070 [4], 83462 [1], Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

*Nemachilus bipartitus* Sauvage & Dabry de Thiersant, 1874: 16 (type locality: North China and Central China [Sichuan]; syntypes: MNHN 3931 [2], 4655 [9], Fang, 1935b: 136, fig. 7, Bertin & Estève, 1948: 95; adjective, *-us*, *-a*, *-um*)

? *Misgurnus maculatus* Bleeker, 1872: 146 (nomen nudum; locality: China)



**4.13.4** *Misgurnus mohoity*, CMK 19646, 103.4 mm SL; Mongolia: Amur drainage: Bayan Gol.



**4.13.7** *Misgurnus tonkinensis*, 82.5 mm SL; Vietnam: Vinh.

? *Misgurnus spilurus* Bleeker, 1872: 146 (nomen nudum; locality: China)

*Misgurnus cestoideus* Kessler, 1876: 34 (type locality: China: Nei Mongol: Lake Dalai-Nor [Dalai Nur; 43°18'N 116°40'E; not Hu-Lun Lake, which is another Dalai Nur]; holotype: ZISP 2488, Eschmeyer & Fricke, 2010; adjective, *-us*, *-a*, *-um*)

*Cobitis ajdan* Dybowski, in Sinicyn, 1900: 49 (nomen nudum; material: "Imperial Warsaw University" 2769 [Onon River], ZMB 7116 [2, Dauria])

*Ussuria leptcephala* Nikolski, 1904: 362 (type locality: Russia: Ussuri River [Ussury River near Khabarovsk] / Mongolia: Cherulu River [Kherlen; Vasil'eva, 2001: 553]; syntypes: ZISP 10655 [1], ZISP 12791 [1]; compound adjective, *-us*, *-a*, *-um*)

*Misgurnus erikssoni* Rendahl, 1922: 3 (type locality: Mongolia: Djaggaste [about 120 km on road from Kalgan [Zhangjiakou] to Uрга [Ulaan Baatar], 41.7039°N 113.839°E, NRM catalogue]; syntypes [18]: NRM 10339 [13], MNHN 1933.115 [1], AMNH [2], Bertin & Estève, 1948: 95, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

**4.13.5** *Misgurnus multimaculatus* Rendahl, 1944

*Misgurnus mizolepis multimaculatus* Rendahl, 1944: 13, fig. 6 (type locality: Vietnam: Annam: Thua Luu, 50 km south-east of Hué; holotype: NHMG; adjective, *-us*, *-a*, *-um*)

**4.13.6** *Misgurnus nikolskyi* Vasil'eva, 2001

*Misgurnus nikolskyi* Vasil'eva, 2001: 589, fig. 3 [p. 560 of translation] (type locality: Russia: Primorsky Krai: a lake near Lefu River [Ilistaya; a tributary of Lake Khanka], near Novokorovinskaya [p. 561]; holotype: ZMMU P-20792; noun in genitive, indeclinable)

**4.13.7** *Misgurnus tonkinensis* Rendahl, 1937

*Misgurnus mizolepis tonkinensis* Rendahl, 1937: 2, fig. 1 (type locality: Vietnam: Tonkin: Hanoi; holotype: NRM 10653; adjective, *-is*, *-is*, *-e*)

**4.14** *Neoeucirrhichthys* Banareescu & Nalbant, 1968

*Neoeucirrhichthys* Bănărescu & Nalbant, 1968: 349 (type species: *Neoeucirrhichthys maydelli* Bănărescu & Nalbant, 1968: 349, by original designation). Gender masculine.



**4.14.1** *Neoeucirrhichthys maydelli*, CMK 21126, 31.8 mm SL; Bangladesh: Brahmaputra drainage.



**4.15.1** *Niwaella delicata*, 82 mm SL; Japan: Shiga Prefecture: Yasu River. (Photograph by Kazumi Hosoya).

**4.14.1 *Neoeucirrhichthys maydelli* Banareescu & Nalbant, 1968**

*Neoeucirrhichthys maydelli* Bănărescu & Nalbant, 1968: 349, fig. 15 (type locality: India: Assam: Goalpara District: Janali River at Raimona; holotype: ZMH H 3609, Wilkens, 1977: 158; noun in genitive, indeclinable)

**4.15 *Niwaella* Nalbant, 1963**

*Niwaella* Nalbant, 1963: 362 (type species: *Cobitis delicata* Niwa, 1937: 72, by original designation). Gender feminine.

**Taxonomic notes.** *Niwaella laterimaculata*, *N. longibarba* and *N. xinjiangensis* have a colour pattern somewhat similar to that of *Iksookimia* but do not have sexually dimorphic pectoral fins. They were placed in *Niwaella* by Chen & Chen (2005), which, besides being geographically distant, has a different appearance and colour pattern. They are tentatively retained in *Niwaella* but may represent an unnamed lineage.

**4.15.1 *Niwaella delicata* (Niwa)**

*Cobitis delicata* Niwa, 1937: 72 (type locality: Japan: Agi River, a tributary of Kiso River; holotype: LU; adjective, *-us, -a, -um*)

**4.15.2 ? *Niwaella laterimaculata* (Yan & Zheng, 1984)**

*Cobitis laterimaculata* Yan & Zheng, 1984: 82, fig. 1 (type locality: China: Zhejiang: Fenghua County: Yongjiang River at Xikou; holotype: LFZFC 821138; adjective, *-us, -a, -um*)

**4.15.3 ? *Niwaella longibarba* Chen & Chen, 2005**

*Niwaella longibarba* Chen & Chen, 2005: 1647, figs. 1d, 5 (type locality: China: Zhejiang: Chengxian County: Cao'ejiang River, Huangzezhen, 29°36.3'N 120°54.4'E; holotype: IHB 9607011; compound noun, indeclinable)

**4.15.4 ? *Niwaella xinjiangensis* Chen & Chen, 2005**

*Niwaella xinjiangensis* Chen & Chen, 2005: 1649, figs. 1e, 6 (type locality: China: Jiangxi: Guafeng County: Xinjiang River, "main upper stream of Boyanghu Lake", Yangtze drainage, 28°26.1'N 119°10.2'E; holotype: IHB 90V1610; adjective, *-is, -is, -e*)



**4.16.16** *Pangio kuhlii*, CMK 10045, 66.2 mm SL; Indonesia: Java: Banten.



**4.16.17** *Pangio lidi*, CMK 21800, 62.1 mm SL; Indonesia: Borneo: Mahakam drainage.

**4.16 *Pangio* Blyth, 1860**

*Acanthopthalmus* Bleeker, 1858: 304 (incorrect subsequent spelling of *Acanthopthalmus* van Hasselt, 1823: 132; not a junior homonym of *Acanthopthalmus* van Hasselt, 1824: 376 as this is also an incorrect subsequent spelling of *Acanthopthalmus* van Hasselt, 1823: 132 and on Official Index of Rejected and Invalid Generic Names in Zoology, ICZN, 1992b: 248 [Opinion 1695])

*Pangio* Blyth, 1860: 169 (type species: *Cobitis cinnamomea* M'Clelland, 1839: 304, by monotypy). Gender feminine [Code art. 30.2.3].

*Apua* Blyth, 1860: 169 (type species: *Apua fusca* Blyth, 1860: 169, by monotypy; simultaneous subjective synonym of *Pangio* Blyth, 1860: 169, first reviser [Kottelat, 1987b: 371] gave precedence to *Pangio*). Gender feminine.

*Eucirrhichthys* Perugia, 1892: 1009 (type species: *Eucirrhichthys doriae* Perugia, 1892: 1009, by monotypy). Gender masculine.

*Cobitophis* Myers, 1927: 4 (type species: *Acanthopthalmus anguillaris* Vaillant, 1902: 151, by original designation). Gender masculine.

**Nomen nudum:**

*Pangio bashai* Easa & Shaji, 1997: 181 (nomen nudum; locality: India: Kerala: Nilgiri Biosphere Reserve); Raju Thomas et al., 1999: 479 (nomen nudum); Anna Mercy, Gopalakrishnan, Kapoor & Lakra, 2007: 142, fig. (nomen nudum; locality: none stated, but India: Western Ghat)

**4.16.1 *Pangio agma* (BurrIDGE, 1992)**

? *Acanthopthalmus borneensis* Boulenger, 1894a: 251 (type locality: Malaysia: Borneo: Sarawak: Baram River; syntypes: BMNH 1889.7.31.14 [1], MNHN 1894.18 [1], Bertin & Estève, 1948: 91, Eschmeyer & Fricke, 2010, Kottelat et al., 1993: pl. 29; adjective, *-is, -is, -e*)

*Acanthopthalmus agmus* BurrIDGE, 1992: 180, fig. 6 (type locality: Malaysia: Borneo: Sarawak: Fourth Division: Sungai Lawa, 1 km upstream of confluence with Baram River; holotype: ROM 58726; adjective, *-us, -a, -um*)

**4.16.2 *Pangio alcoides* Kottelat & Lim, 1993**

*Pangio alcoides* Kottelat & Lim, 1993: 208, fig. 1 (type local-



ity: Malaysia: Terengganu: Rantau Abang, stream at 154-km stone on road from Kuala Terengganu to Kuantan; holotype: ZRC 17209; adjective, indeclinable)

#### 4.16.3 *Pangio alternans* Kottelat & Lim, 1993

*Pangio alternans* Kottelat & Lim, 1993: 210, fig. 3 (type locality: Indonesia: Borneo: Kalimantan Timur: Mahakam drainage: blackwater stream entering Mahakam River on northern side near Mujub; 0°01'S 115°43'E; holotype: MZB 5895; participle, indeclinable)

#### 4.16.4 *Pangio ammophila* Britz, Ali & Raghavan, 2012

*Pangio ammophila* Britz, Ali & Raghavan, 2012: 46, figs. 1–2 (type locality: India: Karnataka: Subramanya, Kumaradhara river, 12°00'19"N 75°53'24" E, 811 masl; holotype: CRG-SAC.2012.1.1; adjective, *-us, -a, -um*)

#### 4.16.5 *Pangio anguillaris* (Vaillant, 1902)

*Acanthopthalmus anguillaris* Vaillant, 1902: 151, fig. 46 (type locality: Indonesia: Borneo: Kalimantan Barat: Kapuas River, possibly at Sintang; holotype: RMNH 7788, Eschmeyer & Fricke, 2010 [a single specimen implied on p. 153]; adjective, *-is, -is, -e*)

*Acanthopthalmus vermicularis* Weber & de Beaufort, 1916: 34 (type locality: Indonesia: Sumatra: Kampar Kiri River; holotype: ZMA 100.260, Nijssen et al., 1982: 26; adjective, *-is, -is, -e*)

*Cobitophis perakensis* Herre, 1940: 8, pl. 2 (type locality: Malaysia: Perak: lake above Chenderoh Dam; holotype: CAS-SU 33004, Böhlke, 1953: 39; adjective, *-is, -is, -e*)

**Taxonomic notes.** Several species are confused under this name. See also molecular data in Bohlen et al. (2011).

#### 4.16.6 *Pangio apoda* Britz & Maclaine, 2007

*Pangio apoda* Britz & Maclaine, 2007: 28, fig. 8 (type locality: India: West Bengal: Brahmaputra drainage: Tista River at Tista Barrage; holotype: UMMZ 247779; adjective, *-us, -a, -um*)

#### 4.16.7 *Pangio atactos* Tan & Kottelat, 2009

*Pangio atactos* Tan & Kottelat, 2009: 57, fig. 42 (type locality: Indonesia: Sumatra: Jambi: Danau Kamining near Kampung Trastos, ca. 5 km southwards on unpaved road turning-off from Muara Bungo - Muara Tebo road at km 36; holotype: MZB 10995; treated as noun in apposition, indeclinable)

#### 4.16.8 *Pangio bitaimac* Tan & Kottelat, 2009

*Pangio bitaimac* Tan & Kottelat, 2009: 59, fig. 43 (type locality: Indonesia: Sumatra: Jambi: Sungai Alai; holotype: MZB 10997; noun in apposition, indeclinable)

#### 4.16.9 *Pangio cuneovirgata* (Raut, 1957)

*Acanthopthalmus cuneovirgatus* Raut, 1957: 30, figs. (type locality: unknown, possibly "Jahore/Hinterindien" [Malaysia: Johor]; holotype: ZMB 21332; adjective, *-us, -a, -um*)

#### 4.16.10 *Pangio doriae* (Perugia, 1892)

*Eucirrhichthys doriae* Perugia, 1892: 1009 (type locality:

Malaysia: Borneo: Sarawak; syntypes: MCSNG 9231 [4], ZMA 114.898 [1], Tortonese, 1961: 188, Nijssen et al., 1982: 28; noun in genitive, indeclinable)

#### 4.16.11 *Pangio elongata* Britz & Maclaine, 2007

*Pangio elongata* Britz & Maclaine, 2007: 18, fig. 1 (type locality: Myanmar: Tenasserim: mouth of Mingaw Kloh [Min Ngaw Chaung, stream entering Tenasserim River at 13°25'N 99°01'E]; holotype: BMNH 1992.11.16.13; adjective, *-us, -a, -um*)

#### 4.16.12 *Pangio filinaris* Kottelat & Lim, 1993

*Pangio filinaris* Kottelat & Lim, 1993: 219, fig. 9 (type locality: Malaysia: Terengganu: Sungai Tersat, a tributary of Sungai Terengganu, immediately downriver of Sekayu Waterfall Park, 4°57'51"N 102°57'45"E; holotype: ZRC 34915; compound noun, indeclinable)

#### 4.16.13 *Pangio fusca* (Blyth, 1860)

*Apua fusca* Blyth, 1860: 169 (type locality: Burma: Tenasserim; syntypes [3]: ZSI F 2647/1 [2], ? AMS B.7500 [1], Hora, 1921d: 32, Menon & Yazdani, 1968: 120, Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

#### 4.16.14 *Pangio goaensis* (Tilak, 1972)

*Acanthopthalmus goaensis* Tilak, 1972: 62, fig. 1 (type locality: India: Goa: Colem River; holotype: ZSIF 6150/2; adjective, *-is, -is, -e*)

#### 4.16.15 *Pangio incognito* Kottelat & Lim, 1993

*Pangio incognito* Kottelat & Lim, 1993: 221, fig. 11 (type locality: Borneo: Sarawak: km 42 on road from Lindu to Kuching, west of Sungei Stinggang; holotype: ZRC 34913; treated as noun in apposition, indeclinable)

#### 4.16.16 *Pangio kuhlii* (Valenciennes, in Cuvier & Valenciennes, 1846)

*Acanthopthalmus fasciatus* van Hasselt, 1823: 133 (nomen nudum, Kottelat, 1987b: 371)

*Acanthopthalmus fasciatus* van Hasselt, 1824: 377 (nomen nudum)

*Cobitis kuhlii* Valenciennes, in Cuvier & Valenciennes, 1846: 77 (type locality: Indonesia: Java: Krawang; neotype: RMNH 2688, designated by Burridge, 1992: 182 [holotype listed by Bertin & Estève, 1948: 91, Eschmeyer & Fricke, 2010, has no type status, see Burridge, 1992: 181]; noun in genitive, indeclinable)

*Acanthopthalmus fasciatus* Bleeker, 1860c: 74 (type locality: Indonesia: Java: Krawang; neotype: RMNH 2688, designated by Kottelat & Lim, 1993: 224; objective junior synonym of *Cobitis kuhlii* Valenciennes, in Cuvier & Valenciennes, 1846: 77; adjective, *-us, -a, -um*)

#### 4.16.17 *Pangio lidi* Hadiaty & Kottelat, 2009

*Pangio lidi* Hadiaty & Kottelat, 2009b: 65, figs. 1–2 (type locality: Indonesia: Kalimantan Timur: Mahakam drainage, Ulu Belayan, Sungai Petung Kanan, 0°32'06"N 116°10'55"E; holotype: MZB 16528; noun in apposition, indeclinable)

**4.16.18 *Pangio longimanus* Britz & Kottelat, 2010**

*Pangio longimanus* Britz & Kottelat, 2010: 373, fig. 1 (type locality: Laos: Vientiane Province: confluence of Nam Leuk and Nam Gnong, 18°22'04"N 103°05'27"E; holotype: ZRC 51933; compound noun, indeclinable)

**4.16.19 *Pangio lumbriciformis* Britz & Maclaine, 2007**

*Pangio lumbriciformis* Britz & Maclaine, 2007: 22, fig. 4 (type locality: Myanmar: Irrawaddy basin: Nan Kwe stream [near Myitkyna]; holotype: BMNH 2006.9.29.6; adjective, *-is, -is, -e*)

**4.16.20 *Pangio malayana* (Tweedie, 1956)**

*Acanthopthalmus kuhlii malayanus* Tweedie, 1956: 58, pl. 6a (type locality: Malaysia: Pahang: Kuala Tahan; holotype: BMNH 1957.1.23.1; adjective, *-us, -a, -um*)

**4.16.21 *Pangio mariarum* (Inger & Chin, 1962)**

*Acanthopthalmus mariaae* Inger & Chin, 1962: 118, fig. 56 (type locality: Malaysia: Borneo: Sabah: Kinabatangan District: small tributary of Kinabatangan River at Deramakot; holotype: FMNH 68161; incorrect original spelling, emended into *mariarum* [Code art. 31.1.2], Kottelat, 1989: 13; noun in genitive, indeclinable)

**Nomenclatural notes.** The species was named for two women named Mary. The original spelling *mariae* must be emended into *mariarum* (Code art. 31(a)(ii); Kottelat, 1989: 13).

**4.16.22 *Pangio muraeniformis* (de Beaufort, 1933)**

*Acanthopthalmus muraeniformis* de Beaufort, 1933: 32 (type locality: Singapore: Thomson Road; syntypes: ZRC 1052 [2], ZMA 103.185 [3], CAS-SU 32602 [1], Nijsen et al., 1993: 213, Böhlke, 1953: 39; adjective, *-is, -is, -e*)

**4.16.23 *Pangio myersi* (Harry, 1949)**

*Acanthopthalmus myersi* Harry, 1949: 69 (type locality: Southeastern Thailand: Nong Khor; holotype: USNM 103300; noun in genitive, indeclinable)

**4.16.24 *Pangio oblonga* (Valenciennes, in Cuvier & Valenciennes, 1846)**

*Acanthopthalmus javanicus* van Hasselt, 1823: 133 (nomen nudum, Kottelat, 1987b: 371)

*Acanthopthalmus javanicus* van Hasselt, 1824: 377 (nomen nudum)

*Cobitis oblonga* Valenciennes, in Cuvier & Valenciennes, 1846: 76 (type locality: Indonesia: Java: Bogor; neotype: ZRC 35047, designated by Kottelat & Lim, 1993: 234 [RMNH 2710 listed as possible syntypes by Eschmeyer & Fricke, 2010 cannot be syntype as Valenciennes based his description on a drawing of a single specimen]; adjective, *-us, -a, -um*)

*Acanthopthalmus javanicus* Bleeker, 1860c: 75 (type locality: Indonesia: Java: Bogor; neotype: ZRC 35047, designated by Kottelat & Lim, 1993: 235 [RMNH 7061 listed by Eschmeyer & Fricke, 2010 are not syntypes; a lectotype designation by Kottelat & Lim, 1993: 235 made them paralectotypes if they really were syntypes; the lectotype is lost and a neotype was designated]; objective junior

synonym of *Cobitis oblonga* Valenciennes, in Cuvier & Valenciennes, 1846: 76; adjective, *-us, -a, -um*)

**Taxonomic notes.** Several species are confused under this name. See also molecular data in Bohlen et al. (2011).

**4.16.25 *Pangio pangia* (Hamilton, 1822)**

*Cobitis pangia* Hamilton, 1822: 355, 394 (type locality: India: "north-eastern parts of Bengal" [Goalpara; Hora, 1935a: 49]; types: NT; on Official List of Specific Names in Zoology, ICZN 1992b: 248 [Opinion 1695]; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 5, Britz & Maclaine, 2007: 25, fig. 6; noun in apposition, indeclinable)

*Cobitis cinnamomea* M'Clelland, 1839: 304, 435, pl. 51 fig. 5 (unnecessary replacement name for *Cobitis pangia* Hamilton, 1822: 335; adjective, *-us, -a, -um*)

*Canthophrys rubiginosus* Swainson, 1839: 310 (available by indication to Hamilton, 1822: "Cob. No. 6" [which is *Cobitis pangia*]; type locality: India: "north-eastern parts of Bengal" [Goalpara; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 5; adjective, *-us, -a, -um*)

**Taxonomic notes.** At least two species are confused under this name. See also molecular data in Bohlen et al. (2011).

**4.16.26 *Pangio piperata* Kottelat & Lim, 1993**

*Pangio piperata* Kottelat & Lim, 1993: 236, fig. 20 (type locality: Malaysia: Terengganu: stream at about km 6 on road from Kuala Brang to Kuala Terengganu, 6°04'25"N 103°03'20"E; holotype: ZRC 35003; adjective, *-us, -a, -um*)

**Taxonomic notes.** At least two species are confused under this name. See also molecular data in Bohlen et al. (2011).

**4.16.27 *Pangio pulla* Kottelat & Lim, 1993**

*Pangio pulla* Kottelat & Lim, 1993: 238, fig. 21 (type locality: Indonesia: Kalimantan Tengah: heath forest north-west of Palankaraya; blackwater stream, 28–29 km on road to Tangkiling; tributary of Sungei Rungan, Sungei Kahajan drainage; holotype: ZRC 35022; adjective, *-us, -a, -um*)

**4.16.28 *Pangio robiginosa* (Raut, 1957)**

*Acanthopthalmus robiginosus* Raut, 1957: 31, figs. (type locality: Indonesia: Java: stream Tjipaja-en and tributaries near Rangkas-Betong village, Bantean area; holotype: ZMB 21334; adjective, *-us, -a, -um*)

**4.16.29 *Pangio semicineta* (Fraser-Brunner, 1940)**

*Acanthopthalmus semicinetus* Fraser-Brunner, 1940: 172, fig. 3 (type locality: Malaysia: Johor: Mawai District; holotype: BMNH 1938.12.1.113; adjective, *-us, -a, -um*)

*Acanthopthalmus kuhlii sumatranus* Fraser-Brunner, 1940: 175, fig. 4B (type locality: Sumatra: Palembang Province: Lahat; holotype: BMNH 1866.5.2.41; simultaneous subjective synonym of *Acanthopthalmus semicinetus* Fraser-Brunner, 1940: 172; first revisers [Tan & Kottelat, 2009: 61] gave precedence to *A. semicinetus*; adjective, *-us, -a, -um*)

**Taxonomic notes.** Several species are confused under this name. See also molecular data in Bohlen et al. (2011).



**4.16.23** *Pangio myersi*, CMK 20250, 64.1 mm SL; Thailand: Trat.



**4.16.28** *Pangio robiginosa*, CMK 10046, 39.0 mm SL; Indonesia: Java: Bantan.

**4.16.30** *Pangio shelfordii* (Popta, 1903)

*Acanthopthalmus shelfordii* Popta, 1903: 231, fig. (type locality: Malaysia: Borneo: Sarawak: Sarawak River near Kuching; holotype: RMNH 7661; noun in genitive, indeclinable)

**Taxonomic notes.** Several species are confused under this name. See also molecular data in Bohlen et al. (2011).

**4.16.31** *Pangio signicauda* Britz & Maclaine, 2007

*Pangio signicauda* Britz & Maclaine, 2007: 26, fig. 7 (type locality: Myanmar: Irrawaddy basin: Nanmate stream, 25°23'03"N 97°00'38"E, between Myitkina and Hopin; holotype: USNM 378386; compound noun, indeclinable)

**4.16.32** *Pangio superba* (Roberts, 1989)

*Acanthopthalmus superbus* Roberts, 1989: 98, fig. 74 (type locality: Indonesia: Borneo: Kalimantan Barat: forest stream about 1 km up Sungai Tajan from Tajan, 87 km east of Pontianak; holotype: MZB 3499; adjective, *-us*, *-a*, *-um*)

**4.17** *Paralepidocephalus* Tchang, 1935

*Paralepidocephalus* Tchang, 1935: 17 (type species: *Paralepidocephalus yui* Tchang, 1935: 17, by monotypy). Gender masculine.

**Species inquirenda**

*Paralepidocephalus* [sic] *guishanensis* Li, 2004: 94, fig. 3 (type locality: China: Yunnan: Shilin County: Fenglongtan in Guishan Xiang; holotype: HRAS 980514001; adjective, *-is*, *-is*, *-e*)

**4.17.1** *Paralepidocephalus yui* Tchang, 1935

*Paralepidocephalus yui* Tchang, 1935: 17, fig. 1 (type locality: China: Yunnan: Shiping; holotype: ASIZB 11678, Zhang, 1996: 500; noun in genitive, indeclinable)

**4.18** *Paramisgurnus* Dabry de Thiersant, 1872

*Paramisgurnus* Dabry de Thiersant, 1872: 191 (type species: *Paramisgurnus dabryanus* Dabry de Thiersant, 1872: 191, by monotypy). Gender masculine.



**4.17.1** *Paralepidocephalus yui*, KIZ 2006009175, 74.3 mm SL; China: Yunnan: Pearl River drainage: Niujie River. (Photograph by Chen Xiao-Yong).



**4.18.1** *Paramisgurnus dabryanus*, KIZ JWS2012000, 146.0 mm SL; China: Yunnan: Yangtze drainage: Lake Bitu. (Photograph by Chen Xiao-Yong).



**4.19.2** *Protocobitis typhlops*, KIZ 9180001, 54.0 mm SL, lectotype; China: Guangxi: Xia'ao. (Photograph by Ren Qiu).

*Paramisgurnus* Sauvage, 1878a: 90 (type species: *Paramisgurnus dabryanus* Sauvage, 1878a: 90, by monotypy; junior homonym and objective synonym of *Paramisgurnus* Dabry de Thiersant, 1872: 191). Gender masculine.

**4.18.1** *Paramisgurnus dabryanus* Dabry de Thiersant, 1872

*Paramisgurnus dabryanus* Dabry de Thiersant, 1872: 191, pl. 49 fig. 6 (type locality: China: Yang-tsee-kiang [Yangtze]; holotype: MNHN 5087, Fang, 1935b: 148, fig. 11, Bertin & Estève, 1948: 100; adjective, *-us*, *-a*, *-um*)

*Paramisgurnus dabryanus* Sauvage, 1878a: 90 (type locality: China: Yang-tse-Kiang [Yangtze]; holotype: MNHN 5087, Fang, 1935b: 148, fig. 11, Bertin & Estève, 1948: 100; junior homonym and objective synonym of *Paramisgurnus dabryanus* Dabry de Thiersant, 1872: 191; adjective, *-us*, *-a*, *-um*)

*Misgurnus mizolepis* Günther, 1888: 434 (type locality: China: Yangtze-Kiang [Yangtze] at Kiu-Kiang; syntypes: BMNH 1888.3.23.83–85 [3]; compound noun, indeclinable)

*Misgurnus oligolepos* Chen, Shen & Li, 1994: 20, fig. (type locality: China: Tianjin Municipality: Tanggu area, south of the mouth of Beitang River, fyke net fishing grounds; holotype: 880902, but location not stated, probably Tianjin Natural History Museum or Tianjin Fisheries Research Institute; compound noun, indeclinable)

**Taxonomic notes.** Genetic data (e.g. Shimizu & Takagi, 2010) suggest that several species are confused under the name *P. dabryanus*. A review of the literature and published illustrations shows variation in the body shape of populations referred to *P. dabryanus*. This is, however, not conclusive because most of the Chinese faunal works include fig-



ures copied from earlier works and not representative of the concerned populations.

It seems that a group of populations have a short and tapering caudal peduncle with high dorsal and ventral crests originating immediately behind dorsal and anal fins, a deep body and a somewhat pointed caudal fin. This agrees with the holotype of *P. dabryanus* (figured by Fang, 1935b: fig. 11) and possibly *M. oligolepos*. The original description of *M. mizolepis* also mentions the high crests on the caudal peduncle. Chen (1981) placed *M. mizolepis* in the synonymy of *P. dabryanus*.

A second group has a more slender body, shorter and less deep crests and a more rounded caudal fin, which has often been called *M. mizolepis*. This may correspond to several of the subspecies of *M. mizolepis* described by Nichols and others and which Chen (1981) placed in the synonymy of *M. anguillicaudatus*. This is tentatively followed here but clearly it should be re-evaluated after examination of more material and the type material of all.

**Nomenclature notes.** The earliest description of *M. oligolepos* as a new species that I could examine is by Chen, Shen & Li (1994). Wang et al. (2001: 179) referred to a paper by Li (1993a), which could not be found. There are also mentions of the description of a *Misgurnus olygokolopos* in a paper by Li (1993b), which also cannot be found (Chen Xiao-Yong, pers. comm.).

#### 4.19 *Protocobitis* Yang & Chen, 1993

*Protocobitis* Yang & Chen, 1993: 125 (type species: *Protocobitis typhlops* Yang & Chen, 1993: 125, by monotypy; also in Yang, Chen & Lan, 1994: 92). Gender feminine.

**Taxonomic notes.** It remains to be demonstrated that the two cave species *P. polylepis* and *P. typhlops* are really congeneric, that is, that they share an immediate common ancestor. This implies either that the ancestor was an epigeal species and is now missing or still uncollected, or that this ancestor was a cave species that colonised two disjunct cave areas. Each species likely has a surface ancestor.

**Nomenclatural notes.** *Protocobitis* and *P. typhlops*, both by Yang & Chen (1993), predate the same names in Yang et al. (1994) (Kottelat & Bréhier, 1999: 356).

##### 4.19.1 '*Protocobitis*' *polylepis* Zhu, Lü, Yang & Zhang, 2008

*Protocobitis polylepis* Zhu, Lü, Yang & Zhang, 2008: 453, fig. 1 (type locality: China: Guangxi: Wuming County: underground source, 5 km from Wuming, 23°10'N 108°17'E; holotype: KIZ 20060001; compound noun, indeclinable)

##### 4.19.2 *Protocobitis typhlops* Yang & Chen, 1993

*Protocobitis typhlops* Yang & Chen, 1993: 125 (type locality: China: Guangxi: Du'an County: Xia'ao town, cave, 24°15'N 107°05'E; lectotype: KIZ 918001, designated by Kottelat & Bréhier, 1999: 356; also in Yang, Chen & Lan, 1994: 93; compound noun, indeclinable)

#### 4.20 *Sabanejewia* Vladykov, 1829

*Sabanejewia* Vladykov, 1929: 86 (type species: *Cobitis balcanica* Karaman, 1922: 307, by original designation). Gender feminine.

##### 4.20.1 *Sabanejewia aurata* (Filippi, 1863)

*Cobitis aurata* Filippi, 1863: 391 (type locality: Iran: stream near Sartschem [apparently Sarcham-e Sofla, 39°07'N 47°54'E, B. W. Coad, pers. comm.]; lectotype: MZUT 674, designated by Tortonese, 1961: 188; adjective, *-us*, *-a*, *-um*)

*Cobitis hohenackeri* Kessler, 1877: 177 (type locality: Azerbaijan: Kura River, Caspian Sea basin [Berg, 1949: 894]; syntypes: ZISP 2854 [5], Eschmeyer & Fricke, 2010; author indicated as Brandt, but Kessler is actual author; noun in genitive, indeclinable)

? *Cobitis aralensis* Kessler, 1877: 184 (type locality: Kazakhstan: mouth of Syr-Darya River / Uzbekistan: mouth of Amu-Darya River [Berg, 1949: 895]; syntypes [5]: ZISP 10932 [1], Eschmeyer & Fricke, 2010; adjective, *-is*, *-is*, *-e*)

##### 4.20.2 *Sabanejewia balcanica* (Karaman, 1922)

*Cobitis balcanica* Karaman, 1922: 307 (type locality: Serbia: Save River near Zagreb / Bosnia-Herzegovina: Miljacka Stream, tributary of Bosna / FYROM: Vardar River (that is, its tributaries near Skopje (Üskub) and Veles) [type locality restricted by Bănărescu et al., 1972: 1 but irrelevant as this can only be done by lectotype designation]; syntypes: MMNHS lost, ? MNHN 28.222 [1], Bertin & Estève, 1948: 93; adjective, *-us*, *-a*, *-um*)

*Cobitis montana* Vladykov, 1925: 320, pl. 8 (type locality: Ukraine: streams Apica, Tereovka, Teresulka, Luzanka and Terebla, tributaries of Theiss River [Tisza] / Theiss River between villages Akna-Slatina and Butino; syntypes: [LU] 219; junior primary homonym of *Cobitis montanus* Jerdon, 1849: 332; adjective, *-us*, *-a*, *-um*)

*Cobitis aurata balcanica natio radnensis* Jaszfalusi, 1951: 116, pl. 1 fig. 1 (infrasubspecific, name not available; locality: Romania: Zebrak River, a tributary of Szamos River [Somesul ?] / Maros River [Mures] near Gödemes-terhaza and creek Göde)

*Cobitis aurata balcanica morpha elongata* Oliva, Balon & Franck, 1952: 295 (infrasubspecific, name not available; locality: Czechia: Moravia: Lipník on Bečva River)

*Cobitis aurata balcanica morpha elata* Oliva, Balon & Franck, 1952: 295 (infrasubspecific, name not available; locality: Czechia: Moravia: Lipník on Bečva River)

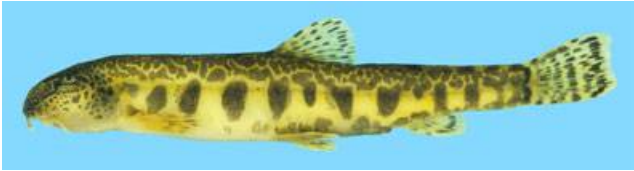
*Cobitis aurata radnensis* Bănărescu, Müller & Nalbant, 1960: 124 (type locality: Romania: upper Mures and Tirnavă Rivers; syntypes: LU; adjective, *-is*, *-is*, *-e*)

*Cobitis aurata bosniaca* Karaman, 1963: 629, fig. 1 (type locality: Bosnia-Herzegovina: creeks Saturlija and Siroka near Banja Luka, Vrbica River drainage; syntypes [144]: MMNHS, lost; adjective, *-us*, *-a*, *-um*)

? *Sabanejewia aurata doiranica* Economidis, 1995: 211 (nomen nudum)

? *Sabanejewia aurata thrakica* Economidis, 1995: 211 (nomen nudum)

? *Sabanejewia aurata doiranica* Economidis & Nalbant,



**4.20.2** *Sabanejewia balcanica*, CMK 17419, 74.4 mm SL; FYR of Macedonia: Vardar drainage.



**4.21.1** *Theriodes sandakanensis*, ZRC 37645, 25.3 mm SL; Malaysia: Borneo: Sabah: Kinabatangan drainage. (Photograph by Tan Heok Hui).

1997: 318, figs. 14, 16d–f (type locality: Greece: Macedonia: Lake Doirani; holotype: DZAUT 1989-116; adjective, *-us*, *-a*, *-um*)

? *Sabanejewia aurata thrakica* Economidis & Nalbant, 1997: 320, figs. 15, 15g–i (type locality: Greece: Thrace: Erythropotamos stream near village Mikro Dereio, Evros River drainage; DZAUT 1986-54; adjective, *-us*, *-a*, *-um*)

**4.20.3** *Sabanejewia baltica* Witkowski, 1994

*Sabanejewia aurata baltica* Witkowski, 1994: 44, fig. 10 (type locality: Poland: Widawa River near Kielczopwek village, 4 km from Wrocław, Oder drainage, 51°18'N 17°12'E; holotype: NMHW 638; adjective, *-us*, *-a*, *-um*)

**4.20.4** *Sabanejewia bulgarica* (Drensky, 1928)

*Cobitis bulgarica* Drensky, 1928: 171, fig. 5-2 (type locality: Bulgaria: small tributaries of Danube in Widdin [Vidin] and Danube mainstream at Krai Panaira, 3 km downriver of Widdin [Vidin]; lectotype: NRM 10432 [1 of 2], designated by Kottelat & Freyhof, 2009: 81, fig. 2; adjective, *-us*, *-a*, *-um*)

*Cobitis albicoloris* Chichkoff, 1932: 368, pl. 1 fig. 3 (type locality: Bulgaria: small tributaries of Danube in Widdin [Vidin] and Danube mainstream at Krai Panaira, 3 km downriver of Widdin [Vidin] [original type locality: Bulgaria: creek Provadiiska Rieca]; neotype: NRM 10432 [1 of 2], designated by Kottelat & Freyhof, 2009: 81, fig. 2; objective junior synonym of *Cobitis bulgarica* Drensky, 1928: 171; adjective in genitive [not nominative, *Code art. 31.2*], treated as noun in apposition, indeclinable)

*Cobitis taenia tessellatus* Pietschmann, 1937: 29 (type locality: Bulgaria: Widin [Vidin] on lower Danube River; syntypes: NMW 48624 [2], EAWAG 996 [1], Kottelat, 1997: 92; adjective, *-us*, *-a*, *-um*)

**4.20.5** *Sabanejewia caspia* (Eichwald, 1838)

*Cobitis caspia* Eichwald, 1838: 133 (type locality: Azerbaijan: Lenkoran [Lankaran, 38°45'N 48°51'E], Caspian Sea basin; types: NT; adjective, *-us*, *-a*, *-um*)

**4.20.6** *Sabanejewia caucasica* (Berg, 1906)

*Cobitis caucasica* Berg, 1906b: 37, fig. (type locality: Russia: Saagdan, Great Laba River, upper Kuban drainage; lectotype: ZISP 8560, designated by Eschmeyer, 1998: 341; adjective, *-us*, *-a*, *-um*)

**Remarks.** Description based on 7 specimens from Terek drainage (Caspian Sea basin) and one from Kuban drainage (Black Sea basin). Eschmeyer (1998: 341) designated the specimen from Kuban as lectotype and commented that the figure in the original description shows the lectotype. Berg explicitly stated that the figure is based on one of the 6 specimens from Terek in ZMMU earlier described as *Cobitis aurata* by Berg (1899: 73).

**4.20.7** *Sabanejewia kubanica* Vasil'eva & Vasil'ev, 1988

*Sabanejewia aurata kubanica* Vasil'eva & Vasil'ev, 1988: 210 [p. 33 of translation], fig. 2 (type locality: Russia: Nevinka River, Kuban River drainage; holotype; ZMMU P-16384; adjective, *-us*, *-a*, *-um*)

**4.20.8** *Sabanejewia larvata* (Filippi, 1859)

*Cobitis larvata* Filippi, 1859: 50 (type locality: Italy: creeks near Settimo Torinese [NE of Torino]; syntypes: MZUT 510 [4], MZUP [1], ZMUC 439–441 [3], MZUF 5575 [1], NMW 48558 [1], ZMB 5014 [2], Tortonese, 1940: 141, Cantoni 1882: 366, Nielsen, 1974: 49, Eschmeyer & Fricke, 2010; adjective, *-us*, *-a*, *-um*)

*Cobitis taenia* var. *conspersa* Cantoni, 1882: 364, pl. 1 fig. 3 (type locality: based on a specimen of unstated locality and reference to 2 specimens from Italy: Pavia, identified by B. Crivelli as *C. larvata*, cited by Pavesi, 1877: 499 [as p. 87]; syntypes [total 3]: MZUP [2], not listed by Cantoni, 1882; adjective, *-us*, *-a*, *-um*)

**4.20.9** *Sabanejewia romanica* (Băcescu, 1943)

*Cobitis caspia romanica* Băcescu, 1943: 137, figs. 4–6, 7G (type locality: Romania: Buzau County: Bratia River, a tributary of Arges, at Vladesti, Muscel; lectotype: MGAB 49916, designated by Kottelat, 1997: 93; adjective, *-us*, *-a*, *-um*)

**4.20.10** *Sabanejewia vallahica* (Nalbant, 1957)

*Cobitis aurata vallahica* Nalbant, 1957: 209, figs. 1–3 (type locality: Romania: north-east Vallahia: Ialomitza River near Crivina; holotype: SMF 4087; adjective, *-us*, *-a*, *-um*)

**4.21** *Theriodes* Kottelat, 2012

*Theriodes* Kottelat, 2012: 137 [appendix of present work] (type species: *Acanthopthalmus sandakanensis* Inger & Chin, 1962: 120, by original designation). Gender masculine.

**4.21.1** *Theriodes sandakanensis* (Inger & Chin, 1962)

*Acanthopthalmus sandakanensis* Inger & Chin, 1962: 120, fig. 54E (type locality: Malaysia: Borneo: Sabah: Sandakan District: Sepilok Forest Reserve; holotype: FMNH 68158; adjective, *-is*, *-is*, *-e*)

## Family ELLOPOSTOMATIDAE

### 5 Ellopostomatidae Bohlen & Šlechtová, 2009

Ellopostomatinae Nalbant, 2002: pl. 7 (not available, no explicitly indicated as intentionally new, *Code art.* 16.1, no type genus cited, art. 16.2)

Ellopostomatidae Bohlen & Šlechtová, 2009 [Aug.]: 161 (type genus: *Ellopostoma* Vaillant, 1902: 145)

Ellopostomatidae Chen, Lheknim & Mayden, 2009 [Dec.]: 2204 (type genus: *Ellopostoma* Vaillant, 1902: 145; junior homonym of Ellopostomatidae Bohlen & Šlechtová, 2009: 161)

#### 5.1 *Ellopostoma* Vaillant, 1902

*Ellopostoma* Vaillant, 1902: 145 (type species: *Aperioptus megalomycter* Vaillant, 1902: 145, by monotypy). Gender neuter.

##### 5.1.1 *Ellopostoma megalomycter* (Vaillant, 1902)

*Aperioptus megalomycter* Vaillant, 1902: 145, figs. 42–45 (type locality: Indonesia: Borneo: Kalimantan Barat: Kapuas River; lectotype: RMNH 7777, designated by Roberts, 1972: 3, fig. 1; compound noun, indeclinable)

##### 5.1.2 *Ellopostoma mystax* Tan & Lim, 2002

*Ellopostoma mystax* Tan & Lim, 2002: 454, fig. 3 (type locality: Thailand: Surat Thani Province: Tapi drainage: Khlong Sok on highway 410, 5 km west of Phanom; holotype: CAS 96698; noun in apposition, indeclinable)



5.1.2 *Ellopostoma mystax*, CMK 5166, 46.1 mm SL; Thailand: Tapi drainage.



5.1.2 *Ellopostoma mystax*, CAS 96698, 55.3 mm SL, holotype. (Photograph by Tan Heok Hui).

## Family BARBUCCIDAE

### 6 Barbuccidae Kottelat, 2012

Barbuccidae Kottelat, 2012: 140 [appendix of present work] (type genus: *Barbucca* Roberts, 1989: 100)

#### 6.1 *Barbucca* Roberts, 1989

*Barbucca* Roberts, 1989: 100 (type species: *Barbucca diabolica* Roberts, 1989: 100, by original designation). Gender feminine.

##### 6.1.1 *Barbucca diabolica* Roberts, 1989

*Barbucca diabolica* Roberts, 1989: 100, fig. 75 (type locality: Indonesia: Borneo: Kalimantan Barat: small forested stream where it flows into Sungai Mandai 2–3 km upstream from confluence with Kapuas mainstream, 17 km west-southwest of Putussibau; holotype: MZB 3536; adjective, *-us, -a, -um*)



6.1.1 *Barbucca diabolica*, ZRC uncat., 36.0 mm SL; Indonesia: Borneo: Kahayan drainage. (Photograph by Tan Heok Hui).



6.1.1 *Barbucca diabolica*, ZRC 47747, 29.0 mm SL. (Photograph by Tan Heok Hui).



## Family BALITORIDAE

### 7 Balitoridae Swainson, 1839

Balitorinae Swainson, 1839: 190 (type genus: *Balitora* Gray, 1830: vol. 1, pl. 88)

Homalopteraeformes Bleeker, 1860a: 422 (type genus: *Homaloptera* van Hasselt, 1823: 133)

Sinohomalopterini Chen, 1980b: 208 (type genus: *Sinohomaloptera* Fang, 1930a: 26)

**Taxonomic notes.** Chen (1980b) recognised two tribes within his subfamily Homalopterinae, which he called Homalopterini and Sinohomalopterini. I cannot read the Chinese text and therefore cannot comment on details. It is not clear to which non-Chinese species he had access. Judging from the list of species in his tree (p. 206) the coverage was limited. I am not able to recognise these two lineages as he defined them.

I have earlier hypothesized that, within Balitoridae, a lineage can be defined by the morphology of the snout and the mouth (Kottelat & Chu, 1988c: 182). Within this lineage, *Balitora* and *Hemimyzon* are distinguished only by having two simple pelvic rays in *Balitora* (vs. 3–7 in *Hemimyzon*), a more slender body and pelvic fins widely separated (vs. more or less widened body, with pelvic-fin bases from widely separated posteriorly to fused). In the field, juveniles of some sympatric species are almost indistinguishable (e.g. *B. annamitica* and *H. papilio*). Authors have placed species in one or the other genus only on the basis of the presence of one (vs. two) barbels at the angle of the mouth, but the second barbel seems to be only an elongated papilla and is certainly not a character on which to distinguish genera. *Sinohomaloptera* was similarly distinguished from *Balitora* only by the presence of two barbels at the angle of the mouth; here too, the second barbel is an elongated papilla, but in most material I have examined, this papilla is not even elongated and therefore *Sinohomaloptera* cannot be distinguished from *Balitora*. In Chen's (1980b) tree, *Balitora* and *Sinohomaloptera* are in widely separated branches, in different tribes.

The lineage comprising *Balitora*, *Hemimyzon*, *Lepturichthys*, *Jinshaia*, *Metahomaloptera* and *Sinogastromyzon* seems monophyletic and it could be tempting to call it a subfamily and place all other genera in a second subfamily. This, however, would be premature. To recognise two subfamilies implies that these remaining genera also constitute a monophyletic lineage, which is not demonstrated. Especially, there is no usable information to determine the position of the species described as '*Homaloptera*' from Peninsular India.

### Nomen dubium

*Platyptera sinensis* Bleeker, 1872: 127, 152 (type locality: China; holotype: specimen on which painting is based; adjective, *-is, -is, -e*)

### 7.1 *Balitora* Gray, 1830

*Balitora* Gray, 1830: vol. 1, pl. 88 (type species: *Balitora brucei* Gray, 1830: pl. 88, by subsequent designation by Jordan, 1919: 178). Gender feminine.

*Sinohomaloptera* Fang, 1930a: 26 (as subgenus of *Homaloptera* van Hasselt, 1823: 133; type species: *Homaloptera kwangsiensis* Fang, 1930a: 27, by original designation). Gender feminine.

### Species inquirenda et incertae sedis

*Bhavana arunachalensis* Nath, Dam, Bhutia, Dey & Das, 2007: 72, pls. 1–2 (type locality: India: Arunachal Pradesh: Lohit District: Noadhing River drainage near Namsai, about 30 km from Tezu; holotype: ZSI/APFS P-488; adjective, *-is, -is, -e*)

### 7.1.1 *Balitora annamitica* Kottelat, 1988

*Balitora annamitica* Kottelat, 1988b: 498, fig. 5 (type locality: Cambodia: Boun Long [13°42'N 107°00'E], Grande Cascade; holotype: MNHN 1993.253; adjective, *-us, -a, -um*)

### 7.1.2 *Balitora brucei* Gray, 1830

*Balitora Brucei* Gray, 1830: vol. 1, pl. 88 fig. 1 (type locality: India: Assam: Priang River near Cherrapunji; neotype: RMNH 11924, designated by Kottelat, 1988b: 491; noun in genitive, indeclinable)

*Balitora maculata* Gray, 1830: vol.1, pl. 88 fig. 2 (type locality: India: Assam: Priang River near Cherrapunji, Assam, India; neotype: RMNH 11924, designated by Kottelat, 1988b: 491; simultaneous objective synonym of *Balitora brucei* Gray, 1830: vol. 1, pl. 88 fig. 1, first reviser [Kottelat, 1988b: 493] gave precedence to *B. brucei*; adjective, *-us, -a, -um*)

*Platyicara anisura* M'Clelland & Griffith, in M'Clelland, 1842: 587, pl. 18 fig. 1 (type locality: India: Kassyah Hills; syntypes [2]: LU; compound noun, indeclinable)

### 7.1.3 *Balitora burmanica* Hora, 1932

*Balitora brucei* var. *burmanicus* Hora, 1932a: 291, pl. 11 fig. 6 (type locality: Burma: Meekalan, Salween drainage; lectotype: MCSNG 15171, designated by Kottelat, 1988b: 491; adjective, *-us, -a, -um*)

*Balitora brucei* var. *melanosoma* Hora, 1932a: 291, pl. 10 fig. 6 (type locality: Burma: stream Megla, Thaugyin River, on Thai-Burmese border; holotype: BMNH 1920.9.8.1; could be treated as infrasubspecific and unavailable, but use as a subspecies [e.g. Hora, 1950: 52] before 1985 makes it available [Code art. 45.6.4.1]; simultaneous subjective synonym of *Balitora brucei burmanicus* Hora, 1932: 291; first reviser [Kottelat, 1988b: 498] gave precedence to *B. b. burmanica*; compound noun, indeclinable)

**Nomenclatural notes.** Silas (1953: 207) listed specimen ZSI F 11034/1 as holotype of *B. burmanica*. As Hora (1932a) had not designated a holotype, all the specimens he examined were syntypes (see Kottelat, 1988a: 491).

#### 7.1.4 *Balitora eddsi* Conway & Mayden, 2010

*Balitora eddsi* Conway & Mayden, 2010: 1467, fig. 1 (type locality: Nepal: Bardiya District: from a 25 km stretch of Gerwa River, Karnali River drainage, between Chisapani and Kothiaghat, 28°34'00"N 81°13'59.88"E to 28°23'60"N 81°11'59.99"E; holotype: KU 40276; noun in genitive, indeclinable)

#### 7.1.5 *Balitora kwangsiensis* (Fang, 1930)

*Homaloptera kwangsiensis* Fang, 1930a: 27, pl. 1 figs. 1–2 (type locality: China: Guangxi: Lin-yueng-shien; holotype: MMNHN 899; adjective, *-is, -is, -e*)

*Sinohomaloptera hoffmanni* Herre, 1938: 429, fig. 1 (type locality: China: Hainan: Cheung Kon Ts'uen; holotype: CAS-SU 33002, Hora, 1950: 54; noun in genitive, indeclinable)

*Balitora heteroura* Pan, Liu & Zheng, 1983: 105, fig. 1 (type locality: China: Guangdong: Beiji River; holotype (?): SCNU 8012; compound noun, indeclinable)

? *Balitora nigrocorpa* Nguyen, 2005: 594, fig. 29 (type locality: Vietnam: Ha Giang Province: Lo River; holotype: NCNTTISI; as *Sinohomaloptera* in key and figure caption; also spelt *nigrocopa* p. 594 fig. 29, an obvious inadvertent error, thus incorrect original spelling [*Code art.* 32.5.1]; *corpa* is not a Latin word, indeclinable)

? *Balitora vanlani* Nguyen, 2005: 597, fig. 31 (type locality: Vietnam: Tuyen Quang Province: Na Hang district: Gam River; holotype: NCNTTISI; as *Sinohomaloptera* in key and figure caption; etymology not explained, a noun in genitive or in apposition, both indeclinable)

? *Balitora haithanhi* Nguyen, 2005: 599, fig. 32 (type locality: Vietnam: Tuyen Quang Province: Na Hang district: Gam River; holotype: NCNTTISI; as *Sinohomaloptera* in key and figure caption; etymology not explained, a noun in genitive or in apposition, both indeclinable)

? *Hemimyzon songamensis* Nguyen, 2005: 601, fig. 33 (type locality: Vietnam: Tuyen Quang Province: Na Hang district: Gam River; holotype: NCNTTISI; spelt *sorgamensis* p. 302, *songamensis* p. 602 fig. 33, 691, *songamensis* p. 601; as first reviser I select *songamensis* as the correct original spelling [in fact, none of these spellings is correct for a name based on Song Gam, but this cannot be corrected, *Code art.* 32.3]; adjective, *-is, -is, -e*)

#### 7.1.6 *Balitora lancangjiangensis* (Zheng, 1980)

*Sinohomaloptera lancangjiangensis* Zheng, 1980: 110, figs. 1–2 (type locality: China: Yunnan: Menghai Xian; syntypes: IHB 78IV0565–569 [4], DBJU 78IV0432–435 [4]; adjective, *-is, -is, -e*)

? *Balitora vanlongi* Nguyen, 2005: 596, fig. 30 (type locality: Vietnam: Tuyen Quang Province: Na Hang district: Gam River; holotype: NCNTTISI; as *Sinohomaloptera* in key and figure caption; treated as a noun in genitive, indeclinable)

#### 7.1.7 *Balitora laticauda* Bhoite, Jadhav & Dahanukar, 2012

? *Balitora shimogensis* Silas & Kalawar, in Kalawar & Kelkar, 1958: 675 (nomen nudum; localities: India: Karnataka: Shimoga / Maharashtra: Kolhapur)

*Balitora laticauda* Bhoite, Jadhav & Dahanukar, 2012: 3039, figs. 1–2 (type locality: India: Maharashtra: Satara District: Krishna drainage, stream at Venegaon village near Krishna River bridge, 17°29.94'N 74°07.08'E, 590 masl; holotype: ZSI/WRC P/2848; compound noun, indeclinable)

#### 7.1.8 *Balitora ludongensis* Liu & Chen, in Liu, Zhu, Wei & Chen, 2012

*Balitora ludongensis* Liu & Chen, in Liu, Zhu, Wei & Chen, 2012: 370, figs. 1–3 (type locality: China: Guangxi: Jingxi County: Ludong Town: Qilong stream in Pingjiang Village, Xijiang drainage; holotype: KIZ 2008008640; adjective, *-is, -is, -e*)

#### 7.1.9 *Balitora longibarbata* (Chen, in Zheng, Chen & Huang, 1982)

*Sinohomaloptera longibarbatus* Chen, in Zheng, Chen & Huang, 1982: 394, fig. 1 (type locality: China: Yunnan: Yilian County: Nanpang-jiang drainage; 24°50'N 103°10'E; syntypes: KIZ 774170–173, 175–179, 181 [10]; adjective, *-us, -a, -um*)

#### 7.1.10 *Balitora meridionalis* Kottelat, 1988

*Balitora meridionalis* Kottelat, 1988b: 498, fig. 4 (type locality: Thailand: Chantaburi Prov: Kao Soi Dao, Chan River headwaters; holotype: NIFI uncat.; adjective, *-is, -is, -e*)

#### 7.1.11 *Balitora mysorensis* Hora, 1941

*Balitora brucei* var. *mysorensis* Hora, 1941b: 232 (type locality: India: Karnataka: Mysore: Sivasamudram, Cauvery drainage; holotype: ZSI F 13512/1, Bhoite et al., 2012: 3039, figs. 3b, 4c; adjective, *-is, -is, -e*)

#### 7.1.12 ? *Balitora nantingensis* Chen, Cui & Yang, 2005

*Balitora nantingensis* Chen, Cui & Yang, 2005: 22, fig. 2 (type locality: China: Yunnan: Lincang Prefecture: Yongde County: Daxueshan township: Mangjiu River (23°58'55"N 99°41'17"E), a tributary of Nanting River [Salween drainage]; holotype: KIZ 20026475; adjective, *-is, -is, -e*)

**Taxonomic notes.** Differences between *B. nantingensis* and *B. burmanica* (whose type locality is in the same drainage) seem slight, especially considering the variability observed in large series of *B. burmanica* from the middle Salween. The length of the caudal peduncle seems the less ambiguous character to distinguish the two species.

#### 7.2 *Balitoropsis* Smith, 1945

*Balitoropsis* Smith, 1945: 278 (type species: *Balitoropsis bartschi* Smith, 1945: 279, by original designation). Gender feminine.

*Pseudohomaloptera* Silas, 1953: 204 (type species: *Homaloptera tatereganii* Popta, 1905: 180, by original designation). Gender feminine.



**7.1.3** *Balitora burmanica*, CMK 14679, 77.0 mm SL; Thailand: Salween drainage: Mae Nam Moei.



**7.2.8** *Balitoropsis yunnanensis*, CMK 22214, 56.3 mm SL; Laos: Mekong drainage: Nam Theun.



**7.1.1** *Balitora* cf. *annamitica*, CMK 22912, 65.4 mm SL.



**7.2.8** *Balitoropsis yunnanensis*, CMK 22214, 56.3 mm SL.

**7.2.1 *Balitoropsis batek* (Tan, 2009)**

*Homaloptera batek* Tan, 2009: 49, figs. 1–4 (type locality: Indonesia: Borneo: Central Kalimantan: Katingan basin, Mendawai sub-basin, Sungei Baha'e, km 64 logging road at buffer zone of Bukit Raya-Bukit Baka National Park, 0°47.593'S 112°19.220'E; holotype: MZB 10990; noun in apposition, indeclinable)

**7.2.2 *Balitoropsis leonardi* (Hora, 1941)**

*Homaloptera leonardi* Hora, 1941a: 61, pl. 5 figs. 5–6 (type locality: Malaysia: Pahang: King George V National Park [now Taman Negara National Park], Kuala Tahan; holotype: ZSIF 13213/1, Menon & Yazdani, 1968: 118; noun in genitive, indeclinable)

**Taxonomic notes.** Tentatively placed in *Balitoropsis*.

**7.2.3 *Balitoropsis ophiolepis* (Bleeker, 1853)**

*Homaloptera ophiolepis* Bleeker, 1853a: 160 (type locality: Indonesia: Java: Bandung [Bandung]; lectotype: RMNH 4986, designated by Alfred, 1961: 35; compound noun, indeclinable)

**7.2.4 *Balitoropsis sexmaculata* (Fowler, 1934)**

*Homaloptera sexmaculata* Fowler, 1934: 98, figs. 47–48 (type locality: Thailand: Chiang Mai; holotype: ANSP 56374; adjective, *-us*, *-a*, *-um*)

*Homaloptera septemmaculata* Fowler, 1934: 99, figs. 49–50 (type locality: Thailand: Chiang Mai; holotype: ANSP 56402; simultaneous subjective synonym of *Homaloptera sexmaculata* Fowler, 1934: 98, first reviser [Hora, 1950: 51] gave precedence to *H. sexmaculata*; adjective, *-us*, *-a*, *-um*)

**7.2.5 *Balitoropsis stephensoni* (Hora, 1932)**

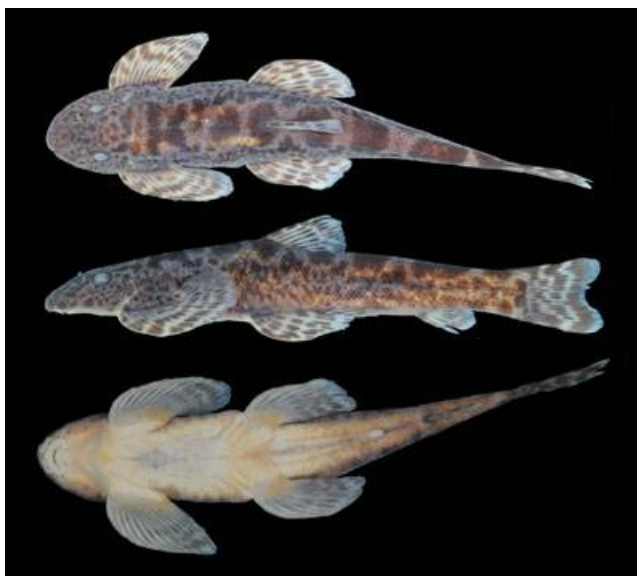
*Homaloptera stephensoni* Hora, 1932a: 281, pl. 11 fig. 1 (type locality: Indonesia: Borneo: Kalimantan Timur: Upper Mahakam River; holotype: RMNH 7633, Tan, 2009: 61, fig. 8; noun in genitive, indeclinable)

? *Homaloptera weberi* Hora, 1932a: 284, pl. 11 fig. 2 (type locality: Malaysia: Borneo: Sarawak: Akar River; syntypes: BMNH 1895.7.2.81 [1], ZMA 100.990 [1], ZSI F 11292/1 [1], Nijssen et al., 1982: 29, Silas, 1953: 193, Menon & Yazdani, 1968: 119, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

**7.2.6 *Balitoropsis tatereganii* (Popta, 1905)**

*Homaloptera Tate Reganii* Popta, 1905: 180 (type locality: Indonesia: Borneo: Bo River; holotype: RMNH 7632, Tan, 2009: 57, fig. 7; also in Popta, 1906: 182, pl. 10 fig. 40; must be emended in *tatereganii*, *Code* art.





7.3.1 *Bhavania australis*, CMK 9312, 76.5 mm SL; India: Kerala: Chalakudy River. (Photograph by Tan Heok Hui).



7.3.1 *Bhavania australis*, ZRC 34512, 82.0 mm SL. (Photograph by Tan Heok Hui).

32.5.2.2; noun in genitive, indeclinable)

**Taxonomic notes.** Tentatively placed in *Balitoropsis*.

**7.2.7 *Balitoropsis vulgaris* (Kottelat & Chu, 1988)**

*Homaloptera vulgaris* Kottelat & Chu, 1988b: 103, fig. 1 (type locality: China: Yunnan: Xishuangbanna: Mong Han County, 21°50'N 101°E; holotype: KIZ 788229; adjective, *-is, -is, -e*)

**7.2.8 *Balitoropsis yunnanensis* Chen, 1978**

*Balitoropsis yunnanensis* Chen, 1978: 334, figs. 1–2 (type locality: China: Yunnan: Lancang River [Mekong] in Yongping Xian [25°28'01"N 99°32'24"E]; holotype: IHB 60VII012; adjective, *-is, -is, -e*)

**7.2.9 *Balitoropsis yuwonoi* (Kottelat, 1998)**

*Homaloptera yuwonoi* Kottelat, 1998b: 267, fig. 1 (type locality: Indonesia: Borneo: Kalimantan Barat: vicinity of Danau Sentarum Wildlife Reserve: Sungai Hulu Lebayan at Keluwin; 1°08'51"N 112°15'32"E; holotype: MZB 5938; noun in genitive, indeclinable)

**Taxonomic notes.** Tentatively placed in *Balitoropsis*.

**7.2.10 *Balitoropsis zollingeri* (Bleeker, 1853)**

*Homaloptera Javanica* van Hasselt, 1823: 133, 1824: 377 (nomen nudum, Kottelat, 1987b: 373)



7.4.1 *Cryptotora thamicola*, AMS I.25987-001, 28.4 mm SL, holotype; Thailand: Mae Hong Son Province: Tham Susa cave.

*Homaloptera Zollingeri* Bleeker, 1853a: 159 (type locality: Indonesia: Java: Batavia [Jakarta] and Bandung [Bandung]; syntypes: lost, Bleeker, 1860c: 89; noun in genitive, indeclinable)

*Homaloptera javanica* Bleeker, 1860c: 89 (unnecessary replacement name for *Homaloptera zollingeri* Bleeker, 1853a: 159; adjective, *-us, -a, -um*)

*Balitoropsis bartschi* Smith, 1945: 279, fig. 56 (type locality: Thailand: Trang Province: waterfall stream on Kao Chong; holotype: USNM 107963; noun in genitive, indeclinable)

*Homaloptera nigra* Alfred, 1969: 217, pl. 1 figs. 1–2 (type locality: Malaysia: Pahang: King George V National Park [now Taman Negara], Chegar Sireh, Tahan River; holotype: ZRC 2009; adjective, *-er, -ra, -rum*)

**7.3 *Bhavania* Hora, 1920**

*Bhavania* Hora, 1920: 202 (type species: *Platycara australis* Jerdon, 1849: 333, by subsequent designation by Silas, 1953: 183). Gender feminine.

**7.3.1 *Bhavania australis* (Jerdon, 1849)**

*Platycara Australis* Jerdon, 1849: 333 (type locality: India: Nilgiris: "the small mountain stream that passes close by the bungalow in the Walliar jungle"; holotype: LU; adjective, *-is, -is, -e*)

*Bhavania annandalei* Hora, 1920: 203, pl. 10 fig. 1 (type locality: India: Travancore: Tenmalai; holotype: ZSI F 2554/1; noun in genitive, indeclinable)

**7.4 *Cryptotora* Kottelat, 1998**

*Cryptotora* Kottelat, 1998b: 270 (type species: *Homaloptera thamicola* Kottelat, 1988c: 288, by original designation). Gender feminine.

**7.4.1 *Cryptotora thamicola* (Kottelat, 1988)**

*Homaloptera thamicola* Kottelat, 1988c: 228, fig. 4 (type locality: Thailand: Mae Hong Son Province: Tham Susa; 19°28'N 98°08'E; holotype: AMS I.25987-001; noun in apposition, indeclinable)

**Nomenclatural notes.** Words ending in *-cola* and meaning 'inhabitant of' are nouns and indeclinable.

**7.5 *Hemimyzon* Regan, 1911**

*Hemimyzon* Regan, 1911: 32 (type species: *Homaloptera formosana* Boulenger, 1894b: 463, by original designation). Gender masculine.

*Dienbienia* Nguyen & Nguyen, 2002: 9 (type species: *Dienbienia namnuaensis* Nguyen & Nguyen, 2002: 10, by original designation). Gender feminine.

**7.5.1 *Hemimyzon confluens* Kottelat, 2000**

*Hemimyzon confluens* Kottelat, 2000: 51, fig. 20 (type locality: Laos: Xiangkhouang Province: Nam Ngum, rapids downstream of Ban Latbouak; 19°36'28"N 103°14'23"E; holotype: ZRC 45317; participle, indeclinable, proposed as a noun in apposition)

**7.5.2 *Hemimyzon ecdyonuroides* Freyhof & Herder, 2002**

*Hemimyzon ecdyonuroides* Freyhof & Herder, 2002a: 54, figs. 1–2 (type locality: Vietnam [Mekong drainage, Sesan system]: Kontum Province: Pako River about 50 km north of Kontum; 14°39.60'N 107°46.98'E; holotype: ZFMK 22136; adjective, indeclinable)

**7.5.3 *Hemimyzon elongatus* (Chen & Li, in Li & Chen, 1985)**

*Balitora elongata* Chen & Li, in Li & Chen, 1985: 169, fig. 1 (type locality: China: Yunnan: Yangbi River; holotype: KIZ 839072; adjective, *-us, -a, -um*)

**7.5.4 *Hemimyzon formosanus* (Boulenger, 1984)**

*Homaloptera formosana* Boulenger, 1894b: 463 (type locality: Central Taiwan; holotype: BMNH 1894.11.14.11, Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)  
*Homaloptera taiwanica* Kishinouye, 1905: 177 (type locality: Taiwan; types: LU; adjective, *-us, -a, -um*)

**7.5.5 *Hemimyzon khonensis* Kottelat, 2000**

*Hemimyzon khonensis* Kottelat, 2000: 52, fig. 21 (type locality: Laos: Champasak Province: Mekong mainstream at Ban Hang Khone, below Khone Falls; holotype: ZRC 45320; adjective, *-is, -is, -e*)

**7.5.6 *Hemimyzon macropterus* Zheng, in Zheng & Huang, 1982**

*Hemimyzon macroptera* Zheng, in Zheng, Chen & Huang, 1982: 398, fig. 5 (type locality: China: Yunnan: Yiliang Xian [approx. 25°N 103°E]; syntypes: KIZ 773437 [1], IHB [773435–436 [2], DBJU 773434, 438 [2]; compound adjective, *-us, -a, -um*)

**7.5.7 *Hemimyzon megalopseos* Li & Chen, 1985**

*Hemimyzon megalopseos* Li & Chen, 1985: 170, fig. 2 (type locality: China: Yunnan: Yiliang; holotype: KIZ 774193; noun in apposition, indeclinable)

**7.5.8 *Hemimyzon nanensis* Doi & Kottelat, 1998**

*Hemimyzon nanensis* Doi & Kottelat, 1998: 8, fig. 1 (type locality: Thailand: Nan Province: Mae Nam Wa at Ban Nam Wa, Mae Nam Nan system, Chao Phraya drainage; holotype: NSMT P 36130; adjective, *-is, -is, -e*)

**7.5.9 *Hemimyzon nujiangensis* (Zhang & Zheng, in Zheng & Zhang, 1983)**

*Balitora nujiangensis* Zhang & Zheng, in Zheng & Zhang, 1983: 66, fig. 1 (type locality: China: Yunnan: Nujiang [Salween River]: Liu-ku; holotype: IHB 81X4327; adjective, *-is, -is, -e*)

**7.5.10 *Hemimyzon papilio* Kottelat, 1998**

*Hemimyzon papilio* Kottelat, 1998a: 61, fig. 96 (type locality: Laos: Khammouan Province: Nam Theun, waterfall at 18°01'40"N 104°58'54"E; holotype: ZRC 41788; noun in apposition, indeclinable)

**7.5.11 *Hemimyzon pengi* (Huang, in Zheng, Chen & Huang, 1982)**

*Balitora pengi* Huang, in Zheng, Chen & Huang, 1982: 395, fig. 2 (type locality: China: Yunnan: Xishuangbanna: Menghai County; syntypes: KIZ 73046–53 [8]; noun in genitive, indeclinable)

*Dienbienia namnuaensis* Nguyen & Nguyen, 2002: 10, fig. 1 (type locality: Vietnam: Lai Chau Province: Dien Bien district: Nam Nua at Noongluong; holotype: NCNTTSI H.04.10.01.01; also spelt *nammuaensis* p. 14, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; adjective, *-is, -is, -e*)

**7.5.12 *Hemimyzon pumilicorpora* Zheng & Zhang, 1987**

*Hemimyzon pumilicorpora* Zheng & Zhang, 1987: 81, fig. (type locality: China: Guizhou: Anshun Prefecture: Huaguoshu [falls at 25°59'31"N 105°39'58"E; on Beihe River, Zhujiang drainage]; syntypes: IHB 83IV0046, 48, 54 [3], DBJU 83IV0050–52 [3]; treated as a noun in apposition, indeclinable [correct spelling should have been *pumilicorporus*])

**7.5.13 *Hemimyzon sheni* Chen & Fang, 2009**

*Hemimyzon sheni* Chen & Fang, 2009: 186, fig. 2 (type locality: Taiwan: Taitung County: small tributary (3 km south to Yi-Ting mountain) in upper reaches of Tar-Ju River, Tar-Ren village; holotype: NTOU P-2007-07-077; noun in genitive, indeclinable)

**7.5.14 *Hemimyzon taitungensis* Tzeng & Shen, 1982**

*Hemimyzon taitungensis* Tzeng & Shen, 1982: 166, figs. 5–6 (type locality: Taiwan: Taitung County: Haiduan Township [23°06'N 121°11'E]: Shinwu-leu River, Lee-daou; holotype: NTUM 04941; adjective, *-is, -is, -e*)

**7.5.15 *Hemimyzon tchangii* (Zheng, in Zheng, Chen & Huang, 1982)**

*Balitora tchangii* Zheng, in Zheng, Chen & Huang, 1982: 396, fig. 3 (type locality: China: Yunnan: Xishuangbanna: Jinghong Xian; holotype: IHB 78III0432; noun in genitive, indeclinable)

**7.5.16 *Hemimyzon yaotanensis* (Fang, 1931)**

? *Gobius Tsin-ting-yu* Dabry de Thiersant, 1872: 179, pl. 37 fig. 9 (name not available, not binominal; locality: China: Sichuan: Leang-chan-hien)  
*Sinohomaloptera yaotanensis* Fang, 1931a: 137, fig. 1 (type



7.5.1 *Hemimyzon confluens*, CMK 22714, 52.0 mm SL; Laos: Mekong drainage: Nam Ngum.



7.5.1 *Hemimyzon confluens*, CMK 22714, 52.0 mm SL.

locality: China: Sichuan: Yao-tan, Wa-chang, Luchow; holotype: MMNHN 1888; adjective, *-is, -is, -e*) *Sinohomaloptera yaotanensis acuticauda* Fang, 1931a: 143, fig. 5 (type locality: China: Sichuan: Yao-tan, Wa-chang, Luchow; holotype: MMNHN 2249; compound noun, indeclinable)

**Taxonomic notes.** Authors have considered *Gobius tsin-ting-yu* as the fish later described as *Psilorhynchus sinensis* [now *Jinshaia sinensis*]. This seems unlikely as Dabry de Thiersant's figure does not show the typical body shape, the long caudal peduncle, the deeply forked caudal fin with longer lower lobe, and the large pectoral fins. Among the fishes now reported from Sichuan (Ding, 1994) it shows the greatest similarity to *H. yaotanensis*.

#### 7.6 *Homaloptera* van Hasselt, 1823

*Homaloptera* van Hasselt, 1823: 133 (type species: *Homaloptera ocellata* van der Hoeven, 1830: 211, by subsequent monotypy in van der Hoeven, 1830: 211; also spelt *Homalophra* p. 132, first reviser [Kottelat, 1987b: 373] gave precedence to *Homaloptera*). Gender feminine.

*Helgia* Vinciguerra, 1890: 328 (type species: *Helgia bilineata* Blyth, 1860: 172, by subsequent designation by Jordan, 1920: 448). Gender feminine.



7.6.7 *Homaloptera orthogoniata*, CMK 21835, 56.0 mm SL; Indonesia: Borneo: Mahakam drainage.



7.6.5 *Homaloptera ocellata*, ZRC 43899, 67.3mm SL. (Photograph by Tan Heok Hui).

#### 7.6.1 *Homaloptera bilineata* Blyth, 1860

*Homaloptera* [sic] *bilineata* Blyth, 1860: 172 (type locality: Burma: Tenasserim provinces; syntypes: ? ZSI, ? AMS [? possibly the syntypes of *Nemacheilus serpentarius* Day, 1870a: 551]; adjective, *-us, -a, -um*)

*Nemacheilus serpentarius* Day, 1870a: 551 (type locality: unknown [Burma]; syntypes [3]: ZSI A.955 [2, lost], ? AMS [lost ?], Whitehead & Talwar, 1976: 157, Ferraris et al., 2000: 301; adjective, *-us, -a, -um*)

#### 7.6.2 *Homaloptera confuzona* Kottelat, 2000

*Homaloptera confuzona* Kottelat, 2000: 53, fig. 22 (type locality: Thailand: Trat Province: Khlong Fit at Ban Kraduk Chang, road 3157 from Trat to Borai, about 2–3 km after junction with road 3271; 12°28'N 102°38'E; holotype: ZRC 45319; compound noun, indeclinable)

#### 7.6.3 '*Homaloptera*' *menoni* Shaji & Easa, 1995

*Homaloptera menoni* Shaji & Easa, 1995: 395, fig. 1 (type locality: India: Kerala: Palghat District: Muthikulam Forest, Indekkuthodu in Siruvani, a tributary of Bhavani; holotype: KFRI 85; noun in genitive, indeclinable)

#### 7.6.4 '*Homaloptera*' *montana* Herre, 1945

*Homaloptera montana* Herre, 1945: 400 (type locality: India: Tamil Nadu: brook on Puthutotam Estate in Anamallai Hills at about 3600 ft., Valparai Post Office; holotype: CAS-SU 39871, Böhlke, 1953: 40; adjective, *-us, -a, -um*)





7.7.4 *Homalopteroides smithi*, CMK 22142, 36.1 mm SL; Thailand: Phangnga.



7.7.4 *Homalopteroides smithi*, CMK 22142, 35.3 mm SL.

**7.6.5 *Homaloptera ocellata* van der Hoeven, 1830**

*Homaloptera ocellata* van der Hoeven, 1830: 211, 1833: pl. 12 fig. 13 (type locality: Indonesia: Java; holotype: RMNH 2723, Roberts, 1993: 24; adjective, *-us, -a, -um*)

*Balitora erythrorhina* Valenciennes, in Cuvier & Valenciennes, 1846: 93, pl. 524 (type locality: Java: Buitenzorg [Bogor]; syntypes: MNHN 3121 [3], Bertin & Estève, 1948: 100; compound adjective, *-us, -a, -um*)

*Balitora pavonina* Valenciennes, in Cuvier & Valenciennes, 1846: 97 (type locality: Java [probably from vicinity of Bogor]; holotype: MNHN 3123, Bertin & Estève, 1948: 100; adjective, *-us, -a, -um*)

*Homaloptera salusur* Bleeker, 1853a: 161 (type locality: Indonesia: Java: Batavia [Jakarta] and Tjampea [Ciampea]; lectotype: RMNH 5075, designated by Alfred, 1961: 35; noun in apposition, indeclinable)

*Homaloptera polylepis* Bleeker, 1853a: 162 (type locality: Indonesia: Java: Buitenzorg [Bogor] and Tjipannas [Cipanas]; syntypes [2]: among RMNH 7049 [13], Alfred, 1961: 35; compound noun, indeclinable)

**7.6.6 *Homaloptera ogilviei* Alfred, 1967**

*Homaloptera ogilviei* Alfred, 1967: 587, fig. 1 (type locality: Malaysia: Negri Sembilan: Jelai River at 14<sup>th</sup> mile along road from Tampin to Kuala Pilah; holotype: ZRC 1555; noun in genitive, indeclinable)

**7.6.7 *Homaloptera orthogoniata* Vaillant, 1902**

*Homaloptera orthogoniata* Vaillant, 1902: 122, figs. 33–35

(type locality: Indonesia: Borneo: Kalimantan Timur: Bloeoe River [Bluu, 0°42'N 114°24'E]; lectotype: RMNH 7790A, designated by Tan & Ng, 2005a: 1 [abstract]; adjective, *-us, -a, -um*)

**7.6.8 *Homaloptera parclitella* Tan & Ng, 2005**

*Homaloptera parclitella* Tan & Ng, 2005a: 7, figs. 5–6 (type locality: Malaysia: Terengganu basin: Sekayu waterfalls, rock pools about 5 minutes walk upstream of chalets [chalets: 04°57.80'N 102°57.21'E]; holotype: ZRC 49257; compound noun, indeclinable)

**7.6.9 '*Homaloptera*' pillaii Indra & Remadevi, 1981**

*Homaloptera pillaii* Indra & Remadevi, 1981: 67, pl. 2 fig. 1 (type locality: India: Kerala: Silent Valley: Kunthi River; ZSI/SRS 462, Menon, 1987: 228; noun in genitive, indeclinable)

**7.6.10 '*Homaloptera*' santhamparaiensis Arunachalam, Johnson & Rema Devi, 2002**

*Homaloptera santhamparaiensis* Arunachalam, Johnson & Rema Devi, 2002: 32, figs. 1–2 (type locality: India: Kerala: Idukki District; Panniyar stream, a tributary of Periyar River, above Ponnudi Reservoir at Santhampari Hills (4 km from Pooparai Village), 9°82'N [sic] 77°15'E; holotype: ZSI/SRS F.5322; adjective, *-is, -is, -e*)

**7.6.11 '*Homaloptera*' silasi Kurup & Radhakrishnan, 2011**

*Homaloptera silasi* Kurup & Radhakrishnan, 2011: 224, fig. 1 (type locality: India: Kerala: Periyar Tiger Reserve: Kattamadithode, a small stream tributary of Periyar River, at Chokkanpetty; holotype: ZSI/WGR CLT/V/F13118; noun in genitive, indeclinable)

**7.7 *Homalopteroides* Fowler, 1905**

*Homalopteroides* Fowler, 1905a: 476 (type species: *Homaloptera wassinkii* Bleeker, 1853a: 163, by original designation). Gender masculine.

*Chopraia* Prashad & Mukerji, 1929: 188 (type species: *Chopraia rupicola* Prashad & Mukerji, 1929: 188, by original designation). Gender feminine.

**7.7.1 *Homalopteroides modestus* (Vinciguerra, 1890)**

*Helgia modesta* Vinciguerra, 1890: 330, pl. 11 fig. 12 (type locality: Burma: Meekalan, Salween drainage; lectotype: MCSNG 15173-A, designated by Tortonese, 1961: 188; adjective, *-us, -a, -um*)

**7.7.2 *Homalopteroides nebulosus* (Alfred, 1969)**

*Homaloptera nebulosa* Alfred, 1969a: 227, pl. 1 figs. 3–4 (type locality: Malaysia: Kelantan: Sok River, Kampong Sok; holotype: ZRC 2020; adjective, *-us, -a, -um*)

**7.7.3 *Homalopteroides rupicola* (Prashad & Mukerji, 1929)**

*Chopraia rupicola* Prashad & Mukerji, 1929: 188, pl. 8 fig. 3 (type locality: Burma: Myitkyina District: small streams around Kamaing; holotype: ZSI F 10879/1, Menon & Yazdani, 1968: 118; noun in apposition, indeclinable)

? *Homaloptera manipurensis* Arunkumar, 1999: 176, fig. 1

(type locality: India: Manipur: Chindwin drainage, Lokchao River near Moreh, 110 km from Imphal City; holotype: MUMF 3333/1A; adjective, *-is, -is, -e*)

**Nomenclatural notes.** Words ending in *-cola* and meaning 'inhabitant of' are nouns and indeclinable.

#### 7.7.4 *Homalopteroides smithi* (Hora, 1932)

*Homaloptera smithi* Hora, 1932a: 286, pl. 11 fig. 3 (type locality: Thailand: Nakon Sritamarat Province: Tadi Stream and Klong Pong at Ban Kiriwong; syntypes: KUMF 165 [3], USNM 107941 [1], 109821 [5], 119459 [1], ZSI F 11293–11294/1 [4], 11295/1 [2], Menon & Yazdani, 1968: 118, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

? *Homaloptera maxinae* Fowler, 1937: 152, figs. 52–53 (type locality: Thailand: Tachin [Tha Chin, Samut Sakhon; 13°32'22"N 100°15'20"E]; holotype: ANSP 68004; noun in genitive, indeclinable)

*Homaloptera lineata* Smith, 1945: 277, fig. 55 (type locality: Thailand: Mekong at Chiangsen Kao; holotype: USNM 199488; adjective, *-us, -a, -um*)

? *Homaloptera indochinensis* Silas, 1953: 192, fig. 2 (type locality: "Indo-China (? Tonkin)" [Vietnam: Kontum; see below]; holotype: BMNH 1933.8.19.50; adjective, *-is, -is, -e*)

**Taxonomic notes.** *Homaloptera indochinensis* is based on a single specimen without precise locality. From Silas's description, it appears to fall within the variation of *H. smithi*, a very common species in the Mekong drainage. From information by E. Trewavas to S. L. Hora (in Silas, 1951: 11), the specimen had no locality label but Delacour & Lowe had collected in "Pekh, N. Tonkin [northern Vietnam; ? Pakha]; Xien Khonang or Chin chuang, Laos [Xieng Khouang] and Kontum and Dak-to in Annam [Vietnam: Kontum and Dak To]". This material is registered as BMNH 1933.8.19.1–100. In fact this material had already been catalogued earlier as BMNH 1933.8.4.1–100. In this earlier list this specimen appears as *H. wassinkii*, BMNH 1933.8.4.51, and the locality is listed as Kontum.

Delacour conducted six expeditions to Laos, Cambodia and Vietnam between 1923 and 1939; Lowe accompanied him in five of these. There is no mention of fishes in the surviving Delacour notebooks (A. Hennache, pers. comm.), most of which disappeared in 1939. Hennache & Dickinson (2000) provided details of Delacour's expeditions, and from them it appears that Delacour and Lowe collected only once in Xieng Khouang, Kontum and Dakto before 1936. They collected at these localities during the second expedition in 1925–1926 (see also Delacour et al., 1927). Additional fish material collected by Delacour and Lowe is in MNHN but were collected during the third (1926–1927) and fourth (1927–1929) expeditions, except for the types of *Oreoglanis delacouri* (MNHN 1936.31; see Ng & Kottelat, 1999: 379), which must have come from the second expedition.

No species of *Homaloptera* is known from the coastal streams on the eastern slope of the Annam Range and in the Red River drainage and this seems to eliminate Tonkin from the list of potential localities. Hennache & Dickinson (2000) mentioned two localities at which Delacour collected while in Xieng Khouang: Muongsoui [Muang Sui, nowadays Phu

Kut, about 19°40'N 103°E in Nam Ngum drainage, a Mekong tributary] and Phu Ké, which is not on my maps, apparently Phu Keng, a hill about 18 km west-northwest of Phonsavan and also in Nam Ngum drainage. I conducted surveys in Xieng Khouang and the upper Nam Ngum in 1999 and 2012 and have not seen *H. smithi* or any *H. indochinensis*-like fish. I also have not observed this species in northern Laos in surveys conducted in 1997, 1999 and 2007.

Hennache & Dickinson (2000) did not provide details on the Kontum and Dakto localities. Both places are in the Sesan drainage, a tributary of the Mekong. The Sesan joins the Xe Kong shortly before entering the Mekong in Cambodia. *Homaloptera smithi* is a common species in the Xe Kong (pers. obs.). This makes Kontum or Dakto a likely type locality.

#### 7.7.5 *Homalopteroides tweediei* (Herre, 1940)

*Homaloptera tweediei* Herre, 1940: 7, pl. 1 (type locality: Malaysia: Johore: Mawai District, shallow rapid creek, about 40 miles north of Singapore; holotype: CAS-SU 33102, Böhlke, 1953: 40; noun in genitive, indeclinable)

#### 7.7.6 *Homalopteroides wassinkii* (Bleeker, 1853)

*Homaloptera fasciata* van Hasselt, 1823: 133, 1824: 377 (nomen nudum; Kottelat, 1987b: 373)

*Balitora ocellata* Valenciennes, in Cuvier & Valenciennes, 1846: 96 (type locality: Indonesia: Java: Buitenzorg [Bogor]; syntypes: MNHN 3122 [1] and specimen illustrated by Kuhl and van Hasselt [reproduced in Roberts, 1993: fig. 27]; secondary junior homonym of *Homaloptera ocellata* van der Hoeven, 1830: 211 when placed in *Homaloptera* by Bleeker, 1860c: 95; adjective, *-us, -a, -um*)

*Homaloptera wassinkii* Bleeker, 1853a: 163 (type locality: Indonesia: Java: Tjampea [Ciampea] and Buitenzorg [Bogor]; lectotype: RMNH 4987, designated by Alfred, 1961: 36; noun in genitive, indeclinable)

*Homaloptera valenciennesi* Bleeker, 1860c: 95 (replacement name for *Homaloptera ocellata* Valenciennes, in Cuvier & Valenciennes, 1846: 96; noun in genitive, indeclinable)

*Homaloptera fasciata* Bleeker, 1860c: 96 (unnecessary replacement name for *H. wassinkii* Bleeker, 1853a: 163; adjective, *-us, -a, -um*)

**Nomenclatural notes.** Roberts (1993: 25) considered specimen MNHN 3122 as the holotype of *Balitora ocellata*. Valenciennes based his description on a single specimen and on the drawing sent by Kuhl and van Hasselt, as is obvious from the mention of the colour in life (p. 97) and explicit in the comment at the end of the description of *B. pavonina* (p. 99). Unless it can be demonstrated that the specimen examined by Valenciennes is the same as figured by Kuhl and van Hasselt, there is no holotype but a series of syntypes.

#### 7.8 *Homalopterula* Fowler, 1940

*Homalopterula* Fowler, 1940: 379 (type species: *Homalopterula ripleyi* Fowler, 1940: 379, by original designation). Gender feminine.



7.8.5 *Homalopterula ripleyi*, ZRC uncat., 42.9 mm SL; Indonesia: Sumatra: Aceh: Alas drainage. (Photograph by Tan Heok Hui).



7.8.5 *Homalopterula ripleyi*, ZRC uncat., 42.9 mm SL. (Photograph by Tan Heok Hui).

#### 7.8.1 *Homalopterula amphisquamata* (Weber & de Beaufort, 1916)

*Homaloptera amphisquamata* Weber & de Beaufort, 1916: 12 (type locality: Indonesia: Sumatra: Sumatera Utara: Lau Borus [stream], discharging river of Lake Kawar, Karo Tableland Deli; syntypes [58]: ZMA 100.998 [1], 100.994 [54], Nijssen et al., 1993: 214 [Weber & de Beaufort stated "type of the species in" ZMA; this is not a holotype designation as *Code art.* 73.1.1 requires that the authors state "that one specimen [...] is the type"; the authors stated where the type is but not which of their specimens is the type, so this is not a holotype designation; therefore, all specimens are syntypes]; adjective, *-us, -a, -um*)

**Taxonomic notes.** Tentatively placed in *Homalopterula*.

#### 7.8.2 *Homalopterula gymnogaster* (Bleeker, 1853)

*Homaloptera gymnogaster* Bleeker, 1853a: 163 (type locality: Indonesia: Sumatra: Lake Meninju [Maninjau]; holotype: BMNH 1866.5.2.49, Alfred, 1961: 35; compound noun, indeclinable)

*Homaloptera lepidogaster* Weber & de Beaufort, 1916: 14 (type locality: Sumatra: Sumatera Barat: Padang Highlands: Matur; syntypes: ZMA 100.256 [3], Nijssen et al., 1982: 29 [Weber & de Beaufort stated "type of the species in" ZMA; this is not a holotype designation as *Code art.* 73.1.1 requires that the authors state "that one specimen [...] is the type"; the authors stated where the type is, but not which of their specimens is the type, so this is not a holotype designation; in addition no specimen has been separated and can now be recognised as the holotype; therefore, all specimens are syntypes]; compound noun, indeclinable)

**Taxonomic notes.** Tentatively placed in *Homalopterula*.

#### 7.8.3 *Homalopterula heterolepis* (Weber & de Beaufort, 1916)

*Homaloptera heterolepis* Weber & de Beaufort, 1916: 12 (type locality: Indonesia: Sumatra: Aceh: Lake Tawar; syntypes [5]: ZMA 100.999 [3], ? AMNH 9263 [1], ? ZSI F 11035/1 [2], Nijssen et al., 1993: 214, Hora, 1950: 47, Silas, 1953: 198 [Weber & de Beaufort stated "type of the species in" ZMA; this is not a holotype designation as *Code art.* 73.1.1 requires that the authors state "that one specimen [...] is the type"; the authors stated where the type is but not which of their specimens is the type, so this is not a holotype designation; in addition no specimen has been separated and can now be recognised as the holotype; therefore, all specimens are syntypes]; compound noun, indeclinable)

**Taxonomic notes.** Tentatively placed in *Homalopterula*.

#### 7.8.4 *Homalopterula modiglianii* (Perugia, 1893)

*Homaloptera Modiglianii* Perugia, 1893a: 245 (type locality: Indonesia: Sumatra: Si Rambé; syntypes: MCSNG 9249 [5], BMNH 1931.10.29.1–2 [2], ZSI F 11296/1 [1], Tortonese, 1961: 189, Silas, 1953: 196, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

**Taxonomic notes.** Tentatively placed in *Homalopterula*.

#### 7.8.5 *Homalopterula ripleyi* Fowler, 1940

*Homalopterula ripleyi* Fowler, 1940: 379, figs. 5–7 (type locality: Indonesia: Sumatra: Aceh: Goempang River at Meloewak, 1640 feet; holotype: ANSP 68713, Ott, 2010: 74, fig. 1; noun in genitive, indeclinable)

#### 7.8.6 *Homalopterula vanderbilti* (Fowler, 1940)

*Homaloptera vanderbilti* Fowler, 1940: 375, figs. 1–2 (type locality: Indonesia: Sumatra: Aceh: Blangnanga in Tripa River, 3600 feet; holotype: ANSP 68688; noun in genitive, indeclinable)

*Homaloptera ulmeri* Fowler, 1940: 377, figs. 3–4 (type locality: Indonesia: Sumatra: Aceh: Goempang River at Meloewak, 1640 feet; holotype: ANSP 68700; simultaneous subjective synonym of *Homaloptera vanderbilti* Fowler, 1940: 375, first reviser [Kottelat et al., 1993: 54] gave precedence to *H. vanderbilti*; noun in genitive, indeclinable)

**Taxonomic notes.** Tentatively placed in *Homalopterula*.





7.9.3 *Jinshaia sinensis*, CMK 13067, 85.6 mm SL; China: Sichuan: Yangtze drainage: Yalong.



7.9.3 *Jinshaia sinensis*, CMK 13067, 85.6 mm SL.

**7.9 *Jinshaia* Kottelat & Chu, 1988**

*Jinshaia* Kottelat & Chu, 1988c: 191 (type species: *Psilorhynchus sinensis* Sauvage & Dabry de Thiersant, 1874: 14, by original designation). Gender feminine.

**7.9.1 *Jinshaia abbreviata* (Günther, 1892)**

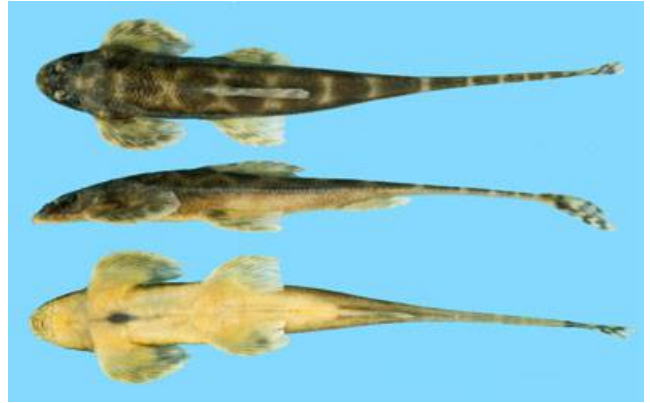
*Homaloptera abbreviata* Günther, 1892: 248, pl. 3 fig. B (type locality: China: Sichuan: a mountain stream running into Min River; holotype: BMNH 1891.6.13.40, Eschmeyer & Fricke, 2010; adjective, *-us*, *-a*, *-um*)

**7.9.2 ? *Jinshaia niulanjiangensis* Li, Mao & Lu, in Li, Mao, Lu, Sun & Lu, 1998**

*Jinshaia niulanjiangensis* Li, Mao & Lu, in Li, Mao, Lu, Sun & Lu, 1998: 1, fig. 1 (type locality: China: Yunnan: Zhanyi County: Niulan Jiang, tributary of Jinsha Jiang [Yangtze], at Deze Xiang [25°59'N 103°36'E]; holotype: HRAS or FACQR 9207001; also spelt *niulanjingensis* p. 3, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; adjective, *-is*, *-is*, *-e*)

**7.9.3 *Jinshaia sinensis* (Sauvage & Dabry de Thiersant, 1874)**

*Psilorhynchus sinensis* Sauvage & Dabry de Thiersant, 1874:



7.10.2 *Lepturichthys fimbriatus*, CMK 13068, 104.2 mm SL; China: Sichuan: Yangtze drainage: Yalong.



7.10.2 *Lepturichthys fimbriatus*, CMK 13068, 104.2 mm SL.

14 (type locality: China: Sichuan: Teang-chan-hien; holotype: MNHN 7892, Bertin & Estève, 1948: 101; adjective, *-is*, *-is*, *-e*)

**7.10 *Lepturichthys* Regan, 1911**

*Lepturichthys* Regan, 1911: 31 (type species: *Homaloptera fimbriata* Günther, 1888: 433, by original designation). Gender masculine.

**7.10.1 *Lepturichthys dolichopterus* Dai, 1985**

*Lepturichthys dolichopterus* Dai, 1985: 221, figs. 1–2 (type locality: China: Fujian: Nanping [26°35'N 118°15'E], upper Min River; holotype: ASIZB 770428; compound adjective, *-us*, *-a*, *-um*)

**7.10.2 *Lepturichthys fimbriatus* (Günther, 1888)**

*Homaloptera fimbriata* Günther, 1888: 433 (type locality: China: Yangtze-Kiang at Ichang [Hubei: Yangtze at Ychang, 30°43'N 111°17'N]; holotype: BMNH 1888.5.15.40, Eschmeyer & Fricke, 2010; also in Günther, 1892: 248, pl. 3 fig. A; adjective, *-us*, *-a*, *-um*)

*Lepturichthys guntheri* Hora, 1932a: 295, pl. 10 fig. 7 (type locality: China: Sichuan: mountain streams running into Min River; syntypes: BMNH 1891.6.13.41 [2]; spelling must be corrected as *guntheri*, Code art. 32.5.2.1; noun in genitive, indeclinable)

*Lepturichthys nicholsi* Hora, 1932a: 297, pl. 10 fig. 8, pl. 12 fig. 3 (type locality: China: Hunan: Tungting Lake; holotype: ZSI 11098/1; noun in genitive, indeclinable)



**7.11.3** *Metahomaloptera omeiensis*, KIZ 795676, 54.0 mm SL; China: Sichuan: Yahan.



**7.11.3** *Metahomaloptera omeiensis*, KIZ 795676, 54.0 mm SL.

**7.11** *Metahomaloptera* Chang, 1944

*Metahomaloptera* Chang, 1944: 54 (type species: *Metahomaloptera omeiensis* Chang, 1944: 54, by monotypy). Gender feminine.

**7.11.1** *Metahomaloptera hangshuiensis* Xie, Yang & Gong, 1984

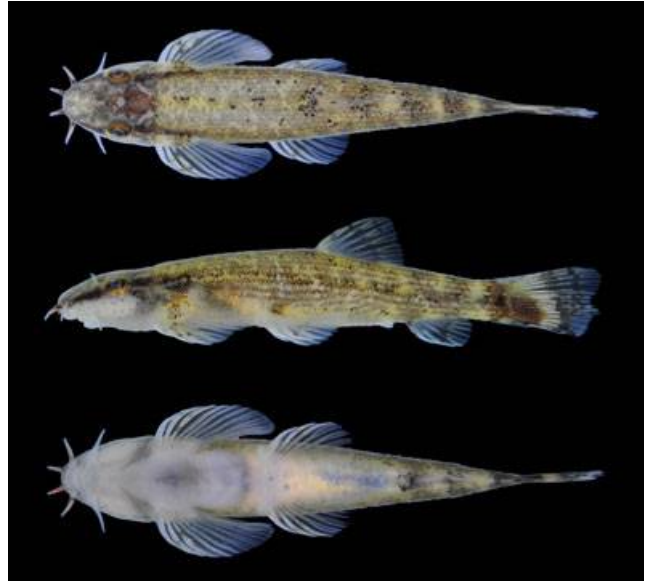
*Metahomaloptera* [sic] *omeiensis hangshuiensis* Xie, Yang & Gong, 1984: 63, figs. 3–4 (type locality: China: Hubei: Yangriwan River [upper Hanjiang River], Mount Sheng-nongjia; syntypes: HACW 817022–33, 824268–285, 825058–62 [35]; adjective, *-is, -is, -e*)

**7.11.2** *Metahomaloptera longicauda* Yang, Chen & Yang, 2007

*Metahomaloptera longicauda* Yang, Chen & Yang, 2007: 64, fig. 1 (type locality: China: Yunnan: Zhanyi County: Yangtze drainage, Deze town, Chuanhedong village, 25°54'09.4"N 103°34'49.5"E; holotype: KIZ 20060304; compound noun, indeclinable)

**7.11.3** *Metahomaloptera omeiensis* Chang, 1944

*Metahomaloptera omeiensis* Chang, 1944: 54 (type locality: China: Sichuan: Loshan and Omei; syntypes: [LU] 1701, 1702, 2552–2556, 2558, 2560, 2561 [10]; adjective, *-is, -is, -e*)



**7.12.1** *Neohomaloptera johorensis*, ZRC uncat., 21.3 mm SL; Indonesia: Borneo: Kahayan drainage. (Photograph by Tan Heok Hui).

**7.12** *Neohomaloptera* Herre, 1944

*Neohomaloptera* Herre, 1944: 50 (subgenus of *Homaloptera* van Hasselt, 1823: 133; type species: *Homaloptera johorensis* Herre, 1944: 51, by original designation). Gender feminine.

**7.12.1** *Neohomaloptera johorensis* (Herre, 1944)

*Homaloptera johorensis* Herre, 1944: 51 (type locality: Malaysia: Johor: brook near Simpang Rengam; holotype: CAS-SU 39840, Böhlke, 1953: 40; adjective, *-is, -is, -e*)

**7.13** *Sinogastromyzon* Fang, 1930

*Sinogastromyzon* Fang, 1930a: 35 (type species: *Sinogastromyzon wui* Fang, 1930a: 36, by original designation). Gender masculine.

**Taxonomic notes.** The validity of the many names created in recent years in the Vietnamese literature cannot be evaluated. The descriptions are of little use and the quality of the illustrations of most species does not allow to guess their identity. As most species have very restricted ranges, it is expected that those from widely distant localities might in fact be valid, while the many species described from exactly the same locality may be found to represent single species.

**7.13.1** *Sinogastromyzon chapaensis* Mai, 1978

*Sinogastromyzon chapaensis* Mai, 1978: 220, fig. 102 (type locality: Vietnam [Lao Cai Province: Sapa; Kottelat, 2001a: 101]; syntypes: DVZUT; adjective, *-is, -is, -e*)

? *Sinogastromyzon hexaocellum* Nguyen, 2005: 612, fig. 39 (type locality: Vietnam: Lai Chau Province: Phong Tho district: Nam So stream at Muong So [Song Da drainage]; holotype: NCNTTSSI; author indicated as "Hao & Duc", pp. 307, 612 fig. 39; treated as a noun in apposition, indeclinable)

**7.13.2** ? *Sinogastromyzon daon* Nguyen, 2005

*Sinogastromyzon daon* Nguyen, 2005: 605, fig. 35 (type



locality: Vietnam: Lai Chau Province: Phong Tho district: Nam So stream [Song Da drainage]; holotype: NCNTTSSI; author indicated as "Hao & Duc", pp. 306, 605 fig. 35; treated as noun in apposition, indeclinable)

**Taxonomic notes.** Liu et al. (2010: 35) considered this species as valid (in their key) but without discussion and without access to material.

**7.13.3 *Sinogastromyzon dezeensis* Li, Mao & Lu, in Li, Sun, Lu & Mao, 1999**

*Sinogastromyzon dezeensis* Li, Mao & Lu, in Li, Sun, Lu & Mao, 1999: 45, fig. 1 (type locality: China: Yunnan: Qujing prefecture: Zhanyi County: Niulan Jiang River at Deze Xiang [Deze village; 25°59'N 103°36'E] [Yangtze drainage]; holotype: HRAS or FACQR 9204011; adjective, *-is, -is, -e*)

**7.13.4 ? *Sinogastromyzon hagiangensis* Nguyen, 2005**

*Sinogastromyzon hagiangensis* Nguyen, 2005: 608, fig. 37 (type locality: Vietnam: Ha Giang Province: Ha Giang town, Lo River; holotype: NCNTTSSI; adjective, *-is, -is, -e*)

**Taxonomic notes.** Liu et al. (2010: 35) considered this species as valid (in their key) but without discussion and without access to material.

**7.13.5 *Sinogastromyzon hsiashiensis* Fang, 1931**

*Sinogastromyzon hsiashiensis* Fang, 1931b: 48, fig. 3 (type locality: China: Kweichow [Guizhou]: Hsia-shih, Ma-ha-sien; holotype: MMNHN 2998; adjective, *-is, -is, -e*)

**7.13.6 ? *Sinogastromyzon hypercorpus* Nguyen, 2005**

*Sinogastromyzon hypercorpus* Nguyen, 2005: 603, fig. 34 (type locality: Vietnam: Lai Chau Province: Phong Tho district: Muong So, Nam So stream [Song Da drainage]; holotype: NCNTTSSI; also spelt *hypercorfus* p. 606, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; compound noun, indeclinable)

**Taxonomic notes.** Liu et al. (2010: 35) considered this species as valid (in their key) but without discussion and without access to material.

**7.13.7 *Sinogastromyzon lixianjiangensis* Liu, Chen & Yang, 2010**

*Sinogastromyzon lixianjiangensis* Liu, Chen & Yang, 2010: 26, fig. 1 (type locality: China: Yunnan: Mojiang County: Sinanjiang River (tributary of Lixianjiang, tributary of Red River); 23°07'38.13"N 101°47'44.32"E; holotype: KIZ 200401799; adjective, *-is, -is, -e*)

**7.13.8 *Sinogastromyzon macrostoma* Liu, Chen & Yang, 2010**

*Sinogastromyzon macrostoma* Liu, Chen & Yang, 2010: 31 (type locality: China: Yunnan: Mojiang County: Amojiang River, 23°02'47.44"N 101°46'49.48"E; holotype: KIZ 200401820; compound noun, indeclinable)

**7.13.9 ? *Sinogastromyzon maon* Nguyen & Nguyen, in Nguyen, 2005**

*Sinogastromyzon maon* Nguyen [V. H.] & Nguyen [H. D.], in Nguyen [V. H.], 2005: 607, fig. 36 (type locality: Viet-



**7.13.15 *Sinogastromyzon puliensis*, CMK 17471, 69.4 mm SL; Taiwan: Wu drainage.**



**7.13.15 *Sinogastromyzon puliensis*, CMK 17471, 69.4 mm SL.**

nam: Song La Province: Song Ma district: Ma River; holotype: NCNTTSSI; treated as noun in apposition, indeclinable)

**Taxonomic notes.** Liu et al. (2010: 35) considered this species as valid (in their key) but without discussion and without access to material.

**7.13.10 ? *Sinogastromyzon minutus* Mai, 1978**

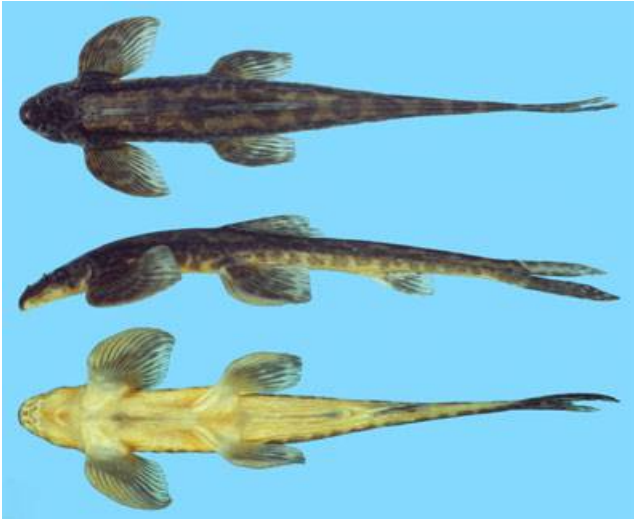
*Sinogastromyzon minutum* Mai, 1978: 222, fig. 104 (type locality: Vietnam: Lai Chau Province: Muong Muon, Nam Muc; syntypes: DVZUT; adjective, *-us, -a, -um*)

**Taxonomic notes.** Liu et al. (2010: 35) considered this species as valid (in their key) but without discussion and without access to material.

**7.13.11 *Sinogastromyzon multiocellum* Nguyen, 2005**

*Sinogastromyzon multiocellum* Nguyen, 2005: 614, fig. 40 (type locality: Vietnam: Lai Chau Province: Phong Tho district: Nam So stream at Muong So [Song Da drainage]; holotype: NCNTTSSI; author indicated as "Hao & Duc" pp. 307, 614 fig. 40; also spelt *multiocelum* p. 613, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; treated as a noun in apposition, indeclinable)





**7.14.1** *Travancoria elongata*, ZRC 34507, 98.8 mm SL, holotype; India: Kerala: Chalakudy River.



**7.14.1** *Travancoria elongata*, ZRC 34508, 79.3 mm SL. (Photograph by Tan Heok Hui).

**Taxonomic notes.** Considered valid following Liu et al. (2010: 35).

**7.13.12** *Sinogastromyzon namnaensis* Nguyen, 2005  
*Sinogastromyzon namnaensis* Nguyen, 2005: 610, fig. 38 (type locality: Vietnam: Lai Chau Province: Lai Chau town, Nam Na River; holotype: NCNTTSI; adjective, *-is, -is, -e*)

**7.13.13** *Sinogastromyzon nanpanjiangensis* Li, 1987  
*Sinogastromyzon nanpanjiangensis* Li, 1987: 101, fig. 1 (type locality: China: Yunnan: Nanpanjiang River in Lunan County [24°42'N 103°10'E]; holotype: KIZ 753010; adjective, *-is, -is, -e*)

**7.13.14** *Sinogastromyzon nantaiensis* Chen, Han & Fang, 2002  
*Sinogastromyzon nantaiensis* Chen, Han & Fang, 2002: 240, fig. 1 (type locality: Taiwan: Pingtung County: Liukuei, Darjin, Kaoping River drainage, Laonon River; holotype: NMMB P 00465; adjective, *-is, -is, -e*)

**7.13.15** *Sinogastromyzon puliensis* Liang, 1974  
*Sinogastromyzon puliensis* Liang, 1974: 153, fig. 13 (type locality: Taiwan: Ta-tu-chi, Puli; holotype: NTUM 50280; adjective, *-is, -is, -e*)

**7.13.16** *Sinogastromyzon rugocauda* Mai, 1978  
*Sinogastromyzon rugocauda* Mai, 1978: 221, fig. 103 (type locality: Vietnam: Song La Province: Song Ma district: Nam Cong stream; syntypes: DVZUT; compound noun, indeclinable)

**7.13.17** *Sinogastromyzon sichangensis* Chang, 1944  
*Sinogastromyzon sichangensis* Chang, 1944: 53 (type locality: China: Sichuan: Anning River near Taihochang, Sichang; syntypes: [LU] 2086, 2094, 2095 [3]; adjective, *-is, -is, -e*)

**7.13.18** *Sinogastromyzon szechuanensis* Fang, 1930  
*Sinogastromyzon szechuanensis* Fang, 1930b: 99, fig. 1 (type locality: China: Szechuan [Sichuan]; holotype: SSCN 6052; adjective, *-is, -is, -e*)

**7.13.19** *Sinogastromyzon tonkinensis* Pellegrin & Chevey, 1935  
*Sinogastromyzon tonkinensis* Pellegrin & Chevey, 1935: 232, fig. 1 (type locality: Vietnam: Tonkin: Lai-Chau; holotype: MNHN 1935.41; adjective, *-is, -is, -e*)

**7.13.20** *Sinogastromyzon wui* Fang, 1930  
*Sinogastromyzon wui* Fang, 1930a: 36, pl. 2 figs. 8–9 (type locality: China: Guangxi: San-fang, Lo-ching-shien [Luocheng]; MMNHN 515; noun in genitive, indeclinable)  
*Sinogastromyzon intermedius* Fang, 1931b: 54, fig. 7 (type locality: China: southwestern Guangxi: Tungkwei, Lungchow; holotype: MMNHN 1543; adjective, *-us, -a, -um*)  
*Sinogastromyzon sanhoensis* Fang, 1931b: 56, fig. 9 (type locality: China: South Kweichow [Guizhou]: San-ho-shien; holotype: MMNHN 3481; adjective, *-is, -is, -e*)

**7.14** *Travancoria* Hora, 1941  
*Travancoria* Hora, 1941b: 228 (type species: *Travancoria jonesi* Hora, 1941b: 230, by original designation). Gender feminine.

**7.14.1** *Travancoria elongata* Pethiyagoda & Kottelat, 1994  
*Travancoria elongata* Pethiyagoda & Kottelat, 1994: 104, figs. 11–12 (type locality: India: Kerala: Chalakudy River, 26 km upstream of Chalakudy town, near Vetilapara; holotype: ZRC 34507; adjective, *-us, -a, -um*)

**7.14.2** *Travancoria jonesi* Hora, 1941  
*Travancoria jonesi* Hora, 1941b: 230, pl. 8 figs. 5–6 (type locality: India: Travancore: streams within a radius of 5 miles of Pampadampara, Peerumedu Taluq; holotype: ZSI F 13507/1, Menon & Yazdani, 1968: 119; noun in genitive, indeclinable)

## Family GASTROMYZONTIDAE

**8 Gastromyzontidae Fowler, 1905**

Gastromyzoninae Fowler, 1905: 477 (type genus: *Gastromyzon* Günther, 1874: 454; correct stem is *Gastromyzont-* and correct spelling is Gastromyzontinae)

Lepidoglanidae Jordan, 1923: 149 (type genus: *Lepidoglanis* Vaillant, 1890: 82; correct stem is *Lepidoglanid-* and correct spelling is Lepidoglanididae)

Crossostominae Silas, 1953: 219 (type genus: *Crossostoma* Sauvage, 1878a: 88; invalid because of junior homonymy of type genus, *Code* art. 39; correct stem is *Crossostomat-* and correct spelling is Crossostomatinae)

Glanioptini Silas, 1953: 259 (type genus: *Glanioptis* Boulenger, 1899a: 228)

Pseudogastromyzoni Silas, 1953: 299 (type genus *Pseudogastromyzon* Nichols, 1925e: 1; correct stem is *Pseudogastromyzont-* and correct spelling is Pseudogastromyzontini)

Beaufortini Chen, 1980b: 207 (type genus: *Beaufortia* Hora, 1932a: 318; correct stem is *Beauforti-* and the correct spelling is Beaufortiini)

Parhomalopterini Chen, 1980b: 207 (type genus: *Parhomaloptera* Vaillant, 1902: 129)

**Taxonomic notes.** Authors have recognised and named various subdivisions within Gastromyzontidae. For example, Silas (1953: 219) recognised two subfamilies: Gastromyzontinae and Crossostomatinae. Chen (1980b: 207) recognised four tribes ("groups"): Parhomalopterini, Crossostomatini, Beaufortiini and Gastromyzontini. Gastromyzontini (the genera from Borneo) probably corresponds to a monophyletic lineage. Crossostomatini and Beaufortiini too, possibly correspond to monophyletic lineages. Parhomalopterini, with one genus in Borneo and the remaining ones in mainland Southeast Asia, is apparently an heterogeneous assemblage. It seems premature to recognise subfamilies or other divisions within Gastromyzontidae.

**8.1 Annamia Hora, 1932**

*Annamia* Hora, 1932a: 306 (type species: *Parhomaloptera normani* Hora, 1930: 584, by original designation). Gender feminine.

**Species inquirenda**

*Annamia thuathienensis* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 579, fig. 21 (type locality: Vietnam: Thua Thien Hue Province: Bo River [a small coastal drainage]; holotype: HNUE; adjective, *-is, -is, -e*)

**8.1.1 Annamia normani (Hora, 1930)**

*Parhomaloptera normani* Hora, 1930: 584, pl. 15 (type locality: Vietnam: Annam: Kontum [14°23'N 107°59'E; Se-

san drainage, Mekong basin]; holotype: BMNH 1930.5.5.1, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

**8.2 Beaufortia Hora, 1932**

*Beaufortia* Hora, 1932: 318 (type species: *Gastromyzon leveretti* Nichols & Pope, 1927: 340, by original designation). Gender feminine.

**Taxonomic notes.** The validity of the many names created in recent years in the Vietnamese literature cannot be evaluated. The descriptions are of little use and the quality of the illustrations of most species does not allow to guess their identity. As most species have very restricted ranges, it is expected that those from widely distant localities might in fact be valid, while the many species described from exactly the same locality may be found to represent single species. For some species, however, there is not even informative locality data.

**8.2.1 ? Beaufortia buas (Mai, 1978)**

*Gastromyzon buas* Mai, 1978: 215, fig. 99 (type locality: northern Vietnam [Bua River, Song La and Phu Tho provinces; Kottelat, 2001a: 98]; syntypes: DVZUT; treated as noun in apposition, indeclinable)

**8.2.2 Beaufortia cyclica Chen, 1980**

*Beaufortia cyclica* Chen, 1980a: 115, fig. 6 (type locality: China: Guangxi: West River in Longzhou Xian; holotype: IHB 75IV1417; adjective, *-us, -a, -um*)

*Beaufortia polliciformis* Dai, in Zheng, 1981: 172, fig. 142 (type locality: China: Guangxi: Longzhou County: Dong Gui River; holotype: ASIZB 751842; adjective, *-is, -is, -e*)

**Taxonomic notes.** Possibly a junior synonym of *B. elongata*.

**8.2.3 Beaufortia daon (Mai, 1978)**

*Gastromyzon daon* Mai, 1978: 216, fig. 100 (type locality: Vietnam: Lai Chau Province: Phong Tho and Nam Na streams [Song Da drainage]; syntypes: DVZUT; treated as noun in apposition, indeclinable)

**8.2.4 Beaufortia elongata (Mai, 1978)**

*Gastromyzon elongatus* Mai, 1978: 213, fig. 98 (type locality: northern Vietnam; syntypes: DVZUT; adjective, *-us, -a, -um*)

**Taxonomic notes.** No usable locality information. Apparently close to or a senior synonym of *B. cyclica*, known from the Pearl River drainage in Guangxi, China. Nguyen (2005: 284) identified as *B. elongata* material from the Song Con River in Thai Nguyen Province, in the Red River drainage. The identity of this species and its range remain to be determined.



**8.1.1** *Annamia normani*, CMK 22291, 79.1 mm SL; Laos: Mekong drainage: Xe Kon g.



**8.1.1** *Annamia normani*, CMK 15802, 69.5 mm SL.

**8.2.5** *Beaufortia huangguoshuensis* Zheng & Zhang, 1987  
*Beaufortia huangguoshuensis* Zheng & Zhang, 1987: 80 (type locality: China: Guizhou: Anshun prefecture: Shenning County: Dabang River, at upper part of Huagguoshu waterfall [25°59'31"N 105°39'58"E; on Baihe River], Zhujiang drainage; syntypes: IHB 83IV0049 [1], DBJU 83IV0053 [1]; adjective, *-is, -is, -e*)

**Nomenclatural notes.** The description of *B. huangguoshuensis* first appears in Zheng & Zhang (1987: 80) who refer to the then 'in press' original description in 'The fishes of the Pearl River'. This description actually appeared later (Zheng, 1989: 259, fig. 198).

**8.2.6** *Beaufortia intermedia* Tang & Wang, in Tang, Wang & Yu, 1997

*Beaufortia intermedia* Tang & Wang, in Tang, Wang & Yu, 1997: 19, fig. 1 (type locality: China: Guizhou: Sandu County; 107°74'N [sic] 25°58'E; holotype: IHB 87IV512; adjective, *-us, -a, -um*)

**8.2.7** *Beaufortia kweichowensis* (Fang, 1931)

*Gastromyzon leveretti kweichowensis* Fang, 1931b: 41, fig. 1 (type locality: China: Kweichow [Guizhou]: San-ho Hsien; holotype: MMNHN 3539; adjective, *-is, -is, -e*)



**8.2.3** *Beaufortia daon*, CMK 15354, 45.9 mm SL; Laos: Houaphan Province: Nam Ma drainage.



**8.2.3** *Beaufortia daon*, CMK 15354, 45.9 mm SL.

*Beaufortia kweichowensis gracilicauda* Chen & Zheng, 1980: 97, fig. 8 (type locality: China: Guangdong: East River in Xinfeng Xian and North River in Shaoguan Shi; syntypes: IHB 76IV5880, 5881, 6986, 6987, 7736 [5], DBJU 76IV7742–7747 [6]; compound noun, indeclinable)

**8.2.8** *Beaufortia leveretti* (Nichols & Pope, 1927)

*Gastromyzon leveretti* Nichols & Pope, 1927: 340, fig. 12 (type locality: China: Hainan: Nodda; holotype: AMNH 8366; noun in genitive, indeclinable)

**8.2.9** *Beaufortia liui* Chang, 1944

*Beaufortia liui* Chang, 1944: 55 (type locality: China: Sichuan: Loshan and Yaan; syntypes: [LU] 2247, 2446 [2]; noun in genitive, indeclinable)

**8.2.10** ? *Beaufortia loos* (Mai, 1978)

*Gastromyzon loos* Mai, 1978: 217, fig. 101 (type locality: Vietnam [Song Lo basin; Kottelat, 2001a: 99]; syntypes: DVZUT; treated as noun in apposition, indeclinable)

**8.2.11** *Beaufortia niulanensis* Chen, Huang & Yang, 2009  
*Beaufortia niulanensis* Chen, Huang & Yang, 2009: 639,

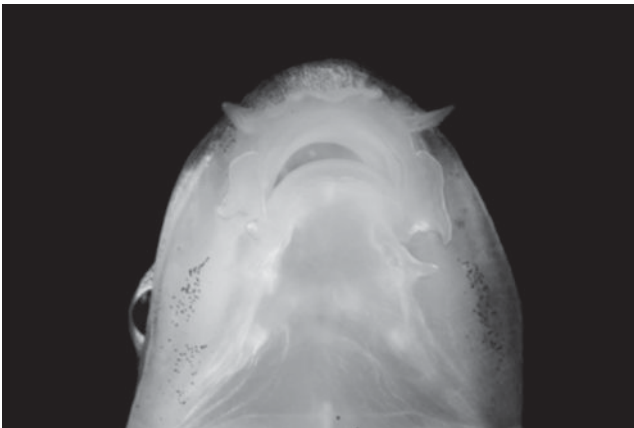




**8.3.1** '*Erromyzon*' *pachychilus*, KIZ 200241775, 46.9 mm SL; China: Guangxi: Pearl River drainage: Dayaoshan Mountain. (Photograph by Yang Jian).



**8.3.2** *Erromyzon compactus*, ZRC 49636, 31.8 mm SL, holotype; Vietnam: Quang Ninh Province: Ba Che River.



**8.3.1** '*Erromyzon*' *pachychilus*, ZRC 53444, about 20 mm SL. (Photograph by Tan Heok Hui).



**8.3.2** *Erromyzon compactus*, ZRC 49636, 31.8 mm SL.

figs. 1–2 (type locality: China: Yunnan: Zhanyi County: Deze town [25°59'N 103°36'E], middle Niulan Jiang River, Yangtze drainage, 26°01'N 103°37'E; holotype: KIZ 2006004660; adjective, *-is*, *-is*, *-e*)

**8.2.12** *Beaufortia pingi* (Fang, 1930)

*Gastromyzon pingi* Fang, 1930a: 31, pl. 1 figs. 3–5 (type locality: China: Guangxi: stream in Lin-yueng-shien; holotype: MMNHN 909; noun in genitive, indeclinable)

**8.2.13** *Beaufortia polylepis* Chen, in Zheng, Chen & Huang, 1982

*Beaufortia polylepis* Chen, in Zheng, Chen & Huang, 1982: 397, fig. 4 (type locality: China: Yunnan: Yiliang Xian [approx. 25°N 103°E]; syntypes: KIZ 774311, 315, 323, 324, 326, 330, 338, 342, 343, 347 [10]; compound noun, indeclinable)

**8.2.14** *Beaufortia szechuanensis* (Fang, 1930)

*Gastromyzon szechuanensis* Fang, 1930a: 36, fig. 7 (type locality: China: Sichuan: Omei-shien; holotype: SSCN 2468; adjective, *-is*, *-is*, *-e*)

**8.2.15** ? *Beaufortia yunnanensis* (Li, Lu & Mao, in Li, Mao, Lu, Sun & Lu, 1988)

*Paraprotomyzon yunnanensis* Li, Lu & Mao, in Li, Mao, Lu, Sun & Lu, 1998: 4, fig. 21 (type locality: China: Yunnan: Luoping County: Huangni He (tributary of Nanpanjiang) at Neigei Cun; 24°20'N 104°30'E; holotype: HRAS or FACQR 9204001; adjective, *-is*, *-is*, *-e*)

**8.2.16** *Beaufortia zebroida* (Fang, 1930)

*Gastromyzon pingi zebroidus* Fang, 1930a: 35, pl. 2 figs. 6–7 (type locality: China: Guangxi: Tung-kwei [Donggui], Lung-chow [Longzhou] ["at the boundary between Kwangsi and Annam"; between Guangxi and northern Vietnam]; holotype: MMNHN 1544; adjective, *-us*, *-a*, *-um*)

? *Beaufortia fasciolata* Nguyen, 2005: 588, fig. 26 (type locality: Vietnam: Cao Bang Province: Bang Giang River at Cao Bang; holotype: NCNTTSI; adjective, *-us*, *-a*, *-um*)

? *Beaufortia triocellata* Nguyen, 2005: 590, fig. 27 (type locality: Vietnam: Cao Bang Province: Bang Giang River at Cao Bang; holotype: NCNTTSI; adjective, *-us*, *-a*, *-um*)

? *Beaufortia multiocellata* Nguyen, 2005: 592, fig. 28 (type locality: Vietnam: Cao Bang Province: Bang Giang Riv-

er at Cao Bang; holotype: NCNTTSI; also spelt *multicellatun* p. 592, *multicellata* p. 690, obvious inadvertent errors, thus incorrect original spellings [*Code* art. 32.5.1]; adjective, *-us*, *-a*, *-um*)

### 8.3 *Erromyzon* Kottelat, 2004

*Erromyzon* Kottelat, 2004c: 306 (type species: *Protomyzon sinensis* Chen, 1980a: 106, by original designation). Gender masculine.

#### Species incertae sedis

##### 8.3.1 '*Erromyzon*' *pachychilus* (Chen, 1980)

*Protomyzon pachychilus* Chen, 1980a: 106, fig. 3 (type locality: China: Guangxi: a mountain stream of West River; syntypes: IHB 7–9, 12–14, 18 [7]; compound adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** Not congeneric with other species of *Erromyzon* (Yang Jian, pers. comm.). Six syntypes seen in IHB. The "lip lamina" of Chen (1980a) (see Kottelat, 2004c) is apparently a flattened lateral, roundish expansion of the lower lip immediately in front of the maxillary barbel.

##### 8.3.2 *Erromyzon compactus* Kottelat, 2004

*Erromyzon compactus* Kottelat, 2004c: 307, fig. 8 (type locality: Vietnam: Quang Ninh Province: Ba Che district: Ba Che River 4 km upstream of Ba Che city; 21°16'34"N 107°14'54"E; holotype: ZRC 49636; adjective, *-us*, *-a*, *-um*)

##### 8.3.3 *Erromyzon sinensis* (Chen, 1980)

*Protomyzon sinensis* Chen, 1980a: 106, fig. 4 (type locality: China: Guangxi: West River in Lonsheng, Lipu and Jinxu counties; syntypes [15]: IHB 75-IV-1801–1805, 2572–2574, 2579, 2581, 2804, 3217–3220 [15]; adjective, *-is*, *-e*)

##### 8.3.4 *Erromyzon yangi* Neely, Conway & Mayden, 2007

*Erromyzon yangi* Neely, Conway & Mayden, 2007: 98, fig. 1 (type locality: China Guangxi: Jinciu County: Xi Jiang, tributary of Zhu Jiang (Pearl River), near Meicun, 24°03.508'N 110°06.611'E; holotype: KIZ 200304423; noun in genitive, indeclinable)

### 8.4 *Formosania* Oshima, 1919

*Crossostoma* Sauvage, 1878a: 88 (type species: *Crossostoma davidi* Sauvage, 1878a: 89, by monotypy; junior homonym of *Crossostoma* Morris & Lycett, 1851: 72 in *Gastropoda*, *Crossostoma* Gosse, 1855: 310 in *Polychaeta*, and *Crossostoma* Agassiz, 1862: 154 in *Medusae*). Gender neuter.

*Formosania* Oshima, 1919: 194 (type species: *Formosania gilberti* Oshima, 1919: 194, by original designation). Gender feminine.

##### 8.4.1 *Formosania cheniyui* (Zheng, 1991)

*Crossostoma cheniyui* Zheng, 1991: 79, fig. 1 (type locality: China: Fujian: Chang Xian; syntypes: IHB 74VII1260–65 [6]; noun in genitive, indeclinable)

##### 8.4.2 *Formosania davidi* (Sauvage, 1878)

*Crossostoma Davidi* Sauvage, 1878a: 89 (type locality: China: western Fukien [Fujian] at 1200 masl [Fujian: Kuantun, 27°51'N 117°48'E; see below]; syntypes: MNHN 9817 [4], BMNH 1908.4.9.1 [1], Bertin & Estève, 1948: 102, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

*Crossostoma fascicauda fochowensis* Tchang, 1932b: 123, fig. 3 (type locality: China: Fukien [Fujian]: Fochow; holotype: ZMFIB 6480; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** The locality of the syntypes of *C. davidi* is given in original description as "western Fukien" and collected by David in 1874. David (1875: map) was only once in Fukien [now Fujian] and only in a very restricted area near the village of Koaten along the border with Jiangsi. David (1875: 261) explicitly mentioned collecting fish that obviously are balitorids. The locality data in the MNHN database indicates an altitude of 3000 masl (vs. 1200 in the original description). David (1875: 284, 285) reported that Koaten is at 1200 masl, on the southern slope of a hill whose altitude he estimated to be 2200 masl based on his barometer, and that mountains around did not appear to exceed 3000 masl. Koaten is identified as Kuantun and has been visited later by several naturalists (e.g.: La Touche, 1892: 402 (map), Pope, 1929: 339, 343, pl. 19, 1932: 490, pl. 111, 1935: 10, 496; see also Rickett et al., 1896: 489; Slater, 1897: 169; Thomas, 1898: 769; Boulenger, 1899b: 159). Fooden (1983: 16) gives the coordinates as 27°51'N 117°48'E, which is possibly for the summit of "Kuantun Mountain" (Wuyi Shan, 27°51'34"N 117°47'00"E, 2158 masl [which, incidentally, shows the accuracy of David's mensurations]).

##### 8.4.3 *Formosania fascicauda* (Nichols, 1926)

*Crossostoma fascicauda* Nichols, 1926: 2, fig. 2 (type locality: China: Fukien [Fujian]: Fuching Hsien; holotype: AMNH 8475; compound noun, indeclinable)

##### 8.4.4 *Formosania fasciolata* (Wang, Fan & Chen, 2006)

*Crossostoma fasciolatus* Wang, Fan & Chen, 2006: 902, figs. 1–2 (type locality: China: Zhejiang: Tiashun County [Taishun, 27°33'54"N 119°43'00"E]: rivulet in Wuyanling Nature Reserve, Liguan stream, Feiyun River system; holotype: ZMNH 8380338; adjective, *-us*, *-a*, *-um*)

##### 8.4.5 *Formosania galericula* (Zhang, in Zhang & Wang, 2011)

*Crossostoma galericula* Zhang, in Zhang & Wang, 2011: 85, fig. 1 (type locality: China: Zhejiang: Qingyuan County: Hehu township, Nanlu (mountain) stream (27°43'N 119°16'E) in Baishanzu National Natural Protection Zone, in Oujiang drainage; holotype: Xiaoshan Institute of Technology of Zhejiang Ocean University, Xiaoshan ZH 070616; treated as a noun in apposition, indeclinable)

**Nomenclatural notes.** Although the paper is authored by Zhang & Wang and contains only the description of *C. galericula*, authorship of the new species is attributed to Zhang alone. Locality data are extracted from Chinese text and differ from English abstract. The etymology of *galericula* is not stated; the word exists in Latin and means wigs (plural),

it should have been in the singular (galericulum) or as an adjective (galericulatus, -a, -um).

#### 8.4.6 *Formosania lacustris* (Steindachner, 1908)

*Homaloptera formosanum* Steindachner, 1908a: 86 (type locality: Taiwan: Lake Candidius; syntypes: NMW 47138 [3], 48680 [3], 48682 [3], 48683 [3], 48690 [4]; junior primary homonym of *Homaloptera formosana* Boulenger, 1894b: 463; adjective, -us, -a, -um)

*Crossostoma lacustre* Steindachner, 1908b: 110 (replacement name for *Homaloptera formosanum* Steindachner, 1908a: 86; adjective, -is, -is, -e)

*Formosania gilberti* Oshima, 1919: 194, pl. 49 (type locality: Taiwan: Tamusui River near Shinten; lectotype: FMNH 59085, designated by Eschmeyer, 1998: 647, Ibarra & Stewart, 1987: 36; noun in genitive, indeclinable)

#### 8.4.7 *Formosania paucisquama* (Zheng, 1981)

*Crossostoma paucisquama* Zheng, 1981: 57, fig. 1 (type locality: China: Guangdong: Puning County: mountain stream on Danan Shan [mountain], in Lianjiang drainage; syntypes: IHB 80VIII0037, 112, 114 [3], DBJU 80VIII0035–36, 38–40, 111, 113, 115–116 [9]; compound noun, indeclinable)

#### 8.4.8 *Formosania stigmata* (Nichols, 1926)

*Crossostoma stigmata* Nichols, 1926: 4, fig. 3 (type locality: China: Fukien [Fujian]; holotype: AMNH 8476; adjective, -us, -a, -um)

#### 8.4.9 *Formosania tengi* (Watanabe, 1983)

*Crossostoma tengi* Watanabe, 1983: 111, fig. 5 (type locality: Taiwan: Kaoshiung County: Kaochung; holotype: WIRI 20; noun in genitive, indeclinable)

#### 8.4.10 *Formosania tinkhami* (Herre, 1934)

*Crossostoma tinkhami* Herre, 1934: 286 (type locality: China: Guangdong: Loh Fau Shan, 3500 ft.; holotype: LNHSM; noun in genitive, indeclinable)

### 8.5 *Gastromyzon* Günther, 1874

*Gastromyzon* Günther, 1874: 454 (type species: *Gastromyzon borneensis* Günther, 1874: 454, by monotypy). Gender masculine.

*Lepidoglanis* Vaillant, 1890: 82 (type species: *Lepidoglanis monticola* Vaillant, 1890: 82, by monotypy). Gender masculine.

**Nomenclatural notes.** Vaillant (1890) did not indicate the gender of *Lepidoglanis*. He also did not explain the etymology and it is not known if he used the Greek *glanis* (feminine) or the Latin *glanis* (masculine). Because *lepis* is a Greek word, I consider *Lepidoglanis* as formed on the Greek *glanis* and feminine. The stem for a family group named formed on *Lepidoglanis* therefore is Lepidoglanid- (e.g. Lepidoglanididae Jordan, 1923: 149).

#### 8.5.1 *Gastromyzon aequabilis* Tan, 2006

*Gastromyzon aequabilis* Tan, 2006: 147, fig. 91 (type locality: Malaysia: Borneo: Sabah: Lahad Datu, Danum Val-

ley, Kuamut, unnamed stream at km 111 on main line west after turnoff to Borneo Rainforest Lodge, 5°01'06.0"N 117°32'38.4"E; holotype: MUS uncat.; adjective, -is, -is, -e)

#### 8.5.2 *Gastromyzon aeroides* Tan & Sulaiman, 2006

*Gastromyzon aeroides* Tan & Sulaiman, 2006: 9, figs. 3–4 (type locality: Malaysia: Borneo: Sabah: Mengalong River drainage: Sipitang: Sungai Malamum, ca. 9 km into track, tributary to Mengalong River; 4°59.120'N 115°37.581'E; holotype: MUS uncat.; noun in apposition, indeclinable)

#### 8.5.3 *Gastromyzon auronigrus* Tan, 2006

*Gastromyzon auronigrus* Tan, 2006: 177, pl. 17B, fig. 114 (type locality: Malaysia: Borneo: Sabah: Kota Marudu: Marak Parak: Sungai Kinarom, Kampong Loguhang, ca. 6 km downstream of Serinsim Station, 6°19.733'N 116°44.403'E; holotype: ZRC 47121; originally stated as an adjective [should have been auroniger], -us, -a, -um)

#### 8.5.4 *Gastromyzon bario* Tan, 2006

*Gastromyzon bario* Tan, 2006: 76, figs. 34–36, pl. 11A (type locality: Malaysia: Borneo: Sarawak: Baram River drainage, Arur Dalan, headwater of Sungai Padapur, near Bario; holotype: IRSNB 824; noun in apposition, indeclinable)

#### 8.5.5 *Gastromyzon borneensis* Günther, 1874

*Gastromyzon borneensis* Günther, 1874: 454 (type locality: Malaysia: Borneo: Sabah: Beaufort, sources of Mingalong River [near Labuan]; lectotype: BMNH 1874.11.24.1, designated by Roberts, 1982: 502, Tan, 2006: 56, fig. 12; adjective, -is, -is, -e)

#### 8.5.6 *Gastromyzon contractus* Roberts, 1982

*Gastromyzon contractus* Roberts, 1982: 504, fig. 6 (type locality: Indonesia: Borneo: Kalimantan Barat: Sungai Tebelian where it flows into Sungai Pinoh, 19 km upstream from Nangapinoh, 0°30'S 111°45'E; holotype: MZB 3447; adjective, -us, -a, -um)

#### 8.5.7 *Gastromyzon cornusaccus* Tan, 2006

*Gastromyzon cornusaccus* Tan: 2006: 68, fig. 26, pl. 10B (type locality: Malaysia: Borneo: Sabah: Kota Marudu, Sungai Kinarom; holotype: UMSB 02233; noun in apposition, indeclinable)

#### 8.5.8 *Gastromyzon cranbrookii* Tan & Sulaiman, 2006

*Gastromyzon cranbrookii* Tan & Sulaiman, 2006: 3, figs. 1–2 (type locality: Brunei Darussalam: Temburon District: Temburong River drainage, Sungai Belalong, in front and near Kuala Belalong Field Studies Centre, 4°32'50.4"N 115°09'27.6"E; holotype: UBD uncat.; noun in genitive, indeclinable)

#### 8.5.9 *Gastromyzon crenastus* Tan & Leh, 2006

*Gastromyzon crenastus* Tan & Leh, 2006: 9, figs. 3–4 (type locality: Malaysia: Borneo: Sarawak: Serian, Sungai Kubas, 6.9 km from Tebelu Tebakang turnoff, 5.8 km





8.4.6 *Formosania lacustris*, CMK 17450, 86.1 mm SL; Taiwan: Wu River.



8.4.6 *Formosania lacustris*, CMK 17450, 86.1 mm SL.

inside right side road, 1°09'10.0"N 110°29'22.7"E; holotype: SMK uncat.; adjective, *-us, -a, -um*)

**8.5.10 *Gastromyzon ctenocephalus* Roberts, 1982**

*Gastromyzon ctenocephalus* Roberts, 1982: 505, fig. 7 (type locality: Malaysia: Borneo: Sarawak: Senah; holotype: BMNH 1893.3.6.269; compound adjective, *-us, -a, -um*)

**8.5.11 *Gastromyzon danumensis* Chin & Inger, 1989**

*Gastromyzon danumensis* Chin & Inger, 1989: 54, fig. 2 (type locality: Malaysia: Borneo: Sabah: Lahad Datu District: Sungei Palum Tambun, a tributary of Segama River in Danum Valley Conservation Area; holotype: FMNH 98126 [not 98125], Tan, 2006: 145, fig. 88; adjective, *-is, -is, -e*)

**8.5.12 *Gastromyzon embalohensis* Rachmatika, 1998**

*Gastromyzon embalohensis* Rachmatika, 1998: 652, fig. 1 (type locality: Indonesia: Borneo: Kalimantan Barat: unnamed stream near its confluence with Sungai Tekelan, tributary of Embaloh River, "ca. 126°6'46"N 11228'196"E" [? 1°26.646'N 112°28.196'E]; holotype: MZB 9205; adjective, *-is, -is, -e*)



8.5.17 *Gastromyzon introrsus*, ZRC uncat., 49.6 mm SL; Malaysia: Borneo: Sabah: Ranau: Labuk. (Photograph by Tan Heok Hui).



8.5.17 *Gastromyzon introrsus*, ZRC 47002, 45.7 mm SL. (Photograph by Tan Heok Hui).

**8.5.13 *Gastromyzon extrorsus* Tan, 2006**

*Gastromyzon extrorsus* Tan, 2006: 70, figs. 28–29, pl. 10C (type locality: Malaysia: Borneo: Sabah: Penampang: Petagas drainage, Penampang River, Sungai Moyog, Kampong Kibunut, 05°53.301'N 116°14.102'E; holotype: MUS uncat.; treated as a noun in apposition, indeclinable)

**8.5.14 *Gastromyzon farragus* Tan & Leh, 2006**

*Gastromyzon farragus* Tan & Leh, 2006: 15, figs. 5–6 (type locality: Malaysia: Borneo: Sarawak: Serian, Sungai Kubas, 6.9 km from Tebelu Tebakang turnoff, 5.8 km inside right side road, 1°09'10.0'N 110°29'22.7'E; holotype: SMK uncat.; adjective, *-us, -a, -um*)

**8.5.15 *Gastromyzon fasciatus* Inger & Chin, 1961**

*Gastromyzon fasciatus* Inger & Chin, 1961: 173 (type locality: Malaysia: Borneo: Sarawak: Third Division: Sungai Dapu, tributary of Baleh River near mouth of Sungai Putai, 1°48'N 113°45'E; holotype: FMNH 68119, Tan, 2006: 94, fig. 48; adjective, *-us, -a, -um*)

**8.5.16 *Gastromyzon ingeri* Tan, 2006**

*Gastromyzon ingeri* Tan, 2006: 149, fig. 94 (type locality: Malaysia: Borneo: Sabah: Tawau: Tawau Hill Parl, Tawau

River; holotype: FMNH [ex 108270]; noun in genitive, indeclinable)

**8.5.17 *Gastromyzon introrsus* Tan, 2006**

*Gastromyzon introrsus* Tan, 2006: 72, figs. 31–32, pl. 10D (type locality: Malaysia: Borneo: Sabah: Keningau: Sungai Agudon, mile 1 from Keningau to Crocker Range National Park HQ, Padas drainage, 5°21.206'N 116°07.532'E; holotype: MUS uncat.; treated as a noun in apposition, indeclinable)

**8.5.18 *Gastromyzon katibasensis* Leh & Chai, 2003**

*Gastromyzon katibasensis* Leh & Chai, 2003: 277, fig. 1 (type locality: Malaysia: Borneo: Sarawak: Katibas, Song: Menyarin Camp [1°39.212'N 112°13.568'E] at confluence of Menyarin stream with Katibas headwaters; holotype: SMK FE.KTB.01–03; adjective, *-is, -is, -e*)

**8.5.19 *Gastromyzon lepidogaster* Roberts, 1982**

*Gastromyzon lepidogaster* Roberts, 1982: 509, figs. 9–10 (type locality: Malaysia: Borneo: Sabah: Beaufort District: sources of Mengalong; holotype: BMNH 1874.11.24.5; compound noun, indeclinable)

**8.5.20 *Gastromyzon megalepis* Roberts, 1982**

*Gastromyzon megalepis* Roberts, 1982: 510, fig. 11 (type locality: Malaysia: Borneo: Sarawak: Third District: tributary of Baleh River between Sungai Entunau and Sungai Putai, Rajang drainage; holotype: FMNH 68126; compound noun, indeclinable)

**8.5.21 *Gastromyzon monticola* (Vaillant, 1890)**

*Lepidoglanis monticola* Vaillant, 1890: 82 (type locality: Malaysia: Borneo: Sabah: Mt. Kinabalu [headwaters of Tampassuk River; Tan, 2006: 58]; lectotype: MNHN 1889–84, designated by Tan, 2006: 61, fig. 17; also in Vaillant, 1893: pl. 1 fig. 3; noun in apposition, indeclinable)

**Nomenclatural notes.** Words ending in *-cola* and meaning 'inhabitant of' are nouns and indeclinable.

**8.5.22 *Gastromyzon ocellatus* Tan & Ng, 2004**

*Gastromyzon ocellatus* Tan & Ng, 2004: 269, figs. 1, 5 (type locality: Malaysia: Borneo: Sarawak: Bau, Serikin area, Sungai Petiak, 1°21.25'N 110°06.81'E; holotype: SBC uncat.; adjective, *-us, -a, -um*)

**8.5.23 *Gastromyzon ornatICAUDA* Tan & Martin-Smith, 1998**

*Gastromyzon ornatICAUDA* Tan & Martin-Smith, 1998: 367, figs. 3–4 (type locality: Malaysia: Borneo: Sabah: Lahad Datu: Kuamut, unnamed stream at km 113 on Main Line West logging track, 5°00'40"N 117°31'40"E; holotype: MUS uncat.; compound noun, indeclinable)

**8.5.24 *Gastromyzon parIClavIS* Tan & Martin-Smith, 1998**

*Gastromyzon parIClavIS* Tan & Martin-Smith, 1998: 362, fig. 1 (type locality: Malaysia: Borneo: Sabah: Lahad Datu: Kuamut, unnamed stream at km 111 on Main Line West logging track, 5°01'05"N 117°32'40"E; holotype: MUS uncat.; compound noun, indeclinable)



**8.6.3 *Glaniopsis* cf. *hanitschi*, ZRC uncat., 55.5 mm SL; Malaysia: Borneo: Sabah: Ranau: Labuk. (Photograph by Tan Heok Hui).**



**8.6.3. *Glaniopsis* *hanitschi*, ZRC uncat., 40.4 mm SL. (Photograph by Tan Heok Hui).**

**8.5.25 *Gastromyzon praestans* Tan, 2006**

*Gastromyzon praestans* Tan, 2006: 96, figs. 51–52 (type locality: Indonesia: Borneo: Kalimantan Barat: mainstream of Sungai Pinoh 20–60 km upstream from Nangapinoh, 0°27.5'–0°41.5'S 111°39'–111°45.5'E; holotype: MZB 3450; treated as a noun in apposition [but in fact an adjective], indeclinable)

**8.5.26 *Gastromyzon psiloetron* Tan, 2006**

*Gastromyzon psiloetron* Tan, 2006: 126, pl. 14A, fig. 73 (type locality: Indonesia: Borneo: Kalimantan Timur: Kayan drainage, Bahau: Lalut Birai River next to Lalut Birai field station, tributary to Enggeng Bio, itself draining to Bahau River, 2°52.58'N 115°49.19'E; holotype: MZB 9348; noun in apposition, indeclinable)

**8.5.27 *Gastromyzon punctulatus* Inger & Chin, 1961**

*Gastromyzon punctulatus* Inger & Chin, 1961: 173 (type locality: Malaysia: Borneo: Sarawak: Third Division: Sungai Dapu, tributary of Baleh River near mouth of Sungai Putai, 1°48'N 113°45'E; holotype: FMNH 68116, Tan, 2006: 84, fig. 40; adjective, *-us, -a, -um*)

**8.5.28 *Gastromyzon ridens* Roberts, 1982**

*Gastromyzon ridens* Roberts, 1982: 515, fig. 14 (type locality: Indonesia: Borneo: Kalimantan Barat: Sungai Pinoh 20–60 km upstream from Nangapinoh; holotype: MZB 3455; participle, indeclinable)

**8.5.29 *Gastromyzon russulus* Tan, 2006**

*Gastromyzon russulus* Tan, 2006: 163, pl. 16B, fig. 105 (type locality: Indonesia: Borneo: Kalimantan Timur: Kayan drainage, Bahau: Enggeng Bio River, draining to Bahau River, up to 6 riffles upstream of field station, 2°52.58'N 115°49.19'E; holotype: MZB 10702; adjective, *-us, -a, -um*)

**8.5.30 *Gastromyzon scitulus* Tan & Leh, 2006**

*Gastromyzon scitulus* Tan & Leh, 2006: 3, figs. 1–2 (type locality: Malaysia: Borneo: Sarawak: Serian, Sungai Kubas, 6.9 km from Tebelu Tebakang turnoff, 5.8 km inside right side road, 1°09'10.0"N 110°29'22.7"E; holotype: SMK uncat.; adjective, *-us, -a, -um*)

**8.5.31 *Gastromyzon spectabilis* Tan, 2006**

*Gastromyzon spectabilis* Tan, 2006: 161, pl. 16A, fig. 102 (type locality: Malaysia: Borneo: Sabah: Lahad Datu, Sungai Danum camp II; holotype: MUS 0366; adjective, *-is, -is, -e*)

**8.5.32 *Gastromyzon stellatus* Tan, 2006**

*Gastromyzon stellatus* Tan, 2006: 136, pl. 14C, figs. 82 (type locality: Malaysia: Borneo: Sarawak: Bau, Serikin area, Sungai Petiak, 1°21.25'N 110°06.81'E; holotype: SMK uncat.; adjective, *-us, -a, -um*)

**8.5.33 *Gastromyzon umbrus* Tan, 2006**

*Gastromyzon umbrus* Tan, 2006: 106, figs. 60–61 (type locality: Indonesia: Borneo: Kalimantan Timur: Sungai Sebuku drainage: Sungai Bantul at Bantul logging camp, draining to Sungai Tultit, 4°08'54"N 116°48'18"E; holotype: MZB 16471; used as an adjective, *-us, -a, -um*)

**8.5.34 *Gastromyzon venustus* Tan & Sulaiman, 2006**

*Gastromyzon venustus* Tan & Sulaiman, 2006: 13, figs. 5–6 (type locality: Brunei Darussalam: Temburong District: Temburong River drainage, Sungai Belalong, in front and near Kuala Belalong Field Studies Centre, 4°32'50.4"N 115°09'27.6"E; holotype: UBD uncat.; adjective, *-us, -a, -um*)

**8.5.35 *Gastromyzon viriosus* Tan, 2006**

*Gastromyzon viriosus* Tan, 2006: 165, fig. 107 (type locality: Malaysia: Borneo: Sarawak: Bintulu, Tatau District, Sungai Sawi; holotype: ZRC 39709; adjective, *-us, -a, -um*)

**8.5.36 *Gastromyzon zebrinus* Tan, 2006**

*Gastromyzon zebrinus* Tan, 2006: 139, pl. 15A, fig. 84 (type locality: Indonesia: Borneo: Kalimantan Barat: Sambas drainage: Bengkayan, about 60–70 km from Sarawak border; holotype: MZB 9350; adjective, *-us, -a, -um*)

**8.6 *Glaniopsis* Boulenger, 1899**

*Glaniopsis* Boulenger, 1899a: 228 (type species: *Glaniopsis hanitschi* Boulenger, 1899a: 228, by monotypy). Gender feminine.

**8.6.1 *Glaniopsis denudata* Roberts, 1982**

*Glaniopsis denudata* Roberts, 1982: 517, fig. 17 (type locality: Malaysia: Borneo: Sabah: Sungai Kidikarok; holotype: BMNH 1957.2.27.1; adjective, *-us, -a, -um*)

**8.6.2 *Glaniopsis gossei* Roberts, 1982**

*Glaniopsis gossei* Roberts, 1982: 518, fig. 18 (type locality: Malaysia: Borneo: Sarawak: Arur Dalan, a torrential headwater of Sungai Padapur, Baram drainage, near Bario; holotype: IRNSB 621; noun in genitive, indeclinable)

**8.6.3 *Glaniopsis hanitschi* Boulenger, 1899**

*Glaniopsis Hanitschi* Boulenger, 1899a: 228 (type locality: Malaysia: Borneo: Sabah: Kadamaian River on Mount Kinabalu; syntypes: BMNH 1898.8.19.17–18 [2], ZRC 1753 [1], Alfred, 1970: 69, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

**8.6.4 *Glaniopsis multiradiata* Roberts, 1982**

*Glaniopsis multiradiata* Roberts, 1982: 521, fig. 20 (type locality: Malaysia: Borneo: Sarawak: Arur Dalan, a torrential headwater of Sungai Padapur, Baram drainage, near Bario; holotype: IRNSB 619; adjective, *-us, -a, -um*)

**8.7 *Hypergastromyzon* Roberts, 1989**

*Hypergastromyzon* Roberts, 1989: 91 (type species: *Hypergastromyzon humilis* Roberts, 1989: 92, by original designation; also spelt *Hypogastromyzon* p. 83, an inadvertent error as evidenced by etymology p. 92, thus incorrect original spelling [*Code* art. 32.5.1]). Gender masculine.

**8.7.1 *Hypergastromyzon eubranchnus* Roberts, 1991**

*Hypergastromyzon eubranchnus* Roberts, 1991: 334, fig. 1 (type locality: Malaysia: Borneo: Sarawak: Batang Ai near Wong Mepal; holotype: BMNH 1984.11.15.1; compound noun, indeclinable)

**8.7.2 *Hypergastromyzon humilis* Roberts, 1989**

*Hypergastromyzon humilis* Roberts, 1989: 92, fig. 72 (type locality: Indonesia: Borneo: Kalimantan Barat: Sungai Tamang, a tributary of Sungai Pinoh entering it opposite mouth of Sungai Kelawai; holotype: MZB 3480; adjective, *-is, -is, -e*)

**8.8 *Katibasia* Kottelat, 2004**

*Katibasia* Kottelat, 2004c: 302 (type species: *Katibasia insidiosa* Kottelat, 2004c: 303, by original designation). Gender feminine.

**8.8.1 *Katibasia insidiosa* Kottelat, 2004**

*Katibasia insidiosa* Kottelat, 2004c: 303, fig. 2 (type locality: Malaysia: Borneo: Sarawak: Song District: Sungai





8.7.2 *Hypergastromyzon humilis*, CMK 10574, 30.4 mm SL; Indonesia: Borneo: Kapuas drainage.



8.7.2 *Hypergastromyzon humilis*, CMK 10574, 31.5 mm SL. (Photograph by Tan Heok Hui).

Melinau, Ulu Katibas, Rajang drainage; holotype: ZRC 49631; adjective, *-us*, *-a*, *-um*)

### 8.9 *Liniparhomaloptera* Fang, 1935

*Liniparhomaloptera* Fang, 1935a: 93 (type species: *Parhomaloptera disparis* Lin, 1934: 225, by original designation). Gender feminine.

#### 8.9.1 *Liniparhomaloptera disparis* (Lin, 1934)

*Parhomaloptera disparis* Lin, 1934: 225, figs. 1–3 (type locality: China: Guangdong: Poh-lo County: Loh Fau Shan; holotype: FESC H 15; adjective, *-ar*, *-aris*, *-are*)

#### 8.9.2 ? *Liniparhomaloptera monoloba* (Mai, 1978)

*Homaloptera monoloba* Mai, 1978: 207, fig. 94 (type locality: Vietnam: Bac Thai Province: Ky Phu stream; syntypes: DVZUT; compound noun, indeclinable)

#### 8.9.3 *Liniparhomaloptera obtusirostris* Zheng & Chen, 1980

*Liniparhomaloptera obtusirostris* Zheng & Chen, 1980: 92,



8.8.1 *Katibasia insidiosa*, ZRC 49631, 31.2 mm SL, holotype; Malaysia: Borneo: Sarawak: Rajang drainage. (Photograph by Tan Heok Hui).



8.8.1 *Katibasia insidiosa*, ZRC 49631, 31.2 mm SL. (Photograph by Tan Heok Hui).

fig. 3 (type locality: China: Guangdong: Xinyi County: a mountain stream of West River; syntypes: IHB 77VII80, 83–84, 86–87 [5], DBJU 77VIII88, 106, 111 [3]; compound noun, indeclinable)

#### 8.9.4 *Liniparhomaloptera qiongzhongensis* Zheng & Chen, 1980

*Liniparhomaloptera disparis qiongzhongensis* Zheng & Chen, 1980: 91, fig. 2 (type locality: China: Hainan: Wanquan River in Qiongzhong Xian; syntypes: IHB 76V9621–9624, 9626 [5], DBJU 76V9629, 9630, 9632, 9634 [4]; also spelt *qiongzhengensis* p. 89, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; adjective, *-is*, *-is*, *-e*)

### 8.10 *Neogastromyzon* Popta, 1905

*Neogastromyzon* Popta, 1905: 180 (type species: *Neogastromyzon nieuwenhuisii* Popta, 1905: 181, by monotypy). Gender masculine.

#### 8.10.1 *Neogastromyzon brunei* Tan, 2006

*Neogastromyzon brunei* Tan, 2006: 194, fig. 127, pl. 18C (type locality: Brunei Darussalam: Temburong District: Belalong drainage: Sungai Enkabang, about 15 minutes upstream of Kuala Belalong Field Studies Centre, 4°32'13.5"N 115°09'35.0"E; holotype: UBD uncat.; noun in apposition, indeclinable)



**8.9.4** *Liniparhomaloptera* cf. *qionghongensis*, CMK 14888, 72.1 mm SL; Vietnam: Mong Cai.



**8.9.4** *Liniparhomaloptera* cf. *qionghongensis*, CMK 14888, 72.1 mm SL.

**8.10.2** *Neogastromyzon chini* Tan, 2006

*Neogastromyzon chini* Tan, 2006: 189, figs. 122–123, pl. 18A–B (type locality: Malaysia: Borneo: Sarawak: Third Division: Rajang drainage, tributary Baleh River, between Sungai Entunau and Sungai Putai; holotype: FMNH 97439; noun in genitive, indeclinable)

**8.10.3** *Neogastromyzon crassiobex* Tan, 2006

*Neogastromyzon crassiobex* Tan, 2006: 187, fig. 120, pl. 17C (type locality: Malaysia: Borneo: Sabah: Lahad Datu: Kuamut drainage, unnamed hill stream, 5°00'20"N 117°30'10"E; holotype: ZRC 47396; noun in apposition, indeclinable)

**8.10.4** *Neogastromyzon kottelati* Tan, 2006

*Neogastromyzon kottelati* Tan, 2006: 192, fig. 125 (type locality: Indonesia: Borneo: Kalimantan Barat: Danau Sentarum area, Sungai Hulu Leboyan at Keluwin; holotype: MZB 10704; noun in genitive, indeclinable)

**8.10.5** *Neogastromyzon nieuwenhuisii* Popta, 1905

*Neogastromyzon Nieuwenhuisii* Popta, 1905: 181 (type locality: Indonesia: Borneo: Kalimantan Timur: Howong River [about 0°15'N 115°30'E]; holotype: RMNH 7640; also



**8.10.4** *Neogastromyzon kottelati*, CMK 11706, 35.2 mm SL; Indonesia: Borneo: Kapuas drainage.



**8.10.5** *Neogastromyzon nieuwenhuisii*, ZRC 47394, 55.2 mm SL; Indonesia: Borneo: Kayan drainage. (Photograph by Tan Heok Hui).

in Popta, 1906: 192, pl. 10 fig. 41; noun in genitive, indeclinable)

**8.10.6** *Neogastromyzon pauciradiatus* (Inger & Chin, 1961)

*Gastromyzon pauciradiatus* Inger & Chin, 1961: 174 (type locality: Malaysia: Borneo: Sarawak: Third Division: unnamed tributary of Baleh River opposite Sungai Laie; holotype: FMNH 68121, Tan, 2006: 185, fig. 118; adjective, *-us, -a, -um*)

**8.11** *Paraprotomyzon Pellegrin & Fang, 1935*

*Paraprotomyzon* Pellegrin & Fang, 1935: 99 (type species: *Paraprotomyzon multifasciatus* Pellegrin & Fang, 1935: 103, by original designation). Gender masculine.

**8.11.1** *Paraprotomyzon bamaensis* Tang, 1997

*Paraprotomyzon bamaensis* Tang, 1997: 108, fig. 1 (type locality: China: Guangxi: Bama County, in Hongshuihe River drainage; holotype: IHB 86VIII0001; adjective, *-is, -is, -e*)



**8.11.3** *Paraprotomyzon multifasciatus*, KIZ 2011001333, 33.9 mm SL; China: Guangxi: Pearl River drainage. (Photograph by Chen Xiao-Yong).



**8.11.3** *Paraprotomyzon multifasciatus*, ZSI F669/2, syntype, size unknown. (From Hora & Jayaram, 1950: 63).

**8.11.2** *Paraprotomyzon lungkowensis* Xie, Yang & Gong, 1984

*Paraprotomyzon lungkowensis* Xie, Yang & Gong, 1984: 62, figs. 1–2 (type locality: China: Hubei: Lungkow stream, Mount Shengnongjia; syntypes: HACW 826001, 835274–278, 294–278 [sic], IHB 835279–281 [total 9]; adjective, *-is, -is, -e*)

**8.11.3** *Paraprotomyzon multifasciatus* Pellegrin & Fang, 1935

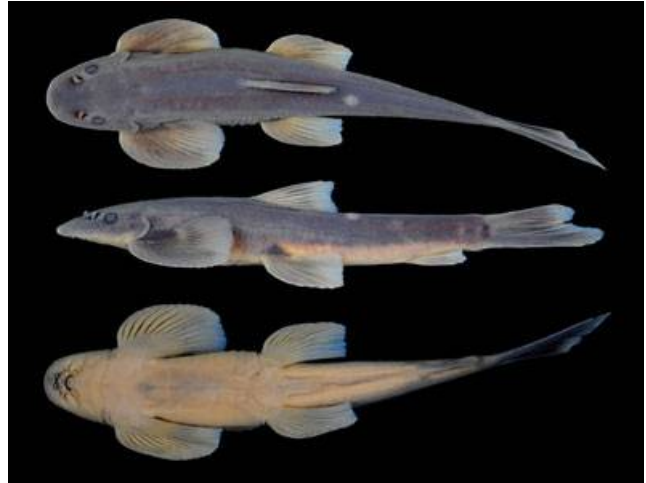
*Paraprotomyzon Multifasciatus* Pellegrin & Fang, 1935: 103, fig. 2 (type locality: China: Sichuan: Kwai-chow; syntypes: MNHN 1935-36–39 [4], ZSI F 669/2 [1], Bertin & Estève, 1948: 102, Silas, 1953: 231; adjective, *-us, -a, -um*)

**8.11.4** *Paraprotomyzon niulanjiangensis* Lu, Lu & Mao, 2005

*Paraprotomyzon niulanjiangensis* Lu, Lu & Mao, 2005: 202, fig. 1 (type locality: China: Yunnan: Zhanyi County: Niulan Jiang, tributary of Jinsha Jiang [Yangtze], at Deze Xiang, 25°59'N 103°36'E; holotype: FACQR 200306005; adjective, *-is, -is, -e*)

**8.12** *Parhomaloptera* Vaillant, 1902

*Parhomaloptera* Vaillant, 1902: 129 (type species: *Parhomaloptera obscura* Vaillant, 1902: 130, by monotypy). Gender feminine.



**8.12.1** *Parhomaloptera microstoma*, ZRC uncat., 63.4 mm SL; Indonesia: Borneo: Kayan drainage. (Photograph by Tan Heok Hui).



**8.12.1** *Parhomaloptera microstoma*, ZRC uncat., 56.6 mm SL. (Photograph by Tan Heok Hui).

**8.12.1** *Parhomaloptera microstoma* (Boulenger, 1899)

*Homaloptera microstoma* Boulenger, 1899a: 228 (type locality: Malaysia: Borneo: Sarawak: Akar River; holotype: BMNH 1895.7.2.49, Eschmeyer & Fricke, 2010; compound noun, indeclinable)

*Parhomaloptera obscura* Vaillant, 1902: 130, figs. 36–38 (type locality: Indonesia: Borneo: Kalimantan Timur: Bloeoe River [Bluu, 0°42'N 114°24'E]; syntypes [3]: RMNH, MNHN 1903-196 [1], Bertin & Estève, 1948: 103; adjective, *-us, -a, -um*)

**8.13** *Plesiomyzon* Zheng & Chen, 1980

*Plesiomyzon* Zheng & Chen, 1980: 90 (type species: *Plesiomyzon baotingensis* Zheng & Chen, 1980: 90, by original designation). Gender masculine.

**8.13.1** *Plesiomyzon baotingensis* Zheng & Chen, 1980

*Plesiomyzon baotingensis* Zheng & Chen, 1980: 90, fig. 1 (type locality: China: Hainan: Baoting Xian; syntypes: IHB 76VI6077, 6079 [2], DBJU 76VI6078 [1]; adjective, *-is, -is, -e*)

**8.14** *Protomyzon* Hora, 1932

*Protomyzon* Hora, 1932a: 306 (type species: *Homaloptera whiteheadi* Vaillant, 1893: 92, by original designation). Gender masculine.

*Progastromyzon* Hora & Jayaram, 1952: 191 (type species:





**8.13.1** *Plesiomyzon baotingensis*, ZRC uncat., 39.4 mm SL; China: Hainan Island. (Photograph by Tan Heok Hui).



**8.14.2** *Protomyzon borneensis*, ZRC uncat., 32.4 mm SL; Malaysia: Borneo: Sabah: Ranau: Labuk. (Photograph by Tan Heok Hui).



**8.13.1** *Plesiomyzon baotingensis*, ZRC uncat., 39.4 mm SL. (Photograph by Tan Heok Hui).



**8.14.2** *Protomyzon borneensis*, ZRC uncat., 40.5 mm SL. (Photograph by Tan Heok Hui).

*Progastromyzon griswoldi* Hora & Jayaram, 1952: 192, by original designation). Gender masculine.

**8.14.1** *Protomyzon aphelocheilus* Inger & Chin, 1962  
*Protomyzon aphelocheilus* Inger & Chin, 1962: 110, fig. 53 (type locality: Malaysia: Borneo: Sabah: Tambunan District: Sungei Kaingeran; holotype: FMNH 68166; noun in apposition, indeclinable)

**8.14.2** *Protomyzon borneensis* Hora & Jayaram, 1952  
*Protomyzon borneensis* Hora & Jayaram, 1952: 193, fig. 2 (type locality: Malaysia: Borneo: Sabah: Mount Kinabalu: Bohanan River between Jinompan and Ranau, Kampung Kundasang; holotype: MCZ 37207 [not 34801]; adjective, *-is, -is, -e*)

**8.14.3** *Protomyzon griswoldi* (Hora & Jayaram, 1952)  
*Progastromyzon griswoldi* Hora & Jayaram, 1952: 192, fig. 1 (type locality: Malaysia: Borneo: Sabah: Mount Kinabalu: Kaddamayaa River at Kiau; holotype: MCZ 37206 [not 34806]; noun in genitive, indeclinable)

**8.14.4** *Protomyzon whiteheadi* (Vaillant, 1893)  
*Homaloptera Whiteheadi* Vaillant, 1893: 92, pl. 1 fig. 2 (type locality: Malaysia: Borneo: Sabah: Kinabalu; syntypes: MNHN 1889-86 [1], 1889-87 [1], 1889-88 [5]; noun in genitive, indeclinable)

**8.15** *Pseudogastromyzon* Nichols, 1925  
*Pseudogastromyzon* Nichols, 1925e: 1 (subgenus of *Hemimyzon* Regan, 1911: 32; type species: *Hemimyzon zebroides* Nichols, 1925e: 1, by monotypy). Gender masculine.

*Labigastromyzon* Tang & Chen, 1996: 234 (subgenus of *Pseudogastromyzon* Nichols, 1925e: 1; type species: *Crossostoma fangi* Nichols, 1931a: 63, by original designation; spelt *Labigastromyzo* p. 234, an obvious inadvertent error, thus incorrect original spelling [*Code art.* 32.5.1]). Gender masculine.

**8.15.1** *Pseudogastromyzon changtingensis* Liang, 1942  
*Pseudogastromyzon fasciatus changtingensis* Liang, 1942: 1, fig. 1 (type locality: China: western Fukien [Fujian]: Chang ting-hsien; holotype: Institute of Zoology and Botany, Provincial Academy of Fukien 9; adjective, *-is, -is, -e*)

? *Pseudogastromyzon tungpeiensis* Chen & Liang, 1949: 158, fig. 1 (type locality: China: Guangdong: Tung-peishiu, Lienhsien; holotype: Kwantung Provincial College of Letters and Science 651; adjective, *-is, -is, -e*)

**8.15.2** *Pseudogastromyzon cheni* Liang, 1942  
*Pseudogastromyzon cheni* Liang, 1942: 4, fig. 2 (type local-

ity: China: western Fukien [Fujian]: Changting-hsien; holotype: Institute of Zoology and Botany, Provincial Academy of Fukien 6; noun in genitive, indeclinable)

#### 8.15.3 *Pseudogastromyzon fangi* (Nichols, 1931)

*Crossostoma fangi* Nichols, 1931a: 263, fig. (type locality: China: Guangdong: near Canton; holotype: AMNH 10111 [Lingnan University Canton P-81], Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

#### 8.15.4 *Pseudogastromyzon fasciatus* (Sauvage, 1878)

*Psilorhynchus fasciatus* Sauvage, 1878a: 88 (type locality: China: western Fukien [Fujian] at 1200 masl [Fujian: Kuatun, 27°51'N 117°48'E; see *Crossostoma davidi*]; syntypes: MNHN A.3449 [11], 9821 [3], Bertin & Estève, 1948: 102, 103; adjective, *-us*, *-a*, *-um*)

*Hemimyzon zebroidus* Nichols, 1925e: 1, fig. 1 (type locality: China: Fukien [Fujian]: Yenping; holotype: AMNH 8392; adjective, *-us*, *-a*, *-um*)

*Pseudogastromyzon fasciatus jiulongjiangensis* Chen, 1980a: 110, fig. 5 (type locality: China: Fujian: Jiulong River in Longyan Xian and Nanjing Xian; syntypes: IHB 74V445, 447, 448, 761, 763, 765, 766, 768–770, 776, 779, 782–784 [15]; adjective, *-is*, *-is*, *-e*)

#### 8.15.5 *Pseudogastromyzon laticeps* Chen & Zheng, in Zheng & Chen, 1980

*Pseudogastromyzon laticeps* Chen & Zheng, in Zheng & Chen, 1980: 96, fig. 7 (type locality: China: Guangdong: Haifeng Xian: a mountain stream at Lianhua Shan; syntypes: IHB 76IV8166–8170, 8196–8200 [10], DBJU 76IV8171–8175, 8202–8206 [10]; compound adjective, indeclinable)

#### 8.15.6 *Pseudogastromyzon lianjiangensis* Zheng, 1981

*Pseudogastromyzon lianjiangensis* Zheng, 1981: 59, fig. 2 (type locality: China: Guangdong: Puning County: mountain stream on Danan Shan [mountain], in Lianjiang drainage; syntypes: IHB 80VIII0008, 24 [2], DBJU 80VIII0005, 22, 27 [3]; adjective, *-is*, *-is*, *-e*)

#### 8.15.7 *Pseudogastromyzon meihuashanensis* Li, 1998

*Pseudogastromyzon meihuashanensis* Li, 1998: 260, fig. 1 (type locality: China: Fujian: Meihuashan Nature Reserve, Dutou Station, Manzhuxi [Manzhu stream], Jiulongjiang drainage, 25°25'N 116°55'E; holotype: FM 00248; also spelt *meihuashangensis* p. 260, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; adjective, *-is*, *-is*, *-e*)

#### 8.15.8 *Pseudogastromyzon myersi* Herre, 1932

*Pseudogastromyzon myersi* Herre, 1932: 430 (type locality: China: Hong Kong island; holotype: CAS-SU 25731, Böhlke, 1953: 40; noun in genitive, indeclinable)

*Pseudogastromyzon maculatum* Chen & Zheng, in Zheng & Chen, 1980: 95, fig. 6 (type locality: China: Guangdong: East River in Lianping Xian and Xinfeng Xian; syntypes: IHB 76V7355, 7357, 7359, 7361, 7363, 7365, 7367, 7371, 7587, 7593 [10], DBJU 76V7595, 7599, 7785, 7788, 7789 [5]; adjective, *-us*, *-a*, *-um*)



8.15.2 *Pseudogastromyzon* cf. *cheni*, ZRC uncat., 39.2 mm SL; China: aquarium specimen. (Photograph by Tan Heok Hui).



8.15.2 *Pseudogastromyzon* cf. *cheni*, ZRC uncat., 39.2 mm SL. (Photograph by Tan Heok Hui).

#### 8.15.9 *Pseudogastromyzon peristictus* Zheng & Li, 1986

*Pseudogastromyzon peristictus* Zheng & Li, 1986: 77, fig. 1 (type locality: China: Guangdong: Fengshun Xian; syntypes: DBJU 85VIII109–118, 120–121 [12], IHB 85VIII107–108, 119, 122 [4]; etymology unknown, treated as noun in apposition, indeclinable)

#### 8.16 *Sewellia* Hora, 1932

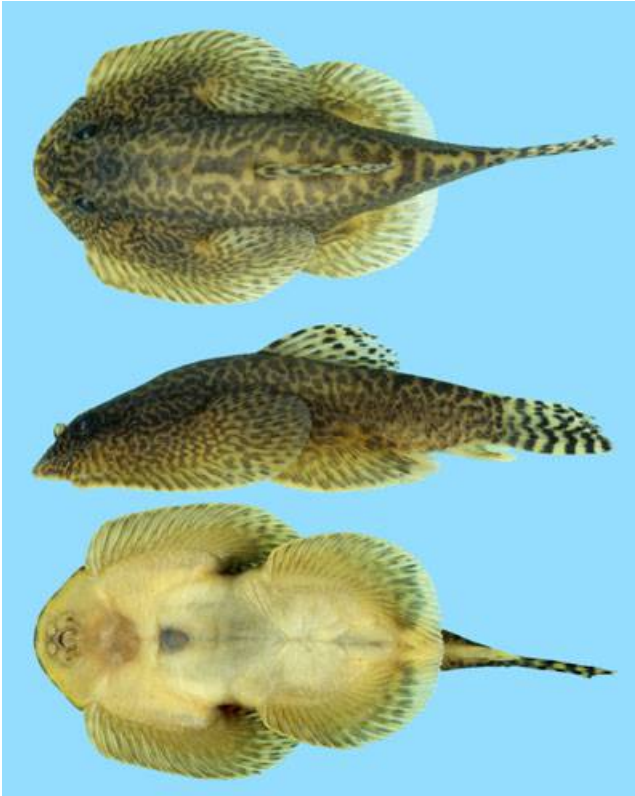
*Sewellia* Hora, 1932: 315 (type species: *Balitora lineolata* Valenciennes, in Cuvier & Valenciennes, 1846: 99, by original designation). Gender feminine.

*Diardichthys* Roberts, 1998: 275 (subgenus of *Sewellia* Hora, 1932a: 315; type species: *Sewellia diardi* Roberts, 1998: 281, by original designation). Gender masculine.

*Parasewellia* Nguyen (H. D.) & Nguyen (V. H.), in Nguyen (V. H.), 2005: 543 (type species: *Parasewellia tetralobata* Nguyen & Nguyen, in Nguyen, 2005: 545, by original designation). Gender feminine.

**Taxonomic notes.** The validity of the many names created in recent years in the Vietnamese literature cannot be evaluated. The descriptions are of little use and the quality of the illustrations of most species does not allow to guess their identity. As most species have very restricted ranges, it is expected that those from widely distant localities might in fact be valid, while the many species described from exactly the same locality may be found to represent single species.





**8.16.12** *Sewellia speciosa*, CMK 15551, 45.8 mm SL; Laos: Mekong drainage: Xe Kong.



**8.16.5** *Sewellia elongata*, CMK 15529, 63.5 mm SL.

**8.16.1** *Sewellia albisuera* Freyhof, 2003

*Sewellia albisuera* Freyhof, 2003: 226, figs. 1–2 (type locality: Vietnam: Quang Nam Da Nang Province: Thu Bon River about 16 km west of Than My; 15°40.33'N 107°48.45'E; holotype: ZFMK 32913; noun in apposition, indeclinable)

*Parasewellia tetralobata* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 545, fig. 1 (type locality: Vietnam: Quang Nam Province: Thu Bon River [a coastal drainage south of Danang]; holotype: HNUE; adjective, *-us, -a, -um*)

**8.16.2** *Sewellia analis* Nguyen & Nguyen, in Nguyen, 2005

*Sewellia analis* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 587, fig. 25 (type locality: Vietnam: Thua Thien Hue Province: A Luoi district, A Sap, Hong Van, Tarinh; holotype: HNUE; also spelt *analis* p. 278, 587 fig. 25, 689; as first reviser I select *analis* as the correct original spelling; noun in apposition, indeclinable)

**8.16.3** *Sewellia breviventralis* Freyhof & Serov, 2000

*Sewellia breviventralis* Freyhof & Serov, 2000a: 231, figs. 9–10 (type locality: Vietnam: Kontum Province: Pako River about 50 km north of Kontum, a tributary of Sesan, Mekong drainage; 14°39'60"N 107°46'98"E; holotype: ZFMK 20955; compound noun, indeclinable)

**8.16.4** *Sewellia diardi* Roberts, 1998

*Sewellia diardi* Roberts, 1998: 281, fig. 6 (type locality: Laos: Attapu Province.: lower Xe Nam Noi 1.5 km downstream from bridge on route 232 to Attapu, 26 km from Ban Nam Tang, 270 masl; holotype: ZRC 40364; noun in genitive, indeclinable)

**8.16.5** *Sewellia elongata* Roberts, 1998

*Sewellia elongata* Roberts, 1998: 283, fig. 7 (type locality: Laos: Champasak Province: Bolaven plateau: Xe Nam Noi at proposed dam site for Xe Nam Noi-Xe Pian hydropower dam, 16 km southeast of Ban Nam Tang, 730 masl; holotype: ZRC 40361; adjective, *-us, -a, -um*)

**8.16.6** *Sewellia lineolata* (Valenciennes, in Cuvier & Valenciennes, 1846)

*Balitora lineolata* Valenciennes, in Cuvier & Valenciennes, 1846: 99 (type locality: Vietnam: Cochinchine; syntypes: MNHN 2906 [3], BMNH 1931.10.26.3 [1], RMNH 2011 [2], ZSIF 11291/1 [1], Bertin & Estève, 1948: 104, Kottelat, 1994b: 109, Silas, 1953: 230; adjective, *-us, -a, -um*)  
*Sewellia songboensis* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 581, fig. 22 (type locality: Vietnam: Thua Thien Hue Province: A Luoi district: A Sap; holotype: HNUE; adjective, *-is, -is, -e*)

**8.16.7** *Sewellia marmorata* Serov, 1996

*Sewellia marmorata* Serov, 1996: 197, fig. 1 (type locality: Vietnam: Zalai-Kontum Province: "a mountain brook at the area of the forestry Kon-Khanym", 1250 masl, 13°57'N 107°32'E [Gia Lai Province: stream at Kon Ha Nuong, about 70 km north of An Khe, 13°57'N 108°32'E; Freyhof & Serov, 2000a: 223]; holotype: ZMMU P 19760; adjective, *-us, -a, -um*)

**8.16.8** *Sewellia media* Nguyen & Nguyen, in Nguyen, 2005

*Sewellia medius* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 585, fig. 24 (type locality: Vietnam: Thua Thien Hue Province: A Luoi district, A Sap, Hong Van, Tarinh; holotype: HNUE; adjective, *-us, -a, -um*)  
*Sewellia brevis* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 278, 585, fig. 24 (an alternative name used simultaneously for *Sewellia medius* Nguyen & Nguyen, in Nguyen, 2005: 585; as first reviser I give precedence to *S. medius*; adjective, *-is, -is, -e*)

**8.16.9** *Sewellia monolobata* (Nguyen & Nguyen, in Nguyen, 2005)

*Parasewellia monolobata* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 546, fig. 2 (type locality: Vietnam: Quang Nam Province: Thu Bon River [a coastal drainage south of Danang]; holotype: HNUE; adjective, *-us, -a, -um*)



*Parasewellia polylobata* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 548, fig. 3 (type locality: Vietnam: Quang Nam Province: Thu Bon River [a coastal drainage south of Danang]; holotype: HNUE; also spelt *polyloba* in caption of fig. 3, as first reviser I select *polylobata* as the correct original spelling; subjective simultaneous synonym of *Parasewellia monolobata* Nguyen & Nguyen, in Nguyen, 2005: 546; as first reviser, I give precedence to *P. monolobata*; adjective, *-us*, *-a*, *-um*)

#### 8.16.10 *Sewellia patella* Freyhof & Serov, 2000

*Sewellia patella* Freyhof & Serov, 2000a: 235, figs. 13–14 (type locality: Vietnam: Gia Lai Province: stream Azun about 30 km east of Pleiku; 14°02'34"N 108°21'07" E; holotype: ZFMK 20962; noun in apposition, indeclinable)

#### 8.16.11 *Sewellia pterolineata* Roberts, 1998

*Sewellia pterolineata* Roberts, 1998: 277, fig. 4 (type locality: Vietnam: Nghia Bin Province: Trac Khuc River; holotype: RMNH 31832; adjective, *-us*, *-a*, *-um*)

#### 8.16.12 *Sewellia speciosa* Roberts, 1998

*Sewellia speciosa* Roberts, 1998: 279, fig. 5 (type locality: Laos: Attapu Province.: lower Xe Nam Noi 1.5 km downstream from bridge on route 232 to Attapu, 26 km from Ban Nam Tang, 270 masl; holotype: ZRC 40368; adjective, *-us*, *-a*, *-um*)

#### 8.16.13 *Sewellia trakhucensis* Nguyen & Nguyen, in Nguyen, 2005

*Sewellia trakhucensis* Nguyen [H. D.] & Nguyen [V. H.], in Nguyen [V. H.], 2005: 583, fig. 23 (type locality: Vietnam: Quang Ngai Province, Son Ha, Tra Khuc River; holotype: HNUE; adjective, *-is*, *-is*, *-e*)

#### 8.17 *Vanmanenia* Hora, 1932

*Homalosoma* Boulenger, 1901: 270 (name not available, incorrect subsequent spelling for *Homaloptera* van Hasselt, 1823: 133 [Boulenger, *in litt.* to Hora, 1932: 309]; [if treated as available then: type species: *Homalosoma stenosoma* Boulenger, 1901: 270, by monotypy; junior homonym of *Homalosoma* Wagler, 1830: 190 in Reptilia, and *Homalosoma* Agassiz, 1848: 531 in Coleoptera; not junior homonym of *Homalosoma* Oersted, in Keferstein, 1865: 436, in Vermes, which is not available because listed in synonymy (*Code* art. 11.6)]. Gender neuter.

*Vanmanenia* Hora, 1932a: 309 (type species: *Homalosoma stenosoma* Boulenger, 1901: 270, by original designation). Gender feminine.

*Praeformosania* Fang, 1935a: 71 (type species: *Praeformosania pingchowensis* Fang, 1935a: 72, by original designation). Gender feminine.

**Taxonomic notes.** The validity of the many names created in recent years in the Vietnamese literature cannot be evaluated. The descriptions are of little use and the quality of the illustrations of most species does not allow to guess their identity. As most species have very restricted ranges, it is expected that those from widely distant localities might in

fact be valid, while the many species described from exactly the same locality may be found to represent single species. For some species there is not even informative locality data. The colour pattern of *Vanmanenia* species strikingly changes with growth.

**Nomenclatural notes.** Boulenger (1901: 270) used the name *Homalosoma*, without mentioning it as a new genus. Since, authors have speculated as to whether it was intended as a new genus or was a lapsus for *Homaloptera* and/or a confusion with the snake genus *Homalosoma* (Boulenger also published on reptiles). The answer to these speculations has already been given by Boulenger himself in a letter to Hora (1932: 309): "*Homalosoma stenosoma* is obviously a *lapsus calami* for *Homaloptera stenosoma* and only a *lapsus memoriae* could account for my using *Homalosoma* to denote a new genus, that name being in use for a well known genus of snakes". Therefore, *Homalosoma* is an incorrect subsequent spelling of *Homaloptera*. Should one consider it as available, it would be permanently invalid as a junior homonym for *Homalosoma* Wagler, 1830 (see above).

#### Species inquirenda et incertae sedis

##### 8.17.1 ? *Vanmanenia multiloba* (Mai, 1978)

*Homaloptera multiloba* Mai, 1978: 208, fig. 95 (type locality: northern Vietnam; syntypes: DVZUT; compound noun, indeclinable)

#### Species inquirenda et incertae sedis

##### 8.17.2 ? *Vanmanenia nahangensis* Nguyen, 2005

*Vanmanenia nahangensis* Nguyen, 2005: 572, fig. 17 (type locality: Vietnam: Tuyen Quang Province: Na Hang district: Gam River; holotype: NCNTTSI; also spelt *nahangensis* p. 573, an obvious inadvertent error, thus incorrect original spelling [*Code* art. 32.5.1]; adjective, *-is*, *-e*)

#### Species inquirenda et incertae sedis

##### 8.17.3 *Vanmanenia tetraloba* (Mai, 1978)

*Homaloptera tetraloba* Mai, 1978: 210, fig. 97 (type locality: northwestern Vietnam; syntypes: DVZUT; compound noun, indeclinable)

#### Species inquirenda et incertae sedis

##### 8.17.4 *Vanmanenia ventrosquamata* (Mai, 1978)

*Homaloptera ventrosquamata* Mai, 1978: 209, fig. 96 (type locality: Vietnam: Cau River [Bac Thai, Bac Giang and Bac Ninh provinces]; syntypes: DVZUT; adjective, *-us*, *-a*, *-um*)

##### 8.17.5 *Vanmanenia caldwelli* (Nichols, 1925)

*Homaloptera caldwelli* Nichols, 1925c: 1 (type locality: China: Fukien [Fujian]: near Yenping; holotype: AMNH 8413; noun in genitive, indeclinable)

##### 8.17.6 *Vanmanenia caobangensis* Nguyen, 2005

*Vanmanenia caobangensis* Nguyen, 2005: 571, fig. 16 (type locality: Vietnam: Cao Bang Province: Bang Giang River at Cao Bang, Red River drainage; holotype: NCNTTSI; adjective, *-is*, *-is*, *-e*)



**8.17.7** *Vanmanenia crassicauda*, top, CMK 15328, 23.8 mm SL; bottom, ZRC 45390, 66.2 mm SL, holotype; Laos: Houaphan Province: Nam Xam drainage.



**8.17.7** *Vanmanenia crassicauda*, CMK 15410, 56.9 mm SL.

**8.17.7** *Vanmanenia crassicauda* Kottelat, 2000

*Vanmanenia crassicauda* Kottelat, 2000: 75, fig. 66 (type locality: Laos: Houaphan Province: Houay Keap, waterfall adjacent to road on creek entering Nam Xam at km 5 on road from Xam Tai to Ban Houatangoua; 20°01'00"N 104°35'44"E; holotype: ZRC 45390; compound noun, indeclinable)

? *Vanmanenia microlepis* Nguyen, 2005: 578, fig. 20 (type locality: Vietnam: Lai Chau Province: Phong Tho district: Nam So stream [Song Da drainage]; holotype: NCNTTSI; compound noun, indeclinable)

**8.17.8** *Vanmanenia gymnetrus* Chen, 1980

*Vanmanenia gymnetrus* Chen, 1980a: 100, fig. 1 (type locality: China: Fujian: Longyan County: Jiulong River; syntypes: IHB 74VI0786–0791 [6]; noun in apposition, indeclinable)

**8.17.9** *Vanmanenia hainanensis* Chen & Zheng, in Zheng & Chen, 1980

*Vanmanenia hainanensis* Chen & Zheng, in Zheng & Chen, 1980: 93, fig. 4 (type locality: China: Hainan: mountain stream of Chang Jiang in Qiongzong Xian; syntypes: IHB 76V9142, 9168, 9173–9179 [9], DBJU 76V9181, 9183, 9185, 9188, 9190, 9191 [6]; adjective, *-is, -is, -e*)

**8.17.10** *Vanmanenia homalocephala* Zhang & Zhao, 2000

*Vanmanenia homalocephala* Zhang & Zhao, 2000: 458, fig. 1 (type locality: China: Guangxi: Yongfu County: creek in Baishou, in Luoqing Jiang system, tributary of Liu Jiang, Pear River drainage; 26°35'N 118°15'E; holotype: ASIZB 70180; compound adjective, *-us, -a, -um*)

**8.17.11** *Vanmanenia lineata* Fang, 1935

*Vanmanenia lineata* Fang, 1935a: 78, fig. 11 (type locality: China: north-western Guangxi: Kwang-lau, Ling-yuenhsien; holotype: NRIBAS M.737; adjective, *-us, -a, -um*)  
*Formosania yaoshanensis* Wu, 1939: 128, pl. 3 fig. 7 (type locality: China: Guangxi: Li-kiang at Yao-shan; syntypes: [LU] 264–268 [5]; adjective, *-is, -is, -e*)

**8.17.12** *Vanmanenia pingchowensis* (Fang, 1935)

*Gobius Pa-che-tsee-yu* Dabry de Thiersant, 1872: 179, pl. 37 fig. 10 (name not binominal, not available; locality: China: Sichuan)

*Praeformosania pingchowensis* Fang, 1935a: 72, fig. 9 (type locality: China: South Kweichow [Guizhou]: Ping-chowhsien; holotype: NRIBAS 4024; adjective, *-is, -is, -e*)

*Praeformosania intermedia* Fang, 1935a: 75, fig. 10 (type locality: China: South Kweichow [Guizhou]: Hu-yuenhsien [or Tu-yuen-hsien, p. 76], in mountain streams running into Tung-ting Lake; holotype: NRIBAS M.2709; simultaneous subjective synonym of *Praeformosania pingchowensis* Fang, 1935a: 72; first reviser [Chen, 1980a: 99] gave precedence to *P. pingchowensis*; adjective, *-us, -a, -um*)

*Vanmanenia polylepis* Pan, Liu & Zheng, 1983: 107, fig. 2 (type locality: China: Guangdong: Beijiang River; holotype: SCNU 3194 [mentioned in Chinese text only]; compound noun, indeclinable)

**Taxonomic notes.** Among the fishes presently reported from Sichuan (Ding, 1994), *Gobius pa-che-tsee-yu*, as illustrated by Dabry de Thiersant, shows the greatest similarity with *V. pingchowensis*.

**8.17.13** *Vanmanenia serrilineata* Kottelat, 2000

*Vanmanenia serrilineata* Kottelat, 2000: 76, fig. 68 (type locality: Laos: Louangnamtha Province: Nam Tha at Ban Finho, about 14 km north of Luang Nam Tha; 21°04'44"N 101°24'09"E; holotype: ZRC 45392; adjective, *-us, -a, -um*)

? *Vanmanenia monofasciodorsalata* Nguyen, 2005: 574, fig. 18 (type locality: Vietnam: Dien Bien Province: Nam Rom River; holotype: NCNTTSI; also spelt *monofasciodorsala* p. 574, fig. 18, p. 577, *monofasciodossalata* p. 574, *monofasciodorsalata* p. 689; as first reviser I select *monofasciodorsalata* as the correct original spelling; adjective, *-us, -a, -um*)

? *Vanmanenia trifasciodorsalata* Nguyen, 2005: 576, fig. 19 (type locality: Vietnam: Dien Bien Province: Nam Rom River; holotype: NCNTTSI; spelt *trifasciodorsala* pp. 268, 575, *triofasciodossalata* p. 576, *trifaseudorsala* p. 576, fig. 19, *trifasciodorsalata* p. 689; as first reviser I select *trifasciodorsalata* as the correct original spelling; adjective, *-us*, *-a*, *-um*)

#### 8.17.14 *Vanmanenia stenosoma* (Boulenger, 1901)

*Homalosoma stenosoma* Boulenger, 1901: 270, pl. 23 fig. 3 (type locality: China: Zhejiang: Ningpo [Ningbo]; holotype: BMNH 1901.3.6.16; compound noun, indeclinable)  
*Homaloptera caldwelli chekianensis* Tchang, 1932c: 83, fig. (type locality: China: Chekiang [Zhejiang]; holotype: ZMFIB 7013; spelt *chekianensis* p. 83, *chekianensis*

pp. 84, 85, first reviser not researched, but *chekianensis* apparently an error of inadvertence, thus incorrect original spelling [*Code art.* 32.5.1]; adjective, *-is*, *-is*, *-e*)

#### 8.17.15 *Vanmanenia striata* Chen, 1980

*Vanmanenia striata* Chen, 1980a: 101, fig. 2 (type locality: China: Yunnan: Yuanjiang [Red River], Xiaguan Shi; syntypes: IHB 585280–285, 446, 450, 480, 482, 646483–485 [13]; adjective, *-us*, *-a*, *-um*)

#### 8.17.16 *Vanmanenia xinyiensis* Zheng & Chen, 1980

*Vanmanenia xinyiensis* Zheng & Chen, 1980: 94, fig. 5 (type locality: China: Guangdong: a mountain stream of West River in Xinyi Xian; syntypes: IHB 77VII070, 75, 77–79 [5], DBJU 77VII081, 90, 475 [3]; adjective, *-is*, *-is*, *-e*)

## Family SERPENTICOBITIDAE

### 9 Serpenticobitidae Kottelat, 2012

Serpenticobitinae Nalbant, 2002: pl. 7 (not available, no explicitly indicated as intentionally new, *Code art.* 16.1, no type genus cited, art. 16.2)

Serpenticobitidae Kottelat, 2012: 140 [appendix of present work] (type genus: *Serpenticobitis* Roberts, 1997: 109)

#### 9.1 *Serpenticobitis* Roberts, 1997

*Serpenticobitis* Roberts, 1997: 109 (type species: *Serpenticobitis octozona* Roberts, 1997: 112, by original designation). Gender feminine.

*Bangfaia* Kottelat, 1998a: 96, fig. 134 (name published by inadvertence [existed in manuscript, corrected in proofs after receiving description of *Serpenticobitis*, but some mentions were overlooked], no type species designated, nomen nudum)

#### 9.1.1 *Serpenticobitis cingulata* Roberts, 1997

*Serpenticobitis cingulata* Roberts, 1997: 113, fig. 6 (type locality: Thailand: Loei Province [actually Chiang Rai Province]: Huay Ngao where it enters Mekong mainstream, 1 km south of Ban Chaem Pong, about 30 km south of Chiang Khong; holotype: CAS 95170; adjective, *-us*, *-a*, *-um*)

#### 9.1.2 *Serpenticobitis octozona* Roberts, 1997

*Serpenticobitis octozona* Roberts, 1997: 112, fig. 5 (type locality: Laos: Attapu Province: Xe Nam Noi, eastern slope of Bolaven Plateau, about 3 km downstream from ferry crossing road Saravan to Attapu and 30 km from Ban Nam Tang; holotype: CAS 95165; noun in apposition, indeclinable)

#### 9.1.3 *Serpenticobitis zonata* Kottelat, 1998

*Serpenticobitis zonata* Kottelat, 1998a: 92, fig. 135 (type locality: Laos: Khammouan Province: Xe Bangfai basin: about 3 km upriver of Ban Pakphanang; 17°24'20"N 104°45'50"E; holotype: ZRC 41810; adjective, *-us*, *-a*, *-um*)



9.1.2 *Serpenticobitis octozona*, CMK 15675, 47.2 mm SL; Laos: Mekong drainage: Xe Kong.



9.1.3 *Serpenticobitis zonata*, ZRC uncat., 44.5 mm SL. (Photograph by Tan Heok Hui).



## Family NEMACHEILIDAE

### 10 Nemacheilidae Regan, 1911

Nemacheilinae Regan, 1911: 31 (type genus: *Nemacheilus* Bleeker, 1863a: 37)

Adiposidae Jordan, 1923: 145 (type genus: *Adiposia* Anandale & Hora, 1920: 182)

Lefuini Prokofiev, 2010: 890 (type genus: *Lefua* Herzenstein, 1888: 3)

Yunnanilini Prokofiev, 2010: 890 (type genus: *Yunnanilus* Nichols, 1925b: 1)

Triplophysini Prokofiev, 2010: 892 (type genus: *Triplophysa* Rendahl, 1933: 21 [indicated as "*Triple-space* Rendahl, 1933", treated as an incorrect subsequent spelling of *Triplophysa*])

#### Nomina nuda

*Gojeb* Prokofiev, 2004b: 193

*Noemacheilus sikkimensis* Mani, 1974: 671

*Noemacheilus lunanensis* Li et al., 1999: 4, 5, 6 (nomen nudum; author indicated as Li & Xia, but does not seem to be published)

#### Species inquirendae et incertae sedis

*Nemacheilus blythii* Day, 1870a: 552 (type locality: unknown; syntypes: ZSI A.960 [2, lost], Whitehead & Talwar, 1976: 156; noun in genitive, indeclinable)

*Cobitis montanus* Jerdon, 1849: 332 (type locality: India: Karnataka: a small stream in Coorg [Kodagu, 12°25'N 75°45'E]; types: LU; if later treated as valid in *Schistura montana* McClelland, 1838: 947; adjective, *-us*, *-a*, *-um*)

*Schistura ocellata* McClelland, 1839: 441 (type locality: India: Upper Assam; types: LU; adjective, *-us*, *-a*, *-um*)

### 10.1 *Aborichthys* Chaudhuri, 1913

*Aborichthys* Chaudhuri, 1913: 244 (type species: *Aborichthys kempfi* Chaudhuri, 1913: 245, by monotypy). Gender masculine.

#### Nomen nudum

*Aborichthys bijulensis* Tekriwal & Rao, 1999: 89 (nomen nudum; locality: India: Meghalaya: Garo Hills [near Tura; p. 36])

#### 10.1.1 *Aborichthys elongatus* Hora, 1921

*Aborichthys elongatus* Hora, 1921c: 735, fig. (type locality: India: Reang River, Darjeeling District; holotype: ZSI F 10087/1 [largest specimen, 74 mm SL]; secondary junior homonym of *Nemachilus kungessanus elongatus* Herzenstein, 1888: 44, when placed in *Nemacheilus* by

Menon, 1999: 184; never replaced and not presently treated as congeneric, therefore replacement not needed [Code art. 59.2]; adjective, *-us*, *-a*, *-um*)

#### 10.1.2 *Aborichthys garoensis* Hora, 1925

*Aborichthys garoensis* Hora, 1925: 233, figs. 2–4 (type locality: India: Assam: Garo Hills, Tura; holotype: ZSI F 10669/1; adjective, *-is*, *-is*, *-e*)

**Nomenclatural notes.** Hora (1925) based his description on three specimens, one of which was designated as type specimen, thus it is the holotype. Its catalogue number was given as ZSI F 10669/1 and it was illustrated at natural size as fig. 1; the illustrated specimen is about 93 mm SL while the three types are 89.5, 89.3 and 85.8 mm SL. Under the same catalogue number, Menon & Yazdani (1968: 119) list two specimens as syntypes. The fate of the third specimen is apparently unknown. The holotype might be recognisable by comparison with Hora's figure.

#### 10.1.3 *Aborichthys kempfi* Chaudhuri, 1913

*Aborichthys kempfi* Chaudhuri, 1913: 245, pl. 7 figs. 1–1b (type locality: N.E. India: Abor Hills: Egar Stream between Renging and Rotung / Dihang River near Yembung / Sirpo River near Renging; syntypes: ZSI F 7721/1–7723/1 [3], 7725/1–7727/1 [3], 7769/1–7770/1 [2], 7778/1–7779/1 & 7878/1–7879/1 & 8297/1–8298/1 [8], Menon & Yazdani, 1968: 119; noun in genitive, indeclinable)

#### 10.1.4 *Aborichthys tikaderi* Barman, 1985

*Aborichthys tikaderi* Barman, 1985: 680, fig. 1 (type locality: India: Arunachal Pradesh: Namdapha Wildlife Sanctuary; holotype: ZSI FF 2135; noun in genitive, indeclinable)

### 10.2 *Acanthocobitis* Peters, 1861

*Acanthocobitis* Peters, 1861: 712 (type species: *Acanthocobitis longipinnis* Peters, 1861: 712, by monotypy). Gender feminine.

? *Paracanthocobitis* Grant, 2007c: 3 [also 2007d: unnumb. p. 51] (subgenus of *Acanthocobitis* Peters, 1861: 712; type species: *Cobitis zonalternans* Blyth, 1860: 172, by original designation). Gender feminine.

**Taxonomic notes.** Grant (2007c) distinguished *Paracanthocobitis* from *Acanthocobitis*. This was not based on examination of specimens but on literature, one live individual and photographs. The characters said to distinguish the two subgenera are variable within and between them (position, shape and size of the suborbital flap). Body shape (elongated body) is not conclusive since the ranges of body depth overlap. The number of branched dorsal-fin rays, related to elongated body, is also marginally overlapping. The position of the

anus is a real difference but partly linked to the elongated body. The shape of the caudal fin is the only clear-cut character.

On the other hand, the hypothesis that *A. pavonaceus* (*A. longipinnis*) might be a lineage distinct from the other species placed in *Acanthocobitis* is not unreasonable, but the hypothesis should be addressed by a proper study, based on examination of specimens of all concerned species. To distinguish lineages (subgenera) assumes a phylogenetic analysis, which is missing. There is no benefit to use a name created for no taxonomically justifiable reason.

Further, the identity of *A. longipinnis* (type species of *Acanthocobitis*) must be clarified.

## Incertae sedis

### 10.2.1 *Acanthocobitis longipinnis* Peters, 1861

*Acanthocobitis longipinnis* Peters, 1861: 712 (type locality: India: Ganges; holotype: ZMB 4795, Grant, 2007c: fig. 1; noun in apposition, indeclinable)

**Taxonomic notes.** Grant (2007c) considered *A. longipinnis* Peters, 1861 to be a synonym of *A. pavonaceus*. This was apparently based on examination of the literature, one living specimen and photographs of syntypes of *Cobitis pavonacea* (one figured, SMF 68, about 100 mm SL) and of the poorly preserved holotype of *A. longipinnis* (ZMB 4795, 156 mm SL). I have not examined the mentioned specimens, but the photographs of the types published by Grant do not allow me to accept the synonymy without a demonstration. They show specimens differing in the shape of the body (body depth 19 % SL in the holotype of *A. longipinnis*, vs. 12 in the figured syntype of *C. pavonacea*), the length of the dorsal fin base (27 % SL, vs. 32; 1.6 times in the distance between the origins of the anal and pelvic fins, vs. 1.3) and the shape of the caudal peduncle (depth 2.1 times in its length, vs. 1.13). Some of these values may depend from ability to determine the position of the base of the first and last rays of the dorsal and anal fins from the photograph of *A. longipinnis*, but the proportions of the caudal peduncle do not suffer these reservations since they depend of bony structures (the vertebral column for the length and the hypural complex for the depth). The examination of a large series of specimens (including juveniles and adults) from a single locality is needed to understand morphological variability; the examination of several series from various localities is needed to understand geographic variability. The presented data suggest that two species might be involved, of which the identity of *A. longipinnis* is unclear.

### 10.2.2 *Acanthocobitis botia* (Hamilton, 1822)

*Cobitis botia* Hamilton, 1822: 350, 394 (type locality: India: "northeastern parts of Bengal" [Brahmaputra River at Goalpara; Hora, 1929: 318, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 4; noun in apposition, indeclinable)

*Cobitis turio* Hamilton, 1822: 358, 395 (type locality: India: Brahmaputra River [at Goalpara; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 52 fig. 7; simultaneous subjective synonym of *Cobitis botia* Hamilton, 1822: 350; first reviser [Hora, 1935a: 52] gave precedence to *C. botia*; noun

in apposition, indeclinable)

*Cobitis bilturio* Hamilton, 1822: 358, 395 (type locality: India: "along with the 10th species" [= *C. turio*; Brahmaputra at Goalpara; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 6; simultaneous subjective synonym of *Cobitis botia* Hamilton, 1822: 350; first reviser [apparently Günther, 1868: 349] gave precedence to *C. botia*; simultaneous subjective synonym of *Cobitis turio* Hamilton, 1822: 358; as first reviser, I give precedence to *C. turio*; noun in apposition, indeclinable)

*Cobitis bimucronata* M'Clelland, 1839: 304, 435, pl. 51 fig. 4 (unnecessary replacement name for *Cobitis botia* Hamilton, 1822: 350; adjective, *-us*, *-a*, *-um*)

*Cobitis ocellata* M'Clelland, 1839: 304, 436, pl. 51 fig. 6 (unnecessary replacement name for *Cobitis bilturio* Hamilton, 1822: 358; adjective, *-us*, *-a*, *-um*)

*Cobitis gibbosa* M'Clelland, 1839: 304, 436, pl. 52 fig. 7 (unnecessary replacement name for *Cobitis turio* Hamilton, 1822: 358; adjective, *-us*, *-a*, *-um*)

*Cobitis monocera* M'Clelland, 1839: 305, 438, pl. 52 fig. 2 (type locality: India: Assam; types: LU; noun in apposition, indeclinable)

*Cobites argentata* Swainson, 1839: 310 (available by indication to Hamilton, 1822: 358, No. 10 [which is *Cobitis turio*]; type locality: India: Brahmaputra River [at Goalpara; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 52 fig. 7; adjective, *-us*, *-a*, *-um*)

*Canthophrys unispina* Swainson, 1839: 311 (available by indication to Hamilton, 1822: 350, No. 1 [which is *Cobitis botia*]; type locality: India: "northeastern parts of Bengal" [Brahmaputra River at Goalpara; Hora, 1929: 318, 1935: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 51 fig. 4; compound noun, indeclinable)

*Cobitis arenata* Valenciennes, in Jacquemont, 1839: pl. 15 fig. 1 (type locality: India; holotype: MNHN 3811, Fang, 1943: 404, Daget, 1984: 512; adjective, *-us*, *-a*, *-um*)

*Nemacheilus mackenziei* Chaudhuri, 1910b: 183 (type locality: India: Uttar Pradesh: Cheriadang near Kathgodam / Jaulasal in Naini Tal District / Bengal: Jharai and Jamwari Nadi near Siripur, Saran / Jhil at Purnahia, P. O. Ghorasan, Champaran District; syntypes [total 12]: ZSI F 2017/1 [1], F 4170/1–4171/1 [2], F 4172/1–4173/1 [2], Menon & Yazdani, 1968: 123; noun in genitive, indeclinable)

### 10.2.3 *Acanthocobitis mandalayensis* (Rendahl, 1948)

*Nemacheilus rubidipinnis mandalayensis* Rendahl, 1948: 21, fig. 7 A, B (type locality: Burma: Mandalay; holotype: NRM 13179 [ex MAL/1935139.3179], Kottelat, 1990a: 30; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** I earlier treated *A. mandalayensis* as a synonym of *A. botia* (Kottelat, 1990a: 29), on the basis of the material then available. I have since examined a number of samples and photographs of *A. botia* from the Brahmaputra, Ganges and Indus drainages. *Acanthocobitis mandalayensis* is distinguished from both *A. botia* and *A. rubidipinnis* by a unique colour pattern (Kottelat, 2012a: 50, fig. 5).



**10.1.1** *Aborichthys elongatus*, CMK 18565, 52.3 mm SL; India: Brahmaputra drainage: Tista.



**10.2.9** *Acanthocobitis zonalternans*, CMK 14633, 40.0 mm SL; Thailand: Salween drainage: Mae Nam Moei.



**10.2.5** *Acanthocobitis pavonacea*, CMK 5927, 60.6 mm SL; India: Brahmaputra drainage: Dibru.



**10.2.6** *Acanthocobitis pictilis*, CMK 17509, 69.6 mm SL.

#### **10.2.4** *Acanthocobitis mooreh* (Sykes, 1839)

*Cobitis Mooreh* Sykes, 1839a: 162 (type locality: India: Deccan [Mota Mola River at Poona; Sykes, 1841: 366 [Pune, 18°28'N 73°48'E]]; types: NT; also in Sykes, 1839b: 59, 1841: 366; noun in apposition, indeclinable)

*Nemacheilus sinuatus* Day, 1870b: 371 (type locality: India: Wynaad; syntypes: probably BMNH 1870.5.2.17–18 [2]; adjective, *-us*, *-a*, *-um*)

*Nemacheilus aureus* Day, 1872: 184 (type locality: India: Jabbalpūr; syntypes: ZSI 2574 [lost], BMNH 1889.2.1.1587–1590 [4], Whitehead & Talwar, 1976: 156; adjective, *-us*, *-a*, *-um*)

#### **10.2.5** *Acanthocobitis pavonacea* (M'Clelland, 1839)

*Cobitis pavonacea* M'Clelland, 1839: 305, 437, pl. 52 fig. 1 (type locality: India: Assam; syntypes: ? SMF 68 [1], 9070 [1], 9090 [1], 9091 [1], Grant, 2007c: fig. 5; adjective, *-us*, *-a*, *-um*)

#### **10.2.6** *Acanthocobitis pictilis* Kottelat, 2012

*Acanthocobitis pictilis* Kottelat, 2012a: 45, fig. 1 (type locality: Myanmar: Kayin State: stream 'Chon Son' between Kyondaw and Phadaw, about 20 km northwest of Payathouzu (at border with Thailand near Chedi Sam Ong, Three Pagoda Pass); approx. 15°25'N 98°15'E; holotype: MHNG 2727.066; adjective, *-is*, *-is*, *-e*)

#### **10.2.7** *Acanthocobitis rubidipinnis* (Blyth, 1860)

*Cobitis rubidipinnis* Blyth, 1860: 170 (type locality: Burma: Rangoon [original type locality: Burma: Tenasserim provinces]; neotype: NRM 13743 [ex NRM MAL 1935809.3743], designated by Kottelat, 1990a: 35; noun in apposition, indeclinable)

*Cobitis semizonata* Blyth, 1860: 171 (type locality: Burma: Rangoon [original type locality: Burma: Tenasserim provinces]; neotype: NRM 13743 [ex MAL/1935809.3743], designated by Kottelat, 1990a: 35; simultaneous objective synonym of *Cobitis rubidipinnis* Blyth, 1860: 170; first reviser [apparently Day, 1878a: 614] gave precedence to *C. rubidipinnis*; adjective, *-us*, *-a*, *-um*)

#### **10.2.8** *Acanthocobitis urophthalma* (Günther, 1868)

*Nemachilus urophthalmus* Günther, 1868: 348 (type locality: Southern Ceylon; syntypes: BMNH 1864.7.11.35–36 [2]; compound adjective, *-us*, *-a*, *-um*)

#### **10.2.9** *Acanthocobitis zonalternans* (Blyth, 1860)

? *Cobitis chlorosoma* M'Clelland, 1839: 305, 437, pl. 52 fig. 3 (type locality: India: Upper Assam; types: LU; noun in apposition, indeclinable)

*Cobitis zonalternans* Blyth, 1860: 172 (type locality: Thailand: Tak Province: Huai Mae Charno, 4 km south of Amphoe Mae Ramat, 16°58'N 98°34'E [original type locality: Burma: Tenasserim provinces]; neotype: ZSM 27468, designated by Kottelat, 1990a: 42; participle, indeclinable)

? *Noemacheilus phuketensis* Klauswitz, 1957a: 195, fig. 1, pl. 18 fig. 1 (type locality: Thailand: Phuket Island; holotype: SMF 3966; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** Several species are presently confused under the name *A. zonalternans*.

#### **10.3** *Afronemacheilus* Golubtsov & Prokofiev, in Prokofiev, 2009

*Afronemacheilus* Golubtsov & Prokofiev, in Prokofiev, 2009b: 881 (type species: *Nemachilus abyssinicus* Boulenger, 1902: 437, by original designation). Gender masculine.

#### **Nomen nudum**

*Afronemacheilus kaffa* Prokofiev, 2010: 841, 844, 870 (nomen nudum)

#### **10.3.1** *Afronemacheilus abyssinicus* (Boulenger, 1902)

*Nemachilus abyssinicus* Boulenger, 1902: 437 (type locality: Ethiopia: Lake Tana: Behardar; holotype: BMNH 1902.12.13.435; adjective, *-us*, *-a*, *-um*)





**10.3.1** *Afronemacheilus abyssinicus*, 39.7 mm SL; Ethiopia: Lake Tana: Blue Nile source. (Photograph by Alexander Golubtsov).

#### 10.4 *Barbatula* Linck, 1790

*Barbatula* Linck, 1790: 38 (type species: *Cobitis barbatula* Linnaeus, 1758: 303, by absolute tautonymy). Gender feminine.

*Cobites* Swainson, 1839: 190, 310 (type species: *Cobitis barbatula* Linnaeus, 1758: 303, by monotypy). Gender feminine.

*Orthrias* Jordan & Fowler, 1903: 769 (type species: *Orthrias oreas* Jordan & Fowler, 1903: 769, by original designation). Gender masculine.

**Nomenclatural notes.** *Bis repetita placent*. Linck (1790) proposed a classification of fishes based on teeth. He split the *Cobitis* of previous authors into two genera: *Cobitis* and *Barbatula*. Linck used the binominal system and *Barbatula* is clearly intended as a generic name. Linck included a single species in *Cobitis* (*C. heteroclita*, p. 33) and two species in *Barbatula* (*C. barbatula*, *C. taenia*). Although there is no generic diagnosis, the name is available by indication [Code art. 12.2.5] as two available names are included. Linck wrote: "*Barbatula*. Hierher gehören *Cobitis Barbatula Taenia*" [*Barbatula*. Here belong [plural] *Cobitis Barbatula Taenia*]. Some have argued that "*Cobitis Barbatula Taenia*" means that only one species was included, that this species is *C. taenia* and that *C. taenia* is type species of *Barbatula*. This is erroneous. Linck used "gehören" [belong], which is a plural and means that the subject of the verb is a plural, thus that he placed more than one species in *Barbatula*, and that these species are *barbatula* and *taenia*. If he had included a single species he would have used the singular "gehört" [belongs]. Therefore *C. barbatula* is type species of *Barbatula* by absolute tautonymy.

Today, "*Cobitis Barbatula Taenia*" may appear as a strange combination but not in the context of the late 18<sup>th</sup> century, when there were no nomenclature rules, when writing was less formalised, and when typographical or typesetting errors were not rare.

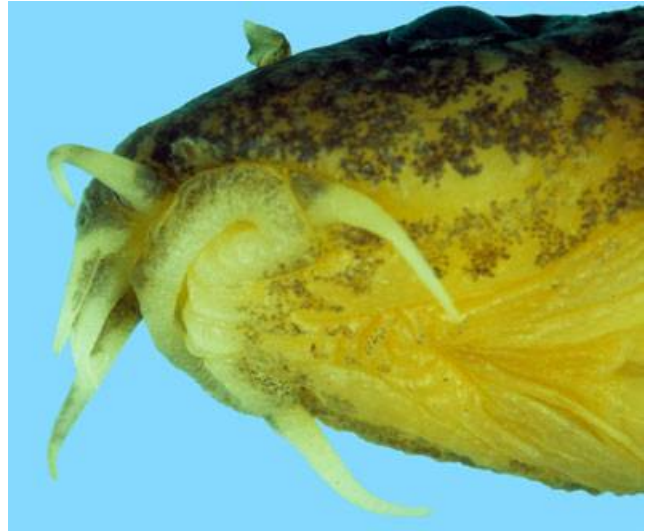
Some authors have attributed the authorship of *Barbatula* to Jordan (1917: 49). As seen from the above, this is not correct. In addition, a '*Barbatula* Jordan, 1917' would be a junior homonym of *Barbatula* Lesson, 1837: 292 (in Aves) and is not available (Some authors refer to Lesson, 1831: 164 but *Barbatula* is not used in that work, only the vernacular name 'barbion').

##### 10.4.1 *Barbatula altayensis* Zhu, 1992

*Barbatula altayensis* Zhu, 1992: 241, figs. 1–2 (type locality: China: Xinjiang: Kelang He, tributary of Ertix He [Irtys], near Altay City, 47°52'N 88°06'E; holotype: NGI 888006; adjective, *-is*, *-is*, *-e*)



**10.4.2** *Barbatula barbatula*, CMK 16892, 56.8 mm SL; Switzerland: Jura: Rhône drainage.



**10.4.13** *Barbatula sturanyi*, CMK 19463, 45.4 mm SL.

##### 10.4.2 *Barbatula barbatula* (Linnaeus, 1758)

*Cobitis Barbatula* Linnaeus, 1758: 303 (based on specimens and Arteni [1738: gen. 2 [4], syn. 2, *Cobitis tota glabra* ...] and Linnaeus [1746: 125, n. 332, idem]; type locality: Europae, Asiae, aquis dulcibus; syntypes: NRM 68 [3], Fernholm & Wheeler, 1983: 282 [listed as non-types], Lundholm & Svanberg, 2010: 157, fig. 4; noun in apposition, indeclinable [species names with capitalized initial in Linnaeus (1758) are nouns])

*Cobitis Barbatula Parisiensis* La Pylaie, 1835: 534 (nomen nudum; locality: France: Paris)

*Cobitis Barbatula Pictava* La Pylaie, 1835: 534 (nomen nudum; locality: France)

*Cobitis furstenbergii* Bonaparte, 1846: 26 (nomen nudum; locality: eastern Germany [probably now Poland])

*Cobitis Fürstenbergii* Heckel & Kner, 1858: 301 (cited in synonymy, name not available; author indicated as "Fitzinger (Prodr. Faun. Austr.)", which apparently is Fitzinger [1832], but the name does not appear in this work)

*Cobitis pironae* Nardo, 1866: 143 (type locality: Italy: Baso Friuli; type material: NT ?; noun in genitive, indeclinable)

*Cobitis variabilis* Günther, 1868: 355 (on a label in collection, listed in synonymy, name not available; locality: Czechia: Moravia)

*Nemachilus barbatulus* var. *taurica* Kessler, 1877: 171, 271 (type locality: Ukraine: Crimea: Salgir River; syntypes: ZISP 3029 [3], 3032 [3], Eschmeyer & Fricke, 2010; adjective, *-us*, *-a*, *-um*)

? *Nemachilus barbatulus caucasicus* Berg, 1899: 26, 67 (type locality: Russia: Chechnya: Argun River, a tributary of Terek; types: LU; adjective, *-us*, *-a*, *-um*)

*Nemachilus barbatulus vardarensis* Karaman, 1928: 164 (type locality: FYROM: Vardar River drainage; syntypes: MMNHS, lost; also in Karaman, 1929: 173; adjective, *-is, -is, -e*)

*Nemacheilus barbatulus* aberr. *erythrinna* Berg, 1933: 550 (infrasubspecific, name not available)

*Nemacheilus barbatulus* forma *anglicana* Băcescu-Mester, 1967: 369 (infrasubspecific, name not available; locality: England: Cambridge River)

*Nemacheilus barbatulus* forma *blackiana* Băcescu-Mester, 1967: 369 (infrasubspecific, name not available; locality: England: Black Beck River)

**Taxonomic notes.** *Nemachilus barbatulus caucasicus* is often treated as a valid subspecies of *B. barbatula*, but up to now its status does not seem to have been critically evaluated.

**Nomenclatural notes.** *Barbatula* is usually treated as an adjective but in fact it is a noun and indeclinable.

The article with the description of *N. b. caucasicus* had been issued in two versions, in Russian and in German. The German version is sometimes dated 1898. The preface is dated May 1899, so that publication year cannot be 1898.

#### 10.4.3 ? *Barbatula cobdonensis* (Gundriser, 1973)

*Nemachilus cobdonensis* Gundriser, 1973: 77 (type locality: Russia: Tuva Republic: Lakes Khintiktig-Khol [50.35°N 89.83°E] and Ak-Khol [50°15'11"N 89°36'01"E] and Mogen-Buren River, basin of Kobdo River [Khovd]; syntypes [36]: LU, Prokofiev, 2003a: 700; adjective, *-is, -is, -e*)

**Taxonomic notes.** Prokofiev (2003a: 700) commented that there are two species of nemacheilids in the Mogen Buren system near Mугур-Аксы [50°23'N 90°26'E], one he identified as *B. toni* and the other he described as *B. golubtsovi*. He commented that, judging from the information in the original description, the type series of *N. cobdoensis* seems to include two species. Because the whereabouts of the type series are not known, and because the later description and photograph in Gundriser (1979: 27–30) do not fit with his *B. golubtsovi*, he concluded that either *N. cobdonensis* is identical with his *B. 'toni'* or belongs to a third species. As discussed below, I consider *B. toni* to be restricted to the Amur drainage. The name *B. cobdonensis* is available for the *B. 'toni'* endemic to the Khovd drainage. This will be fixed later by a neotype designation.

#### 10.4.4 ? *Barbatula compressirostris* (Warpachowski, 1897)

*Nemachilus compressirostris* Warpachowski, 1897: 270, pl. 11 figs. 1–3 (type locality: Russia (?): Ob drainage, lakes in northwestern Mongolia; syntypes: ZISP 11298 [2]; compound noun, indeclinable)

**Taxonomic notes.** *Nemachilus compressirostris* was originally based on two specimens from "lakes in northwestern Mongolia" in a paper on fishes of the Ob River drainage (Warpachowski, 1897). Warpachowski also commented that the specimens came from the same lakes as *Oreoleuciscus potanini*. These specimens were obtained for the Nizhny Novgorod Fisheries Exhibition in 1896. It is not clear (to me) if this was intended to mean the same lakes as the *O. potanini* specimens mentioned in the same paper (p. 263:

Russia: Altai: Kosh Agash, 50°59'30"N 88°40'00"E, in Ob drainage) or those lakes from which *O. potanini* was known in Mongolia at that time. I had earlier (Kottelat, 2006: 51, 103) concluded that the type locality was in western Mongolia, more precisely in the Khovd basin, and that it could potentially be a senior synonym of *B. golubtsovi*, which now seems unlikely. This nominal species is considered to be a synonym of *B. toni* by, e.g. Prokofiev (2007a: 17). I consider here *B. toni* to be restricted to the Amur drainage. The identity of *B. compressirostris* can be established only when comparison material becomes available for all three drainages in that area (upper Ob, upper Yenisei and Khovd). Its identity must be tested against *B. tomiana*, *B. markakulensis* and *B. cobdoensis*.

#### 10.4.5 *Barbatula dgebuadzei* (Prokofiev, 2003)

*Orthrias dgebuadzei* Prokofiev, 2003a: 730, fig. 2 [p. 700 of translation] (type locality: Mongolia: Zag River, Baidrag-Gol drainage; holotype: ZISP 52051; noun in genitive, indeclinable)

#### 10.4.6 *Barbatula golubtsovi* (Prokofiev, 2003)

*Orthrias golubtsovi* Prokofiev, 2003a: 727, fig. 1 [p. 698 of translation] (type locality: Russia: Tuva Republic: Chedi-Tei River, outflow of Ak-Khol Lake [50°15'11"N 89°36'01"E], Mogen-Buren drainage part of Kobdo drainage, about 60 km west of Mугур-Аксы [50°23'N 90°26'E]; holotype: ZISP 52251; noun in genitive, indeclinable)

**Taxonomic notes.** Molecular data suggests this species belong to *Triplophysa* (V. Šlechtová, pers. comm.).

#### 10.4.7 ? *Barbatula markakulensis* (Menshikov, 1939)

*Nemacheilus barbatulus markakulensis* Menshikov, 1939: 141, fig. (type locality: Kazakhstan: Lake Marka-kul, Irtysh drainage; syntypes: ZISP 26864 [6+], Eschmeyer & Fricke, 2010; adjective, *-is, -is, -e*)

**Taxonomic notes.** See under *B. toni*.

#### 10.4.8 *Barbatula nuda* (Bleeker, 1864)

*Nemacheilus nudus* Bleeker, 1864c: 12 (type locality: Mongolia [p. 13, but 'brought from China' on p. 14; apparently China: Hebei: Chongli County: Siwantse [Xiwanzi], 40°58'25"N 115°16'22"E; see below]; holotype: MNHN 1450, Fang, 1941: 253, Bertin & Estève, 1948: 98; adjective, *-us, -a, -um*)

? *Nemachilus pechiliensis* Fowler, 1899: 181 (type locality: China: Pechili: Tan Lan Ho, tributary of Shu Lan Ho, about 30 miles northeast of Lama-Miau or Dolon-Nor [Nei Mongol: Duolun County: Duolun-Nuur, 42°11'22"N 116°28'24"E] [Pechili [Zhili], name of a former province]; holotype: ANSP 16394 [missing, Böhlke, 1984: 63]; adjective, *-is, -is, -e*)

? *Barbatula toni fowleri* Nichols, 1925b: 3 (type locality: China: Chihli Province: Eastern Tombs [now Hebei: Zunhua, 40°11'N 117°58'E; Chihli [Zhili], name of a former province]; holotype: AMNH 8409; noun in genitive, indeclinable)

*Barbatula stoliczkai shansi* Nichols, 1925b: 6 (type locality: China: Shansi [now in Nei Mongol]: Mai-tai-chao,

42 miles east of Paotow [Baotou, 40°40'N 109°50'E]; holotype: AMNH 8412; noun in apposition, indeclinable) ? *Barbatula toni kirinensis* Tchang, 1932a: 115, fig. 2 (China: Kirin [= Jilin Province]; holotype: ZMFIB 7931; adjective, *-is, -is, -e*)

**Taxonomic notes.** The identity of *N. nudus* Bleeker (1864c) is not clear; authors have placed it as a senior synonym of either *B. toni* (Dybowski, 1869; sensu lato) or *Triplophysa stolickai* (Steindachner, 1866). In the last 30 years Chinese and Korean authors (e.g. Zhu, 1989: 29; Wang et al., 2001: 168; Kim, 1997: 283) have used the name *B. nuda* for the *B. toni* of earlier authors and *B. nuda* became the same catch-all name (see under *B. toni*). The type locality of *B. nuda* is usually listed as Mongolia. Indeed, Bleeker (1864c: 13) indicated the type locality as Mongolia, which at that time could have meant present-day Mongolia, or Nei Mongol and Xinjiang provinces of China, or some other place in northern China. But on p. 14, he wrote "described from a single specimen and brought from China by the missionary David". This holotype still exists (MNHN 1450, Bertin & Estève, 1948: 98); I examined it in the early 1980s, before I became familiar with the East Asian *Barbatula*; since then, I have not had an opportunity to compare it side by side with Chinese, Mongolian or Korean material identified as *B. nuda*. Nevertheless, it is not conspecific with *B. toni* as recognised here (restricted to upper Amur drainage).

The specimen was collected by Armand David (27 September 1826–10 November 1900; for a biography, see Boutan, 1993). David was a catholic missionary and stayed in China from 1862 to 1874 and visited various areas of the country. He travelled in 'southern Mongolia' [now in Nei Mongol Province of China] for the first time in 1866 (David, 1867–1868; Scott, 2004: 70). As Bleeker described *B. nuda* in 1864, the specimen had been collected earlier. But, at that time Mongolia was a complex entity. A Greater Mongolia was administered as Outer Mongolia [now more or less corresponding to Mongolia], Inner Mongolia [now more or less corresponding to Nei Mongol] and a number of leagues (former Mongolian administrative units) and banners (Mongolian/Chinese military and administrative units) in various adjacent provinces of China. The provinces, leagues and banners were overlapping but the limits of their respective jurisdictions were not always identical.

David's first travel, in 1862, was a brief visit of the area of Siwantze, 25 km northeast of Kalgan [Zhangjiakou, 40°49'N 114°53'E, 160 km northwest of Beijing]. Although in then Zhili Province, Zhangjiakou was seat of the military commander of the Eight Banners of Chahar, part of Greater Mongolia. Siwantze is Xiwanzi [40°58'25"N 115°16'22"E], now in Chongli County in Hebei Province. In the catholic administration, Siwantze was the see of a diocese (an administrative unit), at David's time called the Apostolic Vicariate of Mongolia. It was reasonable for a catholic missionary to label material from Xiwanzi as from 'Mongolia'. In 1863, David explored the mountains bordering the west of the plain of Beijing; this cannot be called 'Mongolia'. In 1864, David travelled in Jehol, north-east of Beijing (map in David, 1875), and this was too late to have material arrived in MNHN and described by Bleeker in 1864. Jehol is a former Chinese province that included part of today's He-

bei, Shanxi and Nei Mongol Provinces. This excludes present-day Mongolia as the type locality and suggest that the holotype originates from the area of Xiwanzi.

Bleeker (1864c) explicitly stated that his description of *N. nudus* was based on a specimen 115 mm TL in MNHN. Fang (1941: 253) commented that MNHN has four specimens labelled "*Nemacheilus nudus*, Blkr.; Mongolie: Abbé David, 1863; fishes that live in the high valleys". Fang mentioned that two of these specimens are the "types" of *N. nudus* (MNHN 1450); the other two he described as *N. bertini* (then MNHN 3800, now MNHN 3800 and B.2640). The two specimens in MNHN 1450 are the holotype and a non-type specimen of *N. nudus* (now possibly MNHN 3813).

Herzenstein (1888: 21), Rendahl (1933: 46) and Prokofiev (2003a: 703) discussed ZISP 4471 received from MNHN as *N. nudus* from Sichuan. Fang (1941: 253) explained that this specimen had been taken from a jar labelled "*Nemacheilus nudus* Blkr.; Sse-chuan Occid.; R. P. A. David, 1870–58". He described the remaining 11 specimens (MNHN 6287) as *Nemacheilus angeli*.

I have examined a number of samples previously identified as *B. nuda* from northern China (see Kottelat, 2006: 53). They represent several species of *Barbatula* and *Triplophysa*; at some localities two species occur in sympatry. Names are probably available for some of them (see synonymy), but others are apparently still undescribed. Without access to more material from more localities it is not possible to clarify how many species are involved and what are their diagnostic characters, so as to determine which is the real *B. nuda*.

#### 10.4.9 *Barbatula oreas* (Jordan & Fowler, 1903)

*Orthias oreas* Jordan & Fowler, 1903: 769, fig. 2 (type locality: Japan: Hokkaido: Chitose, in Iburi; holotype: "the museum at Sapparo"; noun in apposition, indeclinable)

#### 10.4.10 *Barbatula potaninorum* (Prokofiev, 2007)

*Orthias potaninorum* Prokofiev, 2007a: 65, fig. 18 (type locality: "China ? (exact location not given on label; according to the itinerary of the expedition - Northern China, Gan'su Province at the border with Mongolia, upper part of the Edzin-Gol River system - Fig. 23)" [China ? : Gansu: Edsin-Gol [Ejin, Ejina He, Eiin, Hei-He, Ruoshui; a river flowing north to endorheic Gaxun Nuur (Juyan Lake), 42°25'20"N 100°40'07"E]); holotype: ZISP "8121" [erroneous]; noun in genitive, indeclinable)

#### 10.4.11 *Barbatula quignardi* (Băcescu-Mester, 1967)

*Noemacheilus barbatulus quignardi* Băcescu-Mester, 1967: 359, figs. 1, 5c–d (type locality: France: Le Lez stream near Montpellier; holotype: MGAB 77; noun in genitive, indeclinable)

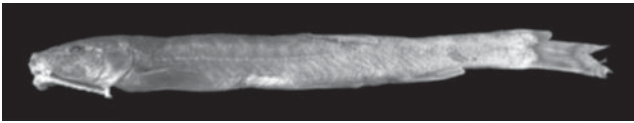
*Nemacheilus barbatulus* forma *hispanica* Băcescu-Mester, 1967: 369, fig. 6a–b (infrasubspecific, name not available; locality: Spain: Nervion River at Durango / Tajo River)

*Nemacheilus barbatulus hispanica* Lelek, 1987: 256 (available by indication to Băcescu-Mester, 1967; type locality: Spain: Nervion River at Durango / Tajo River; syntypes: MGAB [11, material used by Băcescu-Mester, 1967: 369]; adjective, *-us, -a, -um*)





**10.4.8** *Barbatula 'nuda'*, China: Jilin: Antu. Two syntopic species. Above, with numerous papillae on body (ASIZB 132651, 75.4 mm SL, possibly real *B. nuda*); below, with smooth body (ASIZB 132648, 101.6 mm SL; topotype of *B. kirinensis*). See also differences in nostrils and respective positions of dorsal and pelvic fins.



**10.4.8** *Barbatula nuda*, MNHN 1450, 115 mm TL, holotype; China: Hebei: Xiwanzi.

**10.4.12 *Barbatula sawadai* (Prokofiev, 2007)**

*Orthrias sawadai* Prokofiev, 2007a: 84, fig. 26 (type locality: Mongolia: Yenisei River drainage: Lake Baikal basin: Selenge River system: Ero River catchment: stream Uram; holotype: ZISP 52054; noun in genitive, indeclinable)

**10.4.13 *Barbatula sturanyi* (Steindachner, 1892)**

*Nemacheilus Sturanyi* Steindachner, 1892a: 131 (type locality: FYROM: Lake Ohrid at Pestani, between Ohrid City and Sveti Naum Monastery; also in Steindachner, 1892b: 378, pl. 2 fig. 3; holotype: NMW 48440; noun in genitive, indeclinable)

**10.4.14 *Barbatula tomiana* (Ruzsky, 1920)**

? *Nemacheilus sibiricus* Gratzianow, 1907: 167, 168 (type locality: Russia: Altay: Bija [Biya] River near Biysk [Biysk; 52°31'30"N 85°13'30"E]; syntypes: ZMMU P-2532 [3], Vasil'eva et al., in Pavlinov & Borissenko, 2001: 25; adjective, *-us, -a, -um*)

*Nemacheilus barbatulus tomianus* Ruzsky, 1920: 36, figs. 1–2 (type locality: Russia: Siberia: Tomsk oblast: Tom River at Tomsk, Kuznetsk and Kondoma / brook Kanzas, a right-hand tributary of Balyk-Su, upper reaches of Tom River / Ushayka River / Kislovka River near Tomsk / upper Torsya / upper reaches of Ob itself in area of Altay (rivers Katun, Cherga, Ursul, Charysh) / in Yenisei (rivers Abakan and Minusinka); syntypes: LU; adjective, *-us, -a, -um*)

? *Barbatula barbatula toni* morpha *tigris* Gundriser, 1975: 24 (infrasubspecific, name not available; locality: Russia: Tuva: lake and bassin of Ii-Kem River [maybe Khemchik, in Yenisei drainage; 51°16'40"N 90°47'00"E ?])

**Taxonomic notes.** See under *B. toni*.

**10.4.15 *Barbatula toni* (Dybowski, 1869)**

*Cobitis Toni* Dybowski, 1869: 957, pl. 18 fig. 10 (type locality: "common in both river systems" [Russia: Zabaykal-



**10.4.14** *Barbatula tomiana*, CMK 22367, 118.2 mm SL; Russia: Altai: Ob drainage: Sema.



**10.4.15** *Barbatula toni*, CMK 19616, 79.9 mm SL; Mongolia: Amur drainage: Onon.

sky Krai [Transbaikal]: Onon and Ingoda Rivers, Amur River drainage]; syntypes: ZISP ?, MNHN B.738 [8], B.739 [4], NMW 50473 [2], Bertin & Estève, 1948: 98, Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

**Taxonomic notes.** Obviously a heterogeneous assemblage of several species. Considered as a subspecies of *B. barbatula* by Prokofiev (2003a, 2007a) but the scale of analysis is not detailed enough to be informative. Prokofiev (2007a) recognised a subspecies *B. b. toni* extending from Japan to the Urals, with a broad range of morphological variation. I identify as *B. toni* the species that seems to be restricted to the upper Amur drainage (the type locality), recognised by the backward position of the dorsal fin, the sharply decreasing body depth behind the dorsal-fin base, and the distinctive colour pattern with very irregular bars across the back, on a yellowish background (see, e.g. Bogutskaya et al., 2008: 339; Kottelat, 2006: 99). I have examined *B. 'toni'* only from a few places of its range and I have not yet a complete overview of its variability. But my observations on populations from Mongolia, Korea and northern China show that the Selenge (Yenisei drainage) has a distinct species (figured as "*B. b. t. infrasubsp. tomianus*" by Berg, 1933: 552, 1948: 871). I tentatively retain the name *B. tomiana* for it, but *N. sibiricus* might be an older available name. The *B. 'toni'* from the upper Irtysh (Bulgan River) in Mongolia is distinct and I tentatively retain the name *B. markakulensis* for it; this remains to be confirmed by comparison with fresh material from Markakul Lake. The *B. toni* from the eastern slope of Korea (e.g. Kim & Park, 2007: 193) is apparently the same as the unnamed species figured by Bogutskaya et al. (2008: 339) and possibly conspecific with populations from Hokkaido, then *B. oreas* is the oldest name available for it. See under *B. nuda* for populations from the western slope of Korea and northern China.

**10.4.16 *Barbatula zetensis* (Soric, 2001)**

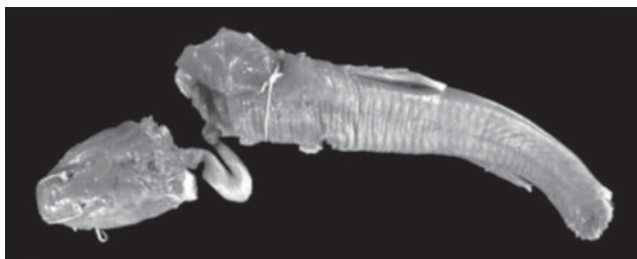
*Orthrias barbatulus zetensis* Šorić, 2001: 66, fig. 1 (type locality: Montenegro: Vis brook near Vis village, 5–6 km west of Danilovgrad, tributary of Zeta River; holotype: BIKU; adjective, *-is, -is, -e*)

**10.5 *Claea* Kottelat, 2011**

*Oreias* Sauvage, 1874: 334 (type species: *Oreias dabryi* Sau-



**10.5.1** *Claea dabryi*, CMK 13064, 67.8 mm SL; China: Sichuan: Yangtze drainage: Yalong.



**10.5.1** *Claea dabryi*, MNHN 6276, about 122 mm SL, holotype; China: Sichuan: Yangtze drainage: Dengchigou.

vage, 1874: 334, by monotypy; a junior synonym of *Oreias* Kaup, 1829: 177, 193 in Aves and *Oreias* Temminck, in Temminck & Laugier de Chartrouse, 1839: 108 in Aves). Gender feminine.

*Claea* Kottelat, 2011a: 384 (replacement name for *Oreias* Sauvage, 1874: 334). Gender feminine.

#### 10.5.1 *Claea dabryi* (Sauvage, 1874)

*Oreias dabryi* Sauvage, 1874: 334 (type locality: China: eastern Tibet: torrent at Yao-Tchy [Sichuan: Yaoji, Qiaoqi, Qiaoqi, 30°41'53"N 102°44'48"E; in fact apparently Baoxing County: Dengchigou, 30°32'07"N 102°56'28"E; see below; David, 1874: 42, 73]; holotype: MNHN 6276, Bertin & Estève, 1948: 99, Bănărescu & Nalbant, 1976: 187, figs. 1–4, pl. 1 fig. 1 [plate shows holotype apparently reconstructed or in one piece; now broken, head connected to body only by intestine]; noun in genitive, indeclinable)

*Oreias crassipedunculatus* Bănărescu & Nalbant, 1976: 189, figs. 9–12, pl. 1 fig. 4, pl. 2 fig. 7 (type locality: China: Yunnan: Chatung; holotype: USNM 94731; adjective, *-us, -a, -um*)

*Oreias furcatus* Bănărescu & Nalbant, 1976: 188, figs. 5–8, pl. 1 figs. 2–3, pl. 2 figs. 6, 8 (type locality: China: Sichuan: Tsao Po, near Kuan-shien [according to USNM catalogue] [Kuan-hsien, Guanxian, Dujiangyan County; 30°59'27"N 103°36'32"E]; holotype: USNM 130128; adjective, *-us, -a, -um*)

**Taxonomic notes.** This species is placed in *Schistura* by Zhu (1989) and Zhou & Cui (1993). The type locality of both *Claea dabryi* and the sisorid catfish *Chimarrichthys davidi* Sauvage, 1874 is given as Yao-Tchy [Yaoji, Qiaoqi]. The specimens were collected by A. David in 1869. David was in Muping [Muping] (an independent Tibetan principedom) from 1 March to 22 November 1869. Muping more or less corresponds to present Baoxing County in Sichuan. David published a narrative of his stay in Muping and a day-by-day description of his movements, activities and collections (David, 1874). He stayed at the catholic mission in Dengchigou (30°32'07"N 102°56'28"E); he was repeatedly ill and with a



**10.6.1** *Draconectes narinus*, MHNG 2730.080, 24.7 mm SL, holotype; Vietnam: Ha Long Bay: cave on Dáo Van Giò island. (Photograph by Tan Heok Hui).



**10.7.1** *Dzihunia amudarjensis*, ZISP 23898, 65 mm SL; Uzbekistan: Amu-Darya estuary; syntype of *Nemachilus choresmi*. (Photograph by A. Prokofiev).



**10.8.2** *Eonemachilus nigromaculatus*, YU 720, 69.5 mm SL; China: Yunnan: Lake Dianchi.

single exception he only made one-day trips around Dengchigou, all on foot. Although he seems to have walked very far and hunting on the way, he does not seem to have been to Qiaoqi (at least 25 km away). Local hunters brought him various material from Qiaoqi but he did not report receiving fishes from there. But he mentioned (1874: 42) that his hunters brought him two fish species from "our torrent" [implied, the torrent in Dengchigou], chepadze ("a siluroid that sticks on stones using its flat belly, of which it makes a sucker"; apparently *Chimarrichthys davidi*) and si-yu (a cyprinid, likely a schizothoracine). On p. 66, he mentioned that the fish had decayed and, on p. 73, that on 9 October 1869 he collected again, himself, in Dengchigou, the chepadze and si-lien-yu and two small species of loaches. One of the loaches is most likely *C. dabryi*. Page 75, David mentioned that a man sent to fish in the river of "Ta-hong-miao", 2 days away, did not bring anything new. I consider that the type locality of *Cl. dabryi* and *Ch. davidi* is Dengchigou, not Qiaoqi.

#### 10.5.2 *Claea niulanjiangensis* (Chen, Lu & Mao, 2006)

*Schistura niulanjiangensis* Chen, Lu & Mao, 2006: 54, fig. (type locality: China: Yunnan: Zhanyi County: Niulan River (25°59'N 103°36'E) [Yangtze drainage]; holotype: FACQR 9206085; adjective, *-is, -is, -e*)

#### 10.6 *Draconectes* Kottelat, 2012

*Draconectes* Kottelat, 2012b: 342 (type species: *Draconectes narinus* Kottelat, 2012b: 342, by original designation). Gender masculine.

#### 10.6.1 *Draconectes narinus* Kottelat, 2012

*Draconectes narinus* Kottelat, 2012b: 342, fig. 1 (type locality: Vietnam: Quang Ninh Province: Ha Long Bay:

island Dáo Van Giò: phreatic lake in cave Đông Dục Tiên, 20°50.34'N 107°16.77'E; holotype: MHNG 2730.080; adjective, *-us*, *-a*, *-um*)

### 10.7 *Dzihunia* Prokofiev, 2001

*Dzihunia* Prokofiev, 2001b: 209 (type species: *Nemacheilus amudarjensis* Rass, 1929: 253, by original designation). Gender feminine.

#### 10.7.1 *Dzihunia amudarjensis* (Rass, 1929)

*Nemachilus amudarjensis* Rass, 1929: 253, figs. 1–2 (type locality: Amu-Darya (Oxus) near Termes [Uzbekistan: Termez; 37°13'N 67°17'E], near Tschardschui [Turkmenistan: Chardjui, Chardzhou, now Türkmenabat; 39°05'N 63°34'E] and upper reaches; syntypes: ZMMU 2554 [14], ZISP 22042 [2], 20715 [2], 20732 [2]; adjective, *-is*, *-is*, *-e*)

*Nemachilus amudarjensis choresmi* Berg, 1932a: 149, fig. 2 (type locality: Uzbekistan: Amu-Darya estuary, about 10 km from confluence of Taldyk [43°42'N 59°12'E] and Medeli arms; syntypes [5]: ZISP 23866 [1], 23867 [1], 23868 [1], 23898 [2], Prokofiev, 2001b: 210, Eschmeyer & Fricke, 2010; also in Berg, 1932b: 559, fig. 490; noun in genitive, indeclinable)

#### 10.7.2 *Dzihunia ilan* (Turdakov, 1936)

*Nemachilus amudarjensis ilan* Turdakov, 1936: 207, 210, figs. 3a-b, 4 (type locality: Uzbekistan: Samarkand Province: Kara-Darya near Dagbit [Dagbid, Daxbet, Dahbed, 11 km from Samarkand, 39°45'50"N 66°54'45"E], a tributary of Zeravshan River below Samarkand [39°39'15"N 66°57'35"E]; lectotype: ZISP 30501, designated by Prokofiev, 2009b: 891; noun in apposition, indeclinable)

#### 10.7.3 *Dzihunia turdakovi* Prokofiev, 2003

*Dzihunia turdakovi* Prokofiev, 2003c: 57, figs. 1–2 (type locality: Kyrgyzstan: Ters River, Talas basin; holotype: ZISP 36723; noun in genitive, indeclinable)

### 10.8 *Eonemachilus* Berg, 1938

*Eonemachilus* Berg, 1938: 314 (type species: *Nemacheilus nigromaculatus* Regan, 1904: 192, by original designation). Gender masculine.

**Taxonomic notes.** Some authors have recognised a *Y. nigromaculatus* group within *Yunnanilus* (e.g. Chen, Yang & Yang, 2012). Within this group, *Y. nigromaculatus* and *Y. yangzonghaiensis* are very conspicuous, with a deep body, mouth terminal and somewhat upturned, a colour pattern of bold dark bars or elongated blotches on a whitish or pale yellowish background, and their lacustrine habitat. I consider them as a distinct genus. Judging from the figure in the original description, *Y. longidorsalis* is possibly related to and tentatively placed in *Eonemachilus*; it is not lacustrine. The remaining species of the *Y. nigromaculatus* group do not seem to constitute a monophyletic group. Some of them may represent one or several new genera and others may be more related with species now in *Heminoemcaheilus*. For the time being, they are all retained in *Yunnanilus*.

#### 10.8.1 ? *Eonemachilus longidorsalis* (Li, Tao & Lu, in Li, Tao, Mao & Lu, 2000)

*Yunnanilus longidorsalis* Li, Tao & Lu, in Li, Tao, Mao & Lu, 2000: 350, figs. 4–6 (type locality: China: Yunnan: Luoping County: pool Agang Longtan, 25°04'N 104°07'E [Nanpangjiang drainage]; holotype: HRAS or ASIZB 9411001; compound noun, indeclinable)

#### 10.8.2 *Eonemachilus nigromaculatus* (Regan, 1904)

*Nemachilus nigromaculatus* Regan, 1904: 192 (type locality: China: Yunnan: "Sea of Tien" at Yunnan Fu [Lake Dianchi at Kunming]; lectotype: BMNH 1904.1.26.38, designated by Kottelat & Chu, 1988a: 68; adjective, *-us*, *-a*, *-um*)

#### 10.8.3 *Eonemachilus yangzonghaiensis* (Cao & Zhu, in Zheng, 1989)

*Yunnanilus nigromaculatus yangzonghaiensis* Cao & Zhu, in Zheng, 1989: 45, fig. 23 (type locality: China: Yunnan: Yangzong-hai Lake; holotype: IHB 63V1074; adjective, *-is*, *-is*, *-e*)

### 10.9 *Hedinichthys* Rendahl, 1933

*Hedinichthys* Rendahl, 1933: 26 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemacheilus yarkandensis* Day, 1877b: 796, by original designation). Gender masculine.

#### 10.9.1 *Hedinichthys grumorum* Prokofiev, 2010

*Hedinichthys grumorum* Prokofiev, 2010: 897, fig. 26 (type locality: China: Xinjiang: Lemjin Oasis in northern part of Turpan Depression [Lamjin, 42°52'N 89°58'E]; holotype: ZISP 9237; noun in genitive, indeclinable)

#### 10.9.2 *Hedinichthys macropterus* (Herzenstein, 1888)

*Nemachilus yarkandensis macropterus* Herzenstein, 1888: 79 (type locality: China: Gansu: Ssa-tschesheú [Sachow Oasis; Dunhuang, 40°10'N 94°50'E] and in the vicinity of Mumin city; syntypes: ZISP 7260 [6+], 7845 [5], 7847 [1]; compound adjective, *-us*, *-a*, *-um*)

*Nemachilus yarkandensis nordkansuensis* Li & Chang, 1974: 416 (type locality: China: Kansu [Gansu]: Ansi-Hsien [Anxi, now Guazhou County, 39°50'N 97°34'E]: Shulagol River [Shule He], Shuang-Ta-Bu [Shuangtapu, about 40°33'N 96°10'E]; holotype: ASIZB G65-52; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** Recognised as distinct from *H. yarkandensis* following Prokofiev (2010: 896), although the text (or the translation) is ambiguous.

#### 10.9.3 *Hedinichthys minutus* (Li, in Li, Tai, Chang, Ma, Ho & Kao, 1966)

*Nemachilus minutus* Li, in Li, Tai, Chang, Ma, Ho & Kao, 1966: 46, fig. 1 (type locality: China: Sinkiang [Xinjiang]: Kalagu reservoir, Pichong [Piqan County, 42°52'N 90°10'E]; holotype: ASIZB 64-1963; adjective, *-us*, *-a*, *-um*)

#### 10.9.4 *Hedinichthys yarkandensis* (Day, 1877)

*Nemacheilus yarkandensis* Day, 1877b: 796 (type locality:



- China: Xinjiang: Yarkand River drainage: Pas Robot, Yankihissar [Yengisar, 38°55'33"N 76°10'17"E] and Kashgar [39°28'N 75°59'E], "all from waters in connection with the Yarkand and Yangihissar or Great Easterly River"; syntypes: ZSI 1228–1229 [2], 1471–1472 [2], BMNH 1889.2.1.1718–1735 [18], NMW 48453, Whitehead & Talwar, 1976: 157; also in Day, 1878b: 14, pl. 5 fig. 3; adjective, *-is, -is, -e*)
- Nemachilus tarimensis* Kessler, 1879: 300 (type locality: China: Xinjiang: lower Tarim River and Lob-Nor Lake [Lop Nur]; syntypes: ZISP 4204 [6+], 4205 [6+], according to Herzenstein, 1888: 74; Kessler indicated "more than 20"; reprinted as Kessler, 1880: 259; adjective, *-is, -is, -e*)
- Nemachilus yarkandensis longibarbus* Herzenstein, 1888: 78, pl. 4 fig. 1 (type locality: China: Xinjiang: Oasis Nija [Niya, Minfeng, 37°03'50"N 82°41'20"E]; Dol Oasis [about 50 km east of Hotan; 37°10'N 80°17'E], Sampula Oasis [Sampul, Shampula, Shanpuluxian, about 50 km southeast of Hotan; 37°01'11"N 80°06'36"E]; Upper Tarim River; syntypes: ZISP 7298 [4, in part], 7361 [3], 7375 [1] [ZISP 7298, 7361 listed under both *N. y. longibarbus* and *N. y. brevibarbus*]; compound adjective, *-us, -a, -um*)
- Nemachilus yarkandensis brevibarbus* Herzenstein, 1888: 78, pl. 2 fig. 1 (type locality: China: Xinjiang: Aksu-darja [Aksu He; stream entering Yarkand River from North at 40°27'46"N 80°52'10"E]; Nija Oasis [Niya, Minfeng, 37°03'50"N 82°41'20"E]; Tschertschen-darja [Charchan-Darya, Qarqan He stream; Qarqan town or Qiemo County: 38°08'09"N 85°31'48"E; Qarqan He sometimes enters Lop Nor from SW]; Dol Oasis [about 50 km east of Hotan; 37°10'N 80°17'E], Sampula Oasis [Sampul, Shampula, Shanpuluxian, about 50 km southeast of Hotan; 37°01'11"N 80°06'36"E]; syntypes: ZISP 7287 [1], 7298 [4, in part], 7346 [2], 7348 [3], 7361 [3] [ZISP 7298, 7361 listed under both *N. y. brevibarbus* and *N. y. longibarbus*]; compound adjective, *-us, -a, -um*)
- 10.10 Heminoemacheilus Zhu & Cao, 1987**  
*Heminoemacheilus* Zhu & Cao, 1987: 324 (type species: *Heminoemacheilus zhengbaoshani* Zhu & Cao, 1987: 324, by original designation). Gender masculine.  
**Taxonomic notes.** See comments under *Eonemachilus* and *Yunnanilus*.
- 10.10.1 Heminoemacheilus hyalinus Lan, Yang & Chen, 1996**  
*Heminoemacheilus hyalinus* Lan, Yang & Chen, 1996: 109, fig. 1 (type locality: China: Guangxi: Du'an County: underground river at Baoan town [24°07'N 107°51'E; Romero et al., 2009: 251]; holotype: KIZ 9409005; adjective, *-us, -a, -um*)
- 10.10.2 Heminoemacheilus zhengbaoshani Zhu & Cao, 1987**  
*Heminoemacheilus zhengbaoshani* Zhu & Cao, 1987: 324, figs. 1–4 (type locality: China: Guangxi: Du'an County: outlet of subterranean waters near Du'an [23°56'N 108°05'E; Romero et al., 2009: 252]; holotype: ASIZB 741802 [61075, Eschmeyer & Fricke, 2010]; noun in genitive, indeclinable)
- 10.11 Homatula Nichols, 1925**  
*Homatula* Nichols, 1925b: 2 (subgenus of *Barbatula* Linck, 1790: 38; type species: *Nemacheilus potanini* Günther, 1896: 218, by original designation). Gender feminine.  
**Taxonomic notes.** Usually identified as *Paracobitis* by Chinese authors. Many species referred to the genus, especially cave species, do not seem to belong to this genus.
- 10.11.1 Homatula acuticephala (Zhou & He, 1993)**  
*Paracobitis acuticephala* Zhou & He, 1993: 5, fig. 1 (type locality: China: Yunnan: Eryuan County: Haixihai Lake near Niujie; holotype: YU 784141; compound adjective, *-us, -a, -um*)
- 10.11.2 Homatula anguillioides (Zhu & Wang, 1985)**  
*Paracobitis anguillioides* Zhu & Wang, 1985: 210, figs. 1–4 (type locality: China: Yunnan: Eryuan County: Longtang Spring, near Yousuo (26°N 99°50'E) [Mekong drainage]; holotype: NGI 820134 [now IHB 820134], Hu & Zhang, 2010: 55, fig. 4a; adjective, indeclinable)
- 10.11.3 Homatula berezowskii (Günther, 1896)**  
*Nemacheilus berezowskii* Günther, 1896: 217, pl. 2 fig. c (type locality: China: Gansu: Hui-hsien [Hui Xian, about 34°N 106°E, Yangtze drainage]; holotype: ZISP 10990, Bănărescu & Nalbant, 1974: 96; noun in genitive, indeclinable)
- 10.11.4 Homatula erhaiensis (Zhu & Cao, 1988)**  
*Paracobitis erhaiensis* Zhu & Cao, 1988: 95, figs. 1–2 (type locality: China: Yunnan: Wase, eastern bank of Erhai Lake; holotype: IHB 64VI0012; adjective, *-is, -is, -e*)
- 10.11.5 Homatula laxiclathra Gu & Zhang, 2012**  
*Homatula laxiclathra* Gu & Zhang, 2012: 592, fig. 1a (type locality: China: Shaanxi: Wei River, a tributary of Huang He, at Zhouzhi County; holotype: IHB 73V10738; adjective, *-us, -a, -um* [said to be used as an adjective, base on Latin words *laxus* and *clathrus* [barred]; *clatrus* is a noun and the adjective should have been *clatrus*])  
**Taxonomic notes.** See under *H. variegata*, a possible senior synonym.
- 10.11.6 Homatula longidorsalis (Yang, Chen & Kottelat, 1995)**  
*Paracobitis variegatus longidorsalis* Yang, Chen & Kottelat, 1995: 63, fig. 3 (type locality: China: Yunnan: Yiliang County: Jiuxiang, Pearl River drainage, 25°06'N 103°24'E; holotype: KIZ 874048; compound noun, indeclinable)
- 10.11.7 Homatula nanpanjiangensis (Min, Chen & Yang, 2010)**  
*Paracobitis nanpanjiangensis* Min, Chen & Yang, 2010: 200, fig. 1 (type locality: China: Yunnan: Qujing City: Luo-



**10.10.2** *Heminoemacheilus zhengbaoshani*, ASIZB 102318, 53.4 mm SL; China: Guangxi: Du'an (retouched).



**10.9.4** *Hedinichthys yarkandensis*, ZISP 7298/4, 207 mm SL; China: Xinjiang: Niya Oasis; syntype of *H. y. longibarbus*. (From Herzenstein, 1888: pl. 2 fig. 1).

ping County: Niujie River (24°57'46.9"N 104°13'09.2"E), a tributary of Nanpanjiang River, at Niujie village; holotype: KIZ 1994000023; adjective, *-is*, *-e*)

**10.11.8** *Homatula oligolepis* (Cao & Zhu, in Zheng, 1989) *Paracobitis variegatus oligolepis* Cao & Zhu, in Zheng, 1989: 48, fig. 27 (type locality: China: Yunnan: Yangzong-hai Lake; holotype: IHB 63V553; compound noun, indeclinable)

**10.11.9** *Homatula potanini* (Günther, 1896) *Nemacheilus potanini* Günther, 1896: 218 (type locality: China: Ya River; syntypes: ZISP 10005 [3]; noun in genitive, indeclinable)

**Nomenclatural notes.** Bănărescu & Nalbant (1974) mentioned specimen ZISP 10005, 95.0 mm, as holotype. Günther (1896) had three specimens but did not explicitly designate one as type, therefore all are syntypes. The fact that he only gave measurements of a single specimen does not make it the holotype.

**10.11.10** *Homatula pycnolepis* Hu & Zhang, 2010 *Homatula pycnolepis* Hu & Zhang, 2010: 52, fig. 1 (type locality: China: Yunnan: Jianchuan County: Yangbi River, a tributary of upper Mekong, at Shaxi Town; about 26°19'N 99°51'E; holotype: IHB 814045; compound noun, indeclinable)

**10.11.11** *Homatula variegata* (Dabry de Thiersant, in Sauvage & Dabry de Thiersant, 1874) *Nemacheilus variegatus* Dabry de Thiersant, in Sauvage & Dabry de Thiersant, 1874: 14 (type locality: China: Schensi [Shaanxi] [apparently Yenkiatsoun, which is Baoji Prefecture, Mei County [34°17'N 107°45'E]; in Tsang-Yu torrent, Wei He system, Huang He drainage; see below]; lectotype: MNHN 7854, designated by Bănărescu & Nalbant, 1974: 96 [as MNHN 7934]; adjective, *-us*, *-a*, *-um*)

*Nemachilus oxygnathus* Regan, 1908: 357 (type locality:



**10.11.11** *Homatula variegata*, CMK 13086, 124.0 mm SL; China: Sichuan: Yangtze drainage: Yalong.



**10.11.11** *Homatula variegata*, MNHN 7854, 96.8 mm SL, lectotype; China: Shaanxi: Huang He drainage.

China: Yunnan: Yunnan Fu [Kunming]; lectotype: BMNH 1908.2.27.23, designated by Bănărescu & Nalbant, 1974: 96; compound adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** The type locality of *Nemacheilus variegatus* indicated by Sauvage & Dabry de Thiersant (1874) is "China"; the jar containing the lectotype bears a label indicating "Schensi" and it had been accepted that the type locality was in the Yangtze drainage (e.g. Hu & Zhang, 2010). On this basis, Hu & Zhang (2010: 58) commented that the Han River (in Yangtze drainage) and the Wei River (in Huang He drainage) are inhabited by different species and that the one in the Wei River is unnamed. Gu & Zhang (2012) described the species from the Wei River as *H. laxiclathra*.

Although not mentioned in the original description, the MNHN database indicates the type locality as Yen-kia-tsoun. The specimens were collected by David and his travel report (David, 1875: 261, map) shows that Yen-kia-tsoun, a place now in Baoji Prefecture, is in the Wei drainage. See *Triplophysa bleekeri* for discussion of this locality.

This suggests that *H. variegata* could be the valid name of the species from the Huang He and *H. laxiclathra* would then be a junior synonym. A comparison of a photograph of the lectotype of *H. variegata*, the morphometric data I took in 1985 (in Yang, Chen & Kottelat, 1994: 636) and the diagnostic characters listed by Gu & Zhang (2012) indicates that the head length (15.7% SL) fits in the range of *H. laxiclathra* (15.9–21.1) rather than that of the *H. 'variegata'* (18.3–22.7), as does the depth of the caudal peduncle (6.9% SL in lectotype, 8.4–11.4 in *H. laxiclathra* and 9.6–13.6 in *H. 'variegata'*) and the dorsal adipose crest extends forward until about above the anal-fin base (vs. midlength of anal-fin base in *H. laxiclathra* and in front of anal-fin origin in *H. 'variegata'*). The colour pattern is almost indistinct and when I examined the lectotype (around 1985) I noted that the bars were narrower than the interspaces in the posterior part of the body, which agrees with *H. 'variegata'* and not with *H. laxiclathra*. I do not have information on the remaining diagnostic characters (squamation in pre-dorsal area and shape of intestine). These apparent contradictions and the possible ambiguity about the type locality lead me to retain the name *H. variegata* for the Yangtze species until the lectotype is re-examined. If it would turn out that the lectotype belongs to the Huang He species, then the name *H. oxygnathus* is apparently available for the Yangtze species.

**Nomenclatural notes.** For *N. oxygnathus*, Bănărescu &



**10.12.1** *Iamnemacheilus longipinnis*, NMC 79-966, 36.0 mm SL, holotype; Iran: Meymeh River, a former tributary of Tigris-Euphrates drainage. (Photograph by Zdenek Lajbner).



**10.13.1** *Indoreonectes evezardi*, about 38 mm SL; India: Maharashtra: Bhima River near Pune. (Photograph by Beta Mahatvaraj).

Nalbant (1974) mentioned "syntypes BMNH 1908.2.27–24, [...], 2 spec., 114.0 and 89.5 mm, the first named here declared lectotype". The catalogue number they give is obviously incorrect. The 114.0 mm SL specimen they designated as lectotype actually bears number BMNH 1908.2.27.23.

**10.11.12 *Homatula wujiangensis* (Ding & Deng, 1990)**

*Paracobitis wujiangensis* Ding & Deng, 1990: 287, figs. 1–3 (type locality: China: Sichuan: Wujiang River; holotype: SPNRI 64274; adjective, *-is*, *-is*, *-e*)

**10.12 *Iamnemacheilus* Coad & Nalbant, 2005**

*Iamnemacheilus* Coad & Nalbant, 2005: 303 (type species: *Iamnemacheilus longipinnis* Coad & Nalbant, 2005: 304, by original designation). Gender masculine.

**10.12.1 *Iamnemacheilus longipinnis* Coad & Nalbant, 2005**

*Iamnemacheilus longipinnis* Coad & Nalbant, 2005: 304, fig. 1 (type locality: Iran: Meymeh River, a former tributary of Tigris-Euphrates River, 17 km west of Dehloran city and about 21 km east of Iraqi border, 32°45'30"N 47°05'30"E; holotype: NMC 79-966; compound noun, indeclinable)

**10.13 *Indoreonectes* Rita & Banareescu, in Rita, Banareescu & Nalbant, 1978**

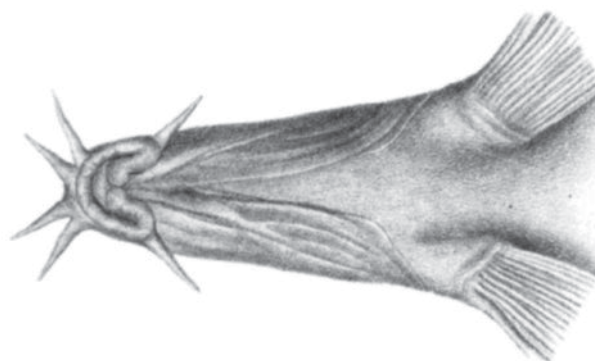
*Indoreonectes* Rita & Bănărescu, in Rita, Bănărescu & Nalbant, 1978: 185 (subgenus of *Oreonectes* Günther, 1868: 369; type species: *Oreonectes keralensis* Rita & Nalbant, in Rita, Bănărescu & Nalbant, 1978: 186, by original designation). Gender masculine.

**10.13.1 *Indoreonectes evezardi* (Day, 1872)**

*Nemacheilus Evezardi* Day, 1872: 182 (type locality: India: Maharashtra: Puna [Poona, Pune, 18°28'N 73°48'E]; holotype: ZSI 2678 [lost], Whitehead & Talwar, 1976: 157; noun in genitive, indeclinable)



**10.14.4** *Indotriplophysa leptosoma*, ZISP 7261, 144 mm SL; China: Qinghai: near Xugui. (From Herzenstein, 1888: pl. 1 fig. 2).



**10.14.4** *Indotriplophysa leptosoma*, ZISP 7261, 144 mm SL. (From Herzenstein, 1888: pl. 1 fig. 2).

**10.13.2 *Indoreonectes keralensis* (Rita & Nalbant, in Rita, Banareescu & Nalbant, 1978)**

*Oreonectes keralensis* Rita & Nalbant, in Rita, Bănărescu & Nalbant, 1978: 186, fig. 1 (type locality: India: Kerala: Pampadanpara, in a small rivulet tributary to Periyar River; holotype: ISBB 2925; adjective, *-is*, *-is*, *-e*)

**10.14 *Indotriplophysa* Prokofiev, 2010**

*Indotriplophysa* Prokofiev, 2010: 896 (subgenus of *Triplophysa* Rendahl, 1933: 21; type species: *Nemacheilus tenuis* Day, 1877b: 796, by original designation). Gender feminine.

**Nomen nudum**

*Triplophysa kokshaalensis* Prokofiev, 2010: 896

**10.14.1 *Indotriplophysa choprai* (Hora, 1934)**

*Nemachilus choprai* Hora, 1934: 310, fig. 9 (type locality: Pakistan: Chitral: Lutkuh River near hot springs; holotype: ZSI: 11301/1; noun in genitive, indeclinable)

**10.14.2 *Indotriplophysa crassicauda* (Herzenstein, 1888)**

*Nemachilus Stoliczkae crassicauda* Herzenstein, 1888: 23, pl. 7 fig. 3 (type locality: China: Qinghai: Zaidam [Quaidam basin]: Bajan-gol River [37°18'N 96°50'E]; holotype: ZISP 7221, Prokofiev, 2007b: 16, fig. 7a; compound noun, indeclinable)

**10.14.3 *Indotriplophysa eugeniae* (Prokofiev, 2002)**

*Triplophysa eugeniae* Prokofiev, 2002b: 473, fig. 5 [p. 431 of translation] (type locality: China: Kam Valley, Ha-Chu River [error for Hi-Chu; upstream of Kap-chzha-kamba (Kozlov, 1902b: xxviii); Hi-Chu enters Yangtze from North at about 33°32'58"N 96°41'08"E]; holotype: ZISP 12575; noun in genitive, indeclinable)



**Taxonomic notes.** Kam or Kami of Russian authors is Kham, a former eastern province of Tibet, corresponding to today's eastern Xizang, western Sichuan and northwestern Yunnan and including headwaters of Yangtze, Mekong, Salween, Irrawaddy, and Brahmaputra. Kozlov was in upper Mekong and upper Yangtze in 1900. The type locality is Hi-Chu [name in ZISP accession book, not Ha-Chu]. The Hi-Chu is a northern tributary of Tongtiang He (the name of a stretch of the upper Yangtze). Kozlov travelled from 13 to 20 July 1900 along the Hi-Chu from Kap-chzha-kamba to the source (Kozlov, 1902b: xxviii). See also maps in Kozlov (1902a, 1948).

#### 10.14.4 *Indotriplophysa leptosoma* (Herzenstein, 1888)

*Nemachilus Stoliczkae leptosoma* Herzenstein, 1888: 23, pl. 1 fig. 2 (type locality: China: Tibet: Schuga River [based on map in Przheval'skii, 1883: Qinghai, river flowing near Xugui and entering Golmud He at 35°57'N 94°48'E]; holotype: ZISP 7261, Prokofiev, 2007b: 15, fig. 6a; compound noun, indeclinable)

*Nemachilus Stoliczkae productus* Herzenstein, 1888: 23, pl. 1 fig. 5 (type locality: China: Qinghai: "Fontes fl. Chuan-che" [sources of Chuan-che River, Huang He; then considered to be lakes Zhaling Hu [or Ngoring Hu, 34°52'N 97°10'E] and Eling Hu [or Gyaring Hu, 34°52'N 97°38'E]; holotype: ZISP 7329, Prokofiev, 2007b: 15, fig. 6b; simultaneous subjective synonym of *Nemachilus stoliczkae leptosoma* Herzenstein, 1888: 23, first reviser [apparently Zhu, 1989: 110] gave precedence to *N. s. leptosoma*; adjective, *-us, -a, -um*)

#### 10.14.5 *Indotriplophysa tenuicauda* (Steindachner, 1866)

*Cobitis tenuicauda* Steindachner, 1866: 792, pl. 17 fig. 3 (type locality: India: Jammu & Kashmir: Rupshu: rivulet near Hanle monastery; syntypes: NMW 48570 [6], Eschmeyer & Fricke, 2010; compound noun, indeclinable)

? *Nemachilus ladacensis* Günther, 1868: 356 (type locality: India: Kashmir: Ladakh; holotype: BMNH 1860.3.19.789, Kullander et al., 1999: 142, 145; adjective, *-is, -is, -e*)

**Taxonomic notes.** Kullander et al. (1999: 145) examined the holotype of *N. ladacensis* and commented that it might be a synonym of *I. tenuicauda*; both nominal species are described from Ladakh. Li et al. (2007: 55) considered *N. ladacensis* as a valid species present in the Tarim basin; they do not mention *I. tenuicauda* and do not seem to have had access to material.

#### 10.14.6 *Indotriplophysa tenuis* (Day, 1877)

*Nemacheilus tenuis* Day, 1877b: 796 (type locality: Tajikistan: Aktash [12600 ft] where water of Ak-su passes to Oxus [Amu-Darya drainage, Murgab system, 3840 masl; 37°35'13"N 74°53'44"E; Trotter, 1875: (28), (65)] / China: Xinjiang: Yankihissar (4320 ft) [Yengisar, 38°55'33"N 76°10'17"E] where rivers go to Yarkand River; syntypes: ZSI 684–686, 710–711, 709 [lost], BMNH 1889.2.1.1716–1717, NMW 48447, Whitehead & Talwar, 1976: 157; also in Day, 1878b: 15, pl. 5 fig. 4; adjective, *-is, -is, -e*)

**Taxonomic notes.** The widely disjunct localities suggest that two species are involved. A lectotype designation and redescription are needed.

#### 10.14.7 *Indotriplophysa yasinensis* (Alcock, 1898)

*Nemachilus yasinensis* Alcock, 1898: 38, pl. 2 figs. 2, 2a (type locality: Pakistan: Gilgit-Baltistan: Yasin River at 8500 feet [Yasin: 36°22'N 73°20'E]; holotype (?): ZSI F 14181, according to Menon & Yazdani, 1968: 125; adjective, *-is, -is, -e*)

*Nemachilus kashmirensis* Hora, 1922: 76 (type locality: India: Jammu & Kashmir: mouth of trout farm at Harwan [34°09'30"N 74°54'16"E] / Verinag spring [33°32'17"N 75°14'49"E] / Kukarnag spring [33°33'48"N 75°20'11"E]; syntypes [17+]: ZSI 10121/1 [9], 10122/1 [9], Menon & Yazdani, 1968: 123; adjective, *-is, -is, -e*)

? *Nemachilus ajmonis* Di Caporiacco, 1933: 342, fig. (type locality: India: Kashmir: pond between Sonamarg [34°18'04"N 75°17'30"E] and Baltal [34°15'21"N 75°25'05"E]; syntypes [2]: MZUF 55881 [1], Vanni, 1991: 221; adjective, *-is, -is, -e*)

? *Nemachilus hutchinsoni* Hora, 1936: 314, figs. 6–7, pl. 12 figs. 1–2 (type locality: India: Kashmir: Ladakh: 3 miles west of Mugleb / pond between Durbuk and Tangtse / Tsar Tso / Lukung; syntypes [6]: ZSI F 12201/1 [1], 12202/1 [3], 12203/1 [1], Menon & Yazdani, 1968: 122; noun in genitive, indeclinable)

**Taxonomic notes.** Synonymy follows Prokofiev (2007b: 3, 2010: 896), itself partly based on Menon (1987: 217).

#### 10.15 *Iskandaria* Prokofiev, 2009

*Iskandaria* Prokofiev, 2009b: 889 (type species: *Nemachilus kuschakewitschi* Herzenstein, 1890: 61, by original designation). Gender feminine.

##### 10.15.1 *Iskandaria kuschakewitschi* (Herzenstein, 1890)

*Nemachilus Kuschakewitschi* Herzenstein, 1890: 61 [p. 139 of reprint] (type locality: Uzbekistan: Syr-Darya drainage: Margelan [40°28'16"N 71°43'29"E] and Andizhan [40°47'N 72°20' E]; syntypes: ZISP 4561 [6+], 8744 [6+], 8745 [6+], ? BMNH 1891.10.7.72 [2], Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

*Nemachilus kuschakewitschi badamensis* Turdakov, 1947a: 56 (type locality: Kazakhstan: Yuzhno-Kazakhstansjkaya oblast: Syr-Darya drainage: Arys' basin: Badam River at Shymkent [42°19'00"N 69°35'45"E]; syntypes [56]: ZMMU P-3709 [14], P-3710 [1], Vasilieva et al., in Pavlinov & Borissenko, 2001: 26; adjective, *-is, -is, -e*)

##### 10.15.2 *Iskandaria pardalis* (Turdakov, 1941)

*Nemachilus pardalis* Turdakov, 1941: 219, fig. 1 (type locality: Tajikistan: Amu-Darya drainage: Kafirnigan River system [Kofarnihon], Dyushambinka River from Stalinabad [Dushanbe; 38°32'12"N 68°46'48"E] to 4–5 km upstream; holotype: ZMMU 3791; noun in apposition, indeclinable)

**Taxonomic notes.** Treated as subspecies of *I. kuschakewitschi* by Prokofiev (2009b: 889).

#### 10.16 *Labiatoophysa* Prokofiev, 2010

*Labiatoophysa* Prokofiev, 2010: 895 (subgenus of *Triplophysa* Rendahl, 1933: 21; type species: *Diplophysa labiata*

Kessler, 1874: 59, by original designation). Gender feminine.

**Taxonomic notes.** See Prokofiev (2004a) for revision.

### Species incertae sedis

#### 10.16.1 *Labiatoophysa nasalis* (Kessler, 1876)

*Diplophysa nasalis* Kessler, 1876: 27, pl. 3 fig. 2 (type locality: China: Nei Mongol: Lake Dalai-Nor [Dalai Nur; 43°18'N 116°40'E]; holotype: ZISP 2475, Prokofiev, 2004a: 203; noun in apposition, indeclinable)

**Taxonomic notes.** Known only from holotype, which may belong to *Labiatoophysa* or *Barbatula* (Prokofiev, 2004a: 204). The type locality is 'Lake Dalai-Nor'. There are several lakes by this name in China and Mongolia [alternative spellings: Dalai-Nur, Dalai-Nuur, etc.]. The holotype was collected by Przewal'skii in 1874 and his travel map (Przewal'skii, 1876) shows only one Dalai-nor, at 43°18'N 116°40'E (not Hu-Lun Lake, which is another Dalai Nur; contra Eschmeyer & Fricke, 2010).

#### 10.16.2 *Labiatoophysa herzensteini* (Berg, 1909)

*Diplophysa labiata herzensteini* Berg, 1909: 10 (type locality: Kazakhstan: Almaty Province: Tscharyn River [Charyn], tributary of Ili River, Balkash basin, area of Semiretschenks; lectotype: ZISP 14530, designated by Prokofiev, 2004a: 191, fig. 26; noun in genitive, indeclinable)

#### 10.16.3 *Labiatoophysa kaznakowi* (Prokofiev, 2004)

*Triplophysa kaznakowi* Prokofiev, 2004a: 195, fig. 54 (type locality: China: Xinjiang-Uighur: Tuguryuk River Valley (= Nom Gol River flowing from extreme eastern escarpes of Tien-Shan Mountains and disappearing in the sands of Nomin-Gobi desert, ca. 42°N, ca. 96°E); holotype: ZISP 12485; noun in genitive, indeclinable)

#### 10.16.4 *Labiatoophysa labiata* (Kessler, 1874)

*Diplophysa labiata* Kessler, 1874: 59, pl. 8 fig. 41 (type locality: Kyrgyzstan: Urdjar River, tributary of Lake Ala-kul [42°19'03"N 78°32'08"E; in Issyk Kul endorheic basin]; syntypes: ZISP 2321 [4]; adjective, *-us, -a, -um*)

*Nemachilus labiatus conjungens* Herzenstein, 1888: 84, pl. 4 fig. 5 (type locality: Kazakhstan and China: Chorgos River [Khorgas; a tributary of Ili River, confluence at 43°49'25"N 80°31'22"E, making the border between Kazakhstan and China]; syntypes: ZISP 7843 [1], 7850 [2], Eschmeyer & Fricke, 2010; participle, indeclinable)

**Taxonomic notes.** Synonymy follows Prokofiev (2004a).

#### 10.16.5 *Labiatoophysa microphthalmia* (Kessler, 1879)

*Diplophysa microphthalmia* Kessler, 1879: 308 (type locality: China: Xinjiang: "the stream on which Chami town [Hami or Kumul; 42°48'00"N 93°27'00"E] is located [...] southern slope of Altai Range"; lectotype: ZISP 4208, designated by Prokofiev, 2004a: 194, fig. 33; reprinted as Kessler, 1880: 269; compound adjective, *-us, -a, -um*)

#### 10.17 *Lefua Herzenstein*, 1888

*Octonema Herzenstein*, in Warpachowski & Herzenstein, 1887: 47 (type species: *Octonema pleskei* Warpachowski & Herzenstein, 1887: 48, by subsequent designation by Berg, 1907a: 437; junior homonym of *Octonema Martens*, 1869: 608 in Pisces and *Octonema Haeckel*, 1879: 126 in Coelenterata). Gender neuter.

*Lefua Herzenstein*, 1888: 3 (replacement name for *Octonema Herzenstein*, in Warpachowski & Herzenstein, 1887: 47). Gender feminine.

*Elxis Jordan & Fowler*, 1903: 768 (type species: *Elxis nikkonis* Jordan & Fowler, 1903: 768, by original designation). Gender feminine [a classical Greek word].

**Nomenclatural notes.** The type species of *Octonema* is listed as *O. pleskei* by monotypy by Eschmeyer & Fricke (2010). Warpachowski & Herzenstein (1887: 47) listed two included species, *O. pleskei* and *O. costatum*; Berg (1907a: 437) designated *O. pleskei* as type species.

#### 10.17.1 *Lefua costata* (Kessler, 1876)

*Diplophysa costata* Kessler, 1876: 29, pl. 3 fig. 3 [not 4] (type locality: "Mongolia: Lake Dalai-Nor at 43°N" [Berg, 1949: 887; China: Nei Mongol: Dalai Nur; 43°18'N 116°40'E; not Hu-Lun Lake, which is another Dalai Nur]; holotype: ZISP 2477, Naseka & Bogutskaya, 2004: 285, pl. 2 fig. 6; adjective, *-us, -a, -um*)

*Nemacheilus dixonii* Fowler, 1899: 181 (type locality: China: Pechili: Tan Lan Ho, tributary of Shu Lan Ho, about 30 miles northeast of Lama-Miau or Dolon-Nor [Dolon-Nuur, 42°11'22"N 116°28'24"E] [now in Nei Mongol: Duolun County; Pechili [Zhili], name of a former province]; holotype: ANSP 16393; noun in genitive, indeclinable)

*Elxis coreanus* Jordan & Starks, 1905: 201, fig. 7 (type locality: Korea: Gensan; holotype: USNM 45243; adjective, *-us, -a, -um*)

*Lefua andrewsi* Fowler, 1922: 1 (type locality: China: Shing Lung Shan, Eastern Tombs [now Hebei: Zunhua, 40°11'N 117°58'E]; holotype: AMNH 7974; noun in genitive, indeclinable)

#### 10.17.2 *Lefua echigonia* Jordan & Richardson, 1907

*Lefua echigonia* Jordan & Richardson, 1907: 263, fig. 1 (type locality: Japan: Echigo: Nagaoka; holotype: USNM 45243 [in original publication; CAS-SU 20164 according to Böhlke, 1953: 39]; adjective, *-us, -a, -um*)

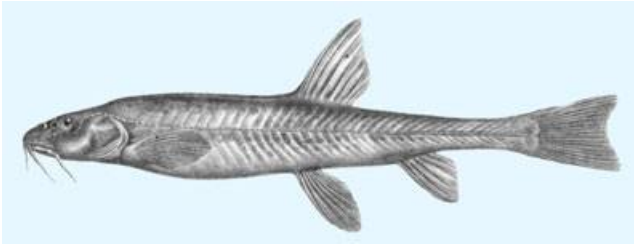
#### 10.17.3 *Lefua hoffmanni* Herre, 1932

*Lefua hoffmanni* Herre, 1932: 429 (type locality: China: Kwangtung [Guangdong]; holotype: CAS-SU 25727, Böhlke, 1953: 40, Prokofiev, 2005: 431, 437; noun in genitive, indeclinable)

**Taxonomic notes.** Prokofiev (2005: 437) commented that this species is neither an *Oreonectes* nor a *Lefua* but could not decide its generic position.

#### 10.17.4 *Lefua nikkonis* (Jordan & Fowler, 1903)

*Elxis nikkonis* Jordan & Fowler, 1903: 768, fig. 1 (type locality: Japan: Hokkaido: Chitose, in Iburi; holotype: CAS-SU 7848; adjective, *-is, -is, -e*)



**10.16.4** *Labiatophysa labiata*, ZISP 7850, 126 mm SL; syntype of *L. l. conjungens*; border between Kazakhstan and China: Xinjiang: Ili drainage. (From Herzenstein, 1888: pl. 4 fig. 5).



**10.16.4** *Labiatophysa labiata*, ASIZB 53485, 144.0 mm SL.



**10.15.1** *Iskandaria kuschakewitschi*, ZMMU P-9298, about 60 mm SL; Tajikistan: Amu-Darya drainage: Kara-Su River. (Photograph by Artem Prokofiev).

**10.17.5** *Lefua pleskei* (Herzenstein, in Warpachowski & Herzenstein, 1887)

*Otonema Pleskei* Herzenstein, in Warpachowski & Herzenstein, 1887: 48, pl. fig. 5 (type locality: Russia: Primorsky Krai: Lefu River [Ilistaya; a tributary of Lake Khanka] near Nikolajewka; syntypes: ZISP 7209 [4], BMNH 1891.10.7.73 [1], Naseka & Bogutskaya, 2004: 285, pl. 2 fig. 7; noun in genitive, indeclinable)

**10.17.6** *Lefua sayu* (Herre & Lin, 1936)

*Oreonectes sayu* Herre & Lin, 1936: 19 (type locality: China: Chekiang: upper waters of the Tsien Tang; holotype: CAS-SU 32584, Böhlke, 1953: 40; noun in apposition, indeclinable)

**Taxonomic notes.** Generic position follows Prokofiev (2005: 437).

**10.18** *Mesonoemacheilus Banarescu & Nalbant, in Singh, Sen, Banarescu & Nalbant, 1982*

*Mesonoemacheilus* Bănărescu & Nalbant, in Singh, Sen, Bănărescu & Nalbant, 1982: 202 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemacheilus*



**10.17.1** *Lefua costata*, ASIZB 132268, 48.7 mm SL; China: Jilin: Antu.



**10.17.1** *Lefua costata* (?), CMK 21951, 56.4 mm SL; Korea: Gangwon.



**10.18.5** *Mesonoemacheilus petrubanarescui*, CMK 5426, 46.7 mm SL; India: Karnataka: Chandragiri River.

*triangularis* Day, 1865a: 295, by original designation). Gender masculine.

**10.18.1** *Mesonoemacheilus guentheri* (Day, 1867)

*Nemacheilus guentheri* Day, 1867a: 285 (type locality: India: rapids on slopes of Neilgherries [p. 282]; syntypes: ? ZSI 2578 [1], A.959 [1, lost], BMNH 1867.7.24.28 [1], AMS B.7488 [1], NMW 48412, RMNH 2666, Whitehead & Talwar, 1976: 157; noun in genitive, indeclinable)

**10.18.2** *Mesonoemacheilus herrei* Nalbant & Banarescu, in Singh, Sen, Banarescu & Nalbant, 1982

*Mesonoemacheilus herrei* Nalbant & Bănărescu, in Singh, Sen, Bănărescu & Nalbant, 1982: 203, figs. 1–6 (type locality: India: Kerala: Anamallai Hills, Valparai, Puthutotam Estate; holotype: CAS-SU 41307; noun in genitive, indeclinable)

**10.18.3** ? *Mesonoemacheilus menoni* (Zacharias & Minimol, 1999)

*Noemacheilus menoni* Zacharias & Minimol, 1999: 288, fig. 1 (type locality: India: Kerala: Periyar River, Malappara; holotype: ZSI/WGRS V/F/1018; noun in genitive, indeclinable)

**10.18.4** *Mesonoemacheilus pambarensis* (Rema Devi & Indra, 1994)

*Noemacheilus pambarensis* Rema Devi & Indra, 1994: 207, pl. 1 fig. 1 (type locality: India: Kerala: Pambar River at border of Chinnar Sanctuary; holotype: ZSI/SRS F 4095; adjective, *-is, -is, -e*)





**10.19.1** *Metaschistura cristata*, FSJF 3277, 66.0 mm SL; Iran: Zanglangou River near Kazgankala. (Photograph by Jörg Freyhof).



**10.20.1** *Micronemacheilus cruciatus*, CMK 15120, 25.7 mm SL; Vietnam: Hue.



**10.21.4** *Nemacheilus binotatus*, CMK 16044, 34.6 mm SL; Thailand: Chao Phraya drainage: Nan.

**10.18.5 *Mesonoemacheilus petrubanarescui* (Menon, 1984)**

*Noemacheilus petrubanarescui* Menon, 1984: 46, figs. 1–2 (type locality: India: Karnataka: Netravati River at Dharmasthala; holotype: ZSI F 559; noun in genitive, indeclinable)

**10.18.6 *Mesonoemacheilus pulchellus* (Day, 1873)**

*Nemacheilus pulchellus* Day, 1873: 528 (type locality: India: Neilgheries: Bowany River [Bhavani]; syntypes [23]: ZSI 2581 [1], 2563 [1], BMNH 1889.2.1.1591–1600 [10], AMS B.7739 [1], NMW 48427 [1], RMNH 2664 [1], ZISP 8263 [2], Whitehead & Talwar, 1976: 157; adjective, *-us*, *-a*, *-um*)

**10.18.7 *Mesonoemacheilus remadevii* Shaji, 2002**

*Mesonoemacheilus remadevii* Shaji, 2002: 217, figs. 2–4 (type locality: India: Kerala: Kunthi River at Poochipara, Silent Valley National Park; holotype: KFRI F900; noun in genitive, indeclinable)

**10.18.8 *Mesonoemacheilus triangularis* (Day, 1865)**

*Nemacheilus triangularis* Day, 1865a: 295 (type locality: India: Kerala: hills at Mundikyum; holotype: ZSI 2681 [lost], Whitehead & Talwar, 1976: 157; also in Day, 1865b: 203, pl. 14 fig. 1; adjective, *-is*, *-is*, *-e*)

*Nemacheilus triangularis tambaraparniensis* Menon, 1987: 171 (type locality: India: Tamil Nadu: Chittaruvi Forest, Courtalam (Tambaraparni drainage); holotype: ZSI/SRS F 576; adjective, *-is*, *-is*, *-e*)

? *Nemacheilus periyarensis* Kurup & Radhakrishnan, 2005: 75, fig. 1 (type locality: India: Kerala: Thannikkudy, Periyar Lake; holotype: ZSI/WGRS CLT V/F13030; adjective, *-is*, *-is*, *-e*)



**10.21.1** *Nemacheilus anguilla*, CMK 14403, 47.2 mm SL; India: Bengal.



**10.21.1** *Nemacheilus anguilla*, CMK 14403, 47.2 mm SL.

**10.19 *Metaschistura* Prokofiev, 2009**

*Metaschistura* Prokofiev, 2009b: 892 (type species: *Nemacheilus cristatus* Berg, 1898: 18, by original designation). Gender feminine.

**10.19.1 *Metaschistura cristata* (Berg, 1898)**

*Nemacheilus cristatus* Berg, 1898: 18, fig. (type locality: Turkmenistan: Tedschent River near Aschabad [Ashgabat, Ashgabat; 37°56'N 58°22'E; endorheic drainage, now connected by canal to Amu-Darya]; syntypes: ZISP 11055, ZMMU P.2555 [59], ISBB 996 [2], Vasilieva, pers. comm., Eschmeyer & Fricke, 2010; adjective, *-us*, *-a*, *-um*)

**10.20 *Micronemacheilus* Rendahl, 1944**

*Micronemacheilus* Rendahl, 1944: 45 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemacheilus cruciatus* Rendahl, 1944: 37, by original designation). Gender masculine.

**10.20.1 *Micronemacheilus cruciatus* (Rendahl, 1944)**

*Nemacheilus cruciatus* Rendahl, 1944: 37, fig. 19 (type locality: Vietnam: Thua Luu, 50 km southeast of Hué; holotype: NHMG; adjective, *-us*, *-a*, *-um*)

**10.21 *Nemacheilus* Bleeker, 1863**

*Naunacheilus* Kuhl & van Hasselt, in van Hasselt, 1823: 132 (nomen nudum)

*Noemacheilus* Kuhl & van Hasselt, in van Hasselt, 1823: 133, 1824: 376 (nomen nudum, Kottelat, 1987b: 371)

*Naemacheilus* Valenciennes, in Cuvier & Valenciennes, 1846: 26 (nomen nudum, name cited in synonymy)

*Nemacheilus* Bleeker, 1863a: 37 (type species: *Cobitis fas-*

*ciata* Valenciennes, in Cuvier & Valenciennes, 1846: 25, by original designation; also in Bleeker, 1863c: 4, pl. 103). Gender masculine.

*Nemacheilus* Kner, 1867: 366 (incorrect subsequent spelling)

*Nematocheilus* Kner, 1867: 366 (incorrect subsequent spelling)

*Nemachilus* Günther, 1868: 347 (unjustified emendation of *Nemacheilus* Bleeker, 1863a: 37). Gender masculine.

*Modigliania* Perugia, 1893a: 246 (type species: *Modigliania papillosa* Perugia, 1893a: 246, by monotypy). Gender feminine.

*Pogononemacheilus* Fowler, 1937: 158 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemacheilus masyae* Smith, 1933: 58, by original designation). Gender masculine.

**Nomenclatural notes.** *Noemacheilus* Kuhl & van Hasselt is a nomen nudum. As a curiosity, it is worth mentioning that this spelling, which has been used to form numerous genus-group names, is most likely erroneous. The name is also spelled *Naunacheilus* in the same work. Van Hasselt's text was not an article but a letter he sent to Temminck. Several of the names in the printed letter are misspelt or have aberrant or multiple spellings. Most likely the intended spelling was *Naemacheilus* and a type setter probably confused the ligatures æ (ae) and œ (oe) and it became printed oe. *Nemacheilus* or *nemacheilus* has an obvious etymology (*νημα*, nema, a thread; *χείλος*, keilos, a lip; Greek), which *noemacheilus* does not have.

### Species inquirenda

*Lepidocephalus weberi* Ahl, 1922: 32 (type locality: Indonesia: Sumatra: Benkulen; syntypes: ZMB 7670 [2, lost ?], Paepke, 1995: 91; noun in genitive, indeclinable)

**Taxonomic notes.** Identification at species level will be possible only if the syntypes can be found, or after some *nemacheilines* are collected at the type locality and a neotype designated.

#### 10.21.1 '*Nemacheilus*' *anguilla* Annandale, 1919

*Nemachilus anguilla* Annandale, 1919: 127, pl. 1 fig. 3, pl. 3 fig. 1 (type locality: India: Bombay Presidency [Maharashtra]: Satara District: Yenna River at Medha; holotype: ZSI F 9692/1, Menon & Yazdani, 1968: 121; noun in apposition, indeclinable)

*Nemachilus poonaensis* Menon, 1949: 226, fig. 1a (type locality: India: Bombay Presidency [Maharashtra]: Moola-Mootha River at Poona [Pune, 18°28'N 73°48'E]; holotype: ZSI F 242/2, Menon & Yazdani, 1968: 124; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** Generic position requires investigation. Synonymy follows Menon (1987: 154).

#### 10.21.2 *Nemacheilus arenicolus* Kottelat, 1998

*Nemacheilus arenicolus* Kottelat, 1998a: 65, fig. 102 (type locality: Laos: Khammouan Province: Nam Theun basin: Nam Xot in Ban Nam Xot; 17°53'20"N 105°05'10"E; holotype: ZRC 41790; originally treated as adjective, *-us*, *-a*, *-um*)

**Nomenclatural notes.** Words ending in *-cola* and meaning

'inhabitant of' are nouns and do not have to agree in gender. But when proposed, *arenicolus* was explicitly proposed as an adjective and therefore it has to agree in gender with the genus name.

#### 10.21.3 *Nemacheilus banar* Freyhof & Serov, 2001

*Nemacheilus banar* Freyhof & Serov, 2001: 135, figs. 1–2 (type locality: Vietnam: Kontum Province: middle Pako River about 50 km north of Kontum; 14°39.6'N 107°46.98'E; holotype: ZFMK 28588; noun in apposition, indeclinable)

#### 10.21.4 *Nemacheilus binotatus* Smith, 1933

*Nemacheilus binotatus* Smith, 1933: 61, pl. 1 fig. 4 (type locality: Thailand: Chiang Mai Province: Mekhan, tributary of Meping, southwest of Doi Sutep; holotype: KUMF 167, Monkolprasit, 1969: 6; adjective, *-us*, *-a*, *-um*)

#### 10.21.5 *Nemacheilus chrysolaimos* (Valenciennes, in Cuvier & Valenciennes, 1846)

*Cobitis chrysolaimos* Valenciennes, in Cuvier & Valenciennes, 1846: 27, pl. 521 (type locality: Indonesia: Java; lectotype: MNHN 3961, designated by Kottelat, 1984b: 241; compound noun, indeclinable)

#### 10.21.6 *Nemacheilus cleopatra* Freyhof & Serov, 2001

*Nemacheilus cleopatra* Freyhof & Serov, 2001: 138, figs. 5–6 (type locality: Vietnam: Gia Lai Province: Sol River near Plao Ganong about 60 km south of Pleiku; 13°31.82'N 108°18.63'E; holotype: ZFMK 27155; noun in apposition, indeclinable)

#### 10.21.7 '*Nemacheilus*' *corica* (Hamilton, 1822)

*Cobitis corica* Hamilton, 1822: 359, 395 (type locality: India: Kosi River [Purnia District: Mainayi; Hora, 1935a: 49]; types: NT; noun in apposition, indeclinable)

*Schistura punctata* M'Clelland, 1839: 308, 442, pl. 53 fig. 4 (type locality: India: Assam / northeastern parts of Bengal; syntypes: material examined by M'Clelland and basis of *Cobitis corica* Hamilton, 1822: 359; adjective, *-us*, *-a*, *-um*)

*Cobites cinerea* Swainson, 1839: 310 (available by indication to Hamilton, 1822: 359 No. 12 [which is *Cobitis corica*]; type locality: India: Kosi River [Purnia District: Mainayi; Hora, 1935a: 49]; types: NT; adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** Generic position requires investigation.

#### 10.21.8 *Nemacheilus elegantissimus* Chin & Samat, 1992

*Nemacheilus elegantissimus* Chin & Samat, 1992: 26, fig. 2 (type locality: Malaysia: Borneo: Sabah: Lahad Datu District: Sungai Payau, a tributary of Sungai Segama, Danum Valley Conservation Area; holotype: FMNH 100749; adjective, *-us*, *-a*, *-um*)

*Nemacheilus ornatus* Doi, 1997: 16 (nomen nudum; lapsus for *Nemacheilus elegantissimus* Chin & Samat, 1992: 26, fig. 1)

**10.21.9 *Nemacheilus fasciatus* (Valenciennes, in Cuvier & Valenciennes, 1846)**

*Noemacheilus fasciatus* Kuhl & van Hasselt, in van Hasselt, 1823: 133, 1824: 376 (nomen nudum, Kottelat, 1987b: 371)

*Cobitis fasciata* Valenciennes, in Cuvier & Valenciennes, 1846: 25 (type locality: Indonesia: Java: Buitenzorg [Bogor]; holotype: MNHN B.2798, Kottelat, 1984b: 247, fig. 18a [as lectotype], 1987a: 371, Roberts, 1993: 26; adjective, *-us*, *-a*, *-um*)

*Cobitis suborbitalis* Valenciennes, in Cuvier & Valenciennes, 1846: 26 (type locality: Indonesia: Java; holotype: MNHN 3930, Bertin & Estève, 1948: 96, Kottelat, 1984b: 250; simultaneous subjective synonym of *Cobitis fasciata* Valenciennes, in Cuvier & Valenciennes, 1846: 25, first reviser [Bleeker, 1860c: 79] gave precedence to *C. fasciata*; compound noun, indeclinable)

**10.21.10 ? *Nemacheilus jaklesii* (Bleeker, 1852)**

*Cobitis jaklesii* Bleeker, 1852: 604 (type locality: Indonesia: Sumatra: Pajacombo [Payakumbuh]; lectotype: RMNH 7055, designated by Alfred, 1961: 33; noun in genitive, indeclinable)

**10.21.11 '*Nemacheilus*' *kaimurensis* Husain & Tilak, 1998**

*Nemacheilus kaimurensis* Husain & Tilak, 1998: 131, figs. 1–2 (type locality: India: Uttar Pradesh: Sombhadra District: Kanhar stream, near Kota village, Chopan; holotype: NRS/ZSI F 1543; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** Generic position requires investigation.

**10.21.12 *Nemacheilus kapuasensis* Kottelat, 1984**

*Noemacheilus kapuasensis* Kottelat, 1984b: 244, fig. 16 (type locality: Indonesia: Borneo: Kalimantan Barat: rocky channel in main stream of Sungai Pinoh at Nanga Saian, 45 km south of Nangapinoh, 0°43'S 11°83'E; holotype: MZB 4004; adjective, *-is*, *-is*, *-e*)

**10.21.13 *Nemacheilus longipectoralis* Popta, 1905**

*Nemachilus longipectoralis* Popta, 1905: 182 (type locality: Indonesia: Borneo: Kalimantan Timur: upper Mahakam; lectotype: RMNH 7641, designated by Kottelat, 1984b: 239; also in Popta, 1906: 198, pl. 10 fig. 42; compound noun, indeclinable)

**10.21.14 *Nemacheilus longipinnis* Ahl, 1922**

*Nemachilus longipinnis* Ahl, 1922: 31 (type locality: Indonesia: Central Sumatra [upper and middle sections of Rokan Kanan, Rokan Kiri and Siak drainages ("Sultanate of Siak" [Kabupaten Siak, Riau Province, Sumatra] and "Rokan states"; Moszkowski, 1909a-b: maps]; holotype: ZMB 20547; potentially junior secondary homonym of *Acanthocobitis longipinnis* Peters, 1861: 712 if treated as valid in *Nemacheilus*, which has apparently never been done; compound noun, indeclinable)

*Nemacheilus lactogeneus* Roberts, 1989: 107, fig. 82 (type locality: Indonesia: Borneo: Kalimantan Barat: Kapuas mainstream 58 km northeast of Sintang and 1 km downstream from Sebruang; holotype: MZB 3542; adjective, *-us*, *-a*, *-um*)

**10.21.15 *Nemacheilus longistriatus* Kottelat, 1990**

*Nemacheilus longistriatus* Kottelat, 1990a: 51, fig. 26 (type locality: Thailand: Loei Province: Mekong main stream between Chiang Khan (17°50'N 101°45'E) to 70 km downstream; holotype: CAS 62547; adjective, *-us*, *-a*, *-um*)

**10.21.16 *Nemacheilus marang* Hadiaty & Kottelat, 2010**

*Nemacheilus marang* Hadiaty & Kottelat, 2010: 41, figs. 2–3 (type locality: Indonesia: Kalimantan Timur: Kabupaten Kutai Timur: Kecamatan Kelai: Tepian Langsung village, Sungai Marang (1°42.465'N 117°45.549'E), Bengalon drainage; holotype: MZB 13301; noun in apposition, indeclinable)

**10.21.17 *Nemacheilus masyae* Smith, 1933**

*Nemacheilus masyae* Smith, 1933: 58, fig. 3, pl. 1 fig. 3 (type locality: Thailand: Nakhon Sritamarat: Ban Ta Yai, Tadi stream; holotype: KUMF 714; *masyae* is correct original spelling [*Code* art. 31.1.1 and Example], *masyai* is either an incorrect subsequent spelling or an unjustified emendation; noun in genitive, indeclinable)

**10.21.18 '*Nemacheilus*' *monilis* Hora, 1921**

*Nemachilus monilis* Hora, 1921a: 19, fig. 1 (type locality: India: Bhavani River, 10 miles from Mettupalaiyam; holotype: ZSI F 9981/1, Menon & Yazdani, 1968: 123; noun in genitive, indeclinable)

**Taxonomic notes.** Generic position requires investigation.

**10.21.19 *Nemacheilus olivaceus* Boulenger, 1894**

*Nemachilus olivaceus* Boulenger, 1894a: 250 (type locality: Malaysia: Borneo: Sabah: Bongon; lectotype: BMNH 1893.5.30.63, designated by Kottelat, 1984b: 234; adjective, *-us*, *-a*, *-um*)

**10.21.20 *Nemacheilus ornatus* Kottelat, 1990**

*Nemacheilus ornatus* Kottelat, 1990a: 61, fig. 34 (type locality: Thailand: Surat Thani Province: Khlong Sok at Ban Khlong Sok, 8°49'N 98°35'E [contra Eschmeyer & Fricke, 2010, "L. Sonkphan" in original description is not Lake Sonkphan but the name of one of the collectors]; holotype: ZRC 38466 [ex ZSM 27469]; adjective, *-us*, *-a*, *-um*)

**10.21.21 *Nemacheilus pallidus* Kottelat, 1990**

*Nemacheilus pallidus* Kottelat, 1990a: 63, fig. 36 (type locality: Thailand: Lampang Province: Mae Nam Yom basin: Huai Mae Phlung from Ban Pong [18°42'N 99°58'E] to 17 km upstream; holotype: ZRC 38468 [ex ZSM 27470]; adjective, *-us*, *-a*, *-um*)

**10.21.22 *Nemacheilus papillos* Tan & Kottelat, 2009**

*Nemacheilus papillos* Tan & Kottelat, 2009: 53, fig. 40 (type locality: Indonesia: Sumatra: Sumatera Selatan: Sungai Sentang near Desa Sukajaya, about 5 km from road (turn-off at about 12 km on road from Bayung Lencir to Jambi); holotype: MZB 10994; noun in apposition, indeclinable)





**10.21.9** *Nemacheilus fasciatus*, CMK 9178, 54.1 mm SL; Indonesia: Java: Brantas drainage.



**10.21.9** *Nemacheilus fasciatus*, CMK 9237, 61.0 mm SL.

**10.21.23 ? *Nemacheilus papillosus* (Perugia, 1893)**

*Modigliania papillosa* Perugia, 1893a: 246 (type locality: Indonesia: Sumatra: Balighe, Lake Toba; syntypes: MCSNG 9230 [6], ZMA 112.874 [2], Tortonese, 1961: 188, Nijssen et al., 1993: 214; adjective, *-us, -a, -um*)

**10.21.24 *Nemacheilus paucimaculatus* Bohlen & Šlechtová, 2011**

*Nemacheilus paucimaculatus* Bohlen & Šlechtová, 2011b: 201, figs. 1–2 (type locality: Malaysia: Johor: tributary of Segamat River upstream of Segamat, 2°28'47"N 103°05'13"E; holotype: ZRC 52361; adjective, *-us, -a, -um*)

**10.21.25 *Nemacheilus pfeifferae* (Bleeker, 1853)**

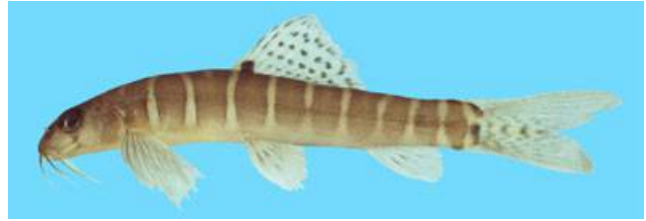
*Cobitis Pfeifferi* Bleeker, 1853b: 298 (type locality: Indonesia: Sumatra: Lake Meninjau [Maninjau]; lectotype: RMNH 7053, designated by Alfred, 1961: 34; incorrect original spelling, as species is explicitly named for Mrs. Ida Pfeiffer, spelling must be emended into *pfeifferae*, Code arts. 31.1.2, 31.1.3; noun in genitive, indeclinable)  
*Nemachilus dunckeri* Ahl, 1922: 30 (type locality: Indonesia: Sumatra: Padang; holotype: ZMB 20546; noun in genitive, indeclinable)

**10.21.26 *Nemacheilus platiceps* Kottelat, 1990**

*Nemacheilus platiceps* Kottelat, 1990a: 66, figs. 38–39 (type locality: Vietnam: Trang Bom; holotype: NRM 15095; compound adjective, indeclinable)

**10.21.27 *Nemacheilus saravacensis* Boulenger, 1894**

*Nemachilus saravacensis* Boulenger, 1894a: 251 (type locality: Malaysia: Borneo: Sarawak: Senah; lectotype; BMNH 1893.3.6.277, designated by Kottelat, 1984b: 236; adjective, *-is, -is, -e*)



**10.21.28** *Nemacheilus selangoricus*, CMK 9636, 48.0 mm SL; Indonesia: Bangka.

**10.21.28 *Nemacheilus selangoricus* Duncker, 1904**

*Nemachilus selangoricus* Duncker, 1904: 175 (type locality: Malaysia: surroundings of Kuala Lumpur; lectotype: ZMH 386 [formerly 8464], designated by Ladiges et al., 1958: 159; adjective, *-us, -a, -um*)

*Nemachilus kuiperi* de Beaufort, 1939: 190, fig. 1 (type locality: Indonesia: Billiton [Belitung]; lectotype: ZMA 112.889, designated by Kottelat, 1984b: 255; noun in genitive, indeclinable)

*Nemacheilus trans-lineatus* Fowler, 1939: 63, fig. 13 (type locality: Thailand: waterfall at Trang; holotype: ANSP 68493; must be emended as *translineatus*, Code art. 32.5.2.3; adjective, *-us, -a, -um*)

**10.21.29 *Nemacheilus spiniferus* Kottelat, 1984**

*Noemacheilus spiniferus* Kottelat, 1984b: 250, fig. 20 (type locality: Malaysia: Borneo: Sarawak: Fourth Division: Sungai Liam, tributary of Baram River, 3°19'N 114°45'E; holotype: ROM 39890; adjective, *-us, -a, -um*)

**10.21.30 '*Nemacheilus*' *stigmofasciatus* Arunachalam & Muralidharan, 2009**

*Nemacheilus stigmofasciatus* Arunachalam & Muralidharan, 2009: 148, fig. 1 (type locality: India: Karnataka: Thutinjjet, Seethanathi River, 13°23'54.3"N 75°01'18.2"E; holotype: ZSI/SRS F7599; adjective, *-us, -a, -um*)

**Taxonomic notes.** Generic position requires investigation.

**10.21.31 *Nemacheilus tebo* Hadiaty & Kottelat, 2009**

*Nemacheilus tebo* Hadiaty & Kottelat, 2009a: 120, fig. 3 (type locality: Indonesia: Borneo: Kalimantan Timur: Berau Regency, Kelai district, Merapun village, Lake Tebo area, a pond at mouth of west cave, 17°00'13"N 54°10'54"E; holotype: MZB 13367; noun in apposition, indeclinable)

**10.21.32 *Nemacheilus troglotaractus* Kottelat & Géry, 1989**

*Nemacheilus troglotaractus* Kottelat & Géry, 1989: 273, fig. 1 (type locality: Thailand: Kanchanaburi Province: Tham Sai Yok Noi, 3 km north-northwest of Nam Tok; 14°15'N 99°04'E; holotype: MHNG 2407.54; treated as a compound adjective, *-us, -a, -um*)

**10.21.33 *Nemacheilus tuberigum* Hadiaty & Siebert, 2001**

*Nemacheilus tuberigum* Hadiaty & Siebert, 2001: 183, fig. 1 (type locality: Indonesia: Sumatra: Aceh Selatan: Kecamatan Kluet Selatan, Desa Pucuk Lembang, Gunung Leuser National Park, forest stream tributary to Sungai



**10.22.1** *Nemachilichthys ruppelli*, CMK 14402, 53.4 mm SL; India: aquarium-fish trade.

Lembang; holotype: MZB 9356; treated as noun in apposition, indeclinable)

### 10.22 *Nemachilichthys* Day, 1878

*Nemachilichthys* Day, 1878a: 611 (type species: *Cobitis ruppelli* Sykes, 1839a: 162, by monotypy). Gender masculine.

#### 10.22.1 *Nemachilichthys ruppelli* (Sykes, 1839)

*Cobitis Ruppelli* Sykes, 1839a: 162 (type localities: India: Beema River at Taimbournee / Mota Mola River near Poona [Pune, 18°28'N 73°48'E]; syntypes: LU, ? AMS B.7528 [1], Eschmeyer & Fricke, 2010; also in Sykes, 1839b: 59, 1841: 366, pl. 64, fig. 17; *rupelli* is an incorrect original spelling since the species is explicitly named for Rüppell and must be emended into *rupelli*, Code art. 32.5.1.1; noun in genitive, indeclinable)

? *Nemachilichthys shimogensis* Narayan Rao, 1920: 62, pl. 2 figs. 5–5b (type locality: India: Mysore [Karnataka]: Thunga River in Shimoga Town; holotype: BMNH 1919.11.19.13–18 [1 of 6], Menon & Yazdani, 1968: 121; adjective, *-is, -is, -e*)

**Taxonomic notes.** *Nemachilichthys shimogensis* has long been listed as a synonym of *N. ruppelli*. It is treated as distinct by Bănărescu & Nalbant (1995: 448) but no proper comparison has been published. The figures in the respective original descriptions show some differences, but are not really conclusive since several figures in Sykes (1841) do not seem totally accurate. This can be solved only by examination of topotypes of both nominal species.

**Nomenclatural notes.** Narayan Rao explicitly stated that the holotype and about six paratypes were in BMNH. He also stated 'examples in ZSI', but these are not explicitly designated as types and thus are not types. The three 'syntypes' (ZSI F 9824/1–9826/1 [3]) listed by Menon & Yazdani (1968: 121) have no type status. There is a single series in BMNH [1919.11.19.13–18] labelled 'types'. As it seems that the holotype and the paratypes have been mixed, it is not possible to identify the holotype.

### 10.23 *Neonoemacheilus* Zhu & Guo, 1985

*Neonoemacheilus* Zhu & Guo, 1985: 321 (type species *Neomacheilus labeosus* Kottelat, 1982: 169, by original designation). Gender masculine.

*Infundibulatus* Menon, 1987: 177 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemacheilus peguensis* Hora, 1929: 321, by original designation). Gender masculine.



**10.23.2** *Neonoemacheilus labeosus*, CMK 14634, 73.2 mm SL; Thailand: Salween drainage: Mae Nam Moei.



**10.23.2** *Neonoemacheilus labeosus*, CMK 14634, 73.2 mm SL.

#### 10.23.1 *Neonoemacheilus assamensis* (Menon, 1987)

*Noemacheilus assamensis* Menon, 1987: 179 (type locality: India: Assam: Pagladia River; holotype: ZSI/SRS F 578; adjective, *-is, -is, -e*)

#### 10.23.2 *Neonoemacheilus labeosus* (Kottelat, 1982)

*Noemacheilus labeosus* Kottelat, 1982: 169, fig. 1 (type locality: Thailand: Mae Hong Son Province: Salween River at Mae Sahn Leap, 17°59'N 97°44'E; holotype: USNM 230060; adjective, *-us, -a, -um*)

#### 10.23.3 *Neonoemacheilus mengdingensis* Zhu & Guo, in Zhu, 1989

*Neonoemacheilus mengdingensis* Zhu & Guo, in Zhu, 1989: 67, fig. 46 (type locality: China: Yunnan: Gengmaxian County: Nanding River near Mengding [Salween drainage]; holotype: NGI 806206; adjective, *-is, -is, -e*)

#### 10.23.4 ? *Neonoemacheilus morehensis* Arunkumar, 2000

*Neonoemacheilus morehensis* Arunkumar, 2000a: 44, fig. 1 (type locality: India: Manipur: Lokchao River at Moreh, 110 km south of Imphal [Chindwin drainage]; holotype: MUMF F 620/1A; adjective, *-is, -is, -e*)

#### 10.23.5 *Neonoemacheilus peguensis* (Hora, 1929)

*Nemachilus peguensis* Hora, 1929: 321, pl. 14 figs. 1–2 (type locality: Burma: Pegu Yoma range; holotype: ZSI F 11057/1, Menon & Yazdani, 1968: 123; adjective, *-is, -is, -e*)

### 10.24 *Oreonectes* Günther, 1868

*Oreonectes* Günther, 1868: 369 (type species: *Oreonectes platycephalus* Günther, 1868: 369, by monotypy). Gender masculine.

*Octonema* Martens, 1869a: 608 (subgenus of *Homaloptera*

van Hasselt, 1823: 133; type species: *Homaloptera rotundicauda* Martens, 1869a: 608, by monotypy). Gender neuter.

#### Species incertae sedis

##### 10.24.1 '*Oreonectes*' *elongatus* Tang, Zhao & Zhang, 2012

*Oreonectes elongatus* Tang, Zhao & Zhang, 2012: 484, fig. 2 (type locality: China: Guangxi: Huanjiang Co.: Donglei Cave in Mulun Township; holotype: ASIZB 189288; adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** The original description and figure suggest this is not a species of *Oreonectes* since it has a forked (vs. rounded) caudal fin and the dorsal-fin origin clearly in front of the pelvic-fin origin (vs. conspicuously behind the pelvic-fin base).

#### Species incertae sedis

##### 10.24.2 '*Oreonectes*' *furcicaudalis* Zhu & Cao, 1987

*Oreonectes furcicaudalis* Zhu & Cao, 1987: 326, figs. 5–6 (type locality: China: Guangxi: Rongshui County: an outlet of subterranean waters near Rongshui [25°04'N 109°13'E; Romero et al., 2009: 253]; holotype: IHB 83V331; compound noun, indeclinable)

**Taxonomic notes.** The original description and figure suggest this is not a species of *Oreonectes* since it has a forked (vs. rounded) caudal fin and the dorsal-fin origin clearly in front of the pelvic-fin origin (vs. conspicuously behind the pelvic-fin base).

#### Species incertae sedis

##### 10.24.3 '*Oreonectes*' *macrolepis* Huang, Du, Chen & Yang, 2009

*Oreonectes macrolepis* Huang, Du, Chen & Yang, 2009: 446, fig. 1 (type locality: China: Guangxi: Maonan County: Huanjiang City: Da Cai Xiang [24°45'41"N 108°22'08"E], Shen Long Gong He stream [a cave?], Pearl River drainage; holotype: KIZ 2008008131; compound noun, indeclinable)

**Taxonomic notes.** The original description and figure suggest this is not a species of *Oreonectes* since it has a forked (vs. rounded) caudal fin and the dorsal-fin origin clearly in front of the pelvic-fin origin (vs. conspicuously behind the pelvic-fin base).

#### Species incertae sedis

##### 10.24.4 '*Oreonectes*' *microphthalmus* Du, Chen & Yang, 2008

*Oreonectes microphthalmus* Du, Chen & Yang, 2008: 28, fig. 4 (type locality: China: Guangxi: Du'an County [24°15'N 107°05'E; Romero et al., 2009: 254]; holotype: KIZ 2004009395; also spelt *microphthalma* p. 29, as first reviser I select *microphthalmus* as correct original spelling; compound adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** The original description and figure suggest this is not a species of *Oreonectes* since it has a forked (vs. rounded) caudal fin and the dorsal-fin origin clearly in front of the pelvic-fin origin (vs. conspicuously behind the pelvic-fin base).

#### Species incertae sedis

##### 10.24.5 '*Oreonectes*' *translucens* Zhang, Zhao & Zhang, 2006

*Oreonectes translucens* Zhang, Zhao & Zhang, 2006: 612, fig. 1 (type locality: China: Guangxi: Du'an County: Xia'ao Cave near Xia'ao town [24°15'N 107°05'E; Romero et al., 2009: 255]; holotype: ASIZB 94785, Tang, Zhao & Zhang, 2012: 489, fig. 5; participle, indeclinable)

**Taxonomic notes.** The original description and figure suggest this is not a species of *Oreonectes* since it has a forked (vs. rounded) caudal fin and the dorsal-fin origin clearly in front of the pelvic-fin origin (vs. conspicuously behind the pelvic-fin base). Treated as synonym of *Triplophysa longibarbata* by Du et al. (2008: 33), treated as valid following Tang, Zhao & Zhang (2012: 486).

##### 10.24.6 *Oreonectes anophthalmus* Zheng, in Zheng, 1981

*Oreonectes anophthalmus* Zheng, in Zheng, 1981: 162, fig. 134 (type locality: China: Guangxi: Wuming County: Qi Feng Shan, Taiji Cave [23°06'N 108°40'E; Romero et al., 2009: 252]; holotype: ASIZB 77001 [Zhang, 1996: 500]; compound adjective, *-us*, *-a*, *-um*)

##### 10.24.7 *Oreonectes guananensis* Yang, Wei, Lan & Yang, 2011

*Oreonectes guananensis* Yang, Wei, Lan & Yang, 2011: 72, fig. 1 (type locality: China: Guangxi: Huanjiang County: Changmei town [24°57'19"N 108°28'14"E], Guan'an village [24°56'15"N 108°23'29"E] [Chinese text: tributary of Xiaohuanjiang, Xijiang drainage]; holotype: KIZ 201003067; adjective, *-is*, *-is*, *-e*)

##### 10.24.8 *Oreonectes luochengensis* Yang, Wu, Wei & Yang, 2011

*Oreonectes luochengensis* Yang, Wu, Wei & Yang, 2011: 209, figs. 1–2 (type locality: China: Guangxi: Luocheng County: cave approximately 2 km southeast of Tianhe town, within Tianhe drainage, itself in Xijiang drainage; holotype: KIZ 2010003073; adjective, *-is*, *-is*, *-e*)

##### 10.24.9 *Oreonectes platycephalus* Günther, 1868

*Oreonectes platycephalus* Günther, 1868: 369 (type locality: China: Hongkong Mountains; syntypes: BMNH 1848.7.12.6–7 [2], 1855.3.27.16–18 [3], 1858.9.19.155–173 [19], Eschmeyer & Fricke, 2010; compound adjective, *-us*, *-a*, *-um*)

*Homaloptera rotundicauda* Martens, 1869a: 608 (type locality: China: Hong Kong; holotype: ZMB 6842; compound noun, indeclinable)

*Oreonectes yenlingi* Lin, 1932b: 380 (type locality: China: Kwangtung [Guangdong]: Canton: White Cloud Mountain; holotype: FESC 1098; noun in genitive, indeclinable)

##### 10.24.10 *Oreonectes polystigmus* Du, Chen & Yang, 2008

*Oreonectes polystigmus* Du, Chen & Yang, 2008: 30, fig. 7 (type locality: China: Guangxi: Guilin City, Dabu village; holotype: KIZ 2001060507; compound adjective, *-us*, *-a*, *-um*)



**10.24.11 *Oreonectes retrodorsalis* Lan, Yang & Chen, 1995**

*Oreonectes retrodorsalis* Lan, Yang & Chen, 1995: 366, fig. 1 (type locality: China: Guangxi: Nandan County: Liuzhai town, Longli village, outlet of underground river, 25°10'N 107°10'E; holotype: KIZ 9110001; compound noun, indeclinable)

**10.25 *Oxynoemacheilus* Bănărescu & Nalbant, 1966**

*Oxynoemacheilus* Bănărescu & Nalbant, 1966a: 153 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Cobitis persa* Heckel, 1848b: 266, by original designation). Gender masculine.

*Nun* Bănărescu & Nalbant, in Bănărescu, Nalbant & Goren, 1982: 23 (type species: *Cobitis galilaea* Günther, 1864: 493, by original designation). Gender masculine.

*Nanoschistura* Erk'akan, Nalbant & Özeren, 2007: 82, fig. 11 (nomen nudum)

**Taxonomic notes.** A very heterogeneous (and likely polyphyletic) genus in which two main 'groups' can be recognised: species with a relatively contrasted pattern, relatively more slender body and caudal peduncle, forked caudal fin, and in some species a suborbital flap in males; and species with a stouter body and caudal peduncle, a dull brown marmorated pattern, a truncate or emarginate caudal fin, and no suborbital flap in males. This last group has often been included in *Barbatula*. Synonymy and included species partly based on Freyhof et al. (2012).

**10.25.1 *Oxynoemacheilus anatolicus* Erk'akan, Özeren & Nalbant, 2008**

*Oxynoemacheilus anatolica* Erk'akan, Özeren & Nalbant, 2008b: 117, fig. 4 (type locality: Turkey: tributary of Karamanli Reservoir, Burdur [37°24'34.33"N 29°49'54.94"E]; holotype: HUIC AKD 13; adjective, *-us, -a, -um*)

**10.25.2 *Oxynoemacheilus angorae* (Steindachner, 1897)**

*Nemacheilus Angorae* Steindachner, 1897: 693, pl. 4 fig. 4a–c (type locality: Turkey: Tabakane-Su and Tschibuk-Tschai, both in the vicinity of Angora [Ankara]; syntypes: NMW [16]; noun in genitive, indeclinable)

**10.25.3 *Oxynoemacheilus araxensis* (Bănărescu & Nalbant, in Bănărescu, Nalbant & Balik, 1978)**

*Orthrias angorae araxensis* Bănărescu & Nalbant, in Bănărescu, Nalbant & Balik, 1978: 259, fig. 2, pl. 20 figs. 1–4 (type locality: Turkey: Kandili Karassu, Upper Araxes drainage [actually Kandiili is a city on the upper Karasu, in the Tigris-Euphrates drainage; Erk'akan & Kuru, 1986a: 108]; holotype: ZMH 4827; adjective, *-is, -e*)

**10.25.4 *Oxynoemacheilus argyrogramma* (Heckel, 1848)**

*Cobitis argyrogramma* Heckel, 1848a: 239, pl. 18 fig. 3 (type locality: Syria: Aleppo; syntypes: NMW 48541 [8], 59913 [4], Eschmeyer & Fricke, 2010; compound noun, indeclinable)

*Noemacheilus insignis euphraticus* Bănărescu & Nalbant,

1964: 175, pl. 7 figs. 11–12 (type locality: Turkey: eastern Anatolia: Malay [probably Malatya]; holotype: ZMH H 1889, Wilkens, 1977: 158; adjective, *-us, -a, -um*)

*Noemacheilus tschaiyssuensis* Bănărescu & Nalbant, 1964: 177, pl. 8 fig. 13 (type locality: Turkey: Tchai-Su, between Keyson (37°30'N 37°50'E) and Gaziantep (37°00'N 37°30'E), Ceyhan drainage; holotype: BMNH 1935.9.12.57; adjective, *-is, -is, -e*)

**Taxonomic notes.** Krupp & Schneider (1991: 26) treated *C. argyrogramma* as a synonym of *O. insignis*, without discussion. Placed in *Oxynoemacheilus* by Prokofiev (2009b: 880), but also as a possible synonym of *Paracobitis tigris*. *Noemacheilus insignis euphraticus* was treated as a valid species by Nalbant & Bianco (1999: 110) and as subspecies of *O. brandtii* by Prokofiev (2009b: 880). Synonymy follows Freyhof et al. (2012).

**10.25.5 *Oxynoemacheilus banarescui* (Delmastro, 1892)**

*Orthrias brandtii banarescui* Delmastro, 1982: 53, figs. 1–3 (type locality: Turkey: Devrekani creek near Devrekani, Kocacay basin; holotype: MCSNC; noun in genitive, indeclinable)

**10.25.6 *Oxynoemacheilus bergianus* (Derzhavin, 1934)**

*Nemacheilus bergianus* Derzhavin, 1934: 109, fig. 8 (type locality: Iran: Kisum in Sefi-rud basin and Shah-rud, a tributary of Sefid-rud; syntype: ZISP 25433 [1], Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

**10.25.7 *Oxynoemacheilus brandtii* (Kessler, 1877)**

*Nemacheilus Brandtii* Kessler, 1877: 174, pl. 6 fig. 23 (type locality: Georgia: Kara River [Kura] at Tiflis [Tbilisi]; syntypes [5]: BMNH 1897.7.5.39 [1], Eschmeyer & Fricke, 2010; noun in genitive, indeclinable)

? *Nemacheilus brandtii gibbusnazus* Elanidze, 1983: 209 (type locality: Georgia: upper reaches of Alazani River at Alvani village [42°03'06"N 45°14'15"E], a left bank tributary of Kura; syntypes [60]: LU; compound noun, indeclinable)

**10.25.8 *Oxynoemacheilus bureschi* (Drensky, 1928)**

*Nemacheilus Bureschi* Drensky, 1928: 160, 179, fig. 1 (type locality: Bulgaria: Radomir District: Struma River, near Semen railway station / tributaries of Struma River in Küstendil and Dupniza districts [Kjustendil: 42°17'60"N 22°41'24"E; Dupnitsa: 42°16'12"N 23°7'12"E]; syntypes: NHMS [2]; noun in genitive, indeclinable)

*Orthrias brandtii macedonicus* Šorić, 2000: 83, fig. 1 (type locality: FYROM: steam Dosnica near Demir Kapija, Vardar drainage; holotype: BIKU; adjective, *-us, -a, -um*)

**10.25.9 *Oxynoemacheilus ceyhanensis* (Erk'akan, Nalbant & Özeren, 2007)**

*Schistura ceyhanensis* Erk'akan, Nalbant & Özeren, 2007: 80, fig. 10 (type locality: Turkey: Kahramanmaraş Province: Elbistan District: Yalak village, 38°39'N 36°37'E; holotype: HUIC CEY-1; adjective, *-is, -is, -e*)

**Taxonomic notes.** The coordinates of the type locality are the same as for the holotypes of *Barbatula paucilepis*, *Schis-*



**10.24.9** *Oreonectes platycephalus*, CMK 7207, 43.8 mm SL; China: Hongkong.

*tura evreni* and *S. seyhanicola*, although the localities are different.

**10.25.10** *Oxynoemacheilus cinicus* (Erk'akan, Nalbant & Özeren 2007)

*Barbatula cinica* Erk'akan, Nalbant & Özeren, 2007: 73, fig. 4 (type locality: Turkey: road from KütaHYa to Denizli, Cin Stream, 39°40'N 29°30'E; holotype: HUIC BM-3; adjective, *-us, -a, -um*)

**10.25.11** *Oxynoemacheilus cyri* (Berg, 1910)

*Nemachilus tigris cyri* Berg, 1910a: 0165, 0170 (type locality: Turkey: Kars Province: Okam village, Gel plain, Kura drainage; syntypes: ZISP 13291 [6+], 16885 [2], Eschmeyer & Fricke, 2010; available by indication to *Nemacheilus tigris* of Berg, 1906b: 39 [Berg, 1910a originally refers to the 1906 paper as published in 1907, but he later corrected the date as 1906; see, e.g. Berg, 1949: 878]; also in Berg, 1910b: 128, with locality as "sources of Kura River, Caucasus"; noun in genitive, indeclinable)

**Taxonomic notes.** Generic position follows Freyhof et al. (2012).

**10.25.12** *Oxynoemacheilus ercisianus* (Erk'akan & Kuru, 1986)

*Orthrias angorae ercisianus* Erk'akan & Kuru, 1986b: 161, fig. 1 (type locality: Turkey: Ercis stream, a tributary of Lake Van; holotype: HUIC; adjective, *-us, -a, -um*)

*Nemacheilus pulsiz* Krupp, 1992: 291 (type locality: Turkey: Van Gölü basin: road from Ercis to Patnos; holotype: ZMH 7995)

**Taxonomic notes.** Generic position follows Freyhof et al. (2012).

**10.25.13** *Oxynoemacheilus erdali* (Erk'akan, Nalbant & Özeren, 2007)

*Barbatula erdali* Erk'akan, Nalbant & Özeren, 2007: 78, fig. 8 (type locality: Turkey: Murat River - Agri, 39°40'N 43°44'E; holotype: HUIC F12; noun in genitive, indeclinable)

**10.25.14** *Oxynoemacheilus eregliensis* (Banarescu & Nalbant, in Banarescu, Nalbant & Balik, 1978)

*Orthrias angorae eregliensis* Bănarescu & Nalbant, in Bănarescu, Nalbant & Balik, 1978: 258, fig. 1 (type locality: Turkey: central Anatolia: Eregli; holotype: ZMH 1921; adjective, *-is, -is, -e*)

**10.25.15** *Oxynoemacheilus evreni* (Erk'akan, Nalbant & Özeren, 2007)

*Schistura evreni* Erk'akan, Nalbant & Özeren, 2007: 82,

fig. 12 (type locality: Turkey: Tekir stream, Göksu basin, 38°39'N 36°37'E; holotype: HUIC SEY-3; noun in genitive, indeclinable)

**Taxonomic notes.** In the original description, the coordinates are the same as for the holotypes of *Barbatula paucilepis*, *Schistura ceyhanensis* and *S. seyhanicola*, although the localities are different.

**10.25.16** *Oxynoemacheilus frenatus* (Heckel, 1843)

*Cobitis frenata* Heckel, 1843: 1086, pl. 12 fig. 1 (type locality: Iraq: Tigris River at Mossul; syntypes: NMW 48552 [5], ? NRM 15477 [1]; invalid lectotype designation by Nalbant & Bianco, 1999: 112; adjective, *-us, -a, -um*)

*Nemachilus frenatus afrenatus* Battalgil, 1941: 183 (type locality: Turkey: Diyarbakir [Tigris drainage; 37°55'N 40°14'E]; syntypes: LU; adjective, *-us, -a, -um*)

**Nomenclatural notes.** Nalbant & Bianco (1999: 112) wrote: "A lectotype has been selected from type material of this species [*B. frenata*] (Type locality: Mosul), housed in NMW, examined by one of us (TN). The lectotype corresponds to the description and the illustration given by Heckel (1843)". No information is provided that allows to identify this 'lectotype' among the syntypes and, therefore, the designation is not valid. The *Code* art. 74.5 requires that a lectotype must be "a particular syntype" "unambiguously selected".

**10.25.17** *Oxynoemacheilus galilaeus* (Günther, 1864)

*Cobitis galilaea* Günther, 1864: 493 (type locality: Israel: Lake of Galilee [Lake Kinneret]; holotype: BMNH 1863.11.3.8; adjective *-us, -a, -um*)

**Nomenclatural notes.** The word *galilaea* can be either the nominative singular of the noun *Galilaea* or the nominative singular feminine of the adjective *galilaeus*. Günther (1864) did not indicate whether the word was treated as a noun or an adjective and, under a blind application of *Code* art. 31.2.2, *galilaea* should then be treated as a noun in apposition and be invariable. But, art. 31.2.2 says "where it may be regarded as either and the evidence of *usage* is not decisive". While *galilaea* could be regarded grammatically as either noun or adjective, the usage (syntax and meaning) shows it is an adjective. For an author of that period, it would have been awkward to use the noun *Galilaea* in the nominative in apposition (*C. galilaea* would then translate as 'Galilee-loach'); he would have used the genitive (*C. galilaeae*, which would translate as 'loach of Galilee') or the adjective (*C. galilaea* would then translate as 'Galilean loach'). The last option would have been the best, and from external evidence we know that Günther later (1868: 355) treated the name as an adjective when he transferred the species to *Nemachilus* ("*Nemachilus galilaeus*"). Therefore the name is treated here as an adjective.

**10.25.18** *Oxynoemacheilus germencicus* (Erk'akan, Nalbant & Özeren, 2007)

*Barbatula germencica* Erk'akan, Nalbant & Özeren, 2007: 70, fig. 2 (type locality: Turkey: Aydin Province: "Germencik 15<sup>th</sup> km", 37°38'N 27°28'E; holotype: HUIC BM-1; adjective, *-us, -a, -um*)



**10.25.8** *Oxynoemacheilus bureschi*, CMK 17403, 58.5 mm SL; FYR of Macedonia: Vardar drainage.



**10.25.7** *Oxynoemacheilus brandti*, CMK 19463, 45.4 mm SL; Turkey: Arax drainage.

**10.25.19** *Oxynoemacheilus hamwii* (Krupp & Schneider, 1991)

*Nemacheilus hamwii* Krupp & Schneider, 1991: 24, figs. 1–5 (type locality: Syria: Nahr Afrin in Afrin, 36°31'N 36°52'E; holotype: SMF 17398)

**10.25.20** *Oxynoemacheilus insignis* (Heckel, 1843)

*Cobitis insignis* Heckel, 1843: 1087, pl. 12 fig. 2 (type locality: Syria: Damascus [33°30'N 36°20'E]; syntypes: NMW [4], SMF 166 [2], Eschmeyer & Fricke, 2010; adjective, *-is, -is, -e*)

*Noemacheilus angorae jordanicus* Bănărescu & Nalbant, 1966b: 329, fig. 1, pl. 5 fig. 1 (type locality: Jordan: Wadi Kufrinja, east bank of Jordan River, 1.5 km upstream of its delta [32°16'N 35°34'E]; holotype: ZMH H 2738, Wilkens, 1977: 158; adjective, *-us, -a, -um*)

? *Nemacheilus insignis tortonesei* Bănărescu & Nalbant, 1966b: 331, figs. 2–3, pl. 4 figs. 2–4 (type locality: Jordan: springs of Wadi-Um-ed-Dananir, tributary of Zerqua, about 25 km north of Amman, Jordan basin [about 32°04'N 35°50'E]; holotype: ZMH H 2742, Wilkens, 1977: 158; noun in genitive, indeclinable)

*Orthrias dori* Goren & Bănărescu, in Bănărescu, Nalbant & Goren, 1982: 12, figs. 9–13 (type locality: Israel: Nahal Malkoah, Bet She'an Valley [about 32°25'N 35°30'E]; holotype: TAU 8278; noun in genitive, indeclinable)

*Orthrias pantheroides* Goren & Nalbant, in Bănărescu, Nalbant & Goren, 1982: 16, figs. 14–18, pl. 2 figs. 9–10 (type locality: Israel: Tanuria Springs, Golan Heights [32°58'N 35°48'E]; holotype: TAU 8292)

*Orthrias israeliticus* Goren & Nalbant, in Bănărescu, Nalbant & Goren, 1982: 19, figs. 19–23 (type locality: Israel: 'Ein Rewaia, Bet She'an Valley [32°28'N 35°28'E]; holotype: TAU 3073; adjective, *-us, -a, -um*)

**Taxonomic notes.** Synonymy follows Krupp & Schneider (1989: 380) and Freyhof et al. (2012).

**10.25.21** *Oxynoemacheilus kaynaki* Erk'akan, Özeren & Nalbant, 2008

*Oxynoemacheilus kaynaki* Erk'akan, Özeren & Nalbant,



**10.25.11** *Oxynoemacheilus cyri*, CMK 18530, 63.5 mm SL; Turkey: Arax drainage.



**10.25.12** *Oxynoemacheilus ercisianus*, CMK 22393, 71.3 mm SL; Turkey: Lake Van basin.

2008b: 115, fig. 1 (type locality: Turkey: Goksu River, Nurhak, Elbistan, Euphrates drainage; 37°53'22.82"N 37°22'19.99"E; holotype: HUIC F-20; noun in genitive, indeclinable)

**10.25.22** *Oxynoemacheilus kermanshahensis* (Banărescu & Nalbant, 1966)

*Noemacheilus kermanshahensis* Bănărescu & Nalbant, 1966a: 151, figs. 1–2, pl. 19 fig. 2 (type locality: Iran: Kermanshah in Karun River drainage, a tributary of lower Euphrates [Tigris drainage: stream Quareh Su at Kermanshah, a tributary of Shimarek River, itself a tributary of Karkheh; Nalbant & Bianco, 1999: 110; Karkheh is an endorheic drainage; 32°29'N 48°07'E]; holotype: ZMUC P 2787; adjective, *-is, -is, -e*)

**10.25.23** *Oxynoemacheilus kiabii* Golzarianpour, Abdoli & Freyhof, 2011

*Oxynoemacheilus kiabii* Golzarianpour, Abdoli & Freyhof, 2011: 202, figs. 1–3 (type locality: Iran: Hamadan Province: stream Dehnoo, 3 km west of Nahavand on road from Nahavand to Sarab-e-Gamasiab, 34°10'N 48°24'E; holotype: ZFMK 41847; noun in genitive, indeclinable)

**10.25.24** *Oxynoemacheilus kosswigi* (Erk'akan & Kuru, 1986)

*Orthrias angorae kosswigi* Erk'akan & Kuru, 1986a: 107, fig. 1 (type locality: Turkey: Sivas Province: Yildiz çayı, Yildizeli [Kizil Irmak drainage, 39°52'N 36°37'E]; holotype: HUIC; noun in genitive, indeclinable)



**10.25.25 *Oxynoemacheilus lenkoranensis* (Abdurakhmanov, 1962)**

? *Nemacheilus bergi* Gratsianov, 1907: 163, 167 (based on *Nemachilus* spec. ? of Berg, 1899: 30, 72; type locality: Azerbaijan: Akstapha River [Akstafa; Aghstev, 41°15'N 45°26'E], right tributary of Kura River, Caspian basin; syntypes [2]: ZMT; noun in genitive, indeclinable)

*Nemacheilus angorae lenkoranensis* Abdurakhmanov, 1962: 285, fig. 50 (type locality: Azerbaidjan: Lenkoran; holotype: LU [? Baku Institute of Zoology]; adjective, *-is, -is, -e*)

? *Nemachilus angorae alasanicus* Elanidze, 1983: 204 (type locality: Georgia: upper reaches of Alazani River at Alvani village [42°03'06"N 45°14'15"E], a left bank tributary of Kura; syntypes [54]: LU; adjective, *-us, -a, -um*)

**10.25.26 *Oxynoemacheilus leontinae* (Lortet, 1883)**

*Nemachilus leontinae* Lortet, 1883: 171, pl. 18 fig. 1 (type locality: Israel: Lake of Tiberias [Lake Kinneret]; lectotype: MGHNL 3665, designated by Krupp & Schneider, 1989: 393; noun in genitive, indeclinable)

**Taxonomic notes.** Treated as a synonym of *O. panthera* by Prokofiev (2009b: 880) and Bănărescu et al. (1982: 16).

**10.25.27 *Oxynoemacheilus mediterraneus* (Erk'akan, Nalbant & Özeren, 2007)**

*Barbatula mediterraneus* Erk'akan, Nalbant & Özeren, 2007: 74, fig. 5 (type locality: Turkey: Egirdir Province: Candir, Aksu Stream, 37°38'N 30°31'E; holotype: HUIC AKD-2a; adjective, *-us, -a, -um*)

**Taxonomic notes.** Coordinates possibly erroneous; they are identical to those of the type locality of *Seminemacheilus ispartensis*, which has different locality data.

**10.25.28 *Oxynoemacheilus merga* (Krynicky, in Nordmann, 1840)**

*Cobitis merga* Krynicky, in Nordmann, 1840: 470 (type locality: Russia: Stavropol Krai: North Caucasian Federal District: Podcoumok River near de Paitigorsk [Podkumok, tributary of Kuman, near Pyatigorsk; 44°2'0"N 43°03'00"E]; types: LU; noun in apposition, indeclinable)

*Cobitis nurga* Valenciennes, in Cuvier & Valenciennes, 1846: 24 (unjustified emendation of *Cobitis merga* Krynicky, 1840: 470)

*Nemacheilus terekensis* Gratzianow, 1907: 163, 167 (type locality: Russia: North Osetia-Alanya: Terek River at Vladjkavkaz [Vladikavkas]; syntypes: ZMMU P-3318 [24], Vasilieva et al., in Pavlinov & Borissenko, 2001: 25; adjective, *-is, -is, -e*)

**10.25.29 *Oxynoemacheilus namiri* (Krupp & Schneider, 1991)**

*Nemacheilus namiri* Krupp & Schneider, 1991: 28, figs. 7–13 (type locality: Syria: Orontes River at Jisr ash-Shughur, 35°48'N 36°19'E; holotype: SMF 17837; noun in apposition, indeclinable)

**Taxonomic notes.** Generic position follows Freyhof et al. (2012).

**10.25.30 '*Oxynoemacheilus*' *oxianus* (Kessler, 1877)**

*Nemachilus Brandtii* var. *oxiana* Kessler, 1877: 177 (type locality: Uzbekistan: lower reaches of Amu-Darya; holotype: ZISP; adjective, *-us, -a, -um*)

*Nemachilus flavus* Berg, 1905: 193, pl. 6 figs. 3–5 (type locality: Uzbekistan: Amu-Darya below Chardzkui [Chardjuj, Chardzhou, now Türkmenabat, Turkmenistan; 39°05'00"N 63°34'00"E]; lectotype: ZISP 13282, designated by Berg, 1949: 879 [caption of fig. 625], or if not valid from Russian text, from translation in Berg, 1965: 444; adjective, *-us, -a, -um*)

*Nemacheilus oxianus* natio *zeravschani* Turdakov, 1936: 199 (an infrasubspecific name, not available; locality: Uzbekistan: Zeravshan drainage: Ak-Darya River)

**Taxonomic notes.** Apparently represents an unnamed genus (see Prokofiev, 2009b: 896).

**10.25.31 *Oxynoemacheilus panthera* (Heckel, 1843)**

*Cobitis panthera* Heckel, 1843: 1087, pl. 12 fig. 2 (type locality: Syria: Damascus [33°30'N 36°20'E]; syntypes: NMW 48565 [3], 15478 [1]; noun in apposition, indeclinable)

*Cobitis leopardus* Heckel, 1843: 1089 (type locality: Syria: Damascus [33°30'N 36°20'E]; holotype: NMW 48559; simultaneous subjective synonym of *Cobitis panthera* Heckel, 1843: 1087; first reviser [Günther, 1868: 355] gave precedence to *C. panthera*; also in Heckel, 1848a: 241, pl. 18, fig. 4; noun in apposition, indeclinable)

**10.25.32 *Oxynoemacheilus paucilepis* (Erk'akan, Nalbant & Özeren, 2007)**

*Barbatula paucilepis* Erk'akan, Nalbant & Özeren, 2007: 79, fig. 9 (type locality: Turkey: Sivas Province: Mancılık stream, Gürün, 38°39'N 37°38'E; holotype: HUIC F2; also spelt *paucillepis* on p. 70, fig. 1, an obvious inadvertent error, thus incorrect original spelling [*Code* art. 32.5.1]; compound noun, indeclinable)

**Taxonomic notes.** In the original description, this species is said to be "close" to and compared with *Paracobitis tigris* but not with other species of *Barbatula*. The coordinates of the type locality are the same as for the holotypes of *Schistura ceyhanensis*, *S. evreni* and *S. seyhanicola*, although they have different locality data. Generic position follows Freyhof et al. (2012).

**10.25.33 *Oxynoemacheilus persa* (Heckel, 1848)**

*Cobitis persa* Heckel, 1848b: 266 (type locality: Iran: springs around Persepolis [Marvdasht Plain, about 70 km northeast of Shiraz; 29°56'04"N 52°53'29"E]; holotype: NMW 48567, Eschmeyer & Fricke, 2010; noun in apposition, indeclinable)

*Orthrias farsicus* Nalbant & Bianco, 1999: 111, fig. 6 (type locality: Iran: Kor River near Persepolis [Marvdasht Plain, about 70 km northeast of Shiraz; 29°56'04"N 52°53'29"E]; holotype: IZA 7823; adjective, *-us, -a, -um*)

**Taxonomic notes.** Synonymy follows Freyhof et al. (2012).

**10.25.34 *Oxynoemacheilus phoxinoides* (Erk'akan, Nalbant & Özeren, 2007)**

*Barbatula phoxinoides* Erk'akan, Nalbant & Özeren, 2007: 75, fig. 6 (type locality: Turkey: Iznik Province: 40°41'N

29°30'E; holotype: HUIC MAR-7g; adjective, indeclinable)

**10.25.35 *Oxynoemacheilus pindus* (Economidis, 2005)**

*Orthrias pindus* Economidis, 1991: 26, p. 42 (fig. 4), 1992: 75, 49 (nomen nudum; locality: Greece: Epiros: Aaos River drainage)

*Barbatula pindus* Economidis, 2005: 67, figs. 1–2 (type locality: Greece: Epiros: Aaos drainage, stream Sarantoporos near village Drosopygi; holotype: DZAUT 1977-215a; noun in apposition, indeclinable)

**10.25.36 *Oxynoemacheilus samanticus* (Banareescu & Nalbant, in Banareescu, Nalbant & Balik, 1978)**

*Orthrias brandti samantica* Bănărescu & Nalbant, in Bănărescu, Nalbant & Balik, 1978: 263, fig. 4. (type locality: Turkey: tributary of Samanti, between Pinarbasi and Sarizi, Seyhan drainage; holotype: ZMH 3633; adjective, *-us, -a, -um*)

**10.25.37 *Oxynoemacheilus seyhanensis* (Banareescu, 1968)**

*Noemacheilus tigris seyhanensis* Bănărescu, 1968: 355, pl. 3 figs. 2–3 (type locality: Turkey: between Viransehir and Kazancik, upper Seyhan drainage; holotype: ZMH H 4014, Wilkens, 1977: 159; adjective, *-is, -is, -e*)

**Taxonomic notes.** Generic position and validity follow Freyhof et al. (2012).

**10.25.38 *Oxynoemacheilus seyhanicola* (Erk'akan, Nalbant & Özeren, 2007)**

*Schistura seyhanicola* Erk'akan, Nalbant & Özeren, 2007: 81, fig. 11 (type locality: Turkey: dam bridge near Adana, Seyhan drainage, 38°39'N 36°37'E; holotype: HUIC SEY-1; also spelt *seyhanicolo* on p. 82, fig. 11, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; noun in apposition, indeclinable)

**Taxonomic notes.** The coordinates of the type locality are the same as for the holotypes of *Barbatula paucilepis*, *Schistura evreni* and *S. ceyhanensis*, although the localities are different.

**Nomenclatural notes.** Words ending in *-cola* and meaning 'inhabitant of' are nouns and indeclinable.

**10.25.39 *Oxynoemacheilus simavicus* (Balik & Banareescu, in Banareescu, Nalbant & Balik, 1978)**

*Orthrias brandti simavica* Balik & Bănărescu, in Bănărescu, Nalbant & Balik, 1978: 261, fig. 3 (type locality: Turkey: "Simav creek, Kütahya" [seems impossible; Simav stream, flows through Balikesir (39°39'N 27°53'E), joins Koca and flows to Sea of Marmara; Kütahya (39°25'N 29°56'E) is in Sakarya drainage, which flows to Black Sea; see Stoumboudi et al., 2006: 143]; holotype: ISBB 2976; adjective, *-us, -a, -um*)

**10.25.40 *Oxynoemacheilus theophilii* Stoumboudi, Kottelat & Barbieri, 2006**

*Oxynoemacheilus theophilii* Stoumboudi, Kottelat & Barbieri, 2006: 140, fig. 8 (type locality: Greece: Lesbos Island: Tsingou springs, in Evergetoulas drainage; holotype: MHNG 2679.009; noun in genitive, indeclinable)

*Barbatula bergamensis* Erk'akan, Nalbant & Özeren, 2007: 71, fig. 3 (type locality: Turkey: Bergama Province: Kozak (Madra) creek, 39°40'N 27°28'E; holotype: HUIC KE-1; adjective, *-is, -is, -e*)

**10.25.41 *Oxynoemacheilus tigris* (Heckel, 1843)**

*Cobitis tigris* Heckel, 1843: 1088, pl. 12 fig. 4 (type locality: Syria: Kueik stream near Aleppo; syntypes: NMW 48441 [2], 49444 [2], 49445 [4], 49446 [2], SMF 405 [3], Eschmeyer & Fricke, 2010; noun in apposition, indeclinable)

**Taxonomic notes.** Generic position follows Freyhof et al. (2012).

**10.25.42 *Oxynoemacheilus tongiorgii* (Nalbant & Bianco, 1999)**

*Seminemacheilus tongiorgii* Nalbant & Bianco, 1999: 113, fig. 11 (type locality: Iran: large spring near Darab [28°44'56"N 54°33'05"E], Kul River drainage; holotype: IZA 801; noun in genitive, indeclinable)

**10.26 *Paracobitis* Bleeker, 1863**

*Paracobitis* Bleeker, 1863a: 37 (type species: *Cobitis malapterura* Valenciennes, in Cuvier & Valenciennes, 1846: 88, by original designation; also in Bleeker, 1863c: 3). Gender feminine.

*Pseudodon* Kessler, 1874: 40 (type species: *Cobitis longicauda* Kessler, 1872: 65, by monotypy; junior homonym of *Pseudodon* Gould, 1845: 161 in Mollusca). Gender masculine.

*Adiposia* Annandale & Hora, 1920: 182 (type species: *Noemacheilus macmahoni* Chaudhuri, 1910b: 341, by original designation). Gender feminine.

**Taxonomic notes.** See *Homatula* for the Chinese species usually placed in *Paracobitis*.

**10.26.1 *Paracobitis boutanensis* (M'Clelland & Griffith, in M'Clelland, 1842)**

*Cobitis boutanensis* M'Clelland & Griffith, in M'Clelland, 1842: 586 (type locality: "Boutan, on the Mishmee mountains" [erroneous, Bolas Pass, Helmand drainage, according to Hora, 1928: 482; Pakistan: Balochistan: Bholan or Bolan Pass, 28°01'N 67°04'E]; holotype: BMNH 1860.3.14.775; adjective, *-is, -is, -e*)

**Taxonomic notes.** M'Clelland indicated the type locality as 'Boutan, on the Mishmee mountains'. Hora (1928: 482) corrected it as "Bolas Pass, Helmand". It seems to be Bolan or Bohlan Pass, see above. Griffith (in M'Clelland, 1842: 562) listed the species he obtained in the rivers of Bolan pass; the list does not mention loaches but it is probably not exhaustive.

**10.26.2 *Paracobitis ghazniensis* (Banareescu & Nalbant, 1966)**

*Noemacheilus ghazniensis* Bănărescu & Nalbant, 1966a: 162, fig. 7, pl. 20 figs. 4–5 (type locality: East Afghanistan: Ghazni [33°33'N 68°26'E], on Ghazni River, tributary of Ab-i-istadah Lake, Helmand drainage; holotype: BMNH 1944.4.1.1; adjective, *-is, -is, -e*)



**10.26.3** *Paracobitis iranica*, CMK 21898, 60.8 mm SL; Iran: Qomtra.

**10.26.3 *Paracobitis iranica* Nalbant & Bianco, 1999**

*Paracobitis iranica* Nalbant & Bianco, 1999: 114, fig. 13 (type locality: Iran: Qom River near Qom City [34°38'N 50°53'E]; holotype: IZA 7831; adjective, *-us*, *-a*, *-um*)

**10.26.4 *Paracobitis longicauda* (Kessler)**

*Cobitis longicauda* Kessler, 1872: 65, pl. 11 figs. 30–31 (type locality: Uzbekistan: Ak-Darya [tributary of Zeravshan]; holotype: ZISP 2686; compound noun, indeclinable)

**Taxonomic notes.** Treated as valid species by Prokofiev (2009b: 888).

**10.26.5 *Paracobitis malapterura* (Valenciennes, in Cuvier & Valenciennes, 1846)**

*Cobitis malapterura* Valenciennes, in Cuvier & Valenciennes, 1846: 88, pl. 523 (type locality: "sent from Syria"; syntypes: MNHN 3962 [1], B-3070 [1], Bertin & Estève, 1948: 96; Eschmeyer & Fricke, 2010; compound adjective, *-us*, *-a*, *-um* [as shown in French translation by Valenciennes])

**Taxonomic notes.** The type locality is usually listed as "Syria". But Valenciennes explicitly mentioned that "Mr Aucher Eloy (1792–1838) has sent, from Syria, a loach" and not that the loach was from Syria. Aucher Eloy was a botanist who travelled throughout most of Southwest Asia and sold natural history specimens. The material was apparently received in Paris in 1840 (after his death) and his last travels have been especially in Iran and as far east as Balochistan. He does not seem to have travelled much in Syria (Aucher Eloy, 1843).

Nalbant & Bianco (1999: 114) listed and figured a specimen in MNHN (no catalogue number listed) as holotype of *Cobitis malapterura*. It is nowhere stated in the original description that Valenciennes based his description on a single specimen (his use of singular is because he constantly referred to the species, not to individuals). Thus there is no reason not to consider the two specimens MNHN 3962 and B-3070 as syntypes.

Figure 12 in Nalbant & Bianco (1999: 114) shows both a photograph of the "holotype" and the drawing of the same specimen in Cuvier & Valenciennes (1846: pl. 523). They disagree in showing the eye more backwards and protruding over the dorsal head profile in the drawing (vs. not in the photograph), the dorsal-fin origin clearly closer to the base of the caudal fin than to the tip of the snout (vs. about halfway), differences in the shape of the adipose crest, and the shape of the belly in the drawing is a free reconstruction.

**10.26.6 *Paracobitis rhadinaea* (Regan, 1906)**

*Nemachilus rhadinaeus* Regan, 1906a: 8 (type locality: Afghanistan: affluents of Helmand River; syntypes: BMNH



**10.27.1** *Paranemachilus genilepis*, ASIZB 60382, 79.0 mm SL, holotype; China: Guangxi: Changping. (Photograph by Zhao Ya-Hui; caudal peduncle retouched by author).

1905.11.29.28–29 [2], ZSI F 1240/1 [1], Menon & Yazdani, 1968: 120; adjective, *-us*, *-a*, *-um*)

*Nemachilus macmahoni* Chaudhuri, 1910b: 341 (type locality: Afghanistan: affluents of Helmand River; holotype: ZSI F 1222/1, Menon & Yazdani, 1968: 120; noun in genitive, indeclinable)

**Taxonomic notes.** Both *N. rhadineus* and *N. macmahoni* have been collected by the Seistan Arbitration Commission and have no other locality information besides "affluents of the Helmand". All headwaters of Helmand River seem to be in Afghanistan, although the BMNH register indicates the locality of BMNH 1905.11.29.28–29 as Iran.

**10.26.7 *Paracobitis smithi* (Greenwood, 1976)**

*Noemacheilus smithi* Greenwood, 1976: 130, fig. 1 (type locality: Iran: Zagros Mountains: Kaaje-Ru [33°05'N 48°36'E] near Baq-e-Loveh Oasis; holotype: BMNH 1976.6.28.1; noun in genitive, indeclinable)

**Taxonomic notes.** I tentatively follow Nalbant & Bianco (1999: 115) who placed this species in *Paracobitis*, but without discussion.

**10.26.8 *Paracobitis vignai* Nalbant & Bianco, 1999**

*Paracobitis vignai* Nalbant & Bianco, 1999: 115, figs. 14 (type locality: Iran: Seistan: Nahr-Taheri, Zabol [31°01'48"N 61°29'42"E]; holotype: IZA 7838; noun in genitive, indeclinable)

**10.27 *Paranemachilus* Zhu, 1983**

*Paranemachilus* Zhu, 1983: 311 (type species: *Paranemachilus genilepis* Zhu, 1983: 311, by original designation). Gender masculine.

**Nomenclatural notes.** Contrary to statement in Romero et al. (2009: 257), the original spelling *Paranemachilus* must be retained. The spelling *Paranemachilus* is used five times in the paper and this cannot be called a lapsus or an inadvertent error in the sense of *Code* art. 32.5.1. Also, neither *Nemacheilus* nor *Nemachilus* is used in the paper and comment that the spelling *Paranemacheilus* was intended is not supported; it is also irrelevant in regard to the *Code*.

**10.27.1 *Paranemachilus genilepis* Zhu, 1983**

*Paranemachilus genilepis* Zhu, 1983: 311, figs. 1–4 (type locality: China: Guangxi: Fusui County: subterranean stream in Changping [22°42'N 107°53'E; Romero et al., 2009: 257]; holotype: ASIZB 60382 [ex 790002]; compound noun, indeclinable)





**10.28.2** *Paraschistura bampurensis*, CMK 21897, 42.6 mm SL; Iran: Hormuzgan.

**10.28** *Paraschistura* Prokofiev, 2009

*Paraschistura* Prokofiev, 2009b: 891 (type species: *Nemachilus sargadensis* Nikolski, 1900: 415, by original designation). Gender feminine.

**10.28.1** *Paraschistura alepidota* (Mirza & Banareescu, in Mirza, Banareescu & Nalbant, 1970)

*Noemacheilus rupecola alepidotus* Mirza & Bănărescu, in Mirza, Bănărescu & Nalbant, 1970: 55, fig. 10 (type locality: Pakistan: Madyan River, Swat drainage [Madyan town: 35°08'25"N 72°32'14"E]; holotype: ISBB 1356; adjective, *-us, -a, -um*)

**10.28.2** *Paraschistura bampurenris* (Nikolski, 1900)

*Nemacheilus bampurensis* Nikolski, 1900: 414 (type locality: Southeastern Iran: Sistan and Baluchestan Province: Kjuagun and Kashkin, near Bazman [village, maybe at 27°39'30"N 59°58'30"E, near volcano Kuh-e Bazman, 28°07'N 60°00'E], Bampur drainage, Jaz Murian endorheic basin; syntypes: ZISP 11698 [6], 11699 [6]; adjective, *-is, -is, -e*)

**10.28.3** *Paraschistura chrysicristinae* (Nalbant, 1998)

*Schistura chrysicristinae* Nalbant, 1998: 372, fig. 1 (type locality: Turkey: Batman River (tributary of upper Tigris) at Catalköprü, about 18 km east of Silvan; holotype: ISBB uncat.; noun in genitive, indeclinable)

**Taxonomic notes.** Generic placement based on geographic location and advice from J. Freyhof (pers. comm.).

**10.28.4** *Paraschistura kessleri* (Günther, 1889)

*Nemachilus kessleri* Günther, 1889b: 109 (type locality: Afghanistan: Nushki [in fact Pakistan: Balochistan; 29°33'N 66°01'E, Pishin Lora endorheic basin]; syntypes [8]: BMNH 1886.9.21.177–180 [4], ZSI 11487–11490 [3]; noun in genitive, indeclinable)

**10.28.5** *Paraschistura lepidocaulis* (Mirza & Nalbant, in Mirza, Nalbant & Banareescu, 1981)

*Schistura kessleri lepidocaulis* Mirza & Nalbant, in Mirza, Nalbant & Bănărescu, 1981: 110, figs. 9–13 (type locality: Pakistan: Kurram Tribal Agency: Parachinar [33°53'57"N 70°06'03"E], Kurram River drainage, a right tributary of Indus; holotype: ISBB 3366; compound noun, indeclinable)

**Taxonomic notes.** Usually listed as a synonym or subspecies of *S. kessleri*, which geographical distance and isolation in widely disjunct basins makes unlikely.



**10.29.2** *Petruichthys brevis*, NRM 28473, 28.6 mm SL (male, above) and 32.1 mm SL (female, below); Myanmar: Inlé Lake.

**10.28.6** *Paraschistura lindbergi* (Banareescu & Mirza, 1965)

*Noemacheilus lindbergi* Bănărescu & Mirza, 1965: 265, figs. 1–4 (type locality: Afghanistan: Siaw, between Farah [32°20'37"N 62°07'10"E] and Dilaram [Delaram; 32°09'50"N 63°25'51"E], at 780 m, in a rivulet in Farah Rud drainage, Helmand basin; holotype: HJ 1572 [lost, Golani, 2006: 23]; noun in genitive, indeclinable)

*Nemacheilus lindbergi haarlovi* Bănărescu & Nalbant, 1966a: 176, figs. 14–15, pl. 21 fig. 6 (type locality: Afghanistan: Kandahar Province: Pirzada [Khugiana; 31°38'18"N 65°07'30"E], West of Kandahar, Helmand basin; holotype ZMUC P 27111 [ex 2811]; noun in genitive, indeclinable)

**Taxonomic notes.** *Nemacheilus lindbergi haarlovi* is sometimes listed as a synonym or subspecies of *S. kessleri*, which geographical distance and isolation in widely disjunct endorheic basins makes very unlikely.

**10.28.7** *Paraschistura microlabra* (Mirza & Nalbant, in Mirza, Nalbant & Banareescu, 1981)

*Schistura microlabra* Mirza & Nalbant, in Mirza, Nalbant & Bănărescu, 1981: 126, figs. 56–60 (type locality: Pakistan: Ali Masjid, Khyber Pass, Kabul River drainage; holotype: ISBB 3869; compound noun, indeclinable)

**10.28.8** *Paraschistura naseeri* (Ahmad & Mirza, 1963)

*Noemacheilus punjabensis naseeri* Ahmad & Mirza, 1963: 78, figs. 3–4 (type locality: Pakistan: Swat State: Madyan stream at Madyan [35°08'25"N 72°32'14"E]; syntypes [5]: LU; noun in genitive, indeclinable)

**10.28.9** *Paraschistura nielsenii* (Nalbant & Bianco, 1999)

*Schistura nielsenii* Nalbant & Bianco, 1999: 119, fig. 22 (type locality: Iran: Shah Bazar; holotype: ZMC P.27109; noun in genitive, indeclinable)

**Taxonomic notes.** Generic placement follows J. Freyhof (pers. comm.).

**10.28.10** *Paraschistura pakistanica* (Mirza & Banareescu, in Mirza, Banareescu & Nalbant, 1969)

*Noemacheilus pakistanicus* Mirza & Bănărescu, in Mirza, Bănărescu & Nalbant, 1969: 87, pl. 1 figs. 1–3 (type local-

ity: Pakistan: Hindubagh, Zhob River drainage; holotype: ISBB 2005; adjective, *-us*, *-a*, *-um*)

#### 10.28.11 *Paraschistura prashari* (Hora, 1933)

*Nemachilus prashari* Hora, 1933: 189, pl. 5 figs. 1–2 (type locality: Pakistan: Northwest Frontier Province [Khyber Pakhtunkhwa Prov.]: spring 300 yards north of Kohat City; holotype: ZSI F 10719/1; noun in genitive, indeclinable)

#### 10.28.12 *Paraschistura punjabensis* (Hora, 1923)

*Nemachilus punjabensis* Hora, 1923: 384, figs. 2–3 (type locality: Pakistan: Punjab Province: Jhelum District: Pind Dadan Khan Tehsil [district; Pind Dadan Khan town: 32°35'11"N 73°02'42"E]; syntypes: ZSI F10348/1 [6], Eschmeyer & Fricke, 2010; adjective, *-is*, *-is*, *-e*)

? *Noemacheilus sargadensis paludani* Bănărescu & Nalbant, 1966a: 167, figs. 9–10, pl. 21 figs. 1–2 (type locality: Northeastern Afghanistan: small tributary of Pech River [Kabul River drainage] at Gusalek; holotype: ZMUC P 27101 [ex 2801]; noun in genitive, indeclinable)

*Noemacheilus alepidotus nalbanti* Bănărescu & Mirza, 1972: 121, pl. 1 figs. 1–2 (type locality: Pakistan: Rawlakot, Azad Kashmir, Jhelum River drainage; holotype: ISBB 2490; noun in genitive, indeclinable)

**Taxonomic notes.** Synonymy follows Kullander et al. (1999: 137).

**Nomenclatural notes.** Menon & Yazdani (1968: 124) listed 6 syntypes of *N. punjabensis* (ZSI F 10348) collected on 16 July 1922 by Hora in 'stream below Watta Hills, salt range, Punjab'. Although this locality data is not in agreement with Hora's original data, they do not provide explanation.

#### 10.28.13 *Paraschistura sargadensis* (Nikolski, 1900)

*Nemachilus sargadensis* Nikolski, 1900: 415 (type locality: Persia: Sija-Rischan in Sargado [according to Berg, 1949: 876: Iran: Sargad Country in Kirman, near Kuh-i-tuftan volcano [Taftan, 28°36'N 61°8'E; Sarhad Plateau]; syntypes: ZISP 11700 [31], Eschmeyer & Fricke, 2010; adjective, *-is*, *-is*, *-e*)

? *Nemachilus turkmenicus* Berg, 1932a: 149, fig. 1 (type locality: Turkmenistan: creek near railway station Gjaurs [Gevers, Gäwers; 37°47'46"N 58°43'43"E] [Kelte-China stream, Cherokh, Eschmeyer & Fricke, 2010 [Kelte-Çynar]]; syntypes: ZISP 11064 [3]; adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** Geography suggests that *N. turkmenicus* is unlikely to be a synonym of *S. sargadensis*.

#### 10.28.14 *Paraschistura turcomana* (Nikolski, 1947)

*Nemachilus kessleri turcomanus* Nikolski, 1947: 32, fig. 3 (type locality: Turkmenistan: Murgab River drainage: Mary Province: Kushka River near Kushka city [35°16'N 62°20'E] / Kushka River near Margunovskiy [Merv, Margiana, Mary, 37°35'45"N 61°49'30"E] [Murgab River: endorheic basin earlier connected with Amu Darya]; syntypes: ZMMU P-5734 [3], P-5735 [1], Vasilieva et al., in Pavlinov & Borissenko, 2001: 27; adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** Usually listed as a subspecies or synonym of *S. kessleri*, which geographical distance and isolation in

widely disjunct endorheic basins, on either side of the Hindu Kush range, make unlikely.

#### 10.29 *Petruichthys* Menon, 1987

*Petruichthys* Menon, 1987: 181 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemachilus brevis* Boulenger, 1893: 203, by original designation). Gender masculine.

**Taxonomic notes.** See comments under *Yunnanilus*.

#### Species inquirenda et incertae sedis

##### 10.29.1 *Petruichthys salmonides* (Chaudhuri, 1911)

*Nemachilus salmonides* Chaudhuri, 1911: 18, pl. 1 figs. 3–3a (type locality: China: Yunnan: Tengyueh district: Mongpan [Mengban, 23°07'N 100°23'E, Mekong drainage; Coggin Brown, 1910]; holotype: ZSI F 4732/1, Menon & Yazdani, 1968: 124; adjective, indeclinable)

##### 10.29.2 *Petruichthys brevis* (Boulenger, 1893)

*Nemachilus brevis* Boulenger, 1893: 203 (type locality: Burma: Southern Shan States: Inlé Lake, Fort Stedman; lectotype: BMNH 1893.6.30.83, designated by Kottelat & Chu, 1988a: 79; adjective, *-is*, *-is*, *-e*)

#### 10.30 *Physoschistura* Banarescu & Nalbant, in Singh, Sen, Banarescu & Nalbant, 1982

*Physoschistura* Bănărescu & Nalbant, in Singh, Sen, Bănărescu & Nalbant, 1982: 208 (type species: *Nemacheilus brunneanus* Annandale, 1918: 45, by original designation). Gender feminine.

##### 10.30.1 *Physoschistura brunneana* (Annandale, 1918)

*Nemachilus brunneanus* Annandale, 1918: 44, pl. 2 fig. 2 (type locality: Burma: Yawnghe Valley and Inlé Lake; holotype: ZSI F 9406/1; adjective, *-us*, *-a*, *-um*)

##### 10.30.2 *Physoschistura chindwinensis* Lokeshwor & Vishwanath, 2012

*Physoschistura chindwinensis* Lokeshwor & Vishwanath, 2012a: 231, fig. 1 (India: Manipur: Lokchao River at Moreh [Irrawaddy drainage]; holotype: MUMF 11077)

##### 10.30.3 *Physoschistura elongata* Sen & Nalbant, in Singh, Sen, Banarescu & Nalbant, 1982

*Physoschistura elongata* Sen & Nalbant, in Singh, Sen, Bănărescu & Nalbant, 1982: 211, figs. 18–21 (type locality: India: Meghalaya: Barapani, 20 km from Shillong; holotype: ZSI/ERS 3063; junior secondary homonym of *Aborichthys elongatus* Hora, 1921c: 735 when both placed in *Nemacheilus* by Menon, 1987: 131, 184; junior secondary homonym of *Nemachilus kungessanus elongatus* Herzenstein, 1888: 44, when placed in *Nemacheilus* by Menon, 1987: 131; reinstated according to Code art. 59.4; adjective, *-us*, *-a*, *-um*)

*Noemacheilus barapaniensis* Menon, 1987: 131 (replacement name for *Physoschistura elongata* Sen & Nalbant, in Singh, Sen, Bănărescu & Nalbant, 1982: 211; adjective, *-is*, *-is*, *-e*)

**10.30.4 *Physoschistura pseudobrunneana* Kottelat, 1990**

*Physoschistura pseudobrunneana* Kottelat, 1990a: 81, fig. 49 (type locality: Thailand: Chiang Rai Province: Nam Mae Lao at km 62 and 65 along road from Chiang Mai to Chiang Rai; holotype: ZRC 38473 [ex ZSM 27471]; adjective, *-us*, *-a*, *-um*)

**10.30.5 *Physoschistura raoi* (Hora, 1929)**

*Nemachilus raoe* Hora, 1929: 332, pl. 15 figs. 7–8 (type locality: Burma: Northern Shan States: Mongyai [22°26'N 98°03'E]; holotype: ZSI F 11062/1, Menon & Yazdani, 1968: 124; incorrect original spelling, must be emended into *raoi*, *Code* art. 31.1.2; noun in genitive, indeclinable)

**10.30.6 *Physoschistura rivulicola* (Hora, 1929)**

*Nemachilus rivulicola* Hora, 1929: 324, pl. 15 figs. 3–4 (type locality: Burma: Southern Shan States: Yawnghwe Valley and He-Ho plain; holotype: ZSI F 11060/1; noun in apposition, indeclinable)

**Nomenclatural notes.** Words ending in *-cola* and meaning 'inhabitant of' are nouns and indeclinable.

**10.30.7 *Physoschistura shanensis* (Hora, 1929)**

*Nemachilus shanensis* Hora, 1929: 322, fig. 2, pl. 15 figs. 5–6 (type locality: Burma: Southern Shan States: Thale-ú stream near Fort Stedman; holotype: ZSI F 11058/1; adjective, *-is*, *-is*, *-e*)

**10.30.8 *Physoschistura tuivaiensis* Lokeshwor, Vishwanath & Shanta, 2012**

*Physoschistura tuivaiensis* Lokeshwor, Vishwanath & Shanta, 2012: 6, fig. 1 (type locality: India: Manipur: Chur Chandpur District: Tuivai River at Likhailok (24°04'41"N 93°33'67"E, 635 masl), Brahmaputra drainage; holotype: MUMF 5089; adjective, *-is*, *-is*, *-e*)

**10.30.9 *Physoschistura yunnaniloides* Chen, Kottelat & Neely, 2011**

*Physoschistura yunnaniloides* Chen, Kottelat & Neely, 2011: 180, fig. 1 (type locality: Myanmar: Sagaing Division: Kalemio fish markets [Kalaymio, 23°11'20"N 94°04'00"E; Chindwin drainage]; holotype: CAS 88871; adjective, indeclinable)

**10.31 *Protonemacheilus* Yang & Chu, 1990**

*Protonemacheilus* Yang & Chu, 1990a: 109 (type species: *Protonemacheilus longipectoralis* Yang & Chu, 1990a: 110, by original designation; also spelt *Protenemacheilus* p. 109, an obvious inadvertent error, thus incorrect original spelling [*Code* art. 32.5.1]). Gender masculine.

**Taxonomic notes.** Possibly a junior synonym of *Physoschistura* or a senior synonym of *Pteronemacheilus*.

**10.31.1 *Protonemacheilus longipectoralis* Yang & Chu, 1990**

*Protonemacheilus longipectoralis* Yang & Chu, 1990a: 110, fig. 1 (type locality: China: Yunnan: Luxi County: Mukang, Fangmaqiao River, 24°30'N 98°37'E [Dehong Pre-

fecture; Irrawaddy drainage]; holotype: KIZ 193001724 [8310110]; compound noun, indeclinable)

**10.32 *Pteronemacheilus* Bohlen & Šlechtová, 2011**

*Pteronemacheilus* Bohlen & Šlechtová, 2011a: 5 (type species: *Pteronemacheilus lucidorsum* Bohlen & Šlechtová, 2011: 6, by original designation). Gender masculine.

**10.32.1 *Pteronemacheilus lucidorsum* Bohlen & Šlechtová, 2011**

*Pteronemacheilus lucidorsum* Bohlen & Šlechtová, 2011a: 6, figs. 4–5 (type locality: Myanmar: Shan State: stream Nam Paw west of Hsipaw city; 22°37'37"N 97°17'19"E [Irrawaddy drainage]; holotype: ZRC 52039; compound noun, indeclinable)

**10.32.2 *Pteronemacheilus meridionalis* (Zhu, 1982)**

*Nemachilus meridionalis* Zhu, 1982a: 108, fig. 5 (type locality: China: Yunnan: Mengla County: Menglun; holotype: NPIB 780503 [780530, p. 111]; adjective, *-is*, *-is*, *-e*)

**10.33 *Qinghaichthys* Zhu, 1981**

*Qinghaichthys* Zhu, 1981: 1063 (subgenus of *Triplophysa* Rendahl, 1933: 21; type species *Nemacheilus alticeps* Herzenstein, 1888: 28, by original designation). Gender masculine.

**Taxonomic notes.** See under *Triplophysa*.

**10.33.1 *Qinghaichthys alticeps* (Herzenstein, 1888)**

*Nemachilus alticeps* Herzenstein, 1888: 28, pl. 6 fig. 3 (type locality: China: Qinghai: sources in Eastern Zaidam [Qaidam basin]; lectotype: ZISP 7852 [1 of 4], designated by Prokofiev, 2006a: 599; compound adjective, indeclinable)

**10.33.2 *Qinghaichthys rotundiventris* (Wu & Chen, 1979)**

*Nemacheilus rotundiventris* Wu & Chen, 1979: 292, fig. 3 (type locality: China: Qinghai: Jiegu He, tributary of upper Jinsha Jiang [Yangtze] in Yushu; syntypes: NPIB [5]; compound noun, indeclinable)

**10.33.3 *Qinghaichthys zaidamensis* (Kessler, 1876)**

*Nemachilus zaidamensis* Kessler, 1876: 34 (type locality: China: Qinghai: Zaidam [Tsaidam or Qaidam basin]; syntypes: ZISP 2487 [2]; adjective, *-is*, *-is*, *-e*)

**10.33.4 *Qinghaichthys zamegacephalus* (Zhao, 1985)**

*Nemachilus zamegacephalus* Zhao, 1985: 53, fig. 1 (type locality: China: South of Xinjiang: Xiaohaizi, a small lake at Zubashi, 39°30'N 78°40'E, Bachu; syntypes: ASIZB 54884–885 [2], 60189–200 [12]; compound adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** Possibly a synonym of *Q. rotundiventris* according to Prokofiev (2010: 894), which geography suggests is unlikely.





**10.30.4** *Physoschistura pseudobrunneana*, USNM 295772, 26.5 mm SL; Thailand: Mekong drainage, Mae Nam Fang.



**10.30.4** *Physoschistura pseudobrunneana*, CMK 4111, 23.2 mm SL.

### 10.34 *Schistura* McClelland, 1838

*Schistura* McClelland, 1838: 944, 947 (type species: *Schistura rupecula* McClelland, 1838: 948, by subsequent designation by Jordan, 1919: 195; also in McClelland, 1839: 306, 439). Gender feminine.

*Acoura* Swainson, 1839: 310 (subgenus of *Cobitis* Linnaeus, 1758: 303; type species: *Cobitis obscura* Swainson, 1839: 310, by subsequent designation by Swain, 1883: 281; also spelt *Acourus* on p. 190, first reviser [Jordan, 1919: 204] gave precedence to *Acoura*; as there is no etymology cannot be treated as an inadvertent error). Gender feminine.

*Acura* Agassiz, 1846: 7 (unjustified emendation of *Acoura* Swainson, 1839: 310). Gender feminine.

? *Longischistura* Bănărescu & Nalbant, 1995: 444 (type species: *Nemacheilus striatus* Day, 1867b: 347, by original designation). Gender feminine.

**Taxonomic notes.** The description of *Longischistura* is accompanied by neither a diagnosis nor a discussion and it is impossible to know why the mentioned characters would diagnose a distinct lineage; at best they seem to be autapomorphies. In addition, there is no clear indication of what material has been examined.

**Nomenclatural notes.** Two species were originally included in *Schistura*: *S. rupecula* and *S. montana*. *Schistura* is a feminine noun because it ends with the Greek word *οὐρά* (tail), which is feminine. Further, the species name *montana* is an adjective with feminine ending and also indicates that the genus name was meant to be feminine (see also under *S. rupecula*).

#### Species incertae sedis

##### 10.34.1 *Schistura sonlaensis* (Nguyen, Nguyen & Hoang, 2010)

*Oreias sonlaensis* Nguyen, Nguyen & Hoang, 2010: 45, fig. 1 (type locality: Vietnam: Son La Province: Son La District: Chieng Xom commune [about 21°24'N 103°56'E],



**10.31.1** *Protonemacheilus longipectoralis*, KIZ 8310110, holotype, 46.5 mm SL; China: Yunnan: Irrawaddy drainage. (Photograph by Chen Xiao-Yong).



**10.31.1** *Protonemacheilus longipectoralis*, KIZ uncat., about 70 mm SL; China: Yunnan: Irrawaddy drainage. (Photograph by Chen Xiao-Yong).

lake Born Hau [apparently a resurgence], Chieng Xom commune [about 21°24'N 103°56'E], in Song Da drainage; holotype: NCNTTSI (?) SL.08.11.001; adjective, *-is, -is, -e*)

**Taxonomic notes.** Originally described in *Oreias*, which in other papers of authors mainly corresponds to *Schistura*. The data in the original description does not allow to decide on generic position. It is not a species of *Claea* (replacement name for the invalid *Oreias*).

#### Species incertae sedis

##### 10.34.2 *Schistura trilineata* (Nguyen, Nguyen & Hoang, 2010)

*Oreias trilineatus* Nguyen, Nguyen & Hoang, 2010: 47, fig. 2 (type locality: Vietnam: Son La Province: Son La District: Chieng Xom commune [about 21°24'N 103°56'E], lake Born Hau [apparently a resurgence], in Song Da drainage; holotype: NCNTTSI (?) SL.08.11.011; adjective, *-us, -a, -um*)

**Taxonomic notes.** Originally described in *Oreias*, which in other papers of authors mainly corresponds to *Schistura*. The data in the original description does not allow to decide on generic position. It is not a species of *Claea* (replacement name for the invalid *Oreias*).

##### 10.34.3 *Schistura acuticephala* (Hora, 1929)

*Nemachilus acuticephalus* Hora, 1929: 328, pl. 14 figs. 5–6 (type locality: Burma: Northern Shan States: Hsipaw State: Monglong Subdivision: Hwe-gna-sang River, Pazi Township [Irrawaddy drainage]; holotype: ZSI F 6675/1; compound adjective, *-us, -a, -um*)

##### 10.34.4 *Schistura afasciata* Mirza & Banareescu, in Mirza, Nalbant & Banareescu, 1981

*Schistura afasciata* Mirza & Bănărescu, in Mirza, Nalbant & Bănărescu, 1981: 119, figs. 35–39 (type locality: Northern Pakistan: Havelian on Dor River, left tributary of upper Indus; holotype: ISBB 3368; adjective, *-us, -a, -um*)



**10.32.2** *Pteronemacheilus meridionalis*, CMK 14321, 40.4 mm SL (male, above) and 39.6 mm SL (female, below); Laos: Mekong drainage: Nam Youan.



**10.33.1** *Qinghaichthys alticeps*, ZISP 7255/15, about 54 mm SL; China: Qinghai: Lake Qinhai Hu. (From Herzenstein, 1888: pl. 6 fig. 3).

**Taxonomic notes.** Menon (1987: 68) treated *S. afasciata* as synonym of *S. arifi*, without discussion. I tentatively retain it as valid.

**10.34.5** *Schistura aizawlensis* Lalramliana, 2012

*Schistura aizawlensis* Lalramliana, 2012: 98, figs. 1–2 (type locality: India: Mizoram: Muthi River, a tributary of Tuirial River in vicinity of Zemabawk, Aizawl, 23°44'54"N 92°45'27"E; holotype: PUCMF 11026; adjective, *is*, *-is*, *-e*)

**10.34.6** *Schistura alta* Nalbant & Bianco, 1999

*Schistura alta* Nalbant & Bianco, 1999: 118, fig. 21 (type locality: Afghanistan: Kajkai [?Kajaki; 32°19'21"N 65°07'07"E], Helmand drainage, northeast of Girisk [Girishk, Gereshk, Geresk, 31°49'N 64°33'E]; holotype: ZMC P.27115; adjective, *-us*, *-a*, *-um*)

**10.34.7** *Schistura alticrista* Kottelat, 1990

*Schistura alticrista* Kottelat, 1990a: 98, fig. 68 (type locality: Thailand: Salween basin: Mae Hong Son Province: Mae La Ka, Huei Nong Heng, Tambon Muang Bon, Amphoe Khum Yuan; holotype: ZRC 38469 [ex ZSM 27472]; compound noun, indeclinable)

**10.34.8** *Schistura altipedunculata* (Banareescu & Nalbant, 1968)

*Noemacheilus altipedunculatus* Bănărescu & Nalbant, 1968: 337, figs. 7–8, pl. 1 fig. 10 (type locality: India: Karnataka: North Canara [Uttara Kannada]: Mandurli, Kati River, 15°05'N 74°25'E; holotype: ZMH H 3618, Wilkens, 1977: 158; adjective, *-us*, *-a*, *-um*)



**10.34.7** *Schistura alticrista*, CMK 14730, 46.1 mm SL; Thailand: Salween drainage: Mae Hong Son.



**10.34.15** *Schistura atra*, CMK 17057, 50.8 mm SL; Laos: Mekong drainage: Nam Theun.



**10.34.19** *Schistura* cf. *balteata*, CMK 16326, 43.2 mm SL; Myanmar: aquarium-fish trade.

**10.34.9** *Schistura amplizona* Kottelat, 2000

*Schistura amplizona* Kottelat, 2000: 54, fig. 24 (type locality: Laos: Louangnamtha Province: Nam Tha at Ban Finho, about 14 km north of Luang Nam Tha, Mekong drainage; 21°04'44"N 101°24'09"E; holotype: ZRC 45321; compound noun, indeclinable)

**10.34.10** *Schistura anambarensis* (Mirza & Banareescu, in Mirza, Banareescu & Nalbant, 1970)

*Noemacheilus anambarensis* Mirza & Bănărescu, in Mirza, Bănărescu & Nalbant, 1970: 51, figs. 4–6 (type locality: Pakistan: Balochistan: Anambar River at Loralai [30°22'N 68°36'E; Indus drainage]; holotype: ISBB 1364; adjective, *-is*, *-is*, *-e*)

**10.34.11** *Schistura antennata* Freyhof & Serov, 2001

*Schistura antennata* Freyhof & Serov, 2001: 140, figs. 8–9 (type locality: Vietnam: Ha Tinh Province: stream at Son Kim; 18°24.25'N 105°11.10'E; holotype: ZFMK 27934; adjective, *-us*, *-a*, *-um*)

**10.34.12** *Schistura aramis* Kottelat, 2000

*Schistura aramis* Kottelat, 2000: 54, fig. 25 (type locality: Laos: Phongsali Province: Houay Chik, about 2 km east of Muang Mai, Mekong drainage; 21°10'26"N 102°44'06"E; holotype: ZRC 45323; noun in apposition, indeclinable)

**10.34.13** *Schistura arifi* Mirza & Banareescu, in Mirza, Nalbant & Banareescu, 1981

*Schistura arifi* Mirza & Bănărescu, in Mirza, Nalbant & Bănărescu, 1981: 113, figs. 16–20 (type locality: Paki-

stan: Balochistan: Zhob City [formerly Fort Sandeman; 31°21'N 69°27'E] on Zhob River; holotype: ISBB 3775; noun in genitive, indeclinable)

**Taxonomic notes.** Menon (1987: 68) listed *S. curvistigma*, *S. macrolepis* and *S. afasciata* as synonyms of *S. arifi*, without discussion. This is not followed. See under the respective species.

**10.34.14 *Schistura athos* Kottelat, 2000**

*Schistura athos* Kottelat, 2000: 55, fig. 26 (type locality: Laos: Louangphabang Province: Houay Houn, about 3 km upstream of Ban Houay Lek, in gorges, Mekong drainage; approx. 20°32'32"N 102°40'51"E; holotype: ZRC 45325; noun in apposition, indeclinable)

*Oreias punctatus* Nguyen, 2005: 570, fig. 15 (type locality: Vietnam: Dien Bien Province: Dien Bien district: Nua Ngam, Nam Ngam stream, Mekong drainage; holotype: NCNTTSI; adjective, *-us*, *-a*, *-um*)

**10.34.15 *Schistura atra* Kottelat, 1998**

*Schistura atra* Kottelat, 1998a: 69, fig. 107 (type locality: Laos: Khammouan Province: Nam Theun basin: Upper Nam Theun at 17°59'31"N 105°27'49"E, Mekong drainage; holotype: ZRC 41792; adjective, *ater*, *atra*, *atrum*)

**10.34.16 *Schistura aurantiaca* Plongsesthee, Page & Beamish, 2011**

*Schistura aurantiaca* Plongsesthee, Page & Beamish, 2011: 170, figs. 1–2 (type locality: Thailand: Kanchanaburi Province: Thong Pha Phum, Mae Khlung basin, Kwai Noi River system, Khayeng River at bridge on Route 3272, 14°39'35"N 98°32'01"E; holotype: UF 178532; adjective, *-us*, *-a*, *-um*)

**10.34.17 *Schistura bachmaensis* Freyhof & Serov, 2001**

*Schistura bachmaensis* Freyhof & Serov, 2001: 143, figs. 11–12 (type locality: Vietnam: Thua Thien Hue Province: stream Suoi Voi at Thua Luu, 55 km south of Hue; 16°14.58'N 107°59.39'E; holotype: ZFMK 27942; adjective, *-is*, *-is*, *-e*)

**10.34.18 *Schistura bairdi* Kottelat, 2000**

*Schistura bairdi* Kottelat, 2000: 55, fig. 27 (type locality: Laos: Champasak Province: Mekong mainstream at Ban Hang Khone below Khone Falls; holotype: ZRC 45327; noun in genitive, indeclinable)

**10.34.19 *Schistura balteata* (Rendahl, 1948)**

*Nemacheilus balteatus* Rendahl, 1948: 42, figs. 20–22 (type locality: Burma: Tenasserim: Malwedaung; holotype: NRM 14741; adjective, *-us*, *-a*, *-um*)

**10.34.20 *Schistura baluchiorum* (Zugmayer, 1912)**

*Nemacheilus baluchiorum* Zugmayer, 1912: 599 (type locality: Pakistan: Balochistan: Panjgur [26°58'00"N 64°05'60"E]; syntypes [13]: ZSM [12, lost; pers. obs.], NMW 19851 [1], Neumann, 2006: 267; noun in genitive, indeclinable)

**Taxonomic notes.** Treated as synonym of *Paraschistura bampurensis* by Nalbant & Bianco (1999: 118), without ex-

planation. Retained in *Schistura* following Prokofiev (2009b: 892).

**10.34.21 *Schistura bannaensis* Chen, Yang & Qi, 2005**

*Schistura bannaensis* Chen, Yang & Qi, 2005: 147, fig. 1 (type locality: China: Yunnan: Xishuangbanna: Mengla County: Nanla River drainage; holotype: KIZ 200107; adjective, *-is*, *-is*, *-e*)

**10.34.22 *Schistura beavani* (Günther, 1868)**

*Nemacheilus beavani* Günther, 1868: 350 (type locality: India: Kossye River; holotype: BMNH 1867.5.12.35; noun in genitive, indeclinable)

**10.34.23 *Schistura bella* Kottelat, 1990**

*Schistura bella* Kottelat, 1990a: 104, fig. 72 (type locality: Thailand: Chiang Mai Province: Mae Nam Fang, 35 km south of Fang on road to Chiang Mai, Mekong drainage; holotype: ZRC 38465 [ex ZSM 27473]; adjective, *-us*, *-a*, *-um*)

**10.34.24 *Schistura bhimachari* (Hora, 1937)**

*Nemacheilus bhimachari* Hora, 1937: 13, fig. 5 (type locality: India: Karnataka: Tunga River at Shimoga [13°55'00"N 75°34'00"E]; holotype: ZSI F 12178/1, Menon & Yazdani, 1968: 122; noun in genitive, indeclinable)

**Taxonomic notes.** Treated as synonym of *S. striata* by Menon (1987: 113), which I do not follow. The figure of *S. striata* in Day (1878a: pl. 153 fig. 8, reproduced by Menon, 1987: pl. 5 fig. 1) shows a fish with much more slender body, elongated caudal peduncle, slightly emarginate caudal fin (vs. deeply forked) than the figure of *S. bhimachari* in Hora (1937: 13).

**10.34.25 *Schistura bolavenensis* Kottelat, 2000**

*Schistura bolavenensis* Kottelat, 2000: 56, fig. 28 (type locality: Laos: Champasak Province: Huay Makchan-Gnai (Xe Nam Noy basin), south of Ban Taot, at turnoff to Xe Nam Noy Project, on road from Pakse to Attapu, Mekong drainage; 15°04'14"N 106°32'33"E; holotype: ZRC 45328; adjective, *-is*, *-is*, *-e*)

**10.34.26 *Schistura breviceps* (Smith, 1945)**

*Noemacheilus breviceps* Smith, 1945: 308, fig. 63 (type locality: Thailand: Chiang Mai Province: Menam Mao, a tributary of Menam Fang, an affluent of Mekong; holotype: USNM 177751; compound adjective, indeclinable)

**10.34.27 *Schistura bucculenta* (Smith, 1945)**

*Noemacheilus bucculentus* Smith, 1945: 326, fig. 74 (type locality: Laos: Huey Nam Puat at Ban Nam Puat [Mekong drainage]; holotype: USNM 107942; adjective, *-us*, *-a*, *-um*)

**10.34.28 *Schistura callichroma* (Zhu & Wang, 1985)**

*Noemacheilus callichromus* Zhu & Wang, 1985: 214, figs. 13–17 (type locality: China: Yunnan: Jingdong County: Babianjiang River [Red River drainage], 24°20'N 100°10'E; holotype: NGI 810233; compound adjective, *-us*, *-a*, *-um*)



**10.34.29 *Schistura callidora* Bohlen & Šlechtová, 2011**

*Schistura callidora* Bohlen & Šlechtová, 2011a: 2, figs. 1–2 (type locality: Myanmar: Shan State: mouth of Nam Paw at confluence with Myit Nge River at Hsipaw city, 22°37'24"N 97°18'12"E [Irrawaddy drainage]; holotype: ZRC 52037; compound noun, proposed as a noun in apposition, indeclinable)

**10.34.30 *Schistura carbonaria* Freyhof & Serov, 2001**

*Schistura carbonaria* Freyhof & Serov, 2001: 145, figs. 14–15 (type locality: Vietnam: Thua Thien Hue Province: stream Khe Vinh An at Nam Dong village about 40 km south of Hue; 16°11.58'N 107°43.76'E; holotype: ZFMK 26593; adjective, *-us*, *-a*, *-um*)

**10.34.31 *Schistura carletoni* (Fowler, 1924)**

*Nemacheilus carletoni* Fowler, 1924: 68, fig. 2 (type locality: India: Himachal Pradesh: Kooloo Valley [Kullu Valley: Kullu town: 31°57'36"N 77°06'00"E]; holotype: MCZ 18748; noun in genitive, indeclinable)

**10.34.32 *Schistura cataracta* Kottelat, 1998**

*Schistura cataracta* Kottelat, 1998a: 70, fig. 109 (type locality: Laos: Khammouan Province: Nam Theun, waterfall at 18°01'40"N 104°58'54"E; holotype: ZRC 41793; noun in apposition, indeclinable)

**10.34.33 *Schistura caudofurca* (Mai, 1978)**

*Barbatula caudofurca* Mai, 1978: 233, fig. 106 (type locality: Vietnam: Nam Cong, Song Ma; syntypes: DVZUT; compound noun, indeclinable)

*Noemacheilus laterivittatus* Zhu & Wang, 1985: 213, figs. 9–12 (type locality: China: Yunnan: Jingdong County: Babi-anjiang River [Red River drainage], 24°20'N 100°10'E; holotype: NGI 810205; adjective, *-us*, *-a*, *-um*)

**10.34.34 *Schistura chapaensis* (Rendahl, 1944)**

*Nemacheilus chapaensis* Rendahl, 1944: 35, fig. 18 (type locality: Vietnam: Lao Cai Province: Chapa [Sapa] in Fansipan Range [Red River drainage]; holotype: NHMG; adjective, *-is*, *-is*, *-e*)

**10.34.35 *Schistura chindwinica* (Tilak & Hussain, 1990)**

*Nemacheilus chindwinicus* Tilak & Hussain, 1990: 51, figs. 1–5 (type locality: India: Manipur: tributary stream of Chindwin [erroneous; India: Manipur: Brahmaputra basin: Barak drainage, Lankha stream, a tributary of Irang River; Vishwanath & Nebeshwar, 2004: 329]; holotype: ZSI/NRS F 613; adjective, *-us*, *-a*, *-um*)

**10.34.36 *Schistura cincticauda* (Blyth, 1860)**

*Cobitis cincticauda* Blyth, 1860: 172 (type locality: Thailand: Tak Province: Amphoe Tha Song Yang, Huei Jawang, Salween drainage [original type locality: Burma: Tenasserim provinces (Pegu according to Day, 1870a: 553)]; neotype: ZSM 27474, designated by Kottelat, 1990a: 118; compound noun, indeclinable)

**10.34.37 *Schistura clatrata* Kottelat, 2000**

*Schistura clatrata* Kottelat, 2000: 56, fig. 29 (type locality:

Laos: Xekong Province: Houay Cha Ngao, an east side tributary of Xe Kong, entering it about 8 km upriver of Muang Kaleum, Mekong drainage; 15°46'08"N 106°45'54"E; holotype: ZRC 45330; adjective, *-us*, *-a*, *-um*)

**10.34.38 *Schistura conirostris* (Zhu, 1982)**

*Nemacheilus conirostris* Zhu, 1982a: 104, fig. 1 (type locality: China: Yunnan: Jinghong County, Lancang-jiang drainage [Mekong]; holotype: NPIB 780464; compound noun, indeclinable)

**10.34.39 *Schistura coruscans* Kottelat, 2000**

*Schistura coruscans* Kottelat, 2000: 57, fig. 30 (type locality: Laos: Saisomboun Special Zone: Houay Sala Yai, a tributary of Nam San; 18°35'17"N 103°05'00"E, Mekong drainage; holotype: ZRC 45332; participle, indeclinable, proposed as a noun in apposition)

**10.34.40 *Schistura crabro* Kottelat, 2000**

*Schistura crabro* Kottelat, 2000: 57, fig. 31 (type locality: Laos: Bolikhamxai Province: Nam Ngiap, Mekong drainage; holotype: ZRC 45334; noun in apposition, indeclinable)

**10.34.41 *Schistura cryptofasciata* Chen, Kong & Yang, 2005**

*Schistura cryptofasciata* Chen, Kong & Yang, 2005: 28, fig. 2 (type locality: China: Yunnan: Lincang prefecture: Yongde County: Great Snow Mountain township: Nanting River (23°58'N 99°39'E), a tributary of Salween; holotype: KIZ 20026453; adjective, *-us*, *-a*, *-um*)

**10.34.42 *Schistura curtistigma* Mirza & Nalbant, in Mirza, Nalbant & Banărescu, 1981**

*Schistura curtistigma* Mirza & Nalbant, in Mirza, Nalbant & Banărescu, 1981: 114, figs. 21–25 (type locality: Pakistan: North-West Frontier Province: Bannu [32°59'20"N 70°36'20"E] on Kurram River, a right-side tributary of Upper Indus; holotype: ISBB 3776; compound noun, indeclinable)

**Taxonomic notes.** Menon (1987: 68, 74) treated this species as synonym of *S. arifi* except for the Ravi River record of Mirza et al. (1981: 114). Mirza et al. gave neither a figure nor data for the Ravi sample; Menon listed it in the synonymy of *S. horai* (p. 74), but without explanation. The reported differences between *S. arifi* and *S. curtistigma* indeed are small, and inconclusive. I tentatively retain the species as valid.

**10.34.43 *Schistura dalatensis* Freyhof & Serov, 2001**

*Schistura dalatensis* Freyhof & Serov, 2001: 150, figs. 19–20 (type locality: Vietnam: Lam Dong Province: Dai Tan River about 30 km south of Da Lat; 11°46.64'N 108°19.28'E; holotype: ZFMK 23906; adjective, *-is*, *-is*, *-e*)

**10.34.44 *Schistura daubentoni* Kottelat, 1990**

*Schistura daubentoni* Kottelat, 1990a: 118, fig. 85 (type locality: Cambodia: bridge on Prek Preas at km 369 on road from Saigon to Stung Treng, near Ph Khsang Hong, Mekong drainage, 13°09'N 106°09'E; holotype: MNHN 1988-88; noun in genitive, indeclinable)



**10.34.46** *Schistura defectiva*, CMK 22686, 40.9 mm SL; Laos: Mekong drainage: Nam Ngum.



**10.34.47** *Schistura denisoni*, CMK 5428, 37.6 mm SL; India: Karnataka: Gangavaly.

**10.34.45** *Schistura deansmarti* Vidthayanon & Kottelat, 2003

*Schistura deansmarti* Vidthayanon & Kottelat, 2003: 168, fig. 6 (type locality: Thailand: Phitsanulok Province: Thung Salaeng Luang National Park: Tham Phra Sai Ngam cave, about 200 m from entrance; 16°37'23"N 100°39'47"E; holotype: NIFI 3152; noun in genitive, indeclinable)

**10.34.46** *Schistura defectiva* Kottelat, 2000

*Schistura defectiva* Kottelat, 2000: 58, fig. 32 (type locality: Laos: Xiangkhouang Province: Nam Ngum at Ban Phianglouang, Mekong drainage; 19°31'21"N 103°03'58"E; holotype: ZRC 45335; adjective, *-us*, *-a*, *-um*)

**10.34.47** *Schistura denisoni* (Day, 1867)

*Nemacheilus denisoni* Day, 1867a: 287 (type locality: India: Bowany River [Bhavani], along the base of Nilgiris [p. 282]; syntypes: ZSI A.2682 [1, lost], A.962 [1, lost], BMNH 1867.7.24.29 [1], NMW 48406 [1], ZMB 10800 [1], RMNH 2661 [1], ZISP 8283 [5], Whitehead & Talwar, 1976: 156; noun in genitive, indeclinable)

*Nemacheilus chryseus* Day, 1873: 529 (type locality: India: Bowany River [Bhavani]; syntypes [3]: LU, Whitehead & Talwar, 1976: 156; adjective, *-us*, *-a*, *-um*)

*Nemachilus dayi* Hora, 1935a: 57 (new name for *Nemachilus savona* [non Hamilton, 1822] of Day, 1878a: 619, pl. 155 fig. 8; type locality: India: West Bengal: hills near Raniganj [23°37'12"N 87°07'48"E] & Northwestern Provinces [corresponds to present Uttar Pradesh]; syntypes: material examined by Day and Hora, details not given, but includes at least BMNH 1889.2.1.1697–1699 [3]; noun in genitive, indeclinable)

*Noemacheilus rendahli* Bănărescu & Nalbant, 1968: 336, figs. 5–6, pl. 1 fig. 8 (type locality: India: Maharashtra: Nashik District: "Nandur, Madhmeswar" [Nandur-Madhyameshwar dam on Godavari River, 20°00'51"N 74°07'01"E]; holotype: ZMH H 3621, Wilkens, 1977: 159; noun in genitive, indeclinable)

*Noemacheilus denisoni pambaensis* Menon, 1987: 103,



**10.34.53** *Schistura dorsizona*, CMK 22915, 30.5 mm SL; Laos: Mekong drainage: Nam Theun.



**10.34.68** *Schistura hoai*, CMK 20890, 43.8 mm SL; Laos: Mekong drainage: Nam Ou.

pl. 10 figs. 5–6 (type locality: India: Kerala: Sabarigiri [a dam at Moozhiyar on Pamba River, 9°18'30"N 77°04'21"E], southeast of Pamba; holotype: ZSI/SRS F 563; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** Placement of *N. rendahli* in the synonym of *S. denisoni* follows Menon (1987: 93). This requires confirmation by the comparison of fresh topotypes. My examination of samples from Karnataka and Kerala indicates that several species are confused under the name *S. denisoni*. At least *S. mukambbikaensis* is a distinct species.

**10.34.48** *Schistura desmotes* (Fowler, 1934)

*Nemacheilus desmotes* Fowler, 1934: 107, fig. 59 (type locality: Thailand: Chiang Mai [Chao Phraya drainage]; holotype: ANSP 60082; noun in apposition, indeclinable)

? *Nemacheilus myrmekia* Fowler, 1935: 106, fig. 32 (type locality: Thailand: Hua Hin Province: Keng Sok [about 20 km northwest of Hua Hin; near Ban Thung Luang, 12°41'N 99°51'E]; holotype: ANSP 63546; noun in apposition, indeclinable)

**10.34.49** *Schistura devdevi* (Hora, 1935)

*Nemachilus devdevi* Hora, 1935a: 54, pl. 3 figs. 5–6 (type locality: India: small streams below Darjeeling and in Sikkim; holotype: ZSI F 11752/1; noun in genitive, indeclinable)

**10.34.50** *Schistura diminuta* Ou, Montaña, Winemiller & Conway, 2011

*Schistura diminuta* Ou, Montaña, Winemiller & Conway, 2011: 194, fig. 1 (type locality: Cambodia: Stung Treng Province: Mekong drainage, lower Sekong River in Siem Pang district, 14°07'11.88"N 106°23'11.36"E; holotype: ZRC 53105; adjective, *-us*, *-a*, *-um*)

**10.34.51** *Schistura disparizona* Zhou & Kottelat, 2005

*Schistura disparizona* Zhou & Kottelat, 2005: 17, fig. 1 (type locality: China: Yunnan: Cangyuan: Nangun River (a Salween tributary), 0.5 km to Manglai on road from Banhong to Mangku, 23°16.49'N 99°04.34'E; holotype: SWFC 00203035; compound noun, indeclinable)



**10.34.76** *Schistura isostigma*, CMK 15651, 25.7 mm SL; Laos: Mekong drainage: Xe Kong.

**10.34.52** *Schistura doonensis* (Tilak & Husain, 1977)

*Noemacheilus doonensis* Tilak & Husain, 1977: 133, fig. 1 (type locality: India: Uttar Pradesh: Dehra Dun District: small stream near village Kandholi, on way to Doonga; holotype: ZSI/NRS V-1090; adjective, *-is, -is, -e*)

**10.34.53** *Schistura dorsizona* Kottelat, 1998

*Schistura dorsizona* Kottelat, 1998a: 73, fig. 112 (type locality: Laos: Khammouan Province: Xe Bangfai basin: Nam Phao about 10 km upriver of Ban Nape, Mekong drainage; approximately 18°22'N 105°08'E; holotype: ZRC 41795; compound noun, indeclinable)

**10.34.54** *Schistura dubia* Kottelat, 1990

*Schistura dubia* Kottelat, 1990a: 123, fig. 89 (type locality: Thailand: Phrae Province: Nam Mae Kham Mi, near Ban Mae Krating, road from Nan to Phrae, km 66, Chao Phraya drainage, 18°22'N 100°25'E; holotype: ZRC 38474 [ex ZSM 27475]; adjective, *-us, -a, -um*)

**10.34.55** *Schistura ephelis* Kottelat, 2000

*Schistura ephelis* Kottelat, 2000: 59, fig. 33 (type locality: Laos: Saisomboun Special Zone: Houay Sala Yai, a tributary of Nam San, Mekong drainage; 18°35'17"N 103°05'00"E; holotype: ZRC 45337; noun in apposition, indeclinable)

**10.34.56** *Schistura fasciata* Lokeshwor & Viswanath, 2011

*Schistura fasciata* Lokeshwor & Viswanath, 2011: 1514, fig. 1 (type locality: India: Manipur: Senapati District: Barak River at western side of Maram Hill, 25°23'24.66"N 94°04'09.25"E, Brahmaputra drainage; holotype: MUMF 11010; adjective, *-us, -a, -um*)

**10.34.57** *Schistura fascimaculata* Mirza & Nalbant, in Mirza, Nalbant & Banărescu, 1981

*Schistura fascimaculata* Mirza & Nalbant, in Mirza, Nalbant & Bănărescu, 1981: 121, figs. 41–45 (type locality: Pakistan: Khyber-Pakhtunkhwa Province: Kohat District: Hangu [33°31'48"N 71°03'36"E] on Kohat Toi River, Indus drainage; holotype: ISBB 3371; adjective, *-us, -a, -um*)

**10.34.58** *Schistura fasciolata* (Nichols & Pope, 1927)

*Homaloptera fasciolata* Nichols & Pope, 1927: 339, fig. 11 (type locality: China: Hainan: Nodoa; holotype: AMNH 8365; adjective, *-us, -a, -um*)

*Nemachilus humilis* Lin, 1932c: 515 (type locality: China: Kweichow [Guizhou]: Yunkiang; holotype: BLG K.107; adjective, *-is, -is, -e*)



**10.34.72** *Schistura imitator*, CMK 21686, 45.8 mm SL; Laos: Mekong drainage: Xe Kong.



**10.34.82** *Schistura khamtanhi*, CMK 21615, 60.1 mm SL; Laos: Mekong drainage: Xe Kong.

**10.34.59** *Schistura finis* Kottelat, 2000

*Schistura finis* Kottelat, 2000: 59, fig. 34 (type locality: Laos: Xiangkhouang Province: Nam Kan, a small creek making the border between Laos and Vietnam at Ban Xayden, nam Mo drainage [Song Ca]; 19°28'19"N 104°05'04"E; holotype: ZRC 45339; noun in apposition, indeclinable)

**10.34.60** *Schistura fusinotata* Kottelat, 2000

*Schistura fusinotata* Kottelat, 2000: 60, fig. 35 (type locality: Laos: Xekong Province: Nam Vi at ford downriver (1.5 km NW) of Ban Kasang-Kan, Mekong drainage; 15°17'55"N 106°54'10"E; holotype: ZRC 45341, see also Kottelat, 2005a: 65; adjective, *-us, -a, -um*)

**10.34.61** *Schistura gangetica* (Menon, 1987)

*Noemacheilus gangeticus* Menon, 1987: 83, pl. 12 fig. 6 (type locality: India: Uttarakhand: Garhwal: Alaknanda River at Srinagar [30°19'48"N 78°03'36"E]; holotype: ZSI/SRS F 582; adjective, *-us, -a, -um*)

**10.34.62** *Schistura geisleri* Kottelat, 1990

*Schistura geisleri* Kottelat, 1990a: 127, fig. 91 (type locality: Thailand: Chiang Mai Province: Nam Mae Taeng at Ban Mae Ta Man, Chao Phraya drainage, 19°12'N 98°53'E; holotype: ZRC 38475 [ex ZSM 27476]; noun in genitive, indeclinable)

**10.34.63** *Schistura globiceps* Kottelat, 2000

*Schistura globiceps* Kottelat, 2000: 60, fig. 36 (type locality: Laos: Louangnamtha Province: unnamed forest creek tributary to Nam Talan, at about km 60 on road from Oudomxai to Luang Nam Tha, about 3 km south of Ban Nateuy, Mekong drainage; 20°59'56"N 101°39'47"E; holotype: ZRC 45343; compound adjective, indeclinable)

**10.34.64** ? *Schistura hagiangensis* (Nguyen, 2005)

*Paracobitis hagiangensis* Nguyen, 2005: 565, fig. 12 (type locality: Vietnam: Ha Giang Province: Lo River, near Ha Giang [Red River drainage]; holotype: NCNTTSI; ad-



jective, *-is, -is, -e*)

**Taxonomic notes.** Possibly a junior synonym of *Schistura incerta*.

**10.34.65 *Schistura harnaiensis* (Mirza & Nalbant, in Mirza, Banarescu & Nalbant, 1969)**

*Noemacheilus harnaiensis* Mirza & Nalbant, in Mirza, Bănărescu & Nalbant, 1969: 89, pl. 2 figs. 4–6 (type locality: Pakistan: Balochistan: Harnai [30°36'0"N 67°33'36"E], Kaman-Beji River drainage, Indus drainage; holotype: ISBB 2006; adjective, *-is, -is, -e*)

**10.34.66 *Schistura himachalensis* (Menon, 1987)**

*Noemacheilus himachalensis* Menon, 1987: 76, pl. 16 fig. 2 (type locality: India: Himachal Pradesh: Kangra District: Nadaun [Beas drainage; 31°46'48"N 76°21'00"E]; holotype: ZSI/SRS F 566; adjective, *-is, -is, -e*)

**10.34.67 *Schistura hingi* (Herre, 1934)**

*Homaloptera hingi* Herre, 1934: 287 (type locality: China: Hong Kong: mountain torrent at Pok Fu Lam; holotype: CAS-SU 29086; noun in genitive, indeclinable)

**10.34.68 ? *Schistura hoai* (Nguyen, 2005)**

*Oreias hoai* Nguyen, 2005: 568, fig. 14 (type locality: Vietnam: Dien Bien Province: Dien Bien district: Nua Ngam, Nam Ngam stream, Mekong drainage; holotype: NCNTTSI; noun in genitive, indeclinable)

**Taxonomic notes.** The original description includes few informative data and the accompanying figure is of very poor quality. However, recent sampling in Laos very close to the border with Vietnam and in the catchment of the same stream as the type locality yielded a single nemacheilid species that could match the figure in the original description, especially the shape of the caudal fin, the bars in front of the dorsal fin much narrower than those behind, and the shape of the black bar at the base of the caudal fin. This species had been earlier identified as *S. poculi* (e.g. Kottelat, 2001b: 113), from which it differs by details of the colour pattern and the shape of the black bar at the base of the caudal fin (compare figures here).

**10.34.69 *Schistura horai* (Menon, 1951)**

*Nemachilus horai* Menon, 1951: 227, pl. 7 figs. 1–3 (type locality: India: Himachal Pradesh: Kangra District: Bener Khand [Baner River, Indus drainage], south of Kangra [32°06'00"N 76°16'12"E]; holotype: ZSI F 637/2, Menon & Yazdani, 1968: 122; noun in genitive, indeclinable)

**10.34.70 *Schistura huapingensis* (Wu & Wu, 1992)**

*Nemacheilus obscurus huapingensis* Wu & Wu, 1992: 145 (type locality: China: Yunnan: Huaping County, Jinshajiang drainage [Yangtze]; syntypes: NPIB [3]; adjective, *-is, -is, -e*)

**10.34.71 *Schistura huongensis* Freyhof & Serov, 2001**

*Schistura huongensis* Freyhof & Serov, 2001: 155, figs. 24–25 (type locality: Vietnam: Thua Thien Hue Province: stream Khe Vinh An at Nam Dong village, about 40 km

south of Hue; 16°11.58'N 107°43.76'; holotype: ZFMK 26810; adjective, *-is, -is, -e*)

**10.34.72 *Schistura imitator* Kottelat, 2000**

*Schistura imitator* Kottelat, 2000: 61, fig. 37 (type locality: Laos: Xekong Province: Xe Namnoy, rapids about 1 km upriver of Tad Feak waterfall, Mekong drainage; 15°14'09"N 106°44'55"E; holotype: ZRC 45344; noun in apposition, indeclinable)

**10.34.73 *Schistura implicata* Kottelat, 2000**

*Schistura implicata* Kottelat, 2000: 62, fig. 38 (type locality: Laos: Houaphan Province: Nam Poun at confluence with Nam Xang, downstream of Ban San, Nam Ma drainage; 20°19'25"N 104°31'36"E; holotype: ZRC 45346; adjective, *-us, -a, -um*)

**10.34.74 *Schistura incerta* (Nichols, 1931)**

*Barbatula incerta* Nichols, 1931b: 458, fig. 2 (type locality: China: Kwangtung [Guangdong]: Lung T'au Shaan, Tso Tsz Hoh; holotype: AMNH 9690; adjective, *-us, -a, -um*)  
? *Barbatula uniformis* Mai, 1978: 235, fig. 107 (type locality: northern Vietnam; syntypes: DVZUT; adjective, *-is, -e*)

**10.34.75 *Schistura irregularis* Kottelat, 2000**

*Schistura irregularis* Kottelat, 2000: 62, fig. 39 (type locality: Laos: Xiangkhouang Province: Nam Khan at Muang Hian, Mekong drainage; 20°05'18"N 103°22'09"E; holotype: ZRC 45348; adjective, *-is, -is, -e*)

**10.34.76 *Schistura isostigma* Kottelat, 1998**

*Schistura isostigma* Kottelat, 1998a: 76, fig. 114 (type locality: Laos: Nam Leuk about 1 km downstream of confluence with Nam Ngang [error for Nam Gnong], Mekong drainage; 18°22'03"N 103°06'03"E; holotype: ZRC 41797; compound noun, proposed as a noun in apposition, indeclinable)

**10.34.77 *Schistura jarutanini* Kottelat, 1990**

*Schistura jarutanini* Kottelat, 1990b: 49, pl. 1 fig. 1 (type locality: Thailand: Kanchanaburi Province: Amphoe Sri Sawat, Tham Ba Dan [cave]; holotype: ZRC 38479 [ex ZSM 27171]; noun in genitive, indeclinable)

**10.34.78 *Schistura kangjupkhulensis* (Hora, 1921)**

*Nemachilus kangjupkhulensis* Hora, 1921b: 202, pl. 10 figs. 4, 4a (type locality: India: Manipur: Yaribuk [Irrawaddy drainage]; holotype: ZSI F 10060/1; adjective, *-is, -is, -e*)

**10.34.79 *Schistura kangrae* (Menon, 1951)**

*Nemachilus kangrae* Menon, 1951: 229, pl. 7 figs. 4–5 (type locality: India: Himachal Pradesh: Kangra District: Baijnath [32°03'N 76°39'E], Indus drainage; holotype: ZSI F 639/2; noun in genitive, indeclinable)

**Taxonomic notes.** Treated as synonym of *S. montana* by Menon (1987: 79), without discussion. With the available data I cannot follow this synonymy.

**10.34.80 *Schistura kaysoni* Vidthayanon & Jaruthanin, 2002**

*Schistura kaysoni* Vidthayanon & Jaruthanin, 2002: 18, fig. 1 (type locality: Laos: Khammouan Province: cave in Phu Tham Nam, Ban Don Yom village in Khammouan karst, between 18°45' and 18°30'N 104°45' and 105°E [apparently erroneous, Phu Tham Nam is a hill at 17°29'00"N 104°54'00"E]; holotype: NIFI 3131; name in genitive, indeclinable)

**10.34.81 *Schistura kengtungensis* (Fowler, 1936)**

*Noemacheilus kengtungensis* Fowler, 1936: 509, fig. 1 (type locality: Burma: Shan States: Loi Mwe [21°10'N 99°45'E], Keng Tung, Mekong drainage [see Fowler, 1937: 125]; holotype: ANSP 64157; adjective, *-is, -is, -e*)

**10.34.82 *Schistura khamtanhi* Kottelat, 2000**

*Schistura khamtanhi* Kottelat, 2000: 63, fig. 40 (type locality: Laos: Xekong Province: Houay Pao, a west side tributary of Xe Kong, entering it about 16 km upriver of Muang Kaleum, Mekong drainage; 15°50'17"N 106°45'40"E; holotype: ZRC 45349, noun in genitive, indeclinable)

**10.34.83 *Schistura khugae* Vishwanath & Shanta, 2004**

*Schistura macrocephalus* Vishwanath & Shanta, 2004a: 138, figs. 1–2 (type locality: India: Manipur: Churachandpur District: Khuga River, a tributary of Loktak Lake, Chindwin drainage; holotype: MUMF 5013; junior primary homonym of *Schistura macrocephalus* Kottelat, 2000: 65; compound adjective, *-us, -a, -um*)

*Schistura khugae* Vishwanath & Shanta, 2004b: 330 (replacement name for *Schistura macrocephalus* Vishwanath & Shanta, 2004a: 138, figs. 1–2; noun in genitive, indeclinable)

**10.34.84 *Schistura kloetzliae* Kottelat, 2000**

*Schistura kloetzliae* Kottelat, 2000: 63, fig. 41 (type locality: China: Yunnan: Xishuangbanna: Mengla County: Mengla market, Mekong drainage; holotype: NRM 33199; noun in genitive, indeclinable)

**10.34.85 *Schistura kodaguensis* (Menon, 1987)**

*Noemacheilus kodaguensis* Menon, 1987: 108, pl. 16 fig. 11 (type locality: India: Karnataka: Kotu Hola, 8 km north-west of Merkara; holotype: ZSI/SRS F 565; adjective, *-is, -is, -e*)

**10.34.86 *Schistura kohatensis* Mirza & Banareescu, in Mirza, Nalbant & Banareescu, 1981**

*Schistura kohatensis* Mirza & Bănărescu, in Mirza, Nalbant & Bănărescu, 1981: 123, figs. 46–50 (type locality: Pakistan: Kohat District: Hangu [33°31'48"N 71°03'36"E] on Kohat Toi River, a small right tributary of Indus; holotype: ISBB 3373; adjective, *-is, -is, -e*)

**10.34.87 *Schistura kohchangensis* (Smith, 1933)**

*Noemacheilus kohchangensis* Smith, 1933: 56, fig. 2, pl. 1 fig. 2 (type locality: Thailand: Trat Province: waterfall stream on Koh Chang island; holotype: KUMF 169,

Monkolprasit, 1969: 6; adjective, *-is, -is, -e*)

*Noemacheilus deignani* Smith, 1945: 320, fig. 70 (type locality: Thailand: Chantaburi Province: Kao Sabap, near Chantabun [Chantaburi]; USNM 107946; name in genitive, indeclinable)

**10.34.88 *Schistura koladyensis* Lokeshwor & Vishwanath, 2012**

*Schistura koladyensis* Lokeshwor & Vishwanath, 2012b: 140, fig. 1 (type locality: India: Mizoram: Lawntlai District: Koladyne River at Kolchaw, 22°23'45"N 92°55'56"E; holotype: MUMF 11048; adjective, *is, -is, -e*)

**10.34.89 *Schistura kongphengi* Kottelat, 1998**

*Schistura kongphengi* Kottelat, 1998a: 77, fig. 116 (type locality: Laos: Khammouan Province: upper Nam Theun at 17°59'31"N 105°27'49"E, Mekong drainage; holotype: ZRC 41799; noun in genitive, indeclinable)

**10.34.90 *Schistura kontumensis* Freyhof & Serov, 2001**

*Schistura kontumensis* Freyhof & Serov, 2001: 160, figs. 29–30 (type locality: Vietnam: Kontum Province: stream Iasia about 25 km west of Kontum; 14°23.63'N 107°48.64'E; holotype: ZFMK 26687; adjective, *-is, -is, -e*)

**10.34.91 *Schistura latidens* Kottelat, 2000**

*Schistura latidens* Kottelat, 2000: 64, fig. 42 (type locality: Laos: Savannakhet Province: Xe Pon between rapids upstream and downstream of Ban Fuang, Mekong drainage; 16°37'06"N 106°33'30"E; holotype: ZRC 45351; compound noun, indeclinable)

**10.34.92 *Schistura latifasciata* (Zhu & Wang, 1985)**

*Noemacheilus latifasciatus* Zhu & Wang, 1985: 211, figs. 5–6 (type locality: China: Yunnan: Yunxian County: Nanqiao River, tributary of Lancangjiang River [Mekong], 24°N 100°E; holotype: NGI 810367; adjective, *-us, -a, -um*)

**10.34.93 *Schistura leukensis* Kottelat, 2000**

*Schistura leukensis* Kottelat, 2000: 64 [not fig. 44 which shows *S. kongphengi*] (type locality: Laos: Vientiane Province: Nam Leuk at dam site, Mekong drainage; 18°26'15"N 102°56'48"E; holotype: ZRC 45353, figured in Kottelat, 2005a: 65; adjective, *-is, -is, -e*)

**10.34.94 *Schistura longa* (Zhu, 1982)**

*Nemachilus longus* Zhu, 1982a: 105, fig. 2 (type locality: China: Yunnan: Lushui County: tributary of Nu-jiang River [Salween]; holotype: NPIB 785032; adjective, *-us, -a, -um*)

**10.34.95 *Schistura machensis* (Mirza & Nalbant, in Mirza, Banareescu & Nalbant, 1970)**

*Noemacheilus horai machensis* Mirza & Nalbant, in Mirza, Bănărescu & Nalbant, 1970: 54, figs. 7–9 (type locality: Pakistan: Mach River [Mach, Machh, Muchh; town: 29°52'N 67°20'E], tributary to Bolan River, Indus drainage; holotype: ISBB 1538; adjective, *-is, -is, -e*)



**10.34.84** *Schistura kloetzliae*, CMK 14312, 43.9 mm SL; Laos: Mekong drainage: Nam Youan.



**10.34.87** *Schistura kohchangensis*, CMK 20204, 49.7 mm SL; Thailand: Chantaburi.



**10.34.102** *Schistura mahnerti*, CMK 14682, 44.8 mm SL; Thailand: Salween drainage: Mae Nam Moei.



**10.34.92** *Schistura latifasciata*, KIZ uncat., 62.4 mm SL; China: Yunnan: Mekong drainage: Yangbi.

**10.34.96** *Schistura macrocephalus* Kottelat, 2000

*Schistura macrocephalus* Kottelat, 2000: 65, fig. 45 (type locality: Laos: Louangnamtha Province: Nam Youan at ford south of Ban Muang Mon, Mekong drainage; 21°19'28"N 101°10'19"E; holotype: ZRC 45355; compound noun, proposed as a noun in apposition, indeclinable)

**10.34.97** *Schistura macrolepis* Mirza & Banareescu, in Mirza, Nalbant & Banareescu, 1981

*Schistura macrolepis* Mirza & Bănărescu, in Mirza, Nalbant & Bănărescu, 1981: 116, figs. 27–31 (type locality: Pakistan: Dera Ghazi Khan District: Racki Munh, a small right tributary of Indus upwards from confluence with Sutlej River; holotype: ISBB 3778; compound noun, indeclinable)

**Taxonomic notes.** Menon (1987: 69) treated this species as synonym of *S. arifi* except for the Shadiwal paratype, which he listed in the synonymy of *S. horai* (p. 74), without explanation. I tentatively retain the species as valid.

**10.34.98** *Schistura macrotaenia* (Yang, 1990)

*Nemacheilus macrotaenia* Yang, in Chu & Chen, 1990: 36, fig. 30 (type locality: China: Yunnan: Pingbian County: Nan-Qi River, 23°00'N 103°18'E [Red River drainage]; holotype: KIZ 8540217; compound noun, indeclinable)



**10.34.99** '*Schistura*' *maculiceps*, RMNH 28878, 79.0 mm SL; Indonesia: Borneo: Kapuas.



**10.34.105** *Schistura melarancia*, ZRC 45357, 40.2 mm SL, holotype; Laos: Mekong drainage: Nam Ou.



**10.34.111** *Schistura mukambikaensis*, CMK 5427, 32.6 mm SL; India: Karnataka: Chandragiri.

**10.34.99** '*Schistura*' *maculiceps* (Roberts, 1989)

*Nemacheilus maculiceps* Roberts, 1989: 108, fig. 83 (type locality: Indonesia: Borneo: Kalimantan Barat: rocky channel in mainstream of Sungai Pinoh, 37 km south of Nangapinoh; holotype: MZB 3543; compound adjective, indeclinable)

**Taxonomic notes.** Apparently represents a distinct genus.

**10.34.100** *Schistura maepaiensis* Kottelat, 1990

*Schistura maepaiensis* Kottelat, 1990a: 143, fig. 105 (type locality: Thailand: Mae Hong Son Province: Nam Mae Cha at Ban Pha Bong, 19°12'N 97°59'E, 12 km south of Mae Hong Son, Salween drainage; holotype: ZRC 38476 [ex ZSM 27479]; adjective, *-is, -is, -e*)

**10.34.101** *Schistura magnifluvis* Kottelat, 1990

*Schistura magnifluvis* Kottelat, 1990a: 146, fig. 107 (type locality: Thailand: Loei Province: Mekong main stream between Chiang Khan [17°50'N 101°45'E] to 70 km downstream by road; holotype: CAS 62549; compound noun, indeclinable)

**10.34.102** *Schistura mahnerti* Kottelat, 1990

*Schistura mahnerti* Kottelat, 1990a: 151, fig. 110 (type locality: Thailand: Mae Hong Son Province: 20 km north of Mae Sariang, Salween drainage; holotype: ZRC 38477 [ex ZSM 27478]; noun in genitive, indeclinable)

**10.34.103** *Schistura malaisei* Kottelat, 1990

*Schistura malaisei* Kottelat, 1990a: 154, fig. 113 (type locality: Burma: Putao, Irrawaddy drainage; holotype: NRM 25083; noun in genitive, indeclinable)



**10.34.104 *Schistura manipurensis* (Chaudhuri, 1912)**

*Nemacheilus manipurensis* Chaudhuri, 1912: 443, pl. 40 fig. 4–4b, pl. 41 fig. 1–1b (type locality: India: Manipur [Irrawaddy drainage]; syntypes: ZSI [3]; adjective, *-is, -e*)

**10.34.105 *Schistura melarancia* Kottelat, 2000**

*Schistura melarancia* Kottelat, 2000: 65, fig. 46 (type locality: Laos: Oudomxai Province: Nam Kouat near Ban Nam Kouat, a tributary of Nam Nga, Mekong drainage; 20°34'35"N 102°07'56"E; holotype: ZRC 45357; name in genitive, indeclinable)

*Oreias lineatus* Nguyen, 2005: 567, fig. 13 (type locality: Vietnam: Dien Bien Province: Dien Bien district: Nua Ngam, Nam Ngam stream, Mekong drainage; holotype: NCNTTSI; adjective, *-us, -a, -um*)

**10.34.106 *Schistura menanensis* (Smith, 1945)**

*Noemacheilus menanensis* Smith, 1945: 310, fig. 65 (type locality: Thailand: Nan Province: Menam Kon, tributary of Menam Nan, Chao Phraya drainage; holotype: USNM 117753; adjective, *-is, -is, -e*)

**10.34.107 *Schistura minuta* Vishwanath & Shanta Kumar, 2006**

*Schistura minutus* Vishwanath & Shanta Kumar, 2006: 211, fig. 1 (type locality: India: Manipur: Tamenglong District: Iyei River, Noney, a tributary of Barak River, Brahmaputra drainage; holotype: ZSI FF3749; adjective, *-us, -a, -um*)

**10.34.108 *Schistura mobbsi* Kottelat & Leisher, 2012**

*Schistura mobbsi* Kottelat & Leisher, 2012: 240, fig. 3 (type locality: Vietnam: Thai Nguyen Province: Phuong Hoang Cave, about 32 km from Bac Song (Lang Song Prov.), probably draining to Cau River, draining to Hai Phong; 21°46'31"N 106°07'10"E; holotype: MHNG 2732.044; noun in genitive, indeclinable)

**10.34.109 *Schistura moeiensis* Kottelat, 1990**

*Schistura moeiensis* Kottelat, 1990a: 164, fig. 120 (type locality: Thailand: Tak Province: Amphoe Mae Sot: Tambon Kanei Jiu, Huei Kit, Salween drainage; holotype: ZRC 38471 [ex ZSM 27480]; adjective, *-is, -is, -e*)

**10.34.110 *Schistura montana* McClelland, 1838**

*Schistura montana* McClelland, 1838: 947, pl. 55 fig. 1 (type locality: India: Himachal Pradesh: Simla [Shimla, 31°06'12"N 77 10'20"E]; syntypes: ? BMNH 1860.3.19.118–119 [2]; also in McClelland, 1839: 307, 440, pl. 57 fig. 1; adjective, *-us, -a, -um*)

**10.34.111 *Schistura mukambbikaensis* (Menon, 1987)**

*Noemacheilus denisoni mukambbikaensis* Menon, 1987: 101, pl. 10 fig. 7 (type locality: India: Karnataka: Kashi stream, a tributary of Kollur River, Mukambbika, 145 km northeast of Mangalore; holotype: ZSI/SRS F 568; adjective, *-is, -is, -e*)

**Taxonomic notes.** See under *Schistura denisoni*.

**10.34.112 *Schistura multifasciata* (Day, 1878)**

*Nemacheilus multifasciatus* Day, 1878a: 617, pl. 153 fig. 7 (type locality: India: Darjeeling and Assam; syntypes: ZSI F 2677 [1], BMNH 1889.2.1.1665–1667 [3], NMW 48428 [1], AMS B.7737 [1], Whitehead & Talwar, 1976: 157, Menon & Yazdani, 1968: 123, Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

**Nomenclatural notes.** Day (1878a: 617) had at least two specimens of *N. multifasciatus* as he listed the distribution as Darjeeling and Assam, stating that the illustrated specimen came from Darjeeling. Thus the specimen listed as holotype by Menon & Yazdani (1968: 123) can only be a syntype.

**10.34.113 ? *Schistura nagaensis* (Menon, 1987)**

*Noemacheilus nagaensis* Menon, 1987: 117 (type locality: India: Nagaland: Phodung River, tributary of Tizu River [Chindwin basin; Vishwanath & Laisram, 2001: 209]; holotype: ZSI/SRS F 574; adjective, *-is, -is, -e*)

**Taxonomic notes.** Possibly a synonym of *S. kangjupkhulensis*.

**10.34.114 *Schistura nagodiensis* Sreekantha, Gururaja, Remadevi, Indra & Ramachandra, 2006**

*Schistura nagodiensis* Sreekantha, Gururaja, Remadevi, Indra & Ramachandra, 2006: 2211, fig. web suppl. 1a (type locality: India: Karnataka: Sharavathi River (13°54'40"N 74°53'49"E), Algod, Shimoga; holotype: ZSI/SRS F-7595; adjective, *-is, -is, -e*)

**10.34.115 *Schistura namboensis* Freyhof & Serov, 2001**

*Schistura namboensis* Freyhof & Serov, 2001: 163, figs. 32–34 (type locality: Vietnam: Dac Lac Province: small stream at Ea Nuol, about 20 km north-west of Buon Ma Thuot; 12°41.58'N 107°57.74'E; holotype: ZFMK 24094; adjective, *-is, -is, -e*)

**10.34.116 *Schistura nandingensis* (Zhu & Wang, 1985)**

*Noemacheilus nandingensis* Zhu & Wang, 1985: 212, figs. 7–8 (type locality: China: Yunnan: Yunxian County: small tributary of Nanding River [Salween drainage], near Xingfu, 24°30'N 100°10'E; holotype: NGI 810497; adjective, *-is, -is, -e*)

**Taxonomic notes.** Treated as synonym of *Pteronemacheilus meridionalis* by Yang (in Chu & Chen, 1990: 49).

**10.34.117 *Schistura nasifilis* (Pellegrin, 1936)**

*Nemacheilus spilopterus* var. *nasifilis* Pellegrin, 1936: 247 (type locality: Vietnam: Annam: Nha Trang: Song Cai basin: Song Ko, 680 masl / Song Tan, 1400 masl; syntypes: MNHN 1936.21–25 [19], 1936.26–28 [20], BMNH 1936.7.30.3 [1], Kottelat, 1990a: 168; compound noun, indeclinable)

**10.34.118 *Schistura nicholsi* (Smith, 1933)**

*Nemacheilus nicholsi* Smith, 1933: 53, fig. 1, pl. 1 fig. 1 (type locality: Thailand: Pak Jong, circle of Nakon Rajasima [Nakhon Ratchasima Province; Mekong drainage]; holotype: KUMF 170, Monkolprasit, 1969: 6; noun in genitive, indeclinable)



**10.34.124** *Schistura obeini*, CMK 22841, 77.6 mm SL; Laos: Mekong drainage: Nam Theun.



**10.34.120** *Schistura nomi*, CMK 21572, 49.0 mm SL; Laos: Mekong drainage: Xe Kong.



**10.34.124** *Schistura obeini*, CMK 22829, 67.4 mm SL.



**10.34.134** *Schistura poculi*, CMK 16153, 40.1 mm SL; Thailand: Chao Phraya drainage: Mae Taeng.

**10.34.123** *Schistura nudidorsum* Kottelat, 1998

*Schistura nudidorsum* Kottelat, 1998a: 80, fig. 119 (type locality: Laos: Khammouan Province: Nam Theun drainage: Nam Phao at waterfall immediately downriver of border post on road from Lak Sao to Vinh (Vietnam), Mekong drainage; 18°23'00"N 105°09'20"E; holotype: ZRC 41801; compound noun, indeclinable)

**10.34.124** *Schistura obeini* Kottelat, 1998

*Schistura obeini* Kottelat, 1998a: 83, fig. 122 (type locality: Laos: Khammouan Province: Nam Theun drainage: Nam Phao at waterfall immediately downriver of border post on road from Lak Sao to Vinh (Vietnam), Mekong drainage; 18°23'00"N 105°09'20"E; holotype: ZRC 41803; noun in genitive, indeclinable)

*Nemacheilus thai* Fowler, 1934: 104, fig. 56 (type locality: Thailand: Bua Yai, Mekong drainage; holotype: ANSP 56655; noun in apposition, indeclinable)

? *Schistura laterimaculata* Kottelat, 1990a: 141, fig. 103 (type locality: Thailand: Chayaphum Province: Kuan Gielom, Mekong drainage; holotype: ZRC 38470 [ex ZSM 27477]; adjective, *-us, -a, -um*)

**10.34.119** *Schistura nilgiriensis* (Menon, 1987)

*Noemacheilus nilgiriensis* Menon, 1987: 106, pl. 10 figs. 8–9, pl. 14 figs. 1–2 (type locality: India: Tamil Nadu: Nilgiri District: small stream joining the outlet stream from Pykara dam; holotype: ZSI/SRS F 561; adjective, *-is, -is, -e*)

**10.34.120** *Schistura nomi* Kottelat, 2000

*Schistura nomi* Kottelat, 2000: 66, fig. 47 (type locality: Laos: Attapu Province: Xe Kaman at Muang Xaisettha, Mekong drainage; 14°48'27"N 106°55'52"E; holotype: ZRC 45359; noun in genitive, indeclinable)

**10.34.121** *Schistura notostigma* (Bleeker, 1863)

*Nemacheilus notostigma* Bleeker, 1863b: 254 (type locality: Ceylon [Sri Lanka]; syntypes: RMNH [3, 57–71 mm TL]; also in Bleeker, 1864b: 5, pl. 1 fig. 2; compound noun, indeclinable)

**10.34.122** *Schistura novemradiata* Kottelat, 2000

*Schistura novemradiata* Kottelat, 2000: 66, fig. 48 (type locality: Laos: Louangnamtha Province: Nam Luang, about 2 km upstream of Ban Namluang, Mekong drainage; 21°09'05"N 101°20'34"E; holotype: ZRC 45360; adjective, *-us, -a, -um*)

**10.34.125** *Schistura oedipus* (Kottelat, 1988)

*Nemacheilus oedipus* Kottelat, 1988c: 225, figs. 1–3 (type locality: Thailand: Mae Hong Son Province: Nam Lang Cave, 19°31'N 98°09'E, Salween drainage; holotype: AMS I 25986-002; noun in apposition, indeclinable)

**10.34.126** ? *Schistura orthocauda* (Mai, 1978)

*Barbatula orthocauda* Mai, 1978: 231, fig. 105 (type locality: northern Vietnam; holotype: DVZUT; compound noun, indeclinable)

**Taxonomic notes.** The type locality information is useless. Nguyen (2005: 245) identified material from Ky Phu Dai Tu (Thai Nguyen Province, Vietnam; Red River drainage) as *S. orthocauda*. A proper allocation of the name will only be possible after a critical revision of the barred *Schistura* from the Red River drainage.

**10.34.127** *Schistura papulifera* Kottelat, Harries & Proudlove, 2007

*Schistura papulifera* Kottelat, Harries & Proudlove, 2007: 36 fig. 1 (type locality: India: Meghalaya, Maintia Hills, Krem Umsngat entrance (25°11'14"N 92°21'03"E) to Synrang Pamiang cave system (main entrance 25°12'48"N 92°21'48"E); holotype: MHNG 2680.074; adjective, *-fer, -fera, -ferum*)



**10.34.144** *Schistura punctifasciata*, CMK 17134, 39.6 mm SL; Laos: Mekong drainage: Xe Bangfai.



**10.34.145** *Schistura quaesita*, CMK 22699, 79.7 mm SL; Laos: Mekong drainage: Nam Ngum.

**10.34.128** *Schistura paucicincta* Kottelat, 1990

*Schistura paucicincta* Kottelat, 1990a: 177, fig. 133 (type locality: Thailand: Tak Province: Salween basin, Huai Mae Charno, 4 km south of Amphoe Mae Ramat on road 1085, Salween drainage, 16°58'N 98°34'E; holotype: ZRC 38464 [ex ZSM 27481]; compound noun, indeclinable)

**10.34.129** *Schistura paucifasciata* (Hora, 1929)

*Nemachilus paucifasciatus* Hora, 1929: 330, fig. 3, pl. 15 figs. 1–2 (type locality: Burma: Northern Shan States: Hsipaw State: Monglong Subdivision: Hwe-gna-sang River, Pazi Township [Irrawaddy drainage]; holotype: ZSI F 6314/1; adjective, *-us*, *-a*, *-um*)

**10.34.130** *Schistura personata* Kottelat, 2000

*Schistura personata* Kottelat, 2000: 67, fig. 49 (type locality: Laos: Saisomboun Special Zone: Houay Sala Yai, tributary of Nam San, Mekong drainage; 18°35'17"N 103°05'00"E; holotype: ZRC 45362; adjective, *-us*, *-a*, *-um*)

**10.34.131** *Schistura pertica* Kottelat, 2000

*Schistura pertica* Kottelat, 2000: 67, fig. 50 (type locality: Laos: Phongsali Province: Nam Ou at confluence with Houay Nam, 3 km east-southeast of Muang Khoa, Mekong drainage; 21°04'10.4"N 102°31'43.8"E; holotype: ZRC 45364; noun in apposition, indeclinable)

**10.34.132** *Schistura pervagata* Kottelat, 2000

*Schistura pervagata* Kottelat, 2000: 68, fig. 51 (type locality: Laos: Houaphan Province: small stream tributary of Nam Hao, Nam Ma drainage; 20°31'09"N 104°21'44"E; holotype: ZRC 45366; adjective, *-us*, *-a*, *-um*)

**10.34.133** ? *Schistura phongthoensis* (Nguyen, 2005)

*Paracobitis phongthoensis* Nguyen, 2005: 564, fig. 11 (type locality: Vietnam: Lai Chau Province: Phong Tho district: Muong So [Song Da drainage]; holotype: NCNTTSI; adjective, *-is*, *-is*, *-e*)



**10.34.155** *Schistura rupecula*, KU 40561, 64.0 mm SL; Nepal: Kosi drainage: Indrawati. (Photograph by Kevin Conway).



**10.34.155** *Schistura rupecula*, KU 40571, about 40 mm SL. (Photograph by Kevin Conway).

**10.34.134** *Schistura poculi* (Smith, 1945)

*Noemacheilus poculi* Smith, 1945: 323, fig. 72 (type locality: Thailand: Chiang Mai Province: Doi Angka [Doi Inthanon]; holotype: MCZ 35525; noun in genitive, indeclinable)

**Taxonomic notes.** *Schistura poculi* as used by Kottelat (1990a: 186) in fact includes several species (see, e.g. under *S. hoai*).

**10.34.135** *Schistura polytaenia* (Zhu, 1982)

*Nemachilus polytaenia* Zhu, 1982a: 106, fig. 3 (type locality: China: Yunnan: tributary of Irrawaddy River in Tengchong County; holotype: NPIB 784092; compound noun, indeclinable)

**10.34.136** *Schistura porthos* Kottelat, 2000

*Schistura porthos* Kottelat, 2000: 69, fig. 52 (type locality: Laos: Louangnamtha Province: Nam Tha at Ban Finho, about 14 km north of Luang Nam Tha, Mekong drainage; 21°04'44"N 101°24'09"E; holotype: ZRC 45368; noun in apposition, indeclinable)

**10.34.137** *Schistura prashadi* (Hora, 1921)

*Nemachilus prashadi* Hora, 1921b: 203, pl. 10 fig. 2–2a (type locality: India: Manipur: Thonagpal Tank, Thoubal Stream and Sikmai Stream [Chinwin drainage]; holotype: ZSI F 9987/1; noun in genitive, indeclinable)

**Nomenclatural notes.** Hora (1921b: 203) had material of *N. prashadi* based on 74 specimens from 3 localities, in Chinwin drainage. He designated ZSI F 9987/1 as holotype but did not mention its locality. Menon & Yazdani (1968: 124) listed 5 "syntypes", ZSI 9988/1 from Thonagpal Tank, 5 miles from Yaribuk. Menon (1987: 129) mentioned 26 syntypes also as ZSI 9988/1.



**10.34.138 *Schistura pridii* Vidthayanon, 2003**

*Schistura pridii* Vidthayanon, 2003: 307, fig. 1 (type locality: Thailand: Chiang Mai Province: stream Nam Muen, a tributary of Mae Taeng, upper Chao Phraya drainage; holotype: NIFI 2909; noun in genitive, indeclinable)

**10.34.139 *Schistura procera* Kottelat, 2000**

*Schistura procera* Kottelat, 2000: 69, fig. 53 (type locality: Laos: Oudomxai Province: Nam Phak watershed: waterfall Taad Lak Sip Et, km 11 on road from Oudomxai to Nambak, Mekong drainage; 20°37'01.8"N 102°00'12.0"E; holotype: ZRC 45370; adjective, *-us, -a, -um*)

**10.34.140 *Schistura prolixifasciata* Zheng, Yang & Chen, 2012**

*Schistura prolixifasciata* Zheng, Yang & Chen, 2012b: 64, fig. 1 (type locality: China: Yunnan: Cangyuan County: Mengnonghe River, a tributary of Nangunhe River (Salween drainage) at Banlao Village, 23°30'08.9"N 99°01'42.9" E, 510 masl; holotype: KIZ 200504111365; adjective, *-us, -a, -um*)

**10.34.141 *Schistura pseudofasciolata* Zhou & Cui, 1993**

*Schistura pseudofasciolata* Zhou & Cui, 1993: 89, fig. 10 (type locality: China: Sichuan: Huidong: Canyu River (a tributary of Jinshajiang River [Yangtze]) near Huidong; 26°38'N 102°34'E; holotype: KIZ 90110157; adjective, *-us, -a, -um*)

**10.34.142 *Schistura psittacula* Freyhof & Serov, 2001**

*Schistura psittacula* Freyhof & Serov, 2001: 170, figs. 37–38 (type locality: Vietnam: Quang Tri Province: middle Cam Lo River about 20 km west of Dong Ha; 16°47.00'N 106°53.86'E; holotype: ZFMK 27015; adjective, *-us, -a, -um*)

**10.34.143 *Schistura pumatensis* Nguyen & Nguyen, 2007**

*Schistura pumatensis* Nguyen [X. K.] & Nguyen [H. D.], 2007: 17, fig. (type locality: Vietnam: Nghe An Province: Khe Bu stream in Pumat National Park, Lam drainage; holotype: Pumat National Park PM020170; adjective, *-is, -is, -e*)

**10.34.144 *Schistura punctifasciata* Kottelat, 1998**

*Schistura punctifasciata* Kottelat, 1998a: 84, fig. 123 (type locality: Laos: Khammouan Province: Xe Banfai drainage: Nam Kathang, 5 km north of Ban Gnomalat at Ban Keovilay, Mekong drainage; 17°39'N 105°10'20"E; holotype: ZRC 41804; adjective, *-us, -a, -um*)

**10.34.145 *Schistura quaesita* Kottelat, 2000**

*Schistura quaesita* Kottelat, 2000: 70, fig. 54 (type locality: Laos: Xiangkhouang Province: Nam Ngum, rapids downstream of Ban Latbouak, Mekong drainage; 19°36'28"N 103°14'23"E; holotype: ZRC 45372; adjective, *-us, -a, -um*)

**10.34.146 *Schistura quasimodo* Kottelat, 2000**

*Schistura quasimodo* Kottelat, 2000: 70, fig. 55 (type locality: Laos: Saisomboun Special Zone: Houay Sala Yai, a

tributary of Nam San, Mekong drainage; 18°35'17"N 103°05'00"E; holotype: ZRC 45373; noun in apposition, indeclinable)

**10.34.147 *Schistura rajasthanica* (Mathur & Yazdani, 1970)**

*Noemacheilus rajasthanicus* Mathur & Yazdani, 1970: 97, fig. 1 (type locality: India: Rajasthan: Takhat Sagar, Kailana [26°18'19"N 72°58'23"E], Jodhpur; holotype: ZSI; adjective, *-us, -a, -um*)

**10.34.148 *Schistura rara* (Zhu & Cao, 1987)**

*Noemacheilus rarus* Zhu & Cao, 1987: 328, figs. 7–8 (type locality: China: Guangdong: Ruyuan County [24°52'42"N 113°11'18"E]; holotype: NGI 840130; adjective, *-us, -a, -um*)

**10.34.149 *Schistura reidi* (Smith, 1945)**

*Noemacheilus reidi* Smith, 1945: 313, fig. 67 (type locality: Thailand: Mae Hong Son Province: Huey Mekong Kha, a mountain torrent at base of Doi Mekong Kha, Salween drainage; holotype: USNM 107944; noun in genitive, indeclinable)

**10.34.150 *Schistura reticulata* Vishwanath & Nebeshwar, 2004**

*Schistura reticulata* Vishwanath & Nebeshwar, 2004: 324, fig. 1 (type locality: India: Manipur: Chindwin drainage: Ukhrul District: Maklang River; holotype: MUMF 4400; adjective, *-us, -a, -um*)

**10.34.151 *Schistura reticulofasciata* (Singh & Banarescu, in Singh, Sen, Banarescu & Nalbant, 1982)**

*Mesonoemacheilus reticulofasciatus* Singh & Bănărescu, in Singh, Sen, Bănărescu & Nalbant, 1982: 206, figs. 12–16 (type locality: India: Meghalaya: Barani, 20 km from Shillong; holotype: ZSI/ERS 3062; adjective, *-us, -a, -um*)

**10.34.152 *Schistura rikiki* Kottelat, 2000**

*Schistura rikiki* Kottelat, 2000: 71, fig. 56 (type locality: Laos: Attapu Province: Xe Kong between Attapu and downstream to Ban Ouk, Mekong drainage; 14°44'51"N 106°43'59"E; holotype: ZRC 45375; noun in apposition, indeclinable)

**10.34.153 *Schistura robertsi* Kottelat, 1990**

*Schistura robertsi* Kottelat, 1990a: 198, fig. 148 (type locality: Thailand: Phangnga Province: tributary of Khlong Khao Thalu at Ban Bang Kan, 8°33'N 98°28'E, road from Phangnga to Kapong, km 22; holotype: ZRC 38472 [ex ZSM 27482]; noun in genitive, indeclinable)

**10.34.154 *Schistura rosammai* (Sen, 2009)**

*Aborichthys rosammai* Sen, 2009: 15, fig. 1, pls. 1–2 (type locality: India: Assam: Dhemaji District [27°28'27"N 93°33'50"E]: Pabomukh, Subansiri River (27°34'N 94°14'E); holotype: ZSI/ERS V/F/2129; noun in genitive, indeclinable)

**10.34.155 *Schistura rupecula* McClelland, 1838**

*Schistura rupecula* McClelland, 1838: 948, pl. 55 fig. 3 (type locality: India: Himachal Pradesh: Simla [Shimla, 31°06'12"N 77 10'20"E]; syntypes: SMF 8993 [6]; also in M'Clelland, 1839: 309, 441, erratum; adjective, *-us*, *-a*, *-um* [but see below])

*Schistura rupicola* M'Clelland, 1839: erratum (unjustified emendation of *Schistura rupecula* McClelland, 1838: 948)

*Nemacheilus rupecula* var. *inglisi* Hora, 1935a: 58, pl. 3 figs. 9–10 (type locality: India: Eastern Himalayas, rivers below Darjeeling and in Sikkim; holotype: ZSI F11755/1; noun in genitive, indeclinable)

**Taxonomic notes.** Menon (1987: 52) placed without explanation *N. r. inglisi* in the synonymy of *S. multifasciata*, which is not followed. The figures of the two species in Hora (1935a) and the figure of *S. multifasciata* in Day (1878a: pl. 153 fig. 7) show conspicuously differently shaped and patterned species.

**Nomenclatural notes.** *Schistura rupecula* first appeared in McClelland (1838). It was repeated in M'Clelland (1839: 309, 441). The erratum sheet in the second work includes a correction of *rupecula* into *rupicola*. Such a correction would have been valid only if included in the original description. The correction was linguistically correct but for nomenclature, formally, it is an unjustified emendation.

Names ending in *-cola* (of which *-cula* is a misspelling) are nouns; they are often mistaken as adjectives. McClelland (1838) did not indicate if it was a noun or an adjective and this is not apparent from the species account alone; therefore it could be considered as a noun in apposition (Code art. 31.2.2). But elsewhere in both the 1838 and 1839 works McClelland described a *Gonorrhynchus rupeculus*, in which *rupeculus* is an adjective. I take this as informative that, in *Schistura* too, *rupecula* is an adjective.

**10.34.156 *Schistura russa* Kottelat, 2000**

*Schistura russa* Kottelat, 2000: 71, fig. 57 (type locality: Laos: Louangnamtha Province: Nam Tha at Ban Finho, about 14 km north of Luang Nam Tha, Mekong drainage; 21°04'44"N 101°24'09"E; holotype: ZRC 45377; adjective, *-us*, *-a*, *-um*)

**10.34.157 *Schistura savona* (Hamilton, 1822)**

*Cobitis savona* Hamilton, 1822: 357, 394 (type locality: India: Kosi River [at Nathpur near the Nepal frontier; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 53 fig. 3; noun in apposition, indeclinable)

*Cobites obscura* Swainson, 1839: 310 (available by indication to Hamilton, 1822: 357, No. 9 [which is *C. savona*]; type locality: India: Kosi River [at Nathpur; Hora, 1935a: 49]; types: NT; Hamilton's unpublished figure reproduced in M'Clelland, 1839: pl. 53 fig. 3; adjective, *-us*, *-a*, *-um*)  
? *Shistura* [sic] *yenjitee* Tekriwal & Rao, 1999: 93 (nomen nudum; locality: Bhutan: Phuntsholing area)

**10.34.158 *Schistura scaturigina* M'Clelland, 1839**

*Schistura scaturigina* M'Clelland, 1839: 308, 443, pl. 53 fig. 6 (type locality: no data [probably India: below Dar-

jeeling Himalayas; Hora, 1935a: 65]; types: lost, based on an unpublished drawing by Hamilton; adjective, *-us*, *-a*, *-um*)

*Schistura subfusca* M'Clelland, 1839: 308, 443, pl. 53 fig. 5 (type locality: India: Upper Assam; types: LU; simultaneous subjective synonym of *Schistura scaturigina* M'Clelland, 1839: 308, 443, first reviser [apparently Hora, 1935a: 64] gave precedence to *S. scaturigina*; adjective, *-us*, *-a*, *-um*)

**Taxonomic notes.** Synonymy partly based on Hora (1935a: 64) and Menon (1987: 86). Confirmation seems needed. Menon also included *S. shebbearei* and *S. zonata* in the synonymy of *S. scaturigina* but they are retained as valid here. The status of all these nominal species should be critically re-examined.

**10.34.159 *Schistura schultzi* (Smith, 1945)**

*Noemacheilus schultzi* Smith, 1945: 317, fig. 69 (type locality: Thailand: Chiang Rai Province: Huey Melao on Doi Hua Mot, Mekong drainage; holotype: USNM 107953; noun in genitive, indeclinable)

**10.34.160 *Schistura semiarmata* (Day, 1867)**

*Nemacheilus semiarmatus* Day, 1867a: 286 (type locality: India: Nilgherries: Bowany [Bhavani] and Seegoor Rivers, Billicul Lake; syntypes: BMNH 1867.7.24.25–27 [3], AMS B.7740 [1], Whitehead & Talwar, 1976: 157; adjective, *-us*, *-a*, *-um*)

**10.34.161 *Schistura sertata* Kottelat, 2000**

*Schistura sertata* Kottelat, 2000: 71, fig. 58 (type locality: Laos: Louangphabang Province: Mekong drainage, Nam Xi below Kuang Xi waterfall, upstream of Ban Thapen; 19°45'10"N 102°00'10"E; holotype: ZRC 45379; adjective, *-us*, *-a*, *-um*)

**10.34.162 *Schistura sexcauda* (Fowler, 1937)**

*Nemacheilus sexcauda* Fowler, 1937: 156, figs. 75–76 (type locality: Thailand: Me Poon [Mae Phun, a stream entering Mae Nam Yom at 17°40'N 99°42'E, Chao Phraya drainage, de Schauensee, 1946: 5; see Kottelat, 1990a: 207 for discussion of locality]; holotype: ANSP 68007; compound noun, indeclinable)

*Noemacheilus fowlerianus* Smith, 1945: 306 (type locality: Thailand: Me Poon [Mae Phun, a stream entering Mae Nam Yom at 17°40'N 99°42'E, Chao Phraya drainage, de Schauensee, 1946: 5; see Kottelat, 1990a: 207 for discussion of locality]; lectotype: ANSP 108189, designated by Kottelat, 1990a: 207; adjective, *-us*, *-a*, *-um*)

**10.34.163 *Schistura shadiwalensis* Mirza & Nalbant, in Mirza, Nalbant & Banărescu, 1981**

*Schistura shadiwalensis* Mirza & Nalbant, in Mirza, Nalbant & Banărescu, 1981: 125, figs. 51–55 (type locality: Pakistan: Punjab: Gujrat District: Shadiwal [32°37'13"N 74°14'49"E] on Chenab River, right-side tributary of Sutlej River; holotype: ISBB 3369; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** Menon (1987: 74) treated this species as synonym of *S. horai*, without discussion. The figures in the original descriptions of both species show great differences



**10.34.174** *Schistura speuli*, IRSNB 823, 57.2 mm SL, holotype; Vietnam: Lai Chau Province: cave in Chi Chu Chai.



**10.34.179** *Schistura suber*, CMK 22522, 44.8 mm SL; Laos: Mekong drainage: Nam Ngum.

in body shape and colour pattern and without further information I can only retain the species as valid.

**10.34.164** *Schistura sharavathiensis* Sreekantha, Gururaja, Remadevi, Indra & Ramachandra, 2006

*Schistura sharavathiensis* Sreekantha, Gururaja, Remadevi, Indra & Ramachandra, 2006: 2213, web suppl. fig. 3 (type locality: India: Karnataka: Shimoga: Sharavati River (14°08'15"N 74°44'30"E), Kalkatte tributary, 1 km upriver to Dabbe falls; holotype: ZSI/SRS F-7597; adjective, *-is, -is, -e*)

**10.34.165** *Schistura shebbearei* (Hora, 1935)

*Nemacheilus shebbearei* Hora, 1935a: 52, pl. 3 figs. 1–2 (type locality: India: Northern Bengal [probably rivers and streams below Darjeeling; Hora, 1935a: 53]; holotype: ZSI F 11720/1; noun in genitive, indeclinable)

**Taxonomic notes.** Listed without explanation as a synonym of *S. scaturigina* by Menon (1987: 86), which I do not follow judging from the great differences between the two species as described and figured by Hora (1935a).

**Nomenclatural notes.** Hora gave the catalogue number of the holotype as ZSI F 11720/1, Menon & Yazdani (1968: 125) and Eschmeyer & Fricke (2010) listed it as ZSI F 11719/1.

**10.34.166** *Schistura shuangjiangensis* (Zhu & Wang, 1985)

*Noemacheilus shuangjiangensis* Zhu & Wang, 1985: 215, figs. 18–23 (type locality: China: Yunnan: Shuangjiang County: Xiaoheijiang River, tributary of Lancangjiang River [Mekong], 23°20'N 99°50'E; holotype: NGI 810443; adjective, *-is, -is, -e*)

**10.34.167** *Schistura sigillata* Kottelat, 2000

*Schistura sigillata* Kottelat, 2000: 72, fig. 59 (type locality: Laos: Saisomboun Special Zone: Houay Sala Yai, a tributary of Nam San, Mekong drainage; 18°35'17"N 103°05'00"E; holotype: ZRC 45381; adjective, *-us, -a, -um*)

**10.34.168** *Schistura sijuensis* (Menon, 1987)

*Noemacheilus sijuensis* Menon, 1987: 175, pl. 6 fig. 2 (type locality: India: Meghalaya: Garo Hills: Siju Cave, 100



**10.34.185** *Schistura tizardi*, CMK 22361, 55.9 mm SL; Laos: Mekong drainage: Bolaven Plateau.



**10.34.187** *Schistura udomritthiruji*, CMK 22042, 42.4 mm SL; Thailand: Ranong Province: Kapoe.

feet from entrance [25°21'02"N 90°41'04"E]; holotype: ZSI/SRS F 570; adjective, *-is, -is, -e*)

**10.34.169** *Schistura sikmaiensis* (Hora, 1921)

*Nemacheilus sikmaiensis* Hora, 1921b: 201, pl. 9 fig. 4, pl. 10 figs. 1–1a (type locality: Burma: Putao, Irrawaddy drainage [original type locality: India: Manipur: Sikmai stream near Pale]; neotype: NRM 10740, designated by Kottelat, 1990a: 210; adjective, *-is, -is, -e*)

*Nemacheilus putaoensis* Rendahl, 1948: 27, figs. 11–12 (type locality: Burma: Putao, Irrawaddy drainage; holotype: NRM 10740; junior objective synonym of *Nemacheilus sikmaiensis* Hora, 1921b: 201; adjective, *-is, -is, -e*)

**10.34.170** *Schistura similis* Kottelat, 1990

*Schistura similis* Kottelat, 1990a: 210, fig. 156 (type locality: Thailand: Tak Province: Amphoe Tha Song Yang: Huei Ki Teu, Tambon Kanei Jiu, Salween drainage; holotype: ZRC 38478 [ex ZSM 27483]; adjective, *-is, -is, -e*)

**10.34.171** *Schistura singhi* (Menon, 1987)

*Noemacheilus singhi* Menon, 1987: 119, pl. 16 fig. 1 (type locality: India: Nagaland: Kiphire [25°53'57"N 94°46'51"E]; holotype: ZSI/SRS F 580; noun in genitive, indeclinable)

**10.34.172** *Schistura sokolovi* Freyhof & Serov, 2001

*Schistura sokolovi* Freyhof & Serov, 2001: 172, figs. 40–41 (type locality: Vietnam: Gia Lai Province: Azun River about 30 km east of Pleiku, a tributary to Ba River; 14°02.34'N 108°21.07'E; holotype: ZFMK 27116; noun in genitive, indeclinable)

**10.34.173** *Schistura sombooni* Kottelat, 1998

*Schistura sombooni* Kottelat, 1998a: 88, fig. 125 (type locality: Laos: Khammouan Province: Nam Phao 2 km upriver of Ban Lak Song (5 km upriver of Ban Nape), tributary of Nam Theun, Mekong drainage; approx. 18°20'40"N 105°07'30"E; holotype: ZRC 41806; noun in genitive, indeclinable)





**10.35.1** *Sectoria atriceps*, CMK 16049, 38.3 mm SL; Thailand: Chao Phraya drainage: Nan River.



**10.35.1** *Sectoria atriceps*, CMK 16059, 78.7 mm SL.

**10.34.174** *Schistura spekuli* Kottelat, 2004

*Schistura spekuli* Kottelat, 2004b: 187, fig. 1 (type locality: Vietnam: Lai Chau Province: cave in centre of Chin Chu Chai village [10 km south of Tam Duong]; about 22°24'N 103°26'E; holotype: IRSNB 823; noun in genitive, indeclinable)

**10.34.175** *Schistura spiesi* Vidthayanon & Kottelat, 2003

*Schistura spiesi* Vidthayanon & Kottelat, 2003: 165, fig. 4 (type locality: Thailand: Phitsanulok Province: Thung Salaeng Luang National Park: upstream section of Tham Phra Wang Daeng cave, 100–200 m from entrance; 16°40'41"N 100°41'24"E; holotype: NIFI 3150; noun in genitive, indeclinable)

**10.34.176** *Schistura spiloptera* (Valenciennes, in Cuvier & Valenciennes, 1846)

*Cobitis spiloptera* Valenciennes, in Cuvier & Valenciennes, 1846: 27, pl. 522 (type locality: Vietnam: Cochinchine; syntypes: MNHN 3434 [19], Bertin & Estève, 1948: 96; compound adjective, *-us*, *-a*, *-um*)

*Nemacheilus pellegrini* Rendahl, 1944: 26, fig. 13 (type locality: Vietnam: Annam: Thua Luu, 50 km southeast of Hué; holotype: NHMG; noun in genitive, indeclinable)

**10.34.177** *Schistura spilota* (Fowler, 1934)

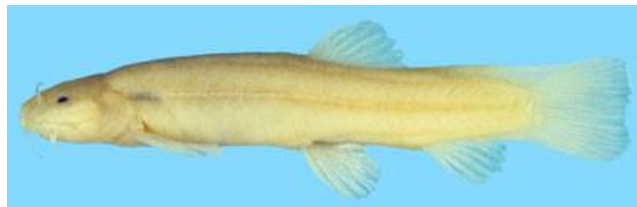
*Nemacheilus spilota* Fowler, 1934: 105, fig. 57 (type locality: Thailand: Chiang Mai Province: Metang River [Nam Mae Taeng], 35 miles north of Chiang Mai, Chao Phraya drainage; holotype: ANSP 56528; adjective, *-us*, *-a*, *-um*)

**10.34.178** *Schistura striata* (Day, 1867)

*Nemacheilus striatus* Day, 1867b: 347 (type locality: India: Wynaad at 3000 feet; syntypes [?]: ZSI A.2683 [lost], BMNH 1889.2.1.1661–1664 [4], AMS B.7487 [1],



**10.36.2** *Seminemacheilus lendlii*, CMK 20141, 66.5 mm SL; Turkey: Beysehir.



**10.37.1** *Speonectes tiomanensis*, CMK 15963, 41.1 mm SL; Malaysia: Tioman Island.



**10.38.1** *Sphaerophysa dianchiensis*, IHB 63V888, 69.5 mm SL, holotype; China: Yunnan: Lake Dianchi. (Photograph by Zhang E).

RMNH 2675 [1], Whitehead & Talwar, 1976: 157; adjective, *-us*, *-a*, *-um*)

**10.34.179** *Schistura suber* Kottelat, 2000

*Schistura suber* Kottelat, 2000: 72, fig. 60 (type locality: Laos: Vientiane Province: unnamed small forest stream along road from Thad Leuk to Nam Leuk dam site, Mekong drainage; 18°27'05"N 103°04'06"E; holotype: ZRC 45383; noun in apposition, indeclinable)

**10.34.180** *Schistura susannae* Freyhof & Serov, 2001

*Schistura susannae* Freyhof & Serov, 2001: 179, figs. 46–47 (type locality: Vietnam: Quang Nam Danang Province: stream Mong Mo south of Hai Van Pass at national highway Nr. 1; 16°09.67'N 108°07.73'E; holotype: ZFMK 28382; noun in genitive, indeclinable)

**10.34.181** *Schistura tenura* Kottelat, 2000

*Schistura tenura* Kottelat, 2000: 73, fig. 61 (type locality: Laos: Vientiane Province: Nam Leuk about 1 km downstream of dam site, Mekong drainage; 18°26'10"N 102°57'01"E; holotype: ZRC 45384; compound adjective but proposed as a noun in apposition, indeclinable)

**10.34.182** *Schistura thanho* Freyhof & Serov, 2001

*Schistura thanho* Freyhof & Serov, 2001: 182, figs. 49–50 (type locality: Vietnam: Binh Dinh Province: Vinh Thanh River, about 65 km north-west Quy Nhon; 14°16.19'N 108°45.69'E; holotype: ZFMK 21047; noun in apposition, indeclinable)

**10.34.183** *Schistura tigrina* Vishwanath & Nebeshwar Sharma, 2005

*Schistura tigrinum* Vishwanath & Nebeshwar Sharma, 2005: 79, fig. 1 (type locality: India: Manipur: Tamenglong

District: Tamei Subdivision: Barak River at Khunpong, Brahmaputra drainage; MUMF 4105; adjective, *-us*, *-a*, *-um*)

**10.34.184 *Schistura tirapensis* Kottelat, 1990**

*Noemacheilus arunachalensis* Menon, 1987: 129, pl. 16 fig. 10 (type locality: India: Arunachal Pradesh: Tirap District: Riwa River at Nampong; holotype: ZSI/SRS F 572; junior primary homonym of *N. arunachalensis* Datta & Barman, 1984: 275; adjective, *-is*, *-is*, *-e*)

*Schistura tirapensis* Kottelat, 1990a: 118 (replacement name for *Noemacheilus arunachalensis* Menon, 1987: 129; adjective, *-is*, *-is*, *-e*)

*Noemacheilus dattai* Menon, 1999: 170 (replacement name for *Noemacheilus arunachalensis* Menon, 1987: 129; noun in genitive, indeclinable)

**10.34.185 *Schistura tizardi* Kottelat, 2000**

*Schistura tizardi* Kottelat, 2000: 73, fig. 62 (type locality: Laos: Attapu Province: Xe Kaman at Muang Xaisettha, Mekong drainage; 14°48'27"N 106°55'52"E; holotype: ZRC 45386; noun in genitive, indeclinable)

**10.34.186 *Schistura tubularis* Kottelat, 1998**

*Schistura tubularis* Kottelat, 1998a: 89, fig. 127 (type locality: Laos: Khammouan Province: Nam Theun, from Ban Signo to about 6 km upriver, Mekong drainage; 17°50'50"N 105°03'00"E; holotype: ZRC 41808; compound noun, indeclinable)

**10.34.187 *Schistura udomritthiruji* Bohlen & Šlechtová, 2010**

*Schistura udomritthiruji* Bohlen & Šlechtová, 2010: 320, figs. 1–2 (type locality: Thailand: Ranong Province: small stream draining into Andaman Sea upstream of Kapoe; 9°34'14"N 98°41'40"E; holotype: ZRC 51724; noun in genitive, indeclinable)

**10.34.188 *Schistura vinciguerrae* (Hora, 1935)**

*Nemacheilus vinciguerrae* Hora, 1935a: 62, pl. 3 fig. 12 (type locality: Burma: Meekalan, Salween drainage, Salween drainage; holotype: ZSI F 11754/1; *Vinciguerra* is treated as a Latinized name and *vinciguerrae* is correct original spelling [Code art. 31.1.1 and Example]; noun in genitive, indeclinable)

**10.34.189 *Schistura waltoni* (Fowler, 1937)**

*Nemacheilus waltoni* Fowler, 1937: 157, figs. 77–79 (type locality: Thailand: Me Poon [Mae Phun, a stream entering Mae Nam Yom at 17°40'N 99°42'E, Chao Phraya drainage, de Schauensee, 1946: 5; see Kottelat, 1990a: 207 for discussion of locality]; holotype: ANSP 68008; noun in genitive, indeclinable)

*Noemacheilus obscurus* Smith, 1945: 316, fig. 68 (type locality: Thailand: Chiang Mai Province: Doi Angka [Doi Inthanon], Chao Phraya drainage; holotype: MCZ 35520; junior secondary homonym of *Cobites obscura* Swainson, 1839: 310, if both are treated as valid species in *Schistura*; adjective, *-us*, *-a*, *-um*)

**10.34.190 *Schistura xhatensis* Kottelat, 2000**

*Schistura xhatensis* Kottelat, 2000: 74, fig. 63 (type locality: Laos: Louangphabang Province: Nam Xhat, upstream of Ban Nam Sa, Mekong drainage; 20°06'43"N 103°19'56"E; holotype: ZRC 45388; adjective, *-is*, *-is*, *-e*)

**10.34.191 *Schistura yersini* Freyhof & Serov, 2001**

*Schistura yersini* Freyhof & Serov, 2001: 186, figs. 52–53 (type locality: Vietnam: Lam Dong Province: small stream running to Da Dung River south of Da Lat; 11°46.86'N 108°25.04'E; holotype: ZFMK 23579; noun in genitive, indeclinable)

**10.34.192 *Schistura yingjiangensis* (Zhu, 1982)**

*Nemacheilus yingjiangensis* Zhu, 1982a: 107, fig. 4 (type locality: China: Yunnan: Yingjiang County: Daying River, a tributary of Irrawaddy River; holotype: NPIB 784147; adjective, *-is*, *-is*, *-e*)

**10.34.193 *Schistura zonata* M'Clelland, 1839**

*Schistura zonata* M'Clelland, 1839: 308, 441, pl. 53 fig. 1 (type locality: India: Upper Assam: Muttuc District; types: LU; adjective, *-us*, *-a*, *-um*)

*Nemacheilus mugah* Day, 1869: 382 (type locality: India: Cossye River [Kasai] at Midnapore [22°15'N 87°39'E]; types: ZSI A.961 [lost], Whitehead & Talwar, 1976: 157; noun in apposition, indeclinable)

**Taxonomic notes.** *Nemacheilus mugah* is listed as a synonym of *S. zonata* by Day (1878a: 618) and Menon (1974: 56) (1987: 86) and *S. zonata* is listed as a synonym of *S. scaturigina* by Menon (1987: 86). The later, unexplained, synonymy is not followed. The identity of all these nominal species remains unsolved.

**10.35 *Sectoria* Kottelat, 1990**

*Sectoria* Kottelat, 1990a: 229 (type species: *Noemacheilus atriceps* Smith, 1945: 312, by original designation). Gender feminine.

**10.35.1 *Sectoria atriceps* (Smith, 1945)**

*Noemacheilus atriceps* Smith, 1945: 312, fig. 66 (type locality: Thailand: Nan Province: Menam Kon, tributary of Menam Nan, at Ban Khana, Chao Phraya drainage; holotype: USNM 117750; compound adjective, indeclinable)

**10.35.2 *Sectoria heterognathos* (Chen, 1999)**

*Schistura heterognathos* Chen, 1999: 301, fig. 1 (type locality: China: Yunnan: Xishuangbanna: Mengla County: Nanla River, Nazhao (21°40'55"N 101°35'20"E), about 25 km from Mengla, Mekong drainage; holotype: IHB 8810240; compound noun, indeclinable)

*Sectoria megastoma* Kottelat, 2000: 74, fig. 64 (type locality: China: Yunnan: Xishuangbanna: market in Mengla, Mekong drainage; holotype: NRM 33232; compound noun, proposed as a noun in apposition, indeclinable)

**10.36 *Seminemacheilus Banarescu & Nalbant, 1995***

*Heminoemacheilus Bănărescu, 1977*: 44 (nomen nudum)  
*Seminemacheilus Bănărescu & Nalbant, 1995*: 449 (type species: *Nemacheilus lendlii* Hankó, 1924: 155, by original designation). Gender masculine.

**10.36.1 *Seminemacheilus ispartensis* Erk'akan, Nalbant & Özeren, 2007**

*Seminemacheilus ispartensis* Erk'akan, Nalbant & Özeren, 2007: 76, fig. 7 (type locality: Turkey: Isparta Creek, Egirdir-Isparta Road, 1<sup>st</sup> railway pass, 37°38'N 30°31'E; holotype: HUIC AKD-1; adjective, *-is, -is, -e*)

**Taxonomic notes.** Coordinates possibly erroneous; they are identical to those of the type locality of *Barbatula mediterraneus*, which is from a different locality.

**10.36.2 *Seminemacheilus lendlii* (Hankó, 1924)**

*Nemachilus lendlii* Hankó, 1924: 155, pl. 3 fig. 9 (type locality: Turkey: Eski-Chehir; syntypes: MNH [10, lost]; noun in genitive, indeclinable)

**10.37 *Speonectes* Kottelat, 2012**

*Speonectes* Kottelat, 2012: 139 [appendix of present work] (type species: *Sundoreonectes tiomanensis* Kottelat, 1990b: 52, by original designation). Gender masculine.

**10.37.1 *Speonectes tiomanensis* (Kottelat, 1990)**

*Sundoreonectes tiomanensis* Kottelat, 1990b: 52, pl. 1 fig. 2 (type locality: Malaysia: Pulau Tioman: cave in Gunung [Mount] Kajang, at 3400 feet; holotype: BMNH 1989.2.23.1; adjective, *-is, -is, -e*)

**10.38 *Sphaerophysa* Cao & Zhu, 1988**

*Sphaerophysa* Cao & Zhu, 1988b: 405 (type species: *Sphaerophysa dianchiensis* Cao & Zhu, 1988: 405, by original designation). Gender feminine.

**10.38.1 *Sphaerophysa dianchiensis* Cao & Zhu, 1988**

*Sphaerophysa dianchiensis* Cao & Zhu, 1988b: 405, fig. 1 (type locality: China: Yunnan: Dianchi Lake near Kunming; holotype: IHB 63V888; adjective, *-is, -is, -e*)

**10.39 *Sundoreonectes* Kottelat, 1990**

*Sundoreonectes* Kottelat, 1990b: 52 (type species: *Nemacheilus obesus* Vaillant, 1902: 134, by original designation). Gender masculine.

**10.39.1 *Sundoreonectes obesus* (Vaillant, 1902)**

*Nemacheilus obesus* Vaillant, 1902: 134, figs. 39–40 (type locality: Indonesia: Borneo: Kalimantan Timur: Bloeoe River [Bluu, 0°42'N 114°24'E]; lectotype: RMNH 7780, designated by Kottelat, 1984b: 232; adjective, *-us, -a, -um*)

**10.39.2 *Sundoreonectes sabanus* (Chin, 1990)**

*Elxis sabanus* Chin, 1990: 74, fig. 3 (type locality: Malaysia: Borneo: Sabah: Sipitang District: mountain stream

in Mendolong area; holotype: FMNH 98130; adjective, *-us, -a, -um*)

**10.40 *Tarimichthys* Prokofiev, 2010**

*Tarimichthys* Prokofiev, 2010: 896 (subgenus of *Triplophysa* Rendahl, 1933: 21; type species: *Nemachilus bombifrons* Herzenstein, 1888: 67, by original designation). Gender masculine.

**10.40.1 *Tarimichthys bombifrons* (Herzenstein, 1888)**

*Nemachilus bombifrons* Herzenstein, 1888: 67, pl. 2 fig. 2, pl. 4 fig. 2 (type locality: China: Xinjiang: Chotan River [Khotan, Hotan He; confluence with Yarkand at 40°22'21"N 80°56'18"E]; lectotype: ZISP 7359, designated by Prokofiev, 2002b: 429, fig. 3; compound noun, indeclinable)

**10.40.2 *Tarimichthys edsinicus* (Prokofiev, 2003)**

*Triplophysa edsinica* Prokofiev, 2003b: 66, fig. 29 (type locality: China: "Hexi region": Edsin-Gol [Ejin, Ejina He, Eiin, Hei-He, Ruo-Shui; a river flowing north to endorheic Gaxun Nuur (Juyan Lake), 42°25'20"N 100°40'07"E]; holotype: ZISP 17294; adjective, *-us, -a, -um*)

**10.40.3 *Tarimichthys incipiens* (Herzenstein, 1888)**

*Nemachilus bombifrons incipiens* Herzenstein, 1888: 73 (type locality: China: Xinjiang: "Keria Mts." [Keriya, 36°53'00"N 81°36'00"E, about 160 km east of Khotan]; lectotype: ZISP 7365/1, designated by Prokofiev, 2002b: 428, fig. 1; participle, indeclinable)

**10.41 *Traccatichthys* Freyhof & Serov, 2001**

*Traccatichthys* Freyhof & Serov, 2001: 188 (type species: *Nemacheilus taeniatus* Pellegrin & Chevey, 1936: 229, by original designation). Gender masculine.

**10.41.1 *Traccatichthys pulcher* (Nichols & Pope, 1925)**

*Nemacheilus pulcher* Nichols & Pope, in Nichols, 1925b: 1 (type locality: China: Hainan: Nodoo; holotype: AMNH 8364 [apparently based on single specimen listed by Nichols & Pope, 1927: 339]; adjective, *-er, -ra, -rum*)

**10.41.2 *Traccatichthys taeniatus* (Pellegrin & Chevey, 1936)**

*Nemacheilus pulcher* var. *taeniata* Pellegrin & Chevey, 1936: 229, fig. 6 (type locality: Vietnam: Tonkin: Thiong Khé, Phu Tho, Red River drainage; holotype: MNHN 1935.348; adjective, *-us, -a, -um*)

? *Micronemacheilus zispi* Prokofiev, 2004b: 158, fig. 2 [p. 195 in translation] (type locality: China: Hainan: Sanya, a mountain stream 110 km from Duao-Lyu-Shan village; holotype: ZISP 46740; noun in genitive, indeclinable)

? *Micronemacheilus bacmeensis* Nguyen & Vo, in Nguyen, 2005: 562, fig. 10 (type locality: Vietnam: Ha Giang Province: Bac Me district: Minh Son stream, Red River drainage; holotype: NCNTTSI; adjective, *-is, -is, -e*)





**10.39.2** *Sundoreonectes sabanus*, FMNH 99436, 54.1 mm SL; Malaysia: Borneo: Sabah: Crocker Range.



**10.40.1** *Tarimichthys bombifrons*, ZISP 7341, 203 mm SL; China: Xinjiang: Lop Nor basin, Quarqan River. (From Herzenstein, 1888: pl. 2 fig. 2).

#### 10.42 *Triplophysa* Rendahl, 1874

*Diplophysa* Kessler, 1874: 57 (type species: *Diplophysa trauchii* Kessler, 1874: 58, by subsequent designation by Berg, 1916: 348; junior homonym of *Diplophysa* Gegenbaur, 1850: 291 in Coelenterata). Gender feminine.

*Triplophysa* Rendahl, 1933: 21 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemacheilus hutjertjuensis* Rendahl, 1933: 28, by original designation). Gender feminine.

*Tauphysa* Rendahl, 1933: 22 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Diplophysa kungessana* Kessler, 1879: 286, by original designation). Gender feminine.

*Deuterophysa* Rendahl, 1933: 23 (replacement name for *Diplophysa* Kessler, 1874: 57; junior homonym of *Deuterophysa* Warren, 1889: 272 in Lepidoptera). Gender feminine.

*Didymophysa* Whitley, 1950: 44 (replacement name for *Diplophysa* Kessler, 1874: 57 and *Deuterophysa* Rendahl, 1933: 23). Gender feminine.

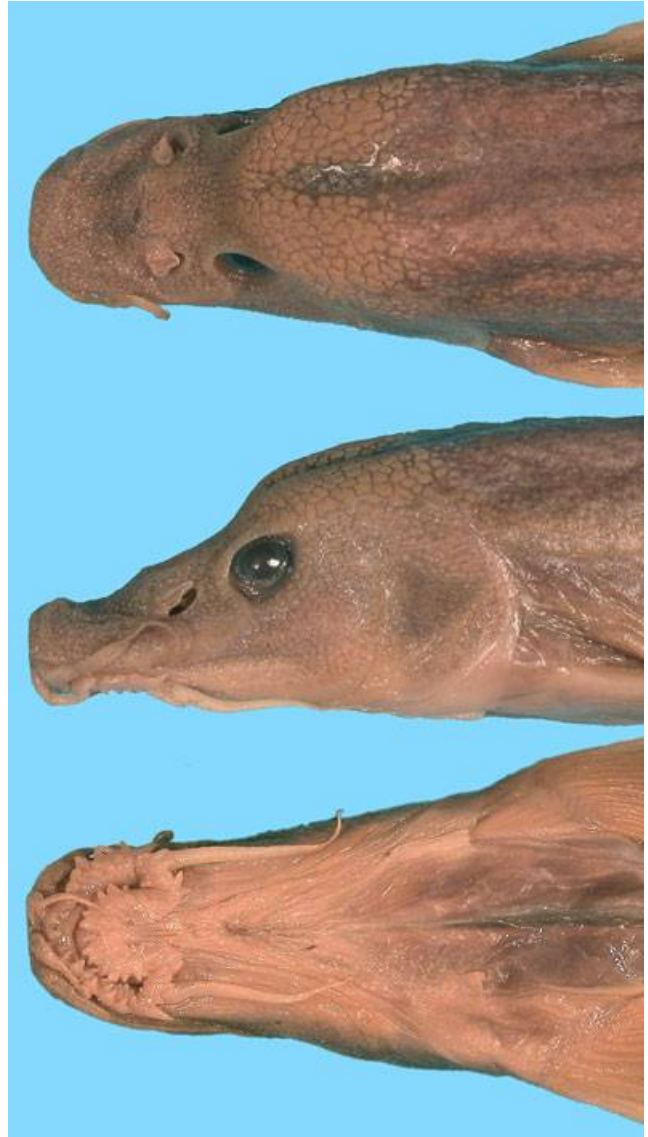
*Diplophysoides* Fowler, 1958: 13 (replacement name for *Diplophysa* Kessler, 1874: 57 and *Deuterophysa* Rendahl, 1933: 23). Gender masculine.

*Linemacheilus* Anonym, 2005: 67 (nomen nudum)

**Taxonomic notes.** *Triplophysa* is an artificial assemblage of species. Among them some species have been grouped in a few diagnosable lineages and have been named (*Hedinichthys*, *Qinghaichthys*, *Labiatoophysa*, *Indotriplophysa*, *Tarimichthys*) and treated as subgenera of *Triplophysa*, while the relationships of the majority are still unresolved. At this stage, these lineages seem well supported but their interrelationships are still not established. In such a situation, there does not seem to be reason or advantage in using a subgeneric rank, which implies that some relationship has been worked out. They are therefore treated as distinct, valid genera.

#### Nomen nudum

*Triplophysa malloryi* Bănărescu & Nalbant, 1995: figs. 24b, 25e (nomen nudum)



**10.40.1** *Tarimichthys bombifrons*, ASIZB 50187, 167 mm SL.

#### 10.42.1 ? *Triplophysa akhtari* (Vijayalakshmanan, 1950)

*Nemachilus akhtari* Vijayalakshmanan, 1950: 219, fig. 1 (type locality: Afghanistan: Farakhollum, about 10 miles south of Gardan Diwar, Helmund River; syntypes [at least 6]: ZSI F 244/2 [1]; noun in genitive, indeclinable)

**Taxonomic notes.** Treated as a synonym of *T. stolickai* by Prokofiev (2007b: 4), which geography suggests should be re-examined.

**Nomenclatural notes.** *Nemacheilus akhtari* was described on the basis of an unspecified number of specimens; morphometric data were given for five. No holotype was indicated. Menon & Yazdani (1968: 121) list only a 'holotype' (ZSI F 244/2). This specimen is at best a syntype. The fate of the remaining specimens is not known.

#### 10.42.2 *Triplophysa alexandrae* Prokofiev, 2001

*Triplophysa alexandrae* Prokofiev, 2001a: 203, fig. 13 [not 19] (type locality: China: Sichuan: Min River basin, Dadu He River east of Kangding [30°03'N 101°58'E; Yangtze drainage]; holotype: ZISP 16335; noun in genitive, indeclinable)



**10.41.2** *Traccatichtys taeniatus*, CMK 14885, 66.6 mm SL; Vietnam: Quang Ninh.

**10.42.3** *Triplophysa aliensis* Zhu & Wu, in Wu & Zhu, 1979

*Triplophysa aliensis* Zhu & Wu, in Wu & Zhu, 1979: 29, fig. 9 (type locality: China: Xizang [Tibet]: Ali, Xiang-quan and Shi-quan Rivers, Indus River drainage; syntypes: NPIB (?) 74.201–244, 255 [45]; adjective, *-is*, *-is*, *-e*)

**10.42.4** *Triplophysa altipinnis* Prokofiev, 2003

*Triplophysa altipinnis* Prokofiev, 2003b: 63, fig. 25 (type locality: China: eastern Qaidam: Dzukha; holotype: ZISP 12492; compound noun, indeclinable)

**10.42.5** *Triplophysa aluensis* Li & Zhu, 2000

*Triplophysa aluensis* Li & Zhu, 2000: 396, fig. 1 (type locality: China: Yunnan: Luxi County: Yusun River in cave Alugudong, 24°17'N 103°48'E [24°33'N 103°45'E; Romero et al., 2009: 259]; holotype: HRAS 2000062001; adjective, *-is*, *-is*, *-e*)

**10.42.6** *Triplophysa angeli* (Fang, 1941)

*Nemacheilus Angeli* Fang, 1941: 256 (type locality: China: western Sse-chuan [Sichuan] [probably Pingwu County: Long'an; on Fu Jiang river, Jialing Jiang system, Yangtze drainage; 32°24'31"N 104°31'36"E; see below]; holotype: MNHN 6287, Bertin & Estève, 1948: 97, fig. 3; noun in genitive, indeclinable)

**Taxonomic notes.** Herzenstein (1888: 21), Rendahl (1933: 46) and Prokofiev (2003a: 703) discussed ZISP 4471 received from MNHN as *N. nudus* from Sichuan. Fang (1941: 253) explained that this specimen had been taken from a jar labelled "*Nemacheilus nudus* Blkr.; Sse-chuan Occid.; R. P. A. David, 1870–58". The remaining 11 specimens from this jar (MNHN 6287) are the types of *Nemacheilus angeli*. In Sichuan, David visited Chengdu, then travelled to Muping. Muping is now in Western Sichuan, but at David's time it was an independant principedom and David's map shows it in Tibet (see *Oreias dabryi*). After returning to Chengdu, David wanted to visit Kokonoor [now China: Qinghai]. He reached to Lon-gan [Sichuan: Pingwu County; also as Lunyan, Lung-yan, Lungan; 32°24'31"N 104°31'36"E], explored that area, returned to Chengdu and Shanghai (David, 1871: 97). This makes Pingwu the most likely type locality for *N. angeli*. Unfortunately, David did not published a detailed account of this part of his second travel. His map (1875) shows that he made a number of small trips around Pingwu.

**10.42.7** *Triplophysa anterodorsalis* Zhu & Cao, in Zhu, 1989

*Triplophysa anterodorsalis* Zhu & Cao, in Zhu, 1989: 106, fig. 73 (type locality: China: Sichuan: a branch of Jin-



**10.42.9** *Triplophysa arnoldii*, CMK 19546, 71.0 mm SL; Mongolia: Lake Ayrag basin.

shjiang River [Yangtze] in Huidongxian County [26°38'04"N 102°34'41"E]; holotype: NGI ? 60VIII0084; compound noun, indeclinable)

**10.42.8** *Triplophysa aquaeaeeruleae* Prokofiev, 2001

*Triplophysa aquaeaeeruleae* Prokofiev, 2001a: 195, fig. 7 [not fig. 1] (type locality: China: Qinghai: Ba-tshu River (? Ba Qu), a tributary of Blue River (Changjiang [Yangtze]) (near Yushu, 33°N 92°E) [Yushu town, Gyêgu Prefecture, 33°00'11"N 97°00'36"E; Jerku on Kozlov's 1902a map]; holotype: ZISP 12494, He et al., 2008: 48, fig. 5b; noun in genitive, indeclinable)

**Taxonomic notes.** The coordinates for the type locality (Yushu) are given in the original description as about 33°N 92°E. This seems erroneous since this is not within the area visited by Kozlov (the collector) in 1900 (maps in Kozlov, 1948). There is Yushu in Gyêgu Prefecture, Qinghai, at 33°00'11"N 97°00'36"E. The 'Ba Tschu' of Kozlov's (1948) map of Kam enters a Gou-tschou [? difficult to decipher on map] at about 32°52'33"N 97°04'15"E, based on Google Earth images.

**10.42.9** *Triplophysa arnoldii* Prokofiev, 2006

*Triplophysa arnoldii* Prokofiev, 2006b: 237, figs. 1–2 (type locality: Mongolia: stream connecting Lakes Ayrag-Nuur and Khirgis-Nuur [Khyar-gas], Kobdo basin [Khovd Gol; 48°56'20"N 93°20'42"E]; holotype: ZISP 29054; noun in genitive, indeclinable)

**10.42.10** *Triplophysa bashanensis* Xu & Wang, 2009

*Triplophysa bashanensis* Xu & Wang, 2009: 381, figs. 2–4 (type locality: China: Shaanxi: Xixiang County (32°35'N 107°27'E): Dahe Town: Huangjiabian stream in Loufang Village, a tributary of Jialingjiang River, 712 masl; holotype: SIZ 0608008; adjective, *-is*, *-is*, *-e*)

*Triplophysa longchiensis* Xu & Wang, 2009: 384 (name apparently erroneously used instead of *T. bashanensis* Xu & Wang, 2009: 381 in English translation of text; formally a simultaneous objective synonym; as first reviser I give precedence to *T. bashanensis*; adjective, *-is*, *-is*, *-e*)

**10.42.11** *Triplophysa bellibarus* (Tchang, Yueh & Hwang, 1963)

*Nemachilus bellibarus* Tchang, Yueh & Hwang, 1963: 625, figs. 4–7 (type locality: China: Southern Tibet: Tso-Hwui-La, upper reaches of Nyang-Chu [a tributary of Brahmaputra]; holotype: ASIZB TS-409; compound noun, indeclinable ['Latinized' English nouns belly and bar])

**Taxonomic notes.** Treated as a synonym of *T. microps* by Wu & Wu (1992: 196); not listed among synonyms of *T. microps* by Prokofiev (2010: 895).



**10.42.12 *Triplophysa bleekeri* (Sauvage & Dabry de Thiersant, 1874)**

*Nemachilus Bleekeri* Sauvage & Dabry de Thiersant, 1874: 15 (type locality: China: southern Shen-si [Shaanxi]; Yenkiatsoun [or Yen-kia-tsong; David, 1875: map; Baoji Prefecture, apparently Mei County [34°17'N 107°45'E]; in Tsang-Yu torrent, Wei He system, Huang He drainage; see below]; syntypes: MNHN 7890 [1], B.2642 [7], Bertin & Estève, 1948: 98, fig. 2; noun in genitive, indeclinable)

**Taxonomic notes.** The holotype is 25.0 mm SL and the original description does not include usable information for identification. The name is presently applied for a Chinese species known from the Han Jiang, Jialing Jiang and Min Jiang in the Yangtze drainage in Shaanxi and Sichuan provinces (He et al., 2008: 49). In fact, the type locality is in the Huang He drainage and the identity of the species identified as *T. bleekeri* should be re-examined.

There has been speculations about the location of the type locality, which could not be identified. This information is given by the collector in the description of his travel (David, 1875) and on the accompanying map. Yenkiatsoun [or Yen-kia-tsong on map] is (or is near) present Mei County in Baoji Prefecture, Shaanxi, near Wei He river, in Huang He drainage. David (1875: vol. 1: 267) collected "a *Gobius* and another small fish" in the torrent Tsang-yu in Yenkiatsoun on 31 January 1873. Six small "ablettes" (probably a small cyprinid since ablette is the French word for *Alburnus*, a genus of silvery European cyprinids) were caught later (p. 268).

**10.42.13 *Triplophysa brachyptera* (Herzenstein, 1888)**

*Nemachilus robustus brachypterus* Herzenstein, 1888: 40, pl. 5 fig. 1 (type locality: China: Gan-ssu [Gansu]; syntypes: ZISP 7320 [2]; compound adjective, *-us*, *-a*, *-um*)  
? *Nemachilus minxianensis* Wang & Zhu, 1979: 129, fig. 1 (type locality: China: Gansu: upper drainage of Tau-He River, branch of Huang He; syntypes: IHB 771465 [1], 771372 [1]; adjective, *-is*, *-is*, *-e*)

**Taxonomic notes.** Tentative synonymy follows Prokofiev (2007b: 4, 2010: 895).

**10.42.14 *Triplophysa brahui* (Zugmayer, 1912)**

*Nemachilus brahui* Zugmayer, 1912: 598 (type locality: Pakistan: Balochistan: Kelat [Kalat, Qalat; 29°01'33"N 66°35'24"E; apparently in Pishin Lora River endorheic basin]; syntypes: ZSM [24, lost; Kottelat, 1988a, pers. obs.]; noun in genitive, indeclinable)

**10.42.15 *Triplophysa brevibarba* Ding, 1993**

*Triplophysa brevibarba* Ding, 1993: 249, fig. 5 (type locality: China: Sichuan: Mianning County, 28°34'N 102°10'E; holotype: MSINR 900264; compound noun, indeclinable)  
*Triplophysa dingi* Prokofiev, 2010: 842, 895 (unnecessary replacement name for *Triplophysa brevibarba* Ding, 1993: 249; noun in genitive, indeclinable)

**Taxonomic notes.** Prokofiev (2010: 895) considered that *T. brevibarba* Ding, 1993 is a secondary junior homonym of *Nemachilus yarkandensis brevibarbus* Herzenstein, 1888: 78 [now in *Hedinichthys*] and proposed *T. dingi* as new re-

placement name. However, to be secondary homonyms the two names should have been used *in combination* with the same generic name (*Code art. 57.3.1*). This means that it is not enough that *N. y. brevibarbus* has been placed in *Triplophysa* as a synonym of *T. yarkandensis*. It is a senior synonym only if the combination *Triplophysa brevibarba* (Herzenstein) or *T. yarkandensis brevibarba* (Herzenstein) has been used. To my knowledge, *N. y. brevibarbus* Herzenstein has never been treated as a valid species in *Triplophysa* and the combination has never been used. Therefore *T. dingi* is an unnecessary replacement name.

Note that *brevibarbus* is an adjective and declinable and *brevibarba* is a compound noun and indeclinable.

**10.42.16 *Triplophysa brevicauda* (Herzenstein, 1888)**

*Nemachilus Stoliczkae brevicauda* Herzenstein, 1888: 23, pl. 5 fig. 4 (type locality: "Dabsun-Gobi" [apparently China: Qinghai: Dabsan Nur Lake, 56°58'N 95°00'E]; lectotype: ZISP 7370, designated by Prokofiev, 2007b: 12, fig. 5a; compound noun, indeclinable)

**10.42.17 *Triplophysa cakaensis* Cao & Zhu, 1988**

*Triplophysa cakaensis* Cao & Zhu, 1988a: 201, figs. 1–3 (type locality: China: Qinghai: Ulanxian County: stream in Cakayanhu Lake [36°42'00"N 99°06'00"E] endorheic basin near Caka, "36°N 98°E"; holotype: IHB 56IX0034; adjective, *-is*, *-is*, *-e*)

**10.42.18 *Triplophysa chondrostoma* (Herzenstein, 1888)**

*Nemachilus chondrostoma* Herzenstein, 1888: 36, pl. 3 fig. 7 (type locality: China: Qinghai: Zaidam [Quaidam basin]; Bajan-gol River [37°18'N 96°50'E]; holotype: ZISP 7219, Prokofiev, 2003b: 53, fig. 1; compound noun, indeclinable)

**Taxonomic notes.** Placed in *Hedinichthys* by Wu & Wu (1992: 263).

**10.42.19 *Triplophysa coniptera* (Turdakov, 1954)**

*Nemachilus conipterus* Turdakov, 1954: 117 (type locality: Kyrgyzstan: Ters River, Talas basin; syntypes [? 34]: LU; compound adjective, *-us*, *-a*, *-um*)

*Nemachilus conipterus salari* Turdakov, 1954: 122 (type locality: Uzbekistan: Salar canal in Tachkent [41°16'N 69° 13'E; Syr Darya drainage]; types: LU; noun in genitive, indeclinable)

**10.42.20 *Triplophysa crassilabris* Ding, 1994**

*Triplophysa crassilabris* Ding, 1994: 92, fig. 56 (type locality: China: Sichuan: Xia Man Lake, 3400 masl; holotype: MSINR 830578; compound noun, indeclinable)

**10.42.21 *Triplophysa cuneicephala* (Shaw & Tchang, 1931)**

*Barbatula cuneicephalus* Shaw & Tchang, 1931: 81, fig. 10 (type locality: China: San-kai-tien, near Peiping [Beijing]; holotype: ZMFIB 6237; compound adjective, *-us*, *-a*, *-um*)

**10.42.22 *Triplophysa dalaica* (Kessler, 1876)**

*Diplophysa dalaica* Kessler, 1876: 24, pl. 3 fig. 1 (type locality: China: Nei Mongol: Lake Dalai Nor [43°18'N



116°40'E]; lectotype: ZISP 2474, designated by Prokofiev, 2003b: 55, fig. 5; adjective, *-us, -a, -um*)

*Nemachilus djaggasteensis* Rendahl, 1922: 1 (type locality: China: Nei Mongol: Djaggaste [Tjaggan Obo, Obor Jalag, Wu-pu-lin-cha-la-ka, 46.33 120.75] [about 120 km on road from Kalgan [Zhangjiakou] to Uрга [Ulaan Baatar], 41.7039°N 113.839°E; NRM catalogue]; syntypes: NRM 10338 [18], 20338 [1], 18946 [1], 27321 [5], MNHN 1933.116 [1], Bertin & Estève, 1948-98; adjective, *-is, -is, -e*)

*Barbatula toni posteroventralis* Nichols, 1925b: 4 (type locality: China: Shansi: Chin Ssu, 16 miles southwest of Taiyuanfu; holotype: AMNH 8410; compound noun, indeclinable)

**Taxonomic notes.** *Nemachilus djaggasteensis* and *B. posteroventralis* are listed as synonyms of *T. dalaica* by Zhu (1989: 82). They are not mentioned by Prokofiev (2003b, 2010: 895).

#### 10.42.23 *Triplophysa daqiaoensis* Ding, 1993

*Triplophysa daqiaoensis* Ding, 1993: 247, fig. 1 (type locality: China: Sichuan: Minnin County: Daqiao, 28°41'N 102°12'E; holotype: MSINR 900267; adjective, *-is, -is, -e*)

#### 10.42.24 *Triplophysa dorsalis* (Kessler, 1872)

*Cobitis dorsalis* Kessler, 1872: 67, pl. 11 figs. 34–35 (type locality: Kazakhstan: Yani-Kurgan [Yanykurgan, Zhana-korgan, 43°54'54"N 67°14'53"E; on Syr-Darya]; syntypes [8]: ZISP 2079 [2], 3702 [according to Herzenstein, 1888: 20]; noun in apposition, indeclinable)

? *N[emacheilus] (Deuterophysa) dorsalis valerii* Mitrofanov, 2002: 124 (not available: no fixation of holotype or syntypes, *Code art.* 16.4.1, no intention to establish a new taxon, *Code art.* 16.1; locality: Kazakhstan: Ili drainage, Bolshaya Almatinka River [43°34'01"N 76°54'03"E]; noun in genitive, indeclinable)

**Taxonomic notes.** The type locality of *C. dorsalis* given by Kessler is Yani-Kurgan. Berg (1949: 858) gave it as "Yanykurgan, in the Chimkent or the Dzhizak District?". Chimkent is in Kazakhstan [Shymkent, 42°19'00"N 69°35'45"E] and Dzhizak is in Uzbekistan [Djizak, Jizzax, Jizzakh, 40°06'57"N 67°50'32"E].

#### 10.42.25 *Triplophysa dorsonotata* (Kessler, 1879)

*Nemachilus dorsonotatus* Kessler, 1879: 285 (type locality: China: Xinjiang: Kungès River [Künes He], a tributary of Ili River, alt. 4000 ft.; lectotype: ZISP 4175 [1 of 2], listed by Prokofiev, 2007b: 4, 6, 8, but not formally designated, this specimen is here designated as lectotype; reprinted as Kessler, 1880: 271; adjective, *-us, -a, -um*)

? *Nemachilus cuëljuensis* Anikin, 1905: 6, 18 [of reprint] (type locality: Kyrgyzstan: Issyk Kul Province: Ak-Suu District: Kuelyu River [Kuilyu; 42°12'16"N 78°57'37"E], tributary of Sarydzhas [Sary-Dzhaz, Sarychat], Tarim basin [flows to Aksu-He and Yarkand in Xinjiang, China]; syntypes [3]: LU; adjective, *-is, -is, -e*)

#### 10.42.26 *Triplophysa drassensis* (Tilak, 1990)

*Noemacheilus drassensis* Tilak, 1990: 136, fig. 1 (type locality: India: Jammu and Kashmir: Ladakh: stream near

Drass [34°25'46"N 75°45'07"E]; holotype: ZSI/NRS 1206; paper dated 1990 but possibly not published until 1997; adjective, *-is, -is, -e*)

**Nomenclatural notes.** See *Triplophysa shehensis* for publication date.

#### 10.42.27 ? *Triplophysa elegans* (Kessler, 1874)

*Cobitis elegans* Kessler, 1874: 43 (type locality: Uzbekistan: Salar stream near Tachkent [41°16'N 69°13'E; Syr Darya drainage]; syntypes: ZISP 10931 [1; also listed under *C. uranoscopus*], ZMMU P2542 [1], P-8002 [3], Svetovidova, 1978: 259, Vasilieva et al., in Pavlinov & Borissenko, 2001: 28; adjective, indeclinable)

**Taxonomic notes.** Listed as synonym of *T. stolickai* by Prokofiev (2007b: 4), which geography suggests should be re-examined.

#### 10.42.28 *Triplophysa farwelli* (Hora, 1935)

*Nemachilus farwelli* Hora, 1935b: 799, fig. 4d, pl. 1 fig. 2 (type locality: Afghanistan: Helmand River; holotype: ZSI F 11515/1; noun in genitive, indeclinable)

#### 10.42.29 *Triplophysa flavicarpus* Yang, Chen & Lan, 2004

*Triplophysa flavicarpus* Yang, Chen & Lan, 2004: 113, fig. 3 (type locality: China: Guangxi: Du'an County: Hongshuihe River, a tributary of Xijiang; holotype: KIZ 995004; compound noun, indeclinable)

#### 10.42.30 *Triplophysa furva* Zhu, 1992

*Triplophysa furva* Zhu, 1992: 242, figs. 3–6 (type locality: China: Xinjiang: Urümqi River, near Hongyanchi Reservoir, Urümqi City, 43°47'N 87°37'E; holotype: NGI 880943; adjective, *-us, -a, -um*)

#### 10.42.31 *Triplophysa fuxianensis* Yang & Chu, 1990

*Triplophysa fuxianensis* Yang & Chu, 1990b: 377, fig. 2 (type locality: China: Yunnan: Fuxian Lake [24°32'N 103°55'E]; holotype: KIZ 873126; adjective, *-is, -is, -e*)

#### 10.42.32 *Triplophysa gejiuensis* (Chu & Chen, 1979)

*Noemacheilus gejiuensis* Chu & Chen, 1979: 285, fig. 1 (type locality: China: Yunnan: Gejiu County: Bajianjing near Qiafanf [Bajiaoqing 4 km from Kafang, 23°16'N 103°09'E; Romero et al., 2009: 260]; holotype: KIZ 7803001; adjective, *-is, -is, -e*)

#### 10.42.33 *Triplophysa gerzeensis* Cao & Zhu, 1988

*Triplophysa gerzeensis* Cao & Zhu, 1988: 202, figs. 4–5 (type locality: China: Qinghai–Xizang, stream in Chaco Lake drainage near Gerze [32°18'15"N 84°03'30"E], 4370 masl; holotype: IHB 76IV0200; adjective, *-is, -is, -e*)

#### 10.42.34 *Triplophysa gracilis* (Day, 1877)

*Nemacheilus gracilis* Day, 1877b: 798 (type locality: India: Ladakh: Basgo, on headwaters of Indus River [34°13'N 77°17'E; downstream of Leh]; syntypes: ZSI 1469, BMNH 1889.2.1.1726 [1], NMW 48413 [1], Whitehead & Talwar, 1976: 157; also in Day, 1878b: 16, pl. 4 fig. 5; adjective, *-is, -is, -e*)

? *Nemachilus deTerra* Hora, 1936: 311, figs. 4–5, pl. 12



**10.42.37** *Triplophysa gundriseri*, CMK 19548, 96.4 mm SL; Mongolia: Lake Uvs basin.

fig. 5–6 (type locality: India: Kashmir: Ladakh: Man Lagoon; syntypes [9]: ZSI F 12200/1 [6], Menon & Yazdani, 1968: 122; noun in genitive, indeclinable)

? *Triplophysa trewavasae* Mirza & Ahmad, 1990: 317, fig. 1 (type locality: Pakistan: Northern Area: near rest house of Yasin, Yasin Valley [Yasin: 36°22'N 73°20'E]; holotype: GCMNH uncat.; noun in genitive, indeclinable)

**Taxonomic notes.** Tentative synonymy, following Prokofiev (2010: 895).

**10.42.35** *Triplophysa grahami* (Regan, 1906)

*Nemachilus grahami* Regan, 1906b: 333 (type locality: China: Yunnan: Yunnan-Fu [Kunming]; syntypes: BMNH 1905.10.28.16–17 [2]; noun in genitive, indeclinable)

**10.42.36** *Triplophysa griffithii* (Günther, 1868)

*Nemachilus griffithii* Günther, 1868: 360 (type locality: "Assam ?" [error, see Hora, 1928: 481; correct locality is: Afghanistan: Arghandab, a rapid and considerable sized tributary of Helmand River, running within two or three miles of Kandahar]; syntypes: BMNH 1860.3.19.93–94 [2], lost ?, Kullander et al., 1999: 142; noun in genitive, indeclinable)

*Noemacheilus naziri* Ahmad & Mirza, 1963: 76, figs. 1–2 (type locality: Pakistan: Swat State: Madyan stream near Madyan [35°08'25"N 72°32'14"E]; syntypes [9]: ISBB 1234 [3], Bănărescu & Nalbant, 1966a: 159; noun in genitive, indeclinable)

*Nemacheilus griffithi hazaraensis* Omer & Mirza, 1975: 203, figs. 1–2 (type locality: Pakistan: Hazara District [now Abbottabad]: Ilyasi Masjid springs [34°10'16"N 73°15'30"E; in Nawanshehr]; holotype: GCMNH F 12; adjective, *-is, -is, -e*)

**Taxonomic notes.** Günther (1868: 360) indicated the type locality of *T. griffithii* as "Assam ?". Hora (1928: 481) showed that this is not correct and that the type locality is near Kandahar, Afghanistan.

**10.42.37** *Triplophysa gundriseri* Prokofiev, 2002

*Nemacheilus dorsalis humilis* Gundriser, 1962: 253, fig. 4 (type locality: Russia: Tuva Republic: Tes-Khem River, 25 km northwest of Erzin, 50°27'N 95°01'E [original type locality: Russia: Tuva: Erzin and Tes-Khem Rivers]; neotype: ZISP 52053, designated by Prokofiev, 2002a: S49, fig. 4a; junior primary homonym of *Nemachilus humilis* Lin, 1932c: 515; adjective, *-is, -is, -e*)

*Triplophysa gundriseri* Prokofiev, 2002a: S47 (replacement name for *Nemacheilus dorsalis humilis* Gundriser, 1962: 253; noun in genitive, indeclinable)

*Triplophysa gundriseri chandagaitensis* Prokofiev, 2002a: S55, fig. 4a (type locality: Russia: Tuva Republic: Chan-

dagaity River in Chandagaity village, 50°44'N 92°08'E; holotype: ZISP 52199; adjective, *-is, -is, -e*)

**10.42.38** *Triplophysa hexiensis* (Zhao & Wang, 1988)

*Nemachilus dorsonotatus hexiensis* Zhao & Wang, 1988: 113, fig. 2 (type locality: China: Gansu: Hexi area, Ruoshui and Shiyang He rivers [Ruo Shui: Edsin, Ejina He, Eiin, Hei-He; a river flowing north to endorheic Gaxun Nuur (Juyan Lake), 42°25'20"N 100°40'07"E; Shiyang He: an endorheic river disappearing in Gobi desert about 39°00'N 103°35'E]; syntypes [28]: DBLU 77-0940 [?], 0946, 0953, 0955, 80-0344, 0357, 0362, 0373, 0375, 0383, 0386, 0390, 0394, 0406, 0420, 0435, 0461, 0468, 0563, 0803, 1192–1195, 1197, 1198, 1135 [27]; adjective, *-is, -is, -e*)

? *Triplophysa rossoperegrinatorum* Prokofiev, 2001a: 200, fig. 19 [not fig. 13] (type locality: China: Gansu: mountains north of Xining & Lanzhou; holotype: ZISP 3719; noun in genitive, indeclinable)

**Taxonomic notes.** Synonymy follows Prokofiev (2010: 895).

**10.42.39** *Triplophysa heyangensis* Zhu, 1992

*Triplophysa heyangensis* Zhu, 1992: 244, figs. 7–10 (type locality: China: Shaanxi: Heyangxian County: Hanshutaucun village, 35°11'N 110°05'E, Huang He drainage; holotype: NGI 820027; adjective, *-is, -is, -e*)

**10.42.40** *Triplophysa hialmari* Prokofiev, 2001

*Triplophysa hialmari* Prokofiev, 2001a: 198, fig. 1 [not 7] (type locality: China: Qinghai: Ba-tshu River (? Ba Qu), a tributary of Blue River (Changjiang [Yangtze]) (near Yushu, 33°N 92°E) [Yushu town, Gyêgu Prefecture, 33°00'11"N 97°00'36"E]; holotype: ZISP 26245; noun in genitive, indeclinable)

**Taxonomic notes.** See discussion of type locality under *T. aquaecaeruleae*.

**10.42.41** *Triplophysa hsutschouensis* (Rendahl, 1933)

*Nemacheilus hsutschouensis* Rendahl, 1933: 41 (type locality: China: Nei Mongol: Hsutschou, in a stream flowing to Etsin Gol [Edsin, Ejina He, Eiin, Hei-He, Ruoshui; a river flowing north to endorheic Gaxun Nuur (Juyan Lake), 42°25'20"N 100°40'07"E]; syntypes: NRM 10206 [1], 12339 [7]; adjective, *-is, -is, -e*)

**10.42.42** *Triplophysa huanglongensis* Gao, in Anonym, 1992

*Triplophysa huanglongensis* Gao, in Anonym, 1992: 83, fig. 3-87 (type locality: China: Shaanxi: Huang Long County: Baima village, upper reaches of Ju He; holotype: Fisheries Institute of Shaanxi Province, Xian; adjective, *-is, -is, -e*)

**10.42.43** *Triplophysa huanjiangensis* Yang, Wu & Lan, 2011

*Triplophysa huanjiangensis* Yang, Wu & Lan, 2011: 567, figs. 1, 3 (type locality: China: Guangxi: Huanjiang County [Nandan County on p. 569]: Chuanshan Town, cave in Leyi village (25°06'02.6"N 108°00'01"E); holotype: GIF 07040316; spelt *huangjiangensis* p. 566, an obvious er-

ror of inadvertence, thus incorrect original spelling [*Code art.* 32.5.1]; adjective, *-is, -is, -e*)

**10.42.44 *Triplophysa huapingensis* Zheng, Yang & Chen, 2012**

*Triplophysa huapingensis* Zheng, Yang & Chen, 2012a: 832, fig. 1 (type locality: China: Guangxi: Leye County: Huaping town, Hongshuihe River, a tributary of Xijiang; holotype: KIZ 2008007607; adjective, *-is, -is, -e*)

**10.42.45 *Triplophysa hutjertjuensis* (Rendahl, 1933)**

*Nemacheilus hutjertjuensis* Rendahl, 1933: 28 (type locality: China: Nei Mongol: stream close to Hutjertju Göl; syntypes [12]: NRM 10202 [10], MNHN 1933.118 [1], Bertin & Estève, 1948: 98; adjective, *-is, -is, -e*)

**10.42.46 *Triplophysa intermedia* (Kessler, 1876)**

*Diplophysa intermedia* Kessler, 1876: 28, pl. 3 fig. 4 [not 3] (type locality: China: Nei Mongol: Lake Dalaï-Nor [43° 18'N 116°40'E; not Hu-Lun Lake, which is another Dalai Nur]; holotype: ZISP 2476; adjective, *-us, -a, -um*)

**10.42.47 *Triplophysa jianchuanensis* Zheng, Du, Chen & Yang, 2010**

*Triplophysa jianchuanensis* Zheng, Du, Chen & Yang, 2010: 22, fig. 1 (type locality: China: Yunnan: Lancangjiang drainage [Mekong]: Dali Prefecture: Jianchuan County: Jiangkou spring, 26°31'22.6"N 99°57'30.4"E; holotype: KIZ 2008004424; adjective, *-is, -is, -e*)

**10.42.48 *Triplophysa jiarongensis* Lin, Li & Song, 2012**

*Triplophysa jiarongensis* Lin, Li & Song, 2012: 640, figs. 2–4 (type locality: China: Guizhou: Libo County: Jiarong Town, Shuijingwan Cave, 616 masl, 25°28'N 108° 06'E; holotype: SOU 10111801; adjective, *-is, -is, -e*)

**10.42.49 *Triplophysa kafirigani* (Turdakov, 1947)**

*Nemacheilus dorsalis kafirigani* Turdakov, 1947a: 58 (type locality: Tajikistan: Kafirigani River near Stalinabad [Dushanbe], Amu Darya drainage; syntypes [16]: ZMMU P-3647 [1], P-3651 [3], Vasilieva et al., in Pavlinov & Borissenko, 2001: 28; noun in genitive, indeclinable)

**10.42.50 *Triplophysa kullmanni* Bănărescu & Nalbant, in Ladiges, 1975**

*Triplophysa kullmanni* Bănărescu & Nalbant, in Ladiges, 1975: 40 (type locality: Central Afghanistan: Ab-e-Nawar [Dasht-e-Nawar, a lake west of Ghazni; 33°31'43"N 67°48'06"E]; holotype: ZMH H 4778; noun in genitive, indeclinable)

**Nomenclatural notes.** The original description of this species by Bănărescu & Nalbant (1975: 246, pl. 5 fig. 5) appeared in November 1975, but a popular account by Ladiges based on Bănărescu & Nalbant's manuscript appeared in February 1975. As this account includes illustrations and a short description, it makes the name available.

**10.42.51 *Triplophysa kungessana* (Kessler, 1879)**

*Diplophysa kungessana* Kessler, 1879: 286 (type locality: China: Xinjiang: Kungès River [Künes He, tributary of

Ili River], alt. 4000 ft.; holotype: ZISP 4176; reprinted as Kessler, 1880: 238; adjective, *-us, -a, -um*)

**10.42.52 *Triplophysa lacusnigri* (Berg, 1931)**

*Nemacheilus stoliczkai* var. *lacus-nigri* Berg, 1931a: 25, pls. 3–5 (type locality: Tajikistan: Lake Karakul and Kara-art River; syntypes [131+]: ZISP 26367 [6+], 26368 [6+], 26369 [6+], Eschmeyer & Fricke, 2010, Prokofiev, 2007b: 10, fig. 4f; noun in genitive, indeclinable)

**10.42.53 *Triplophysa lacustris* Yang & Chu, 1990**

*Triplophysa lacustris* Yang & Chu, 1990b: 380, fig. 3 (type locality: China: Yunnan: Xinyun Lake [24°20'N 102° 46'E], Nanpanjiang drainage; holotype: KIZ 0.1399; adjective, *-is, -is, -e*)

**10.42.54 *Triplophysa laterimaculata* Li, Liu & Yang, 2007**

*Triplophysa laterimaculata* Li, Liu & Yang, 2007: 48, fig. 2 (type locality: China: Xinjiang: Kashgar City [Kashgar]: Shufu County [39°21'00"N 75°51'03"E]: Kezile River, a tributary of Tarim River [39°N 76°E], Huangdi Town; holotype: KIZ 200408220489; adjective, *-us, -a, -um*)

**10.42.55 *Triplophysa laticeps* Zhou & Cui, 1997**

*Triplophysa laticeps* Zhou & Cui, 1997: 179, figs. 2–3 (type locality: China: Yunnan: Lufeng County: Luzhijiang, tributary of Yuanjiang River [upper Red River], near Lufeng city [25°15'N 102°03'E, 1600 masl]; holotype: KIZ 914077; compound adjective, indeclinable)

**10.42.56 *Triplophysa lingyunensis* (Liao & Luo, in Liao, Wang & Luo, 1997)**

*Schistura lingyunensis* Liao & Luo, in Liao, Wang & Luo, 1997: 4, fig. 1 (type locality: China: Guangxi: Lingyun County: cave in Guancang village, 24°25'N 106°30'E; holotype: IHB 92vi003; adjective, *-is, -is, -e*)

**10.42.57 *Triplophysa lixianensis* He, Song & Zhang, 2008**

*Triplophysa lixianensis* He, Song & Zhang, 2008: 43, fig. 1 (type locality: China: Sichuan: Aba Prefecture: Lixian County: upper Yangtze drainage: Zagunao River, a tributary on western bank of Min Jiang, at Jiujiapeng village (31°33'N 102°52'E), 2450 masl; holotype: SCUM 20070717008; adjective, *-is, -is, -e*)

**10.42.58 *Triplophysa longianguis* Wu & Wu, 1984**

*Triplophysa longianguis* Wu & Wu, 1984: 327, figs. 1–5 (type locality: China: Qinghai: Jigzhi County: Lake Sunm Cuo; holotype NPIB 8370294; compound noun, indeclinable)

**10.42.59 *Triplophysa longibarbata* (Chen, Yang, Sket & Aljancic, 1998)**

*Paracobitis longibarbata* Chen, Yang, Sket & Aljancic, 1998: 59, fig. 1 (type locality: China: Guizhou: Libo County: cave approx. 13 km northeast of Libo town [25°15'N 108°00'E; Romero et al., 2009: 260]; holotype: KIZ 953001; adjective, *-us, -a, -um*)

*Nemacheilus liboensis* Ran, 2000: 329, 332 (nomen nudum)  
*Nemacheilus liboensis* Chen, 2000: 41 (nomen nudum)



*Paracobitis posterodorsalis* Li, Ran & Chen, in Ran, Li & Chen, 2006: 81, fig. 1 (type locality: China: Guangxi: Nandan County: cave at 25°02'N 107°36'E [24°59'N 107°32'E; Romero et al., 2009: 256]; holotype: HRAS 041005001; also spelt *posterodarsalus* p. 80, *posterodorsalis* p. 81; as first reviser I select *posterodorsalis* as the correct original spelling; compound adjective, *-us, -a, -um*)

? *Paracobitis maolanensis* Li, Ran & Chen, 2006: 1, fig. 1 (type locality: China: Guizhou: Libo County: cave in Maolan Karst Forestry Natural Reserve, 25°25'04"N 107°52'E [25°23'N 108°04'E; Romero et al., 2009: 255]; holotype: HRAS 050103001; adjective, *-is, -is, -e*)

**Taxonomic notes.** Synonymy partly derived from Du et al. (2008: 33) and Romero et al. (2009), but Yang, Wu & Lan (2011: 570) treat *P. posterodorsalis* and *P. maolanensis* as valid species of *Triplophysa*.

**10.42.60 *Triplophysa longipectoralis* Zheng, Du, Chen & Yang, 2009**

*Triplophysa longipectoralis* Zheng, Du, Chen & Yang, 2009: 222, figs. 1–2 (type locality: China: Guangxi: Liujiang basin: Huanjiang County: cave in Xunle town, Hechi City; holotype: KIZ 2001004573; compound noun, indeclinable)

**10.42.61 *Triplophysa macrocephala* Yang, Wu & Yang, 2012**

*Triplophysa macrocephala* Yang, Wu & Yang, 2012: 170, 1–2 (type locality: China: Guangxi: Nandan County: Lihu Town: Renguang village, 25°10'15"N 107°43'50"E [Xijiang drainage, Pearl River]; holotype: KIZ 2010003078; compound adjective, *-us, -a, -um*)

**10.42.62 *Triplophysa macromaculata* Yang, in Chu & Chen, 1990**

*Triplophysa macromaculata* Yang, in Chu & Chen, 1990: 58, fig. 53 (type locality: China: Yunnan: Jiuxiang of Yiliang County, 25°06'N 103°23'E; holotype: KIZ 874021; compound adjective, *-us, -a, -um*)

**10.42.63 *Triplophysa macrophthalma* Zhu & Guo, 1985**

*Triplophysa macrophthalma* Zhu & Guo, 1985: 323, fig. 2 (type locality: China: Yunnan: Goujie, Yiliang County (27°30'N 104°00'E), Nanpanjiang drainage; holotype: NGI 810019, He et al., 2008: 48, fig. 5e; compound adjective, *-us, -a, -um*)

**10.42.64 *Triplophysa markehenensis* (Zhu & Wu, 1981)**

*Nemacheilus pseudoscleropterus markehenensis* Zhu & Wu, 1981: 223, fig. 4 (type locality: China: Qinghai: Jigzhi County [33°26'N 101°26'E]; Marke He, Baiyu; holotype: NPIB 71005; adjective, *-is, -is, -e*)

**10.42.65 *Triplophysa marmorata* (Heckel, 1838)**

*Cobitis marmorata* Heckel, 1838: 76, pl. 12 figs. 1–2 (type locality: India: Kashmir; syntypes [at least 3]: NHMW 48561 [3], Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

*Cobitis vittata* Heckel, 1838: 80, pl. 12 figs. 3–4 (type locality: India: Kashmir; syntypes: NHMW 48451 [3], Esch-

meyer & Fricke, 2010; simultaneous subjective synonym of *Cobitis marmorata* Heckel, 1838: 76; first reviser [Günther, 1868: 356] gave precedence to *C. marmorata*; adjective, *-us, -a, -um*)

? *Nemacheilus griffithii* var. *afghana* Hora, 1935b: 799, fig. 4c (type locality: Afghanistan: springs at Car-i-Chashma, sources of Kabul River [Sar-i Chashma, Chashma-i Shir, Surkh Kotal, 36°02'60"N 68°34'00"E] [locality of holotype; Menon & Yazdani, 1968: 122]; holotype: ZSI F 11525/1; adjective, *-us, -a, -um*)

**Taxonomic notes.** Synonymy follows Kullander et al. (1999: 142).

**10.42.66 *Triplophysa microphysus* (Fang, 1935)**

*Nemacheilus microphysus* Fang, 1935c: 753, figs. 3–5 (type locality: Kazakhstan: Lepsa [46°20'49"N 78°19'55"E], Bulenka River, Lake Balkash basin; holotype: ZMB 10277; compound noun [incorrect Latinization of *physa*], indeclinable)

**10.42.67 *Triplophysa microphthalma* (Liao & Wang, in Liao, Wang & Luo, 1997)**

*Schistura dabryi microphthalmus* Liao & Wang, in Liao, Wang & Luo, 1997: 4, fig. 2 (type locality: China: Guizhou: Weng'an County: Laoying Cave, 26°53'N 107°02'E [Hawk Cave, 26°53'N 107°02'E; Romero et al., 2009: 258]; holotype: IHB 91x005; secondary junior homonym of *Diplophysa microphthalma* Kessler, 1879: 308 when both were placed in *Triplophysa*; never replaced and not presently treated as congeneric, therefore replacement not needed [Code art. 59.2]; compound adjective, *-us, -a, -um*)

**10.42.68 *Triplophysa microps* (Steindachner, 1866)**

*Cobitis microps* Steindachner, 1866: 794, pl. 13 figs. 3–3a (type locality: India: Ladakh: Rupshu: Leh and Phirsh stream near Manechan, alt. about 16000 ft.; syntypes [10]: NMW 48562 [11 ?], Eschmeyer & Fricke, 2010; compound noun, indeclinable)

**10.42.69 *Triplophysa moquensis* Ding, 1994**

*Triplophysa moquensis* Ding, 1994: 69, fig. 35 (type locality: China: Sichuan: Xia Man Lake; holotype: MSINR 830833; adjective, *-is, -is, -e*)

**10.42.70 *Triplophysa nandanensis* Lan, Yang & Chen, 1995**

*Triplophysa nandanensis* Lan, Yang & Chen, 1995: 368, fig. 2 (type locality: China: Guangxi: Nandan County: outlet of underground river [25°10'N 107°10'E] at Mayang village, Liuzhai Town [25°18'N 107°24'E; Romero et al., 2009: 261]; holotype: KIZ 9110011; adjective, *-is, -is, -e*)

**10.42.71 *Triplophysa nanpanjiangensis* (Zhu & Cao, 1988)**

*Oreias dabryi nanpanjiangensis* Zhu & Cao, 1988: 98, figs. 7–8 (type locality: China: Yunnan: Zhanyi County: outlet of subterranean waters near Haijiashao; holotype: NGI 818512; adjective, *-is, -is, -e*)

**10.42.72 *Triplophysa nasobarbatula* Wang & Li, 2001**

*Triplophysa nasobarbatula* Wang & Li, 2001: 98, fig. 1 (type locality: China: Guizhou: Libo County: Weng'an town, 107°54'E 25°14'N; holotype: ZMCZ 840207; adjective, *-us, -a, -um*)

**10.42.73 *Triplophysa ninglangensis* Wu & Wu, 1988**

*Triplophysa ninglangensis* Wu & Wu, 1988a: 19, fig. 3 (type locality: China: Yunnan: Ninglang County [27°17'02"N 100°51'36"E]; Ninglang River; holotype: NPIB 8609464; adjective, *-is, -is, -e*)

**10.42.74 *Triplophysa nujiangensa* Chen, Cui & Yang, 2004**

*Triplophysa nujiangensa* Chen, Cui & Yang, 2004b: 505, fig. 1 (type locality: China: Yunnan: about 20 km south of Liuku, left bank tributaries of Nujiang River [Salween] in north of Shangjiang Xiang, 818 masl; 25°40'59"N 98°52'27"E; holotype: KIZ 20007496; adjective, *-a, -um*)

**Nomenclatural notes.** The name *nujiangensa* is an incorrect Latinization but cannot be corrected (*Code art. 32.5.1*). It should have been *nujiangensis*.

**10.42.75 *Triplophysa obscura* Wang, in Chen, Xu, Fang, Song & Wang, 1987**

*Triplophysa obscura* Wang, in Chen, Xu, Fang, Song & Wang, 1987: 28, fig. 15 (type locality: China: Gansu: upper Bailungjiang (tributary of Jialingjiang) in Diebu Xian [Tèwo, 34°00'N 103°33'E]; holotype: SIZX 822270; adjective, *-us, -a, -um*)

**10.42.76 *Triplophysa obtusirostra* Wu & Wu, 1988**

*Triplophysa obtusirostra* Wu & Wu, 1988b: 197, figs. 1–5 (type locality: China: small lake at source of Kar Qu in sources of Huanghe River, 38°48'N 96°24'E [erroneous, Kar Qu is at 35°02'N 96°50'E]; holotype: NPIB 856031; compound noun [incorrect spelling of *rostrum*], indeclinable)

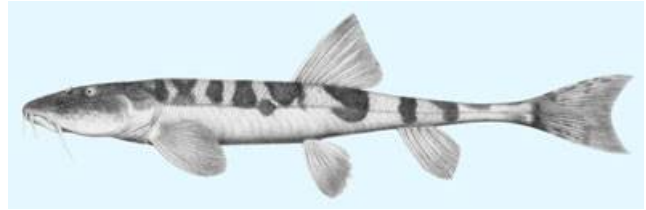
**10.42.77 *Triplophysa orientalis* (Herzenstein, 1888)**

*Nemachilus kungessanus orientalis* Herzenstein, 1888: 44, pl. 6 fig. 2 (type locality: China: Qinghai: Zaidam [Qaidam basin]; syntypes: ZISP 7271 [more than 6] "and others"; adjective, *-is, -is, -e*)

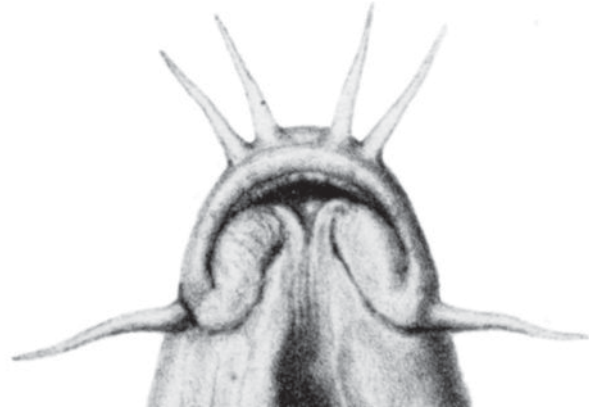
*Nemachilus kungessanus elongatus* Herzenstein, 1888: 44, pl. 5 fig. 3 (type locality: China: Qinghai: Qaidam basin: Nomochun-gol [Nomhon He River; Nuomuhong County: 36°25'N 96°27'E]; syntypes: ZISP 7386/1 [2]; simultaneous subjective synonym of *Nemachilus kungessanus orientalis* Herzenstein, 1888: 44; first reviser [apparently Zhu, 1989: 84] gave precedence to *N. k. orientalis*; adjective, *-us, -a, -um*)

**10.42.78 *Triplophysa papilloso-labiata* (Kessler, 1879)**

*Diplophysa papilloso-labiata* Kessler, 1879: 299 (type locality: China: Xinjiang: Balgantaigol [Balguntay stream; Baiguntay city: 42°45'49"N 86°19'13"E] [localities of paralectotypes: Great Juldus [Bol'shoi Yulduz; Tung Hung, Hai Tu], Smaller Juldus [Malyi Yulduz] [Yulduz



**10.42.97 *Triplophysa siluroides***, ZISP 7244, 148 mm SL, syntype; China: Qinghai: Huang He River. (From Herzenstein, 1888: pl. 7 fig. 1).



**10.42.97 *Triplophysa siluroides***, ZISP 7244, 148 mm SL. (From Herzenstein, 1888: pl. 7 fig. 1).

valley is valley of Khaidyk-gol (43°N 83–86°E)]; lectotype ZISP 4191, designated by Prokofiev, 2003b: 58, fig. 11; must be emended as *papilloso-labiata*, *Code art. 32.5.2.3*; reprinted as Kessler, 1880: 257; adjective, *-us, -a, -um*)

**Taxonomic notes.** Validity follows Prokofiev (2003b).

**10.42.79 *Triplophysa pappenheimi* (Fang, 1935)**

*Nemacheilus pappenheimi* Fang, 1935c: 761, figs. 8–9 (type locality: China: Qinghai: Si-ning-fu [Xining, 36°37'00"N 101°46'00"E]; holotype: ZMB 16462; noun in genitive, indeclinable)

**10.42.80 *Triplophysa paradoxa* (Turdakov, 1955)**

*Nemacheilus paradoxus* Turdakov, 1955: 153 (type locality: Kyrgyzstan: Karakol [river running through Issyk Kul lake at 2°36'N 78°21'E], in Talas basin / Kyrgyzstan & Kazakhstan: Talas River basin; syntypes [25]: ZMMU P-8797 [1], Vasilieva et al., in Pavlinov & Borissenko, 2001: 26; treated as adjective, *-us, -a, -um*)

**10.42.81 *Triplophysa parva* Chen, Li & Yang, 2009**

*Triplophysa parvus* Chen, Li & Yang, 2009: 86, figs. 2, 3a (type locality: China: Yunnan: Yiliang County: Jialonghe River, 24°57'N 103°07'E, altitude 1770 m, flowing from Yangzonghai Lake to Nanpangjiang; holotype: KIZ 750413007; adjective, *-us, -a, -um*)

**10.42.82 *Triplophysa "pedaschenkoi"* (Berg, 1931)**

*Diplophysa strauchi ulacholica* var. *pedaschenkoi* Berg, 1931b: 312, fig. 2 (an infrasubspecific name, not available, *Code arts. 1.3.4, 45.5*; locality: Kyrgyzstan: Lake Issyk-kul: Karasu Bay near Karakol harbour, Akterek Bay

and at mouth of Ulachol stream; material: ZISP)

**Nomenclatural notes.** Because it is infrasubspecific, the name *D. s. u. var. pedaschenkoi* is excluded from zoological nomenclature (*Code arts. 1.3.4, 45.5*) and is not available from Berg (1931b). If the name has been used later as the valid name of a species or subspecies, then it is available from that next usage (*Code art. 45.5.1*). I found only one usage of the name as a valid species, by Prokofiev (2006b: 257), but there might be earlier uses. To be available from a next usage as a species-group name, *Code art. 45.5.1* requires that it satisfies arts. 11–18. Article 16 requires that for names published after 1999 to be available, the author must explicitly indicate it is intentionally new. This was not the case in Prokofiev (2006b). If there were an earlier use before 2000, it does not need to be indicated and the name is automatically made available.

**10.42.83 *Triplophysa polyfasciata* Ding, in Ding, Fang & Fang, 1996**

*Triplophysa polyfasciata* Ding, in Ding, Fang & Fang, 1996: 11, fig. 1 (type locality: China: Sichuan: Wenchuan County (31°N 103°E): Sanjiang village, in a tributary of upper Minjian River; holotype: MSINR 910093; also spelt *polpyfasciata* p. 11, an obvious inadvertent error, thus incorrect original spelling [*Code art. 32.5.1*]; adjective, *-us, -a, -um*)

**10.42.84 *Triplophysa pseudoscleroptera* (Zhu & Wu, 1981)**

*Nemachilus pseudoscleropterus* Zhu & Wu, 1981: 221, figs. 1–3 (type locality: China: Qinghai: a tributary of Golmud He River, in Qaidam Pendi [Qaidam depression; Golmud town: 36°24'N 94°55'E]; holotype: NPIB 75066; compound adjective, *-us, -a, -um*)

**10.42.85 *Triplophysa qiubeiensis* Li & Yang, in Li, Yang, Chen, Tao, Qi & Han, 2008**

*Triplophysa qiubeiensis* Li & Yang, in Li, Yang, Chen, Tao, Qi & Han, 2008: 674, fig. 1 (type locality: China: Yunnan: Qiubei County (24°05'N 104°01'E): cave near Nijiao village; holotype: KIZ 20060409001; adjective, *-is, -is, -e*)

**10.42.86 ? *Triplophysa retropinnis* (Herzenstein, 1888)**

*Nemachilus dorsonotatus retropinnis* Herzenstein, 1888: 33, pl. 3 fig. 5a–b (type locality: China: Qinghai: Chami [Hami, Xinjiang; 42°48'00"N 93°27'00"E]; syntypes: ZISP 4206 [2] [ZISP 7208, according to Prokofiev, 2007b: 4]; compound noun, indeclinable)

*Nemachilus dorsonotatus plagiognathus* Herzenstein, 1888: 33, pl. 5 fig. 5, pl. 7 fig. 2 (type locality: China: Qinghai: Lake Kuku-nor [Qinghai Hu] / Eastern Zaidam [Tsaidam; Qinghai: Qaidam basin] / spring at Galmyk / Ganssu / Dabsun-gobi [apparently Caka Yanhu 36°42'00"N 99°06'00"E, Dalai Dabassu on map in Przewal'skii, 1876] / Chami [Hami, Xinjiang; 42°48'00"N 93°27'00"E] / Lake Alak-nor [Alag Hu] / Chuan-che River near Gomi [Huang He near Balekhun Gomi, approx. 30°10'N 100°45'E; now flooded in Longyangxia Reservoir]; syntypes: ZISP 7252 [1], 7306 [2], 7312 [5], 7315 [2], 7319 [more than 6], 7371 [1], 7853 [2], 7854 [1], 7855 [1];

simultaneous subjective synonym of *Nemachilus dorsonotatus retropinnis* Herzenstein, 1888: 33; first reviser [apparently Prokofiev, 2007b: 9] gave precedence to *N. d. retropinnis*; compound adjective, *-us, -a, -um*)

? *Nemacheilus Bertini* Fang, 1941: 253 (type locality: China: "high valleys of Mongolia" [apparently China: Hebei: Chongli County: Siwantse [Xiwanzi], 40°58'25"N 115°16'22"E]; holotype: MNHN 3800, Bertin & Estève, 1948: 97, fig. 1; noun in genitive, indeclinable)

*Nemachilus carassus* Nikolski, in Prokofiev, 2007b: 4 (unpublished name on a label, not available; based on ZISP 12576; locality: China: Qinghai: Lake Alyk Nor [Alag Hu, 35°34'N 97°06'E], southern slope of Burkhan Buddha Range [erroneously identified as a lake in Mongolia by Kottelat, 2006: 55; but see map in Kozlov, 1902a])

**Taxonomic notes.** Treated as subspecies of *T. stolickai* by Prokofiev (2007b: 4), which geography suggests should be re-examined. The types of *N. bertini* were collected by A. David, apparently together with the holotype of *Barbatula nuda*, west of Beijing (see discussion under that species) and I doubt it is conspecific with *T. retropinnis*.

**10.42.87 *Triplophysa robusta* (Kessler, 1876)**

*Nemachilus robustus* Kessler, 1876: 32 (type locality: China: Gansu; holotype: ZISP 2486, Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

**10.42.88 *Triplophysa rosa* Chen & Yang, 2005**

*Triplophysa rosa* Chen & Yang, 2005: 601, fig. 2 (type locality: China: Chongqing City: Wulong County: Dongba Cave [entrance 29°13'40.44"N 107°55'16.46"E], Wu Jiang drainage, Tianxing Town, Jiangkou Town; holotype: KIZ 200211001; noun in apposition, indeclinable)  
*Linemacheilus wulong* Anonym, 2005: 67 (nomen nudum)  
*Heminoemacheilus wulongensis* Wu, He, Zhen & Li, 2007: 90 (nomen nudum)

**10.42.89 *Triplophysa scapanognatha* Prokofiev, 2007**

*Triplophysa scapanognatha* Prokofiev, 2007b: 9, fig. 4a (type locality: China: Qinghai: Quaidam [Qaidam]: Datzan Sume, near Donkyr [Donkür, Huangyuan, 36°41'N 101°16'E; Huang He drainage]; holotype: ZISP 12495; compound adjective, *-us, -a, -um*)

**10.42.90 *Triplophysa scleroptera* (Herzenstein, 1888)**

*Nemachilus scleropterus* Herzenstein, 1888: 54, pl. 6 fig. 1 (type locality: China: Qinghai: Chuan-Che River near Gomi [Huang He near Balekhun Gomi, approx. 30°10'N 100°45'E; now flooded in Longyangxia Reservoir]; lectotype: ZISP 7231, designated by Prokofiev, 2003b: 61, fig. 20; compound adjective, *-us, -a, -um*)

**10.42.91 *Triplophysa sellaefer* (Nichols, 1925)**

*Barbatula yarkandensis sellaefer* Nichols, 1925b: 4 (type locality: China: Shansi: Chin Ssu, Taiyuanfu [Qingxu, 37°36'N 112°21'E]; holotype: AMNH 8411; noun in apposition, indeclinable, *Code art. 31.2.2*)

**10.42.92 *Triplophysa sewerzowi* (Nikolski, 1938)**

*Nemachilus sewerzowi* Nikolski, 1938: 319, figs. 1–3 (type



locality: Kazakhstan: Alma-Atinskaya oblast: Kaskelen River, 2 km before it enters Ili River; holotype: ZMMU P-3638; noun in genitive, indeclinable)

**10.42.93 *Triplophysa shaanxiensis* Chen, in Chen, Xu, Fang, Song & Wang, 1987**

*Triplophysa shaanxiensis* Chen, in Chen, Xu, Fang, Song & Wang, 1987: 21, fig. 8 (type locality: China: Shaanxi: Tongchuan Xian; holotype: SIZX 801811; adjective, *-is, -is, -e*)

**10.42.94 *Triplophysa shehensis* Menon, 1987**

*Triplophysa shehensis* Menon, 1987: 212, pl. 16 fig. 9 (type locality: India: Kashmir: Ladakh: Sheh, irrigation canal, nearly 12 km east of Leh; holotype: ZSI/NRS uncat.; adjective, *-is, -is, -e*)

*Noemacheilus shehensis* Tilak, 1990: 138, figs. 2–3 (type locality: India: Kashmir: Ladakh: irrigation canal at Sheh, nearly 12 km east of Leh; holotype: ZSI/NRS 1208; junior secondary homonym of *Triplophysa shehensis* Menon, 1987: 212; paper dated 1990 but possibly not published until 1997; adjective, *-is, -is, -e*)

**Nomenclatural notes.** Menon (1987) described this species and indicated the author as Tilak, then in press. Tilak's paper only appeared in 1990 (date on the cover, actual publication possibly much later, the paper is first listed in *Zoological Record* for 1997). The description in Menon is based on a single of Tilak's specimens and is not extracted from Tilak's text. Thus Menon is author of the name and the single specimen he examined is the holotype. The locality data listed by Menon is only "irrigation canal, Sheh" but as all of Tilak's (1997) specimens are from a single locality, it can be completed as above. Tilak's *N. shehensis*, being based on a separate description, without reference to Menon's description, is a distinct nominal species and a junior secondary homonym of *T. shehensis* when transferred to *Triplophysa*. It is not known whether the holotype of the two nominal species is the same specimen or not, which would make them objective synonyms.

**10.42.95 *Triplophysa shilinensis* Chen & Yang, in Chen, Yang & Xu, 1992**

*Triplophysa shilinensis* Chen & Yang, in Chen, Yang & Xu, 1992: 17, fig. 1 (type locality: China: Yunnan: Lunan County: cave at Weiboyi village near Shi Lin Stone Forest [24°47'N 103°22'E; Romero et al., 2009: 263]; holotype: KIZ 913001; adjective, *-is, -is, -e*)

**10.42.96 *Triplophysa shiyangensis* (Zhao & Wang, 1983)**

*Nemachilus shiyangensis* Zhao & Wang, 1983: 97, fig. 1 (type locality: China: Gansu: Leitai He stream near Wuwei [37°55'N 102°38'E], Shiyang He River system, "Huang He drainage" [in fact, Shiyang is an endorheic river ending in Gobi desert about 39°00'N 103°35'E]; holotype: DBLU 770582; adjective, *-is, -is, -e*)

**10.42.97 *Triplophysa siluroides* (Herzenstein, 1888)**

*Nemachilus siluroides* Herzenstein, 1888: 62, pl. 7 fig. 1, pl. 8 fig. 10 (type locality: China: Qinghai: Chuan-che River near Gomi [Huang He River near Balekhun Gomi,

approx. 30°10'N 100°45'E; now flooded in Longyangxia Reservoir]; syntypes: ZISP 7243 [1], 7244 [1], 7851 [1])

**10.42.98 *Triplophysa stenura* (Herzenstein, 1888)**

*Nemachilus stenurus* Herzenstein, 1888: 64, pl. 1 fig. 1 (type locality: China: Tibet: Dy-Tschu [Tongtian He, in upper Yangtze basin; He et al., 2008: 48]; lectotype ZISP 7355, designated by Prokofiev, 2009a: 699; compound adjective, *-us, -a, -um*)

? *Nemachilus lhasae* Regan, 1905b: 301 (type locality: Tibet: Lhasa; holotype: BMNH 1905.2.8.16; noun in genitive, indeclinable)

**Taxonomic notes.** *Triplophysa stenura* is presently reported from the upper Yangtze, Mekong, Salween and Brahmaputra drainages, which suggests that several species are confused under this name.

**10.42.99 *Triplophysa stewarti* (Hora, 1922)**

*Diplophysa stewarti* Hora, 1922: 70, fig. 2c–d (type locality: China: Xizang: Rham-tso [Hram Tso, Bam Tso; 28°08'52"N 89°20'02"E]; holotype: ZSI F 2894/1; noun in genitive, indeclinable)

*Nemachilus panguri* Hora, 1936: 318, figs. 8–9, pl. 12 figs. 3–4 (type locality: India: Jammu & Kashmir: Ladakh: Pangur Tso [Spanggur Tso, 33°32'N 78°55'E] / China: Xizang: Tso Nyak [apparently at 33°29'28"N 80°18'11"E] [both in Pangong Tso endorheic basin]; syntypes ["several"]; ZSI F 12204/1 [2], Menon & Yazdani, 1968: 123; noun in genitive, indeclinable)

*Nemachilus longianalis* Ren & Wu, 1982: 82, fig. 2 (type locality: China: Northern Xizang: Nam Cuo Lake [? Nam Co, Nam Tso, 30°42'N 90°33'E]; holotype: HFRI 80-1669; compound noun, indeclinable)

*Nemachilus longianalis tangtianhensis* Wu & Wu, 1988a: 21, fig. 4 (type locality: China: Qinghai: mouth of Dangqu, upper reaches of Tangtianhe River; holotype: NPIB 8606088; adjective, *-is, -is, -e*)

**10.42.100 *Triplophysa stolicikai* (Steindachner, 1866)**

*Cobitis Stoličkai* Steindachner, 1866: 793, pl. 14 fig. 2 (type locality: India: Ladakh: Rupshu: rivulets in vicinity of Lake Tsumureri [Tso Morari] [contra Eschmeyer & Fricke, 2010, "Umgebung" is not the name of a river but the German word meaning vicinity]; syntypes [12]: NMW 48436 [5], 48439 [1], 50477 [4], Eschmeyer & Fricke, 2010; the č in original spelling must be emended in *c*, *Code* art. 32.5.2.1; noun in genitive, indeclinable)

**Taxonomic notes.** Prokofiev (2007b: 4) recognised *T. stolicikai* with a number of subspecies. I do not recognise these subspecies because the Evolutionary Species Concept used here does not accommodate subspecies, and because these 'subspecies' are diagnosable lineages occupying very distinct and isolated areas and fulfill the criteria to be recognised as species. See *T. cakaensis*, *T. dorsonotata*, *T. hexiensis*, *T. obtusirostra*, *T. retropinnis* and *T. uranoscopus*.

**10.42.101 *Triplophysa strauchii* (Kessler, 1874)**

*Diplophysa Strauchii* Kessler, 1874: 58, pl. 8 fig. 40 (type locality: Kazakhstan: Ili River, tributary of Lake Balkash / Ich-Balya River; syntypes: ZISP 2328 [2], 2329 [1],



**10.42.98** *Triplophysa stenura*, CMK 13062, 60.8 mm SL; China: Sichuan: Yangtze drainage: Yalong.

- Herzenstein, 1888: 51; noun in genitive, indeclinable)  
 ? *Nemachilus strauchi transiens* Herzenstein, 1888: 50 (type locality: China: Xinjiang: Tschertschen-darja [Charchan-Darya, Qarqan He; Qarqan town or Qiemo County: 38°08'09"N 85°31'48"E] [Qarqan He, sometimes enters Lop Nor from SW]; syntypes: ZISP 7349 [5]; participle, indeclinable)  
 ? *Nemachilus strauchi zaisanicus* Menshikov, 1937: 441 (type locality: Kazakhstan: Tarbagatai District: Karasu River at Akdzhar, basin of Zaisan Lake, 40 km south of Lake Zaisan, between "47 and 48°N 53–54°E" [Aksuat, 47°45'30"N 82°48'20"E; river maybe is Kargyba]; syntypes [27]: ZISP 26863 [18]; adjective, *-us, -a, -um*)  
 ? *Nemachilus ruzskiyi* Nekrashevich, 1948: 121 (type locality: Kazakhstan: Lake Alakol [46°10'N 81°35'E; endorheic basin East of Lake Balkash]; types: LU; noun in genitive, indeclinable)  
 ? *N[emacheilus] (Deuterophysa) strauchi jimbei* Mitrofanov, 2002: 125 (not available: no fixation of a holotype or syntypes, *Code art.* 16.4.1, no intention to establish a new taxon, *Code art.* 16.1; locality: Uzbekistan and Kyrgyzstan: Naryn River [40°54'N 71°45'E for confluence with Kara Darya; Karyn town: 41°26'N 76°00'E]; noun in genitive, indeclinable)

**Taxonomic notes.** Geography suggests that multiple species are confused under *T. strauchii*. Mitrofanov (2002: 125) considered *N. s. zaisanicus* and *N. ruzskiyi* as synonyms of *T. strauchii*.

**10.42.102** *Triplophysa tanggulaensis* (Zhu, 1982)

*Nemachilus tanggulaensis* Zhu, 1982b: 223, figs. 1–4 (type locality: China: Qinghai: hot spring of Wenquan [33°14'02"N 91°51'06"E], between Yanshiping [33°35'51" 92°04'07"E] and Tanggula Shankou [pass, 32°53'07"N 91°55'04"]; Tanggula town 34°13'00"N 92°26'30"E]; holotype: NPIB 75061; adjective, *-is, -is, -e*)

**10.42.103** *Triplophysa tianeensis* Chen, Cui & Yang, 2004

*Triplophysa tianeensis* Chen, Cui & Yang, 2004a: 228, fig. 1 (type locality: China: Guangxi: Tian'e County: Bala town: Hongshuihe underground river [24°58'N 107°02'E; Romero et al., 2009: 264]; holotype: KIZ 200301003; adjective, *-is, -is, -e*)

**10.42.104** *Triplophysa tibetana* (Regan, 1905)

*Nemachilus tibetanus* Regan, 1905a: 187 (type locality: China: Tibet: Lhasa; holotype: BMNH 1904.12.28.86; adjective, *-us, -a, -um*)

**10.42.105** *Triplophysa turpanensis* Wu & Wu, 1992

*Triplophysa turpanensis* Wu & Wu, 1992: 175, fig. 35 (type



**10.43.1** *Troglacobitis starostini*, ZISP 46159, 49.5 mm SL, holotype; Turkmenistan: Lebap Province: cave near Garlyk. (Photograph by Zakhar Zhidkov).

locality: China: Xinjiang: Turpan City [42°59'N 89°11'E]; holotype: NPIB 8706076; adjective, *-is, -is, -e*)

**10.42.106** *Triplophysa ulacholica* (Anikin, 1905)

*Nemachilus ulacholicus* Anikin, 1905: 3, 18 [of reprint] (type locality: Kyrgyzstan: Lake Issyk-kul at mouth of Ulakhol River; syntypes [4]: LU, Vasil'eva, pers. comm., Eschmeyer & Fricke, 2010; adjective, *-us, -a, -um*)

*Nemacheilus strauchi dorsalooides* Turdakov, 1947b: 155 (type locality: Kyrgyzstan: Tyupsky Bay of Lake Issyk-kul; syntypes [28]: LU)

*Nemachilus strauchi reuniens* Turdakov, 1952: 57 (type locality: Kyrgyzstan: Irisu River, tributary of Karkara River [tributary of Charyn River, Lake Balkash basin]; syntypes [10]: LU; participle, indeclinable)

**10.42.107** *Triplophysa uranoscopus* (Kessler, 1872)

*Cobitis uranoscopus* Kessler, 1872: 66, pl. 11 figs. 32–33 (type locality: Tajikistan: Khodjaduk [Khodzhaik, Upper Amu Darya; Zeravshan, Berg, 1949: 862; apparently includes syntypes from Lake Iskanderkul, 39°04'30"N 68°22'00"E]; syntypes [16]: ZISP 10931, ZMMU P2248, P2262, Svetovidova, 1978: 259, 262, Vasilieva et al., in Pavlinov & Borissenko, 2001: 28; compound noun, indeclinable)

*Nemachilus fedtschenkoae* Nikolski, 1903: 93 (type locality: Transcaspiya: Murgab River [Tajikistan: Murgab River, upper reaches of Amu-Darya drainage]; holotype: ZISP 12710; noun in genitive, indeclinable)

**10.42.108** *Triplophysa venusta* Zhu & Cao, 1988

*Triplophysa venusta* Zhu & Cao, 1988: 96, figs. 3–6 (type locality: China: Yunnan: Lijiang County: Heilongtan pond near Lijiang [26°53'N 100°14'E]; holotype: IHB 60IV0303; adjective, *-us, -a, -um*)

**10.42.109** *Triplophysa waisihani* Cao & Zhang, 2008

*Triplophysa waisihani* Cao & Zhang, 2008: 35, fig. 1 (type locality: China: Xinjiang: Yining County [Gulja; 43°55'N 81°19'E]: Kax River, a tributary of Ili River drainage at Dunmaza Town, "43°82'E 81°53'E, 1143 masl" [Dongmazar, Ma-char-erh, 43°49'20"N 81°52'10"E]; holotype: IHB 890064; noun in genitive, indeclinable)

**10.42.110** *Triplophysa wuweiensis* (Li & Chang, 1974)

*Nemachilus wuweiensis* Li & Chang, 1974: 415, fig. 2 (type locality: China: Gansu: Wuwei County [37°55'N 102°38'E]; holotype: ASIZB G65-243; adjective, *-is, -is, -e*)



**10.44.1** *Tuberoschistura baenzigeri*, CMK 5144, 41.9 and 41.6 mm SL; Thailand: Sai Buri.



**10.45.2** *Turcinoemacheilus kosswigi*, CMK 22390, 57.8 mm SL; Turkey: Tigris drainage.

**10.42.111** *Triplophysa xiangshuingsensis* Li, 2004

*Triplophysa xiangshuingsensis* Li, 2004: 93, fig. 1 (type locality: China: Yunnan: Shilin County: underground river in Xiangshuig [24°52'N 103°21'E; Romero et al., 2009: 264]; holotype: HRAS 200001128001; also spelt *Xiangshuqingensis* on p. 96, an obvious inadvertent error, thus incorrect original spelling [Code art. 32.5.1]; adjective, *-is, -is, -e*)

**10.42.112** *Triplophysa xiangxiensis* (Yang, Yuan & Liao, 1986)

*Noemacheilus xiangxiensis* Yang, Yuan & Liao, 1986: 219, fig. 1 (type locality: China: Hunan: Xianxi Prefecture: Longshan County: Huoyan Town: tributary of Yuan River [Feihu Cave, 27°27'N 109°26'E; Romero et al., 2009: 265]; holotype: HACW 8401; adjective, *-is, -is, -e*)

**10.42.113** *Triplophysa xichangensis* Zhu & Cao, in Zhu, 1989

*Triplophysa xichangensis* Zhu & Cao, in Zhu, 1989: 79, fig. 53 (type locality: China: Sichuan: Xichangxian County [27°53'57"N 102°16'12"E]; Anninghe River; holotype: NGI or IHB 65V0714; adjective, *-is, -is, -e*)

**10.42.114** *Triplophysa xingshanensis* (Yang & Xie, 1983)

*Nemacheilus xingshanensis* Yang & Xie, 1983: 314, fig. 1 (type locality: China: Hubei: Xingshan County [31°21'N 110°45'E]; Xiangqi River, a tributary of upper Changjiang River [Yangtze]; holotype: HACW 81.8.09; adjective, *-is, -is, -e*)

**10.42.115** *Triplophysa xiqiensis* Ding & Lai, 1996

*Triplophysa xiqiensis* Ding & Lai, 1996: 374, fig. 1 (type locality: China: Sichuan: Zhaojuexian County: Sikai village, 27°55'N 102°45'E; holotype: MSINR 930013; adjective, *-is, -is, -e*)

**10.42.116** *Triplophysa yaopeizhii* Xu, Zhang & Cai, in Zhang, Cai & Xu, 1995

*Triplophysa yaopeizhii* Xu, Zhang & Cai, in Zhang, Cai & Xu, 1995: 57, fig. 11-1 (type locality: China: Xizang: Jiangda, Mangkang and Gongjue Counties (30.9–31.5°N 80.0–98.2°E), in Jinshajiang drainage [upper Yangtze] [see also map, fig. 11–2] [Jomda County: 31°29'58"N 98°13'06"E; Markham, Markam: 29°41'40"N 98°35'

44"E; Gongjo County: 30°51'35"N 98°16'15"E]; syntypes [34]; probably includes material listed by Xu & Zhang (1996): ASIZB 92801262, 0696, 0778, 0877, 1258, 1316, 0920 [7], IZSX 928-0694, 0885, 0856, 0734, 0715, 0876, 0733, 0744, 0757, 0853, 0722, 0831, 1373, 1434, 1430, 1444, 1427, 1465, 1315, 0949, 1317 [22]; noun in genitive, indeclinable)

**Nomenclatural notes.** The name *Triplophysa yaopeizhii* first appeared in Zhang et al. (1995: 57) who neither explicitly listed it as a new name nor gave any bibliographic reference to another description. Another description appeared in Xu & Zhang (1996: 377), but it is not valid because it appeared later. The material listed in the 1995 description are syntypes and the material listed in the 1996 paper as holotype and paratypes (apparently from a different locality) have no type status.

**10.42.117** *Triplophysa yunnanensis* Yang, 1990

*Triplophysa yunnanensis* Yang, in Chu & Chen, 1990: 56, fig. 51 (type locality: China: Yunnan: Yiliang County: Jiuxiang, 25°06'N 103°23'E; holotype: KIZ 874200; adjective, *-is, -is, -e*)

**10.42.118** *Triplophysa zhaoi* Prokofiev, 2006

*Nemacheilus turfanensis* Herzenstein, 1899: 414 (nomen nudum; locality: China: Xinjiang: Turpan depression: Lemdjün, Lükqün)

*Triplophysa zhaoi* Prokofiev, 2006b: 244, figs. 40–42 (type locality: China: Xinjiang: swampy creeks of Lukchun oasis [Lükqün, 42°43'50"N 89°42'02"E], Turfan depression [Turpan]; holotype: ZISP 10548; noun in genitive, indeclinable)

**Nomenclatural notes.** *Nemacheilus turfanensis* is mentioned in a list of fishes collected by the expedition of Grumm-Grzhimaylo (1896, 1899), prepared by Herzenstein before his death. The description was never completed or published.

**10.42.119** *Triplophysa zhenfengensis* Wang & Li, 2001

*Triplophysa zhenfengensis* Wang & Li, 2001: 99, fig. 2 (type locality: China: Guizhou: Zhenfeng County: Longchang town, 25°32'N 105°12'E [25°27'47"N 105°29'50"E]; holotype: ZMCZ 9050268; adjective, *-is, -is, -e*)

**10.43** *Troglocobitis* Parin, 1983

*Troglocobitis* Parin, 1983: 83 (subgenus of *Nemacheilus*, Bleeker, 1863a: 37; type species: *Nemacheilus starostini* Parin, 1983: 83, by original designation). Gender feminine.

**Taxonomic notes.** Related or possibly a synonym of *Para-*



*cobitis*, from which it differs by the loss of the bony capsule of the gas bladder (see Prokofiev, 2009b: 889). The loss of structures alone is not a reliable criterion to recognised cave fishes as distinct genera. Identical losses may occur in parallel in many cave species.

#### 10.43.1 *Troglocobitis starostini* (Parin, 1983)

*Noemacheilus starostini* Parin, 1983: 83, fig. (type locality: Turkmenistan: Lebap Province: Chardzhouskaya oblast: unnamed karst depression [maybe 37°37'06"N 66°21'09"E] at foothills of Kugitangtau Range [Köy-tendag] east of Karlyuk village [Garlyk, 37°35'25"N 66°20'35"E] [Vasilieva et al., in Pavlinov & Borissenko, 2001: 29]; holotype: ZISP 46159; noun in genitive, indeclinable)

#### 10.44 *Tuberoschistura* Kottelat, 1990

*Tuberoschistura* Kottelat, 1990a: 232 (type species: *Nemacheilus baenzigeri* Kottelat, 1983: 151, by original designation). Gender feminine.

##### 10.44.1 *Tuberoschistura baenzigeri* (Kottelat, 1983)

*Noemacheilus baenzigeri* Kottelat, 1983: 151, figs. 1–2 (type locality: Thailand: Chiang Mai Province: Mae Nam Taeng at Mae Taeng, Chao Phraya drainage, 19°07'N 98°56'E; holotype: MHNG 2081.32; noun in genitive, indeclinable)

##### 10.44.2 *Tuberoschistura cambodgiensis* Kottelat, 1990

*Tuberoschistura cambodgiensis* Kottelat, 1990a: 237, fig. 178 (type locality: Cambodia: Stung Chihreng, a northern tributary of Grand Lac, at "Pont Khmer" on road from Siem Reap to Kompong Thom, Mekong drainage; holotype: MNHN 1988.99; adjective, *-is, -is, -e*)

#### 10.45 *Turcinoemacheilus* Bănărescu & Nalbant, 1964

*Turcinoemacheilus* Bănărescu & Nalbant, 1964: 178 (type species: *Turcinoemacheilus kosswigi* Bănărescu & Nalbant, 1964: 178, by original designation). Gender masculine.

##### 10.45.1 *Turcinoemacheilus himalaya* Conway, Edds, Shrestha & Mayden, 2011

*Turcinoemacheilus himalaya* Conway, Edds, Shrestha & Mayden, 2011: 1748, figs. 1, 2a (type locality: Nepal: Bagmati Zone: Sindhupalchok District: Indrawati River at Melamchi Township, 27°49'42.5"N 85°34'37.1"E; holotype: KU 40558; noun in apposition, indeclinable)

##### 10.45.2 *Turcinoemacheilus kosswigi* Bănărescu & Nalbant, 1964

*Turcinoemacheilus kosswigi* Bănărescu & Nalbant, 1964: 178, pl. 8 fig. 14 (type locality: Turkey: Hakkari [37°34'40"N 43°44'10"E]: Kapodiz Kadun, Tigris drainage; holotype: ZMH H 1884, Wilkens, 1977: 159; noun in genitive, indeclinable)

#### 10.46 *Yunnanilus* Nichols, 1925

*Yunnanilus* Nichols, 1925b: 1 (subgenus of *Nemacheilus* Bleeker, 1863a: 37; type species: *Nemacheilus pleurotaenia* Regan, 1904: 192, by subsequent designation by Norman, 1926: 31). Gender masculine.

**Taxonomic notes.** The genus *Yunnanilus* is very heterogeneous. Part of the species that had been placed in a *Y. nigromaculatus* group (e.g. by Chen et al., 2012) are now *Eonemachilus*. Other species of that group are still listed under *Yunnanilus* but may belong to *Heminoemacheilus* or some unnamed genus or genera. *Yunnanilus brevis* and some unnamed species from Myanmar are placed in *Petruichthys*.

#### Nomen nudum

*Yunnanilus macroscalus* Li & Duan, 1999: 255

##### 10.46.1 *Yunnanilus altus* Kottelat & Chu, 1988

*Yunnanilus altus* Kottelat & Chu, 1988a: 72, fig. 6 (type locality: China: Yunnan: Zhanyi County: Xiangshuiho at Haijiashao, 25°40'N 103°57'E; holotype: KIZ 774630; adjective, *-us, -a, -um*)

**Taxonomic notes.** Possibly a species of *Heminoemacheilus*.

##### 10.46.2 *Yunnanilus analis* Yang, in Chu & Chen, 1990

*Yunnanilus analis* Yang, in Chu & Chen, 1990: 19, fig. 14 (type locality: China: Yunnan: Xingyun Lake, 24°17'–23'N 102°45'–48'E; holotype: KIZ 01402; treated as noun in apposition, indeclinable)

**Taxonomic notes.** Possibly a species of *Heminoemacheilus*.

##### 10.46.3 *Yunnanilus bajiangensis* Li, 2004

*Yunnanilus bajiangensis* Li, 2004: 94, fig. 2 (type locality: China: Yunnan: Shilin County: Heilongtan Reservoir, Ba Jiang drainage [24°46'N 103°16'E; Romero et al., 2009: 267]; holotype: HRAS 9504001; spelt *bajiangensis* (2x) and *bajingensis* (2x); *bajiangensis* assumed to be correct spelling as the name is based on the name of a river [jiang]; adjective, *-is, -is, -e*)

##### 10.46.4 *Yunnanilus beipanjiangensis* Li, Mao & Sun, in Li, Mao, Sun & Lu, 1994

*Yunnanilus beipanjiangensis* Li, Mao & Sun, in Li, Mao, Sun & Lu, 1994: 370, fig. 1 (type locality: China: Yunnan: Zhangyi County [Zhanyi]: Xintun, 26.02°N 104.01°E; holotype: FACQR 9107016; adjective, *-is, -is, -e*)

##### 10.46.5 *Yunnanilus caohaiensis* Ding, 1992

*Yunnanilus caohaiensis* Ding, 1992: 489, fig. 1 (type locality: China: Guizhou: Weining County: Caohai Lake, 26°49'–26°53'N 104°12'–104°18'E; holotype: MSINR 900077; adjective, *-is, -is, -e*)

**Taxonomic notes.** Possibly a species of *Heminoemacheilus*.

##### 10.46.6 *Yunnanilus chui* Yang, 1991

*Yunnanilus chui* Yang, 1991: 199, fig. 3 (type locality: China: Yunnan: Fuxian Lake at Haikou, 24°29'N 102°56'E; holotype: KIZ 893095; noun in genitive, indeclinable)

**Taxonomic notes.** Possibly a species of *Eonemachilus*.

**10.46.7 *Yunnanilus discoloris* Zhou & He, 1989**

*Yunnanilus discoloris* Zhou & He, 1989: 381, fig. 1 (type locality: China: Yunnan: Chengdong County: White Dragon Spring [24°54'N 102°48'E; Romero et al., 2009: 268, but real locality is in cement factory at 24°52'36.8"N 102°51'47.2"E, pers. obs.]; holotype: YU 875001; adjective in genitive [not nominative, *Code* art. 31.2], treated as noun in apposition, indeclinable)

**10.46.8 *Yunnanilus elakatis* Cao & Zhu, in Zheng, 1989**

*Yunnanilus pleurotaenia elakatis* Cao & Zhu, in Zheng, 1989: 43, fig. 21 (type locality: China: Yunnan: Yiliang County; holotype: IHB 64V036; noun in apposition, indeclinable)

**10.46.9 *Yunnanilus ganheensis* An, Liu & Li, 2009**

*Yunnanilus ganheensis* An, Liu & Li, 2009: 635, fig. 11 (type locality: China: Yunnan: Xundan County: Ganhe, 25°30'N 103°40'E [Yangtze drainage]; holotype: HRAS 920217004; adjective, *-is, -is, -e*)

**10.46.10 *Yunnanilus jinxiensis* Zhu, Du & Chen, in Zhu, Du, Chen & Yang, 2009**

*Yunnanilus jinxiensis* Zhu, Du & Chen, in Zhu, Du, Chen & Yang, 2009: 196, fig. 1 (type locality: China: Guangxi: Jingxi County: Ludon village, Pearl River drainage; holotype: KIZ 0800018; adjective, *-is, -is, -e*)

**10.46.11 *Yunnanilus longibarbatus* Gan, Chen & Yang, 2007**

*Yunnanilus longibarbatus* Gan, Chen & Yang, 2007: 322, fig. 1 (type locality: China: Guangxi: Du-An County: Hongshui River drainage in Gaoling township; holotype: KIZ 2003050255; adjective, *-us, -a, -um*)

**10.46.12 *Yunnanilus longibulla* Yang, in Chu & Chen, 1990**

*Yunnanilus longibulla* Yang, in Chu & Chen, 1990: 21, fig. 16 (type locality: China: Yunnan: Chenghai Lake, 26°27–38'N 100°38–41'E; holotype: KIZ 818500; compound noun, indeclinable)

**10.46.13 *Yunnanilus macrogaster* Kottelat & Chu, 1988**

*Yunnanilus macrogaster* Kottelat & Chu, 1988a: 81, fig. 17 (type locality: China: Yunnan: Luoping County: Tatantze [Datangzi], 24°52'N 104°18'E; holotype: KIZ 806062; compound noun, indeclinable)

**10.46.14 *Yunnanilus macrositanus* Li, in Li, Wu, Xu, Gao, Chen, Wu & Wang, 1999**

*Yunnanilus macrositanus* Li, in Li, Wu, Xu, Gao, Chen, Wu & Wang, 1999: 4, fig. 1 (type locality: China: Yunnan: Lunan County: Heilongtan, 24°45'42"N 103°15'29"E; holotype: HRAS 6502041; spelt *macrositanus* pp. 3, 4, 6, *macroistainus* p. 4, *macroistanus* pp. 5, 6; as first reviser I select *macrositanus* as correct original spelling; etymology unknown, treated as noun in apposition, indeclinable)

? *Yunnanilus forkicaudalis* Li, in Li, Wu, Xu, Gao, Chen, Wu & Wang, 1999: 4, fig. 2 (type locality: China: Yunnan: Lunan County: Heilongtan, 24°45'42"N 103°15'

29"E; holotype: HRAS 6509047; spelt *forkicaudalis* pp. 3, 4, *forkeicaudalis* p. 5; as first reviser I select *forkicaudalis* as correct original spelling; compound noun, indeclinable; apparently a simultaneous subjective synonym of *Yunnanilus macrositanus* Li, in Li, Wu, Xu, Gao, Chen, Wu & Wang, 1999: 4; as first reviser I give precedence to *Y. macrositanus*)

**10.46.15 *Yunnanilus nanpanjiangensis* Li, Mao & Lu, in Li, Mao, Sun & Lu, 1994**

*Yunnanilus nanpanjiangensis* Li, Mao & Lu, in Li, Mao, Sun & Lu, 1994: 371, fig. 2 (type locality: China: Yunnan: Luoping County: Agang town, 25°04'N 104°07'E [She'Ao village; 25°05'N 104°08'E; Romero et al., 2009: 271]; holotype: FACQR 9191119; also spelt *nanpanjingsensis* p. 374, an obvious inadvertent error, thus incorrect original spelling [*Code* art. 32.5.1]; adjective, *-is, -is, -e*)

**10.46.16 *Yunnanilus niger* Kottelat & Chu, 1988**

*Yunnanilus niger* Kottelat & Chu, 1988a: 73, fig. 8 (type locality: China: Yunnan: Luoping County: Tatantze [Datangzi], 24°52'N 104°18'E; holotype: KIZ 806075; adjective, *-er, -ra, -rum*)

**Taxonomic notes.** Possibly a species of *Heminoemacheilus*.

**10.46.17 *Yunnanilus niulanensis* Chen, Yang & Yang, 2012**

*Yunnanilus niulanensis* Chen, Yang & Yang, 2012: 58, fig. 1 (type locality: China: Yunnan: Songming County: Yanglinhe River, 25°14'34"N 103°03'53.3"E, 1909 masl, upper reaches of Niulanjiang River, in Yanglin town, Jinsha Jiang drainage [Yangtze]; holotype: KIZ 20060285; adjective, *-is, -is, -e*)

**10.46.18 *Yunnanilus obtusirostris* Yang, in Yang & Chen, 1995**

*Yunnanilus obtusirostris* Yang, in Yang & Chen, 1995: 21, fig. 6 (type locality: China: Yunnan: Chengjiang County: West Dragon Spring, flowing into Fuxian Lake [24°30'N 102°53'E; Romero et al., 2009: 272]; holotype: KIZ 878052; compound noun, indeclinable)

**Taxonomic notes.** Possibly a species of *Heminoemacheilus*.

**10.46.19 *Yunnanilus pachycephalus* Kottelat & Chu, 1988**

*Yunnanilus pachycephalus* Kottelat & Chu, 1988a: 74, fig. 10 (type locality: China: Yunnan: Xuanwei County: Weizhangho at Yangliu, 26°38'N 104°15'E; holotype: KIZ 82100392; compound adjective, *-us, -a, -um*)

**10.46.20 *Yunnanilus paludosus* Kottelat & Chu, 1988**

*Yunnanilus paludosus* Kottelat & Chu, 1988a: 76, fig. 12 (type locality: China: Yunnan: Luoping County: Tatantze [Datangzi], 24°52'N 104°18'E; holotype: KIZ 806059; adjective, *-us, -a, -um*)

*Yunnanilus macrolepis* Li, Tao & Mao, in Li, Tao, Mao & Lu, 2000: 349, fig. 1 (type locality: China: Yunnan: Luoping County: Xuétian Longan, 24°50'N 104°20'E [24°53'N 104°18'E; Romero et al., 2009: 270]; holotype: HRAS or ASIZB 9307001; compound noun, indeclinable)



**10.46.22** *Yunnanilus pleurotaenia*, CMK 13100, 45.5 mm SL; China: Yunnan: Lake Dianchi basin.

**10.46.21** *Yunnanilus parvus* Kottelat & Chu, 1988

*Yunnanilus parvus* Kottelat & Chu, 1988a: 77, fig. 13 (type locality: China: Yunnan: Kaiyuan County: Nan Tong cave, 23°39'N 103°17'E; holotype: KIZ 847174; adjective, *-us, -a, -um*)

**10.46.22** *Yunnanilus pleurotaenia* (Regan, 1904)

*Nemachilus pleurotaenia* Regan, 1904: 192 (type locality: China: Yunnan: Sea of Tien at Yunnan Fu [Lake Dianchi, Kunming]; lectotype: BMNH 1904.1.26.36, designated by Kottelat & Chu, 1988a: 82; compound noun, indeclinable)

? *Yunnanilus tigeriveinus* Li & Duan, 1999: 254, fig. 1 (type locality: China: Yunnan: suburbs of Kunming, in an "opening of underground water", 25°10'N 102°55'E; holotype: HRAS 9901004; also spelt *tigerivinus* p. 256, as *tigeriveinus* is used five times and *tigerivinus* once, *tigerivinus* is treated as an inadvertent error, thus incorrect original spelling [*Code art. 32.5.1*]; etymology unknown, treated as noun in apposition, indeclinable)

**10.46.23** *Yunnanilus pulcherrimus* Yang, Chen & Lan, 2004

*Yunnanilus pulcherrimus* Yang, Chen & Lan, 2004: 112, fig. 1 (type locality: China: Guangxi: Du'an County: Hongshuihe River, a tributary of Xijiang [23°56'N 108°05'E; Romero et al., 2009: 274]; holotype: KIZ 995001; also in Lan, 2004; adjective, *-us, -a, -um*)

*Yunnanilus zebrinus* Lan & Zhang, in Zhou & Zhang, 2006: 87 (nomen nudum; bibliographic reference make it clear that it is an inadvertent error for *Yunnanilus pulcherrimus* Yang, Chen & Lan, 2004: 112; fig. II-19 is fig. 1 of Yang et al., 2004: 112)

**Taxonomic notes.** Possibly a species of *Micronemacheilus*.

**10.46.24** *Yunnanilus sichuanensis* Ding, 1995

*Yunnanilus sichuanensis* Ding, 1995: 253, fig. 1 (type locality: China: Sichuan: Mianning County: Anning River, Shuyalong Jiang River, 2020 masl, 28°41'N 102°12'E; holotype: MSINR 930026; adjective, *-is, -is, -e*)

**10.46.25** *Yunnanilus spanisbripes* An, Liu & Li, 2009

*Yunnanilus spanisbripes* An, Liu & Li, 2009: 631, fig. 1 (type locality: China: Yunnan: Zhanyi County: Niulanjiang River, 25°59'N 103°36'E [Yangtze drainage]; holotype: HRAS 9206064; also spelt *spanitripes*, p. 637; as first reviser I select *spanisbripes* as correct original spelling; etymology unknown, noun in apposition, indeclinable)



## APPENDIX: NEW GENUS-GROUP AND FAMILY-GROUP NAMES

*Ambastaia*, new genus

**Type species.** — *Botia nigrolineata* Kottelat & Chu, 1987.

**Diagnosis.** — *Ambastaia* is distinguished from all other genera of the family Botiidae by its unique colour pattern in adults consisting in a whitish-yellowish background with a black midlateral stripe on the flank and another, middorsal stripe, with vertical bars connecting the two stripes and extending on the lower half of the body. In *A. nigrolineata* only the two stripes are present in juveniles and the bars appear at about 40–50 mm SL. In *A. sidthimunki*, the mid-dorsal stripe is often longitudinally divided by a whitish median area, or a row of whitish blotches, and the midlateral stripe may appear as a row of closely connected blotches; the juveniles have not yet been described.

**Etymology.** — Named for Ambastai (or Ambastus in Latin), a river in Ptolemy's (ca. 90–168) Γεωγραφικὴ Ἑφήγησις (*Geographikê Hyphêgêsis*, Geography). This river has been identified as the Mekong (van der Meulen, 1974, 1975). Gender feminine.

**Remarks.** — The colour pattern of *A. nigrolineata* and *A. sidthimunki* and its ontogeny are unique within Botiidae. Both were originally described in the genus *Botia* and they were later transferred to *Yasuhikotakia* by Nalbant (2002). Still the colour pattern distinguishes them from that of all species of *Yasuhikotakia*, which includes a large blackish blotch at the base of the caudal fin and, in juveniles, a number of narrow bars on the flank (see figures in Kottelat, 2001b: 87). In most individuals, these bars become indistinct with age. Other elements of the colour pattern (e.g. middorsal stripes, black spots and subdistal margin on fins) may be present. This contrasts with *Ambastaia* in which the stripes appear first, followed by the vertical elements. Those species of *Yasuhikotakia* that have been studied osteologically have a long process of the frontal along the anterior margin of the orbit (called “spinous fringe” by Taki, 1972); it is missing in *A. sidthimunki*. Based on this and other characters, Taki (1972: 78) commented that *A. sidthimunki* “appears to be the remotest from [...] the rest in the group” [his *modesta* group, equivalent to *Yasuhikotakia*]. This condition of the ‘spinous fringe’ has not yet been checked in all known species and therefore it is not used here as a diagnostic character.

The molecular phylogeny presented by Šlechtová et al. (2005) included *A. nigrolineata* and *A. sidthimunki* and showed that they are each other's closest relative but not closely related to the other species placed in *Yasuhikotakia*. On the contrary, they form the sister-group of *Sinibotia* and together they are the sister-group of *Syncrossus*. This lineage, in turn, constitutes the sister group of *Yasuhikotakia*. This clearly

shows that *A. sidthimunki* and *A. nigrolineata* form a distinct lineage. With the recognition of *Ambastaia*, *Yasuhikotakia* seems now monophyletic.

Admittedly, it is quite weak to diagnose a genus by its colour pattern; combined with the molecular evidence it seems however justified to formally recognise this lineage by a name awaiting for (possible) more detailed anatomical studies. Assuming that this kind of research will still get support and be tolerated. I wish to point that to me, in botiids, the ontogeny of the colour pattern seems much more informative than the colour pattern itself. Unfortunately there is no published information on the colour pattern of the juveniles of the Chinese genera (*Sinibotia*, *Leptobotia*, *Parabotia*).

*Theriodes*, new genus

**Type species.** — *Acanthopthalmus sandakanensis* Inger & Chin, 1962: 120.

**Diagnosis.** — *Theriodes* is distinguished from the other genera of the family Cobitidae in Southeast Asia in having the black marking at the base of the caudal-fin made of a single small black spot; it is slightly vertically elongated, at mid-height of the caudal-fin base. The gill opening is small, oval, its length is about equal to the length of the base of the pectoral fin and it is located entirely above the base of the pectoral fin. The anterior nostril is at the tip of a short conical tube and the posterior nostril is not immediately adjacent to the tube, but separated by a distance about equal to its own diameter (shared with *Kottelatlimia katik*). The pectoral fin has 5 branched rays. In the male the first two pectoral rays are thickened and have a few tubercles along the anterior edge; the second ray is branched but there is no membrane between the branches and the posterior branch is much thinner than the anterior one; superficially the ray may appear unbranched (as originally described by Inger & Chin, 1962); the branches are more discernible in females and juveniles. The other pectoral rays are clearly branched, but the branching point is close to the tip of the rays.

The following characters also help to distinguish the genus, although none is unique to it: pelvic fin with 1 simple and 4 branched rays; dorsal-fin origin about halfway between pelvic-fin origin and anal-fin origin; caudal fin rounded; lower lip interrupted medially, each half with an inner, thickened mental lobe; membrane connecting mental lobe to corner of mouth with two barbel-like projections, one of them continuing the mental lobe; barbels short, broad, somewhat triangular and flattened; bifid suborbital spine; eye covered by skin; 25–26 + 10–11 = 35–36 vertebrae (Kottelat & Lim, 1992: 202).

**Etymology.** — Named for Theriodes Kolpos (or Therioidis Sinus in Latin, the Bay of the Beasts), a place name in Ptolemy's (ca. 90–168) *Γεωγραφικὴ ῥηγήγησις* (*Geographikê Hýphêgêsis*, Geography). It has been identified by some as possibly Borneo (van der Meulen, 1974, 1975). Treated as masculine.

**Remarks.** — *Theriodes sandakanensis* was originally described as a species of *Acanthopthalmus* (a junior synonym of *Pangio*) (Inger & Chin, 1962: 120). There was no explanation as to why the species was placed in *Pangio* but the description includes comparison only with species placed in *Pangio* by earlier authors (e.g. Weber & de Beaufort, 1916; Smith, 1945). Several of these species have a diagnostic 'barred' colour pattern and Inger & Chin explicitly discussed this barred pattern. It is not appropriate to describe the colour pattern as barred. In the species of *Pangio* with a barred pattern, the bars are black, regular, with sharp edges and contrasted on a white to yellowish background. In *Theriodes*, the colour pattern is better described as dark brown marks on a paler, yellowish brown background, made of superficial and inner pigments; the marks are irregular and somewhat organised in 4–5 transverse bands. Besides, species of *Pangio* are more elongated, with 45–71 vertebrae (Kottelat & Lim, 1993), while *T. sandakanensis* has only 35–36 (Kottelat & Lim, 1992). Roberts (1989: 103) placed *T. sandakanensis* in the genus *Lepidocephalichthys*. It indeed shares a number of characters with *Lepidocephalichthys*, e.g., the rounded caudal fin, the general morphology of the lower lip, and the vertebrae counts (see Kottelat & Lim, 1992).

*Theriodes* is, however, missing the most obvious character diagnosing *Lepidocephalichthys*, the sexually dimorphic modified pectoral-fin rays in males. Sexual dimorphism provides very efficient characters to identify lineages in Cobitidae (Šlechtová et al., 2008). In many genera, males have thickened, hardened or rigid anterior pectoral rays, often with projections or appendages. *Lepidocephalichthys* is unique in having no modification on the anterior rays but in having the last two rays (7 and 8) fused and swollen, often with a longitudinally elongated, often laminar, protuberance along the dorsal surface (Kottelat & Lim, 1992: 203, fig. 1; Nalbant, 1963, 1994; Havird & Page, 2010). In *Pangio*, the pectoral-fin rays of the males are longer and more rigid than in the females, and they have a typical curled appearance (Kottelat & Lim, 1993). In *Kottelatlimia*, earlier included in *Lepidocephalichthys*, a number of segments of the dorsal hemitrich of the first branched ray have a posterior laminar projection forming a kind of blade or saw-like structure (Kottelat & Tan, 2008: 66, fig. 3).

None of these structures is present in *Theriodes*. The pectoral fin is small, with only 5 branched rays (apparently fewer than in all other cobitid genera, 6–10). The first two rays are thickened in the male, and the second ray (homologous to the first branched ray in the females and juveniles) is described as "appeared unbranched" by Inger & Chin (1962: 123). In fact it is branched but there is no membrane between the branches. A similar situation is also observed in *Kottelatlimia* and *Acantopsis* (Kottelat & Tan, 2008).

Havird & Page (2010: 156) mentioned the sexual dimorphism in *Theriodes* and *Lepidocephalichthys*, but in a confusing way. The main problem is their misunderstanding of the 'lamina circularis'. They comment that the lamina circularis is "formed by the first and second pectoral rays in mature males of [*T. sandakanensis*] (as well as a thickening of the first pelvic ray) vs. the seventh and eighth pectoral rays in mature males of *Lepidocephalichthys*". Elsewhere (p. 137; also Havird et al., 2010: 13), "[t]his modification is referred to as the lamina circularis and is formed by a fusion and hardening of the innermost (seventh and eighth) pectoral rays. In mature males of other cobitid genera, the lamina circularis is formed by different pectoral rays (usually the second) or is absent". To refer to all types of sexually dimorphic modification of the pectoral rays as the same structure, under the same name, obviously is misleading as the compared structures are not homologous. Next comes the use of the wording 'lamina circularis' to refer to just any modification of the pectoral rays. This obviously ignores that there is a very large corpus of literature on cobitids and their sexual dimorphism by authors in Europe, China, Japan and Korea, spanning over about 140 years. Lamina circularis means circular lamella. The sexual dimorphism in *Cobitis* was first described (imperfectly as a swelling of the ray) by Canestrini (1871) and it later became known as Canestrini scale. As implied by both names, it refers to a round structure and it would be strange to use it as a general term meaning modified pectoral ray. The lamina circularis is a laminar, usually but not always circular, posterior projection of the first (proximal-most) segment of the dorsal hemitrich of the first branched pectoral ray (see, e.g., Nalbant, 1963: 356; Kottelat & Freyhof, 2007: 301, fig. 61). A second lamina circularis may also be present on the second branched ray in some species. It is not homologous with the thickened rays 1–2 of *Theriodes*, with the curled rays of *Pangio*, with the fused rays 7–8 of *Lepidocephalichthys*, or with the blade or 'saw' on ray 2 of *Kottelatlimia*. But it is apparently homologous with the projection on the first segment of ray 2 (the proximal-most 'tooth' of the 'saw') in *Kottelatlimia* (Kottelat & Tan, 2008: 66, fig. 3).

The black pattern at the base of the caudal fin is also useful to distinguish some lineages in all families of Cobitoidea. *Theriodes* has a single small black spot at mid-height of the caudal fin, a pattern not seen in any other cobitid (but known in other loach families). In *Lepidocephalichthys* and *Kottelatlimia*, as in the majority of cobitids, if present, the black spot (or one of the black spots) is in the upper third of the caudal-fin base, usually somewhat slanted. There is no spot in *Pangio*, but in some species a bar occupies most of the caudal-fin base.

The gill opening seems smaller in *Theriodes* than in any other cobitid, but this still requires confirmation. In most cobitids, the posterior nostril is adjacent to the anterior one (or to the base of the tube at the top of which the anterior nostril is located), but in *Theriodes* there is some distance between the tube and the posterior nostril. The diagnostic value of this character needs to be checked in more genera.

**Material.** — *Theriodes sandakanensis*: ZRC 37645, 16 (of 17); CMK 11557, 2; 10.5–35.0 mm SL; Borneo: Sabah: Kinabatangan drainage at SAFODA, near Batu Puteh, K. K. P. Lim et al., 7–13 Apr. 1994. - ZRC 45473, 2 (of 3), 21.8–22.1 mm SL; Borneo: Sabah: Lungmanis, Goh Y.-Y., 27 Sep. 1998.

### *Speonectes*, new genus

**Type species.** — *Sundoreonectes tiomanensis* Kottelat, 1990.

**Diagnosis.** — *Speonectes* is distinguished from the other genera of Nemacheilidae by the following combination of characters (but none unique to it): anterior and posterior nostrils adjacent; rim of anterior nostril as a short tube with posterior edge produced in a long filament ('nasal barbel'); processus dentiformis present; lower lip with a median notch; lateral line present, incomplete, reaching vertical through end of anal-fin base; axillary pelvic lobe present, rudimentary; pelvic-fin origin about at vertical through dorsal-fin origin; anus closer to base of pelvic fin than to anal-fin origin; dorsal and ventral crests on caudal peduncle, supported by procurent rays; posterior chamber of gas bladder large and somewhat globulous, located dorso-posterior to stomach and connected to encapsulated anterior part by a long slender duct.

The 'nasal barbel' is also known in other nemacheilid species that had earlier been placed in *Oreonectes* (e.g. Bănărescu & Nalbant, 1995: 455) but are now placed in *Oreonectes*, *Lefua*, *Indoreonectes* and *Sundoreonectes* (Kottelat, 1990b; Prokofiev, 2005). A few species of *Schistura* also have a 'nasal barbel', although less developed; they are immediately distinguished from *Speonectes* by their barred colour pattern, anus closer to base of anal-fin origin than to pelvic fin; caudal fin emarginated or forked; and (for those species in which this character has been examined) posterior chamber of gas bladder absent or immediately adjacent to encapsulated anterior part.

*Speonectes* is distinguished from *Oreonectes* in having: an almost complete lateral line, which reaches to a vertical through the end of the base of the anal fin (vs. absent or up to 18 pores, not reaching pelvic fin; Du et al., 2008); a large posterior chamber of the air bladder, located dorso-posterior to the stomach and connected to the encapsulated anterior part by a long slender duct (vs. in direct contact with the bony capsule); the dorsal-fin origin about on a vertical through pelvic-fin origin (vs. conspicuously behind the base of the pelvic fin); adjacent nostrils (vs. widely separated, posterior one at short distance of anterior margin of orbit); and the anus closer to the base of the pelvic fins than to the anal-fin origin (vs. immediately in front of anal-fin origin). *Oreonectes* occurs in southeastern China and northern Vietnam.

*Speonectes* is distinguished from *Lefua* in having: an almost complete lateral line, which reaches to a vertical through the end of the base of the anal fin (vs. no lateral line); the dorsal-

fin origin about on a vertical through pelvic-fin origin (vs. above posterior extremity of pelvic-fin base); adjacent nostrils (vs. widely separated, posterior one at short distance of anterior margin of orbit); and the anus closer to the base of the pelvic fins than to the origin of the anal fin (vs. immediately in front of anal-fin origin). *Lefua* occurs in the Amur drainage, Korea, northeastern China and Japan.

*Speonectes* is distinguished from *Indoreonectes* in having: an almost complete lateral line, which reaches a vertical through the end of the base of the anal fin (vs. reaching at most to a vertical through middle of pectoral fin); a large posterior chamber of the air bladder, located dorso-posterior to the stomach and connected to the anterior encapsulated part by a long slender duct (vs. rudimentary and adjacent to the bony capsule); the dorsal-fin origin about at a vertical through the pelvic-fin origin (vs. above the posterior extremity of the pelvic-fin base or behind); and the anus closer to the base of the pelvic fin than to the anal-fin origin (vs. immediately in front of anal-fin origin). *Indoreonectes* is known only from Peninsular India.

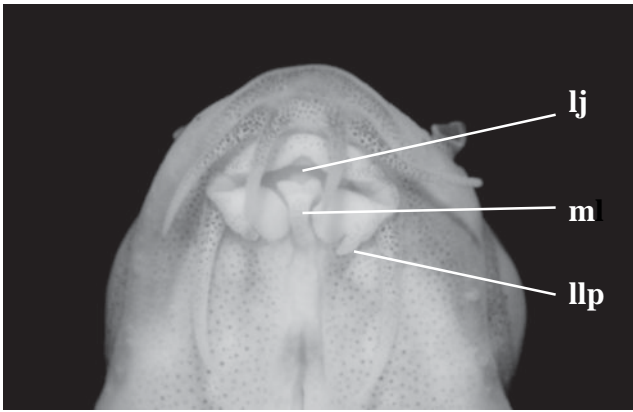
The only known species of *Speonectes* (*S. tiomanensis*) inhabits a cave on Tioman Island (off Malay Peninsula) and was earlier placed in the genus *Sundoreonectes*, which includes at least two species from the highlands of Borneo. Besides the features commonly observed in cavefishes (reduced eyes, white body, etc.), *Speonectes* is distinguished from *Sundoreonectes* in having: a median notch in the lower lip (vs. no notch, lip continuous along the anterior edge, but with numerous narrow furrows; postlabial groove almost continuous, interrupted medially only by two very narrow frena); an almost complete lateral line, which reaches to a vertical through the posterior extremity of the base of the anal fin (vs. reaching to above pelvic fin); the anus closer to the base of the pelvic fin than to the anal-fin origin (vs. immediately in front of at anal-fin origin); and the caudal fin slightly emarginate (vs. truncate or slightly rounded). *Sundoreonectes* was distinguished from *Oreonectes*, *Lefua* and *Indoreonectes* by the absence of a frontal fontanelle; it is not possible to dissect the single specimen of *S. tiomanensis* available to me to check this character, but no fontanelle could be felt through the skin with a needle.

**Etymology.** — From the Greek σπέος (speos: a cave, cavern, grot) and νήκτερος (nectes: a swimmer); a reference to the cave habitat of the only known species of the genus. Gender masculine.

**Remarks.** — Unpublished molecular data (V. Šlechtová and J. Bohlen, pers. comm.) shows that *Speonectes tiomanensis* belongs to a lineage very distinct from *Oreonectes*, *Lefua* and *Sundoreonectes*.

**Material.** — *Speonectes tiomanensis*: CMK 15963, 1; Malaysia: Tioman Island. *Indoreonectes evezardi*: CMK 6439, 2; India: Madhya Pradesh. *Oreonectes platycephalus*: CMK 7207, 3; Hong Kong. - CMK 14892, 5; Vietnam: Quang Ninh. *Sundoreonectes sabahensis*: CMK 6435, 2; 17455, 10; Malaysia: Sarawak. *Lefua costata*: CMK 21951, 9; South Korea.





**Fig. 1.** *Barbucca diabolica*, ZRC 47747, 29.0 mm SL. Mouth. **lj**, lower jaw; **llp**, barbel-like projection of lower lip; **ml**, median lobe. (Photograph by Tan Heok Hui, retouched by author).

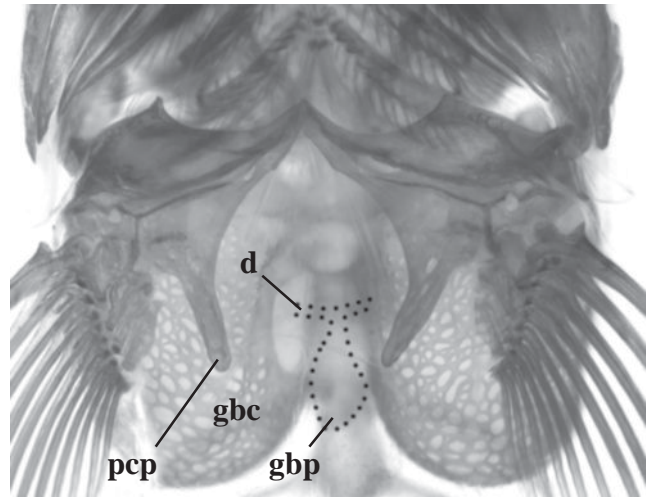
Additional data from: Bănărescu & Nalbant, 1995; Prokofiev, 2005; Du et al., 2008; Kottelat, 1990b.

### Barbuccidae, new family

**Type genus.** — *Barbucca* Roberts, 1989: 100.

**Diagnosis.** — Barbuccidae includes the single genus *Barbucca*, with one named and several unnamed species. The most obvious characters distinguishing Barbuccidae from the other families of Cobitoidea are in the structure of the mouth (Fig. 1) and the gas-bladder capsule. Upper lip, fleshy, smooth, with or without a median notch. Lower lip continuous with upper lip, fleshy, interrupted medially, with a thick, fleshy barbel-like projection along its posterior edge, near lateral extremity. Skin of throat between median extremities of lower lip forming a fleshy, triangular lobe, with a soft, thin, compressed projection orientated perpendicular to body. Two pairs of rostral barbels, one pair of maxillary barbels. All barbels with rings of small projections. Lower jaw exposed.

The shape of the gas-bladder capsule distinguishes Barbuccidae from all other lineages of Cobitoidea. The capsule appears as a single globulous structure in Cobitidae, incompletely formed in Botiidae and Vaillantellidae (Sawada, 1982). In Nemacheilidae, Balitoridae, Gastromyzontidae (Sawada, 1982), Serpenticobitidae (Nalbant, 2001) and Ellopostomatidae (Kevin Conway, pers. comm., 2011) the capsule is made of two more or less spherical structures (formed by the horizontal and the descending processes of centrum 2 and the inner and outer arms of the os suspensorium) connected posteriorly to each other to form a canal (called 'manubrium' by, e.g., Bănărescu & Nalbant, 1995) around the duct connecting the left and right halves of the anterior chamber of the gas bladder. The manubrium is not a complete tube in *Ellopostoma* but a thin lamina of bone that rims the ventral part of the connecting duct. In Barbuccidae, the 'manubrium' is missing, the two capsule are posteriorly independent and the duct is exposed (Fig. 2). The coracoid has a large posterior process, not reported in other families. Posterior edge of basipterygium of pelvic girdle with elongate poster-



**Fig. 2.** *Barbucca diabolica*, UMMZ 240150, 24.4 mm SL. Ventral view of pectoral girdle. **d**, duct; **gbc**, gas-bladder capsule; **gpb**, gas-bladder posterior chamber; **pcp**, posterior coracoid process. (Photograph by Kevin Conway).

odorsal process, which articulates with 2<sup>nd</sup> last rib close to its base. (Based on photographs and information provided by Kevin Conway).

Barbuccidae are further distinguished by having: body short, compact, with a barred colour pattern. Head small, with a blunt snout, with large, oval eyes orientated dorso-laterally. Anterior nostril at tip of a short tube; posterior nostril in contact with base of tube and adjacent to eye orbit. Caudal fin emarginate. Dorsal-fin origin slightly in advance of pelvic-fin origin. Pectoral and pelvic fins directed laterally, each with a single simple ray. Large tubercles disposed irregularly on lower half of flank above anal fin (number and exact distribution variable and depending of species).

### Serpenticobitidae, new family

**Type genus.** — *Serpenticobitis* Roberts, 1997: 109.

**Diagnosis.** — Serpenticobitidae includes the single genus *Serpenticobitis*, with three named species. It is distinguished from the other families of Cobitoidea in having: body short, cylindrical, with a barred colour pattern. Head small, snout rounded and conspicuously overhanging. A large bifid spine present immediately below eye. Caudal fin slightly forked. Dorsal-fin origin in advance of pelvic-fin origin. Pectoral fins directed laterally. Pectoral and pelvic fins with a single simple ray. Mouth small, arched. Upper and lower lips fleshy and continuous. Lower lip with a few folds and a median interruption but no mental lobes. Two pairs of rostral barbels, one pair of maxillary barbels. Lower jaw partly exposed. Anterior nostril pierced at front side of a flap-like tube. All fins with conspicuous rows of spots. A large and conspicuous black spot at midheight of caudal-fin base. Gas-bladder capsule in two parts connected by a 'manubrium' (Nalbant, 2001: 10).

**Remarks.** — I follow here the molecular phylogeny of Šlech-

toová et al. (2007) and Bohlen & Šlechtová (2009). However, their phylogeny recovers Ellopostomatidae, Nemacheilidae and Balitoridae as an unresolved trichotomy and their Balitoridae is quite heterogeneous and includes a number of very distinctive groups. In their Balitoridae, they recovered four lineages corresponding to Gastromyzontidae, 'Homalopteridae' of earlier authors (e.g., Silas, 1953), *Barbucca* and *Serpenticobitis*. The position of these two genera has been very uncertain since their description, with *Barbucca* being placed in Cobitidae (Roberts, 1989) or in Balitoridae (Kottelat et al., 1993; Šlechtová et al., 2007), and *Serpenticobitis* hypothesized to belong to Cobitidae (Roberts, 1997; Kottelat, 2001b), Nemacheilidae (Nalbant, 2002: pl. 7) or Balitoridae (Šlechtová et al., 2007). As more characters (morphological and molecular) are explored and as data on more species become available, these two genera are likely to continue their Brownian movement within the phylogeny of Cobitoidei. I find it convenient to give these two genera the

same rank as the two other lineages (Gastromyzontidae and Balitoridae s.s.).

Some might prefer recognising a hierarchy of families, subfamilies, tribes etc. and are free to do so. At this stage, I do not see any advantage at recognising a hierarchy of ranks within the still unstable Nemacheilidae-Balitoridae-Ellopostomatidae assemblage (see Introduction, Families vs. subfamilies). The classification with a single rank allows easier reference for those not concerned by phylogeny or taxonomy. It is easier (for example for ecologists) to handle units with some sort of internal consistency in morphology, habitat preferences, etc. with only one level of family-group names, without having to worry about a hierarchy of names or debates on phylogeny. A classification using (naming) few ranks only is less quickly obsolete than a classification using a complex hierarchy.

#### ACKNOWLEDGEMENTS

It is impossible to mention all those who provided information and literature over the years of gestation of this checklist, but in the final years the following helped in finding rare or hard-to-get literature and helped with translations, information and comments: Nina Bogutskaya (ZISP), Jörg Bohlen (Institute of Animal Physiology and Genetics, Liběchov, Czechia), Ralf Britz (BMNH), Chen I-Shiung (National Taiwan Ocean University, Keelung, Taiwan), Chen Xiao-Yong (KIZ), Kevin Conway (Texas A&M University, College Station, USA), Fang Fang (NRM), Jörg Freyhof (Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany), Alain Hennache (Parc de Clères, Clères, France), Kim Ik-Soo (CNUC), Katsuma Kubota (Bangkok, Thailand), Sven Kullander (NRM), Kelvin Lim (ZRC), Michal Mikšik (Prague), Sonia Fisch-Muller (MHNG), Ng Heok Hee (ZRC), Rohan Pethiyagoda (AMS), Graham Proudlove (University of Manchester, U. K.), Vendula Šlechtová (Institute of Animal Physiology and Genetics, Liběchov, Czechia), Tan Heok Hui (ZRC), Tran Anh Duc (Hanoi University of Science, Hanoi, Vietnam), Davut Turan (Rize University, Rize, Turkey), Ekaterina Vasil'eva (ZMMU), Claude Weber (MHNG), Yang Jian (Guangxi Teacher's Education University, Nanning, China), Zhang E (IHB). Kevin Conway generously made available a number

of unpublished osteological information and photographs used in the diagnoses of the new taxa. Kevin Conway, Jörg Bohlen and Jörg Freyhof read and commented on the manuscript. Rohan Pethiyagoda commented on the manuscript and helped in making it more readable. Hazelina Yeo Hwan Theng read and checked the manuscript. Jörg Bohlen, Chen Xiao-Yong, Kevin Conway, Jörg Freyhof, Alexander Golubtsov (Severtsov Institute of Ecology and Evolution, Moscow, Russia), Kazumi Hosoya (Kinki University, Nara, Japan), Zdenek Lajbner (Institute of Animal Physiology and Genetics, Liběchov, Czechia), Lan Jia-Hu (Fishery Technique Popularization Station, Du'an, China), Beta Mahatvaraj (Chennai, India), Artem Prokofiev (Severtsov Institute of Ecology and Evolution, Moscow, Russia), Ren Qiu (KIZ), Tan Heok Hui, Yang Jian, Zhang E, Zhao Ya-Hui (ASIZB) and Zakhar Zhidkov (Saint Petersburg University, Russia) provided photographs. Tan Heok Hui designed the cover page.

Over the years, Antoinette Kottelat-Kloetzli contributed to my work on loaches by assisting in library work, sorting and shelving collections, supporting my frequent and long absences while in the field, coining a number of names of new taxa (and building a stock of names available for future new taxa), and many other ways.

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## INDEX

Subspecies and infrasubspecific names are listed under their generic name in alphabetical sequence and with omission of intercalated names (e.g. *Acanthopthalmus kuhlii malayanus* is listed as *Acanthopthalmus malayanus*). Accidental misspelling of generic names are corrected. Numbers in bold refer to valid names of valid species.

- A**  
*abbreviata*, *Homaloptera* 7.9.1  
*abbreviata*, *Jinshaia* **7.9.1**  
*Aborichthys* **10.1**  
— *bijulensis* 10.1  
— *elongatus* **10.1.1**, 10.30.3  
— *garoensis* **10.1.2**  
— *kempi* 10.1, **10.1.3**  
— *rosammai* 10.34.154  
— *tikaderi* **10.1.4**  
*abyssinicus*, *Afromemacheilus* **10.3.1**  
*abyssinicus*, *Nemachilus* 10.3, 10.3.1  
*Acanestrinia* 4.5  
*Acanthocobitis* **10.2**  
— *botia* 2.2.7, **10.2.2**, 10.2.3  
— *longipinnis* 10.2, **10.2.1**, 10.2.5, 10.21.14  
— *mandalayensis* **10.2.3**  
— *mooreh* **10.2.4**  
— *pavonacea* **10.2.5**  
— *pictilis* **10.2.6**  
— *rubidipinnis* 10.2.3, **10.2.7**  
— *urophthalma* **10.2.8**  
— *zonalternans* **10.2.9**  
*Acanthopthalmus* 4.5, 4.16  
— *agmus* 4.16.1  
— *anguillaris* 4.16, 4.16.5  
— *borneensis* 4.16.1  
— *cuneovirgatus* 4.16.9  
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