

## Nomenclatural Status of the Fish Names Created by J. C. van Hasselt (1823) and of Some Cobitoid Genera

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**Abstract** The nomenclatural status of the 16 genera and 42 species of fishes described by van Hasselt is reviewed. One genus is preoccupied and 4 genera and 26 species are nomina nuda. The status of some cobitoid generic names is reviewed with greater details: *Noemacheilus* van Hasselt is a nomen nudum; *Acanthopthalmus* van Hasselt is a junior synonym of *Cobitis* Linnaeus and *Acanthopthalmus* Bleeker is an incorrect spelling; the fishes usually called *Acanthopthalmus* are *Pangio* Blyth; *Acanthopsis* Bleeker is an incorrect spelling of *Acanthopsis* van Hasselt; *Acanthopsis* Agassiz is valid and its type species is *A. angustus* Agassiz.

Heinrich Kuhl (1796–1821) and Jan Coenrad van Hasselt (1797–1823) arrived in Java in December 1820 and stayed until their respective deaths. They were charged with investigating the natural history of the Dutch East Indies. These investigations were the subject of various letters sent to C. J. Temminck, then director of the Leiden Museum. The letters devoted to fishes (among other letters) were published by Temminck (van Hasselt, 1823a–c). Kuhl and van Hasselt were unable to prepare a definitive report of their researches.

Several new names were cited in these letters; some of these names are valid, while others are nomina nuda. Parts of the letters were translated into French (van Hasselt, 1824a, b), although in shortened form. Most of the names have been variously treated by subsequent authors (i.e. Cuvier and Valenciennes, Bleeker, Weber and de Beaufort, etc.). Alfred (1961) published an English translation of these letters and gave, as footnotes, comments on some taxa. However, Alfred did not attempt to make a complete synopsis on the nomenclatural status of all names contained in van Hasselt's letters. Therefore, given the history of these names, the very brief 'descriptions', and the uncertainty surrounding their validity, a complete discussion is in order.

The aim of this paper is to thoroughly and conclusively solve as many of these problems as possible. The various names are listed here in the order of appearance in van Hasselt's letters. Valid names of former authors are omitted. Authorship

and status are indicated, as well as type species of new genera. Readers are referred to Alfred (1961) for a more thorough history of these letters and for the English translation, and to Steenis-Krusman (1950) for biographical data and references on Kuhl and van Hasselt. In this paper, ICZN refers to the International Code of Zoological Nomenclature, 1985 edition.

### Drawings and specimens

Throughout the text, van Hasselt referred to the drawings which have been prepared in Java and which were sent with the letters. These drawings were later examined by Valenciennes who apparently took them to Paris [Bleeker (1863a: 48) examined at least one (in Paris ?)]. They were said to have been sent back to Leiden although there is apparently no proof of this. Except for two mentioned by Alfred (1964) they cannot be found in Leiden and are supposedly lost.

Copies (or originals ?) of some drawings were found to exist in Cuvier and Valenciennes' notes for the *Histoire Naturelle des Poissons* in the Bibliothèque Centrale du Muséum National d'Histoire Naturelle, Paris. A complete list of these drawings has still to be established. These drawings are unpublished, therefore, mention to them in van Hasselt's letters or in the *Histoire Naturelle des Poissons* is not an indication [ICZN art. 12(b) (7)].

Specimens collected by Kuhl and van Hasselt

exist in Rijksmuseum van Natuurlijke Historie, Leiden (RMNH). Some were given to Valenciennes and remain in the collections of Muséum National d'Histoire Naturelle, Paris (MNHN). When I could trace them, I list potential type specimens; but I have not systematically looked for them.

#### Authorship

For most names, the authors were clearly indicated (mihi, nob.). In the first letter, van Hasselt (1823a: 315) indicated that work on marine fishes had been done after Kuhl's death.

#### Nomina nuda and nomina dubia

Many of Kuhl and van Hasselt names are nomina nuda. There are several reasons, often combined, for this: no description at all; a common description for several species or the only mentioned characters are described as shared with another species; description not explicit, but implied by the name.

I have been argued that most of those Kuhl and van Hasselt names which are not nomina nuda are nomina dubia and thus cannot be used. This is only partly true: nomina nuda cannot be used because they are not available while nomina dubia are available but we cannot use them as we are unable to recognize them; but when the type material is redescribed or when a neotype is designated they can be recognized and used with their original author. This is just the general process of revision and it may very well apply to our own works in the future.

Most of the nomina dubia disappeared with the revisory works of Valenciennes and Bleeker. For the very few which remain, if, when identified, they turn out to upset stability of nomenclature, then the case should be submitted to the International Commission of Zoological Nomenclature which might suppress it. This may possibly apply to *Odontopsis armata* once it is identified.

#### Systematic section

1. *Scyllia quinquecornuatum* van Hasselt, 1823a. Available by indication to Seba (1758: pl. 34, fig. 1) [ICZN art. 12 (b) (7)]. Compagno (1984) erroneously listed this name as *Scyllium quinquecarinatum* van Hasselt, 1823.
2. *Scyllia griseum* van Hasselt, 1823a (nomen nudum).
3. *Carcharias javanicus* van Hasselt, 1823a (nomen nudum). Van Hasselt wrote that this fish differed from a 'Meni Sauru' he saw in the Paris Museum by the shape of the caudal fin. He did not indicate how this fin was different. This cannot be accepted as a description.
4. *Zygaena indica* van Hasselt, 1823a. Available by indication to Russel (1803, vol. 1: 8, pl. 12), whose plate was reproduced in Alfred (1961: pl. 3, fig. 1).
5. *Zygaena laytcephala* van Hasselt, 1823a (nomen nudum). Laytcephala probably is a misprint for latycephala.
6. *Myliobatus cyclura* van Hasselt, 1823a (nomen nudum).
7. *Myliobatus ocellatus* Kuhl in van Hasselt, 1823a. Available by indication to Russel (1803, vol. 1: 5, pl. 8).
8. *Gymnura* Kuhl in van Hasselt, 1823a (type species: *Raja micrura* Bloch in Schneider, 1801, by monotypy). Available by indication [the use of one available species-group name; ICZN art. 12(c) (5)].
9. *Cephaloptera tatariana*. This is an incorrect subsequent spelling of *Raja fabroniana* Lacepède, 1800. It has no status in nomenclature [ICZN art. 33(c)].
10. *Rhenoptera* van Hasselt, 1823a (nomen nudum).
11. *Aluthera javanica* van Hasselt, 1823a (nomen nudum).
12. *Monacanthus sarothura* van Hasselt, 1823a. Available by indication to Seba (1758: 63, pl. 24, fig. 18) and Gronovius (1763: 52, no. 191, pl. 6, fig. 5).
13. *Monacanthus inornatus* van Hasselt, 1823a (nomen nudum).
14. *Syngnathus fluviatilis* van Hasselt, 1823b (nomen nudum). The drawing mentioned by van Hasselt has been traced by Alfred (1964).
15. *Saurus carinatus* van Hasselt, 1823b. Available by description. Also by indication to Russel (1803, vol. 2: 56, pl. 172).
16. *Clupea macrura* van Hasselt, 1823b (nomen nudum).

nudum). Although van Hasselt capitalized *Macrura*, he clearly used it as a species name, thus the use of *Macrura* van Hasselt by several authors (e.g. Misra, 1976) is not correct.

17. *Gonostoma* van Hasselt, 1823b (no type species designation). Preoccupied in Pisces by Rafinesque-Schmaltz (1810: 64).

18. *Engraulis indicus* van Hasselt, 1823b. Available by description. Also by indication to Russel (1803, vol. 2: 71, pl. 187).

19. *Lutodeira* van Hasselt, 1823b (type species: *Lutodeira indica* van Hasselt, 1823, by monotypy).

20. *Lutodeira indica* van Hasselt, 1823b.

Both names available by description. Also by indication to Russel (1803, vol. 2:84, pl. 207). Arnoult (1984: 128) erroneously considered Rüppell (1828: 17) as author. One specimen (RMNH 3369) labelled *Channos channos* might be a potential type.

21. *Belone strongylura* van Hasselt, 1823c. Available by indication to Russel (1803, vol. 2: 61, pl. 176).

22. *Hemirhamphus viridis* van Hasselt, 1823c (nomen nudum).

23. *Dermogenys* Kuhl et van Hasselt in van Hasselt, 1823c (type species: *D. pusillus* Kuhl et van Hasselt, 1823, by monotypy).

24. *Dermogenys pusillus* Kuhl et van Hasselt in van Hasselt, 1823c.

Both names available by description.

25. *Exocoetus javanicus* van Hasselt, 1823c. Available by description.

26. *Odontopsis* van Hasselt, 1823c (type species: *O. armata* van Hasselt, 1823, by monotypy).

27. *Odontopsis armata* van Hasselt, 1823c.

Both names available by description.

28. *Cyprinus floripenna* van Hasselt, 1823c (nomen nudum).

29. *Barbus obtusirostris* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

30. *Barbus rubripinna* van Hasselt, 1823c (nomen nudum).

31. *Barbus hypseconotus* van Hasselt, 1823c (nomen nudum).

32. *Barbus maculatus* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

33. *Barbus tambra* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

34. *Barbus striatus* van Hasselt, 1823c (nomen nudum).

35. *Barbus lateristriatus* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

36. *Hampala* Kuhl et van Hasselt in van Hasselt, 1823c (type species: *H. macrolepidota* Kuhl et van Hasselt, 1823, by monotypy).

37. *Hampala macrolepidota* Kuhl et van Hasselt in van Hasselt, 1823c.

Both names available by description. A potential type is still extant (RMNH 2518).

38. *Labiobarbus* van Hasselt, 1823c (type species: *Dangila leptocheila* Valenciennes, 1842, by subsequent designation by Smith, 1945: 221).

39. *Labiobarbus leptocheilus* van Hasselt, 1823c (nomen nudum).

40. *Labiobarbus lipocheilus* van Hasselt, 1823c (nomen nudum).

*Labiobarbus* is available by description, but no species is included as both *L. leptocheilus* and *L. lipocheilus* of van Hasselt are nomina nuda because they were distinguished only on characters implied by their names. The next use of the generic name *Labiobarbus* is by Smith (1945) who included seven nominal species and one synonym. Smith considered *L. leptocheilus* as type species of *Labiobarbus*. Because there previously had not been a formal type species designation, *Dangila leptocheila* Valenciennes in Cuvier and Valenciennes, 1842 is type species by subsequent designation of Smith (1945) [ICZN art. 69 (a) (iii)].

The spelling *Labiobarbus* was consistently used in three instances in van Hasselt's letter. Its etymology was explained by the observation that this genus "combines the characters of *Labio* and *barbus*. Wherefore I adopted the name *Labiobarbus*". Van Hasselt obviously was comparing his new genus with *Labeo* Cuvier, 1817 and *Barbus* Cuvier et Cloquet, 1816, as already explained by Valenciennes (in Cuvier and Valenciennes, 1842). Because this spelling also appeared in the original manuscript letter (checked by Dr. M. S. Hoogmoed) it was not an inadvertent error [ICZN art. 32 (c) (ii)] and *Labiobarbus* must be retained.

*Labeobarbus* Rüppell, 1837 is not a homonym of *Labiobarbus* van Hasselt, 1823 and has often been considered as a synonym of *Tor* Gray, 1834 (not 1833; see Sawyer, 1953).

41. *Crossocheilus* Kuhl et van Hasselt, 1823c (type species: *C. oblongus* Kuhl et van Hasselt, 1823 by monotypy).

42. *Crossocheilus oblongus* Kuhl et van Hasselt in van Hasselt, 1823c.

Both names available by description. *Crossocheilus* appeared earlier in the text, however *Crossocheilus* was used with the actual description. The first spelling has not been used again and the problem has not been mentioned in the literature. Therefore, as first reviser, I retain the spelling *Crossocheilus* [ICZN art. 32 (b) (i)]. A potential type is still extant (RMNH 2460).

43. *Lobocheilus* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

44. *Lobocheilus falcifer* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

Also spelled *Labocheilus*.

45. *Diplocheilus* van Hasselt, 1823c (nomen nudum).

46. *Diplocheilus erythropterus* van Hasselt, 1823c (nomen nudum).

Also spelled *Deplocheilus*.

47. *Noemacheilus* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

48. *Noemacheilus fasciatus* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum).

Although I formerly (Kottelat, 1984) considered these two names as available, they are not accompanied by a statement of taxonomic characters. The only mentioned point is that they have a jaw which looks like in *Poecilia*. This cannot help to distinguish the species, and thus the names are not available. The next use of *Noemacheilus* by Valenciennes (*in* Cuvier and Valenciennes, 1846) being as a synonym, it also is not available. The next use of this name, with a different spelling, is *Nemacheilus* Bleeker, 1863, which is available. The type-species is *Cobitis fasciata* Valenciennes, 1846 by original designation. The specimen that Kottelat (1984) considered as lectotype of *N. fasciatus* Kuhl et van Hasselt in fact is the holotype of *C. fasciata* Valenciennes.

49. *Cobitis octocirrhus* Kuhl et van Hasselt in van Hasselt, 1823c (nomen nudum). This name was accompanied by the mention that it "has in common with *Cobitis taenia* Linn., a moveable spine below eye". As this is only a statement of

characters in common with *C. taenia*, the name is not available.

50. *Acantophthalmus fasciatus* van Hasselt, 1823c (nomen nudum).

51. *Acantophthalmus javanicus* van Hasselt, 1823c (nomen nudum).

These two names have a common description "a more backwardly placed dorsal fin" and are therefore unavailable.

52. *Acantophthalmus* van Hasselt, 1823c (type species: *Cobitis taenia* Linnaeus, 1758, by monotypy).

Of the four nominal species included by van Hasselt in *Acantophthalmus* (*A. javanicus*, *A. fasciatus*, *Cobitis octocirrhus* and *C. taenia*), *C. taenia* is the only available name and is *ipso facto* type species by monotypy. *Cobitis taenia* being type species of *Cobitis* Linnaeus, 1758 (but see Kottelat, in press), *Acantophthalmus* is a junior objective synonym of *Cobitis*.

*Acanthophthalmus* Bleeker, 1859 is obviously a subsequent erroneous spelling and thus is not available (ICZN art. 19) (see also Bleeker, 1863b: 364). Bleeker (1863b) designated *Cobitis kuhlii* Valenciennes *in* Cuvier and Valenciennes, 1846 (based on material or on an unpublished drawing labelled *A. fasciatus* by Kuhl) as type species of his *Acanthophthalmus*. Although this is not acceptable under the present ICZN, this is how *Acantophthalmus* has been used since.

*Acantophthalmus* being a junior synonym of *Cobitis* and not valid, the fishes usually called *Acanthophthalmus* in fact are to be called *Pangio* Blyth, 1860 [type species: *Cobitis cinnamomeum* M'Clelland, 1839 (an unnecessary replacement name for *C. pangia* Hamilton, 1822), by monotypy]. *Apua* is also available from the same Blyth's (1860) paper. Its type species by monotypy is *A. fusca* Blyth, 1860, a junior subjective synonym of *C. pangia* based on specimens lacking pelvic fins (Hora, 1921). Thus *Pangio* and *Apua* are simultaneous synonyms. As first reviser, I select *Pangio* as the name to be retained.

Conservation of the present use of *Acantophthalmus* is possible only by an adequate decision of the International Commission of Zoological Nomenclature, which I shall not request. Certainly, the invalidation of *Acantophthalmus* and the unavailability of *Acanthophthalmus* will result in some nomenclatural modifications which are

not exactly in agreement with the principle of stability of nomenclature. This is just a result of the fact (or a demonstration) that our current knowledge of Oriental ichthyology is far from adequate, that several widely used faunae or revisions are far out-dated or based on uncritical former revisions, etc. Seeing the necessary revisions to be expected in cobitids, the introduction of the correct names causes no more confusion than the quite normal changes that will result from better taxonomy.

53. *Acanthopsis* van Hasselt, 1823c (type species: *A. dialuzona* van Hasselt, 1823, by monotypy).

54. *Acanthopsis dialuzona* van Hasselt, 1823c.

Both names available by description. *Acanthopsis* Bleeker, 1845 (p. 513) is an incorrect subsequent spelling. A potential type of *A. dialuzona* is still extant (RMNH 2707).

*Acanthopsis* Agassiz, 1832 is neither an incorrect subsequent spelling nor a junior synonym of *Acanthopsis* van Hasselt. There is actually nothing in Agassiz (1832), nor in any of his publications, including *Nomenclator Zoologicus* (1845), which might indicate that he was aware of the existence of van Hasselt's letters. Also, there was no such indications in Agassiz's correspondence or other such archives still in Switzerland (Surdez, 1974; pers. obs.). With *Acanthopsis* Agassiz differing by one letter from *Acanthopsis* van Hasselt, these names are not homonyms [ICZN art. 56 (b)] and both are available.

Two species are involved in the determination of the type species of *Acanthopsis* Agassiz: the fossil *A. angustus* Agassiz, 1835 and the recent *Cobitis taenia* Linnaeus, 1758. This is a complicated problem, but as the two nominal species might belong to two different genera (I have seen a syntype of *A. angustus* preserved in Musée d'Histoire Naturelle, Neuchâtel and am unable to identify it as a cobitid), the problem will arise sooner or later and it is best solved now by a very strict adherence to ICZN.

The original description making *Acanthopsis* Agassiz available appeared in a little known periodical and I think it is necessary to give it in full here. The original German version is given first, followed by the English translation, as syntax is a component of the problem. Agassiz (1832) discussed Tertiary fossils, comparing them

to Recent taxa:

Auch ein Analogon von *Cobitis Taenia* kommt vor. Diese Art bildet aber mit mehreren Indischen ein eigenes Genus, welches ich *Acanthopsis* geheissen, durch den beweglichen stacheligen ersten Suborbital-Knochen charakterisirt: sie heisst *Acanth. angustus* Ag.

(A [species] analogous to *C. taenia* is also present. But this species together with several Indian ones forms a genus of their own, which I call *Acanthopsis*, characterized by a movable spiny first suborbital bone: it [the species] is called *Acanth. angustus* Ag.)

*Acanthopsis* Agassiz, 1832 is clearly available by description. The included species are: "several Indian species" and the species "analogous to *C. taenia*" [= *A. angustus*]. The first ones are not to be taken into consideration as potential type species and *A. angustus* Agassiz, 1832 is not available, as there is neither description nor indication (the diagnosis of *Acanthopsis* is collective and thus does not make *A. angustus* available). Only the several Indian species and the single species analogous to *C. taenia* being explicitly included, *C. taenia* cannot be type species; thus no nominal species was included when *Acanthopsis* Agassiz was established. The first subsequent use of the name in conjunction with an available species name is determinant for its typification. Two publications by Agassiz appeared in 1835 which are relevant to this discussion (Agassiz, 1833-43, 1835b).

A diagnosis of *Acanthopsis* in Agassiz (1835b) included two nominal species: *Cobitis taenia* Linnaeus and *A. angustus* Agassiz. The actual description of *A. angustus* did not appear in Agassiz (1835b); however in this publication Agassiz gave a literature citation "Ag., Poiss. foss. vol. 5. Tab. 50, f. 2 et 2'". This indicated that *A. angustus* was effectively described in Agassiz's *Recherches sur les Poissons Fossiles* (1833-1843). This work, with a very complex publication history, appeared in 20 'livraisons' whose dates of publication have been traced by Brown (1890) and Jeannet (1928, 1929). The description of *A. angustus* on p. 8 of part 2 of volume 5 appeared in 1839, while the illustration on plate 50 appeared in January 1835. All efforts to find the exact date of publication of Agassiz (1835b) have been unsuccessful. However, in the same volume, a few pages before Agassiz's (1835b) paper, there is mention of gifts received in 1835 (Agassiz, 1835a) by the Société des

Sciences Naturelles de Neuchâtel. Even if the gifts were received in early 1835 it is doubtful that the summary of the society's activities for 1834, including gifts received early in 1835, could be edited, printed and distributed before end of January 1835. Agassiz (1835b) thus must be considered as having been published after plate 50 of *Recherches sur les Poissons Fossiles*.

Thus the first use of *Acanthopsis* subsequent to its original description is as *Acanthopsis angustus* on plate 50 of Agassiz (1833–1843); there, *A. angustus* is available by indication [ICZN, art. 12 (b) (7)]; this makes *A. angustus* Agassiz, 1835 type species of *Acanthopsis* Agassiz, 1832 by subsequent monotypy.

*Acanthopsis* Agassiz is actually involved in another complicated nomenclatural problem which is the subject of a request to the International Commission on Zoological Nomenclature and its use is better avoided until this problem is solved (Kottelat, in press). On the other hand, the fossil *A. angustus* may prove not to be a cobitid.

55. *Homaloptera* van Hasselt, 1823c (type species: *H. ocellata* van der Hoeven, 1833, by subsequent monotypy).

56. *Homaloptera javanica* van Hasselt, 1823c (nomen nudum).

57. *Homaloptera fasciata* (nomen nudum).

*Homaloptera* is available by description. It is spelled *Homalophra* on p. 132. As first reviser, I select *Homaloptera* as the correct original spelling. Both nominal species included (*H. javanica* and *H. fasciata*) are nomina nuda and not available as type species. The next use of *Homaloptera* is by van der Hoeven (1833) who included a single species, *H. ocellata* van der Hoeven, 1833, which is *ipso facto* type species by subsequent monotypy.

58. *Oxygaster* van Hasselt, 1823c (type species: *O. anomalura* van Hasselt, 1823, by monotypy).

59. *Oxygaster anomalura* van Hasselt, 1823c.

Both names are available by description. Valenciennes (*in* Cuvier and Valenciennes, 1844) mentioned having examined a specimen in RMNH. It is apparently lost.

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Holthuis, M. S. Hoogmoed, I. Isbrücker, V. Mahnert, M. van Oijen, W. Rainboth, T.R. Roberts and M. E. Tollitt. This does not imply that they share my opinion and conclusions.

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van Hasselt により提唱された魚類名の命名法上の問題, 特にドジョウ類の幾つかの属名について

Maurice Kottelat

van Hasselt に依って記載された魚類の 16 属と 42 種について検討を行った。1 属は先取されており、4 属と 26 種は記載を伴っていない無効名 (nomina nuda) である。

ドジョウ類の属名については、特に詳細な検討を行った。Noemacheilus van Hasselt は記載を伴っていない。Acanthopthalmus van Hasselt は Cobitis Linnaeus の junior synonym であり Acanthopthalmus Bleeker は正しくない綴りである。普通 Acanthopthalmus とよばれている魚は Pangio Blyth である。Acanthopsis Bleeker は Acanthopsis van Hasselt の正しくない綴りである。Acanthopsis Agassiz は有効でありその模式種は A. angustus Agassiz である。