

## NOTE ON THE ASPREDINIDÆ.

BY

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Dr. and Mrs. Eigenmann, in their very important and well considered contributions to the systematic history of the Nematognaths of South America, have substituted for the *Aspredinidæ* the name *Platystacidæ*. This was evidently done on the ground that the name *Aspredo*, although early used by Linnæus and Gronovius, was abandoned by Linnæus in the later editions of the "Systema Naturæ" and was not used by a binomial writer till after Bloch had given to the corresponding group the generic name *Platystacus*.

The logic in this case was good but there are other elements to be considered and a more complete survey of the literature will reveal that *Aspredo* can still be retained as a generic name and consequently *Aspredinidæ* as a family name.

### I.

*Aspredo* was framed by Linnæus as a name for the species generally known later as *Aspredo lavis* or *batrachus*. It was given as a unino- mial name and apparently because the author had not satisfied him- self as to the proper generic relations of the species; it was not given as a true generic designation.\*

### II.

*Aspredo* was first taken up as a generic name by Gronow (Gronovius) who, in the first volume of his *Museum Ichthyologicum* (p. 8, 1754), made known a species now generally called *Aspredo cotylephorus*, but supposed by him to be the Linnæan species.

### III.

*Aspredo* was adopted as a genus by Linnæus in the ninth edition of his "Systema Naturæ," which was edited by Gronovius, and in which the system and genera of Gronovius were adopted for the class of fishes

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\*The description and figure in the *Amœnitates academicæ* (v. I, p. 593, pl. 2, f. 5) are in the dissertation entitled "Laurentii Balk, Gerali-Gestric, Museum-Adolpho-Fredericianum," Balk being a student who defended the thesis (May 31, 1746) and not the real author.

(1756, 6).\* The only reference under the genus was to Gronovius, viz: "Aspredo. Gr. M. Ichth. n. 26. 5. 8. 6. 55. 9.†

## IV.

*Aspredo* was abandoned as a generic term by Linnæus in the latter editions of his *Systema Naturæ*, wherein the well-known arrangement of his own invention was applied and the species referred to the genus *Silurus*, the fish originally figured in the "*Amœnitates Academicæ*" and the Gronovian species being both referred to the "*Silurus aspredo*."

## V.

*Aspredo* having been previously only published in non-binomial works, and having been repudiated as a generic name by Linnæus, was thus left in abeyance, and in accordance with the rules of nomenclature adopted, if not previously reënforced, would be superseded by any other name later given. Bloch long afterward gave the name *Platystacus* to a compound of *Aspredinidæ* and *Plotosidæ*, and that name has been logically adopted for the chief Aspredinoid genus by Dr. and Mrs. Eigenmann, who were unacquainted with any use of the name *Aspredo* between the tenth edition of Linnæus and the work of Bloch. But the generic name *Aspredo* was actually reënforced.

## VI.

In 1777, J. A. Scopoli published an "*Introductio ad Historiam Naturalem*," in which he adopted most of the Gronovian as well as Linnæan genera, and among them was *Aspredo*. The genus was defined in the following terms:

271. *Aspredo*, Gronov. Membrana branch. oss. 4. Radius pinne pectoralis anterior validissimus, dentato-serratus.

The name is thus validated as a binomial generic term, whatever may be considered to be the typical species. But some difference of opinion is possible on account of certain complications resulting from the publication of Swainson's unscientific work.

## VII.

*Platystacus* was a name introduced by Bloch in 1794 for the species of *Aspredo* of Gronovius and consequently Scopoli, but he also confounded, under the same name, species of the genus later called *Plotosus*.

Practically, however, *Platystacus* Bloch is a synonym of *Aspredo* (Gron.) Scopoli.

\*Characteres in singulis partibus eisdem agnovi, quos in priori editione recitavi; scilicet . . . . .; *Ichthyologiam* vero secundum Membranas Branchiostegas et pinnarum radios compendiose tali ordine proposui, quali exstat in Gronovii Museo Ichthyologico, cujus nova detecta Genera huc introduxi. *Linnæus, o. c.*, Lectori, 3d leaf.

†The numbers indicate the radial formula, viz: D. 5, P. 8, V. 6, A. 55, C. 9.—A diagnosis of the genus was given.

## VIII.

The genera *Aspredo* and *Platystacus* contained, besides the first species made known (characterized by a long tail and anal fin), one species with a short tail and analis. To the latter type *Aspredo* was restricted by Swainson, and to the former a new name (*Cotylephorus*) was given. The name *Platystacus* was transferred to the genus later called *Chaca*, but of which no species was known to Bloch.

## CONCLUSIONS.

Various views may be taken of the questions thus indicated. Some might contend that the typical species of *Aspredo* was that first made known under that name. Others might claim that inasmuch as Gronovius was not a binomial author, all the species were on the same level and that consequently *Aspredo*, adopted from Scopoli, might be restricted to any genus represented by species comprised (by implication) in his genus. Still others might urge that the species figured by Gronovius and not the Linnæan fish should be the type. I do not propose to waste time by supposing and meeting the arguments that might be urged. The most expedient course, it seems to me, will be to accept the genus as from Scopoli, but, inasmuch as he adopted it from Gronovius, to take as the type a species first known to him. Gronovius, in his turn, adopted the name from Linnæus, and accordingly the Linnæan species may be considered as the type. We are thus led to the nomenclature of Bleeker and most modern authors. Bleeker has chosen to retain the name *Platystacus* for a genus (probably rather a subgenus) of the family, and inasmuch as he has limited the name to one of the species known to Bloch, he appears to have been justified in doing so. The fact that a *Plotosus* was figured in the "Systema Ichthyologiæ" as illustrative of *Platystacus* is not, I think, sufficient to attach the name to the genus *Plotosus*.

The synonymy of the family and included groups may be useful as a synoptical expression of the facts detailed.

## ASPREDINIDÆ.

*Synonyms as family names.*

- < *Oplophores*, Duméril, Zool. Anal., p. 141, 1806.
- < *Siluridi*, Rafinesque, Indice d'Ittiolog. Siciliana, p. 35.
- < *Oplophoria*, Rafinesque, Analyse de la Nature, 17. fam., p. 89, 1815.
- < *Siluroïdes*, Cuvier, Règne Animal, [1. éd.,] t. 2, p. 199, 1817; 2. éd., t. 2, p. 289, 1829.
- < *Siluroidei*, Latreille, Fam. Nat. Règne Animal, p. 124, 1825.
- < *Silurida*, Bonaparte, Giorn. Arcad. di Scienze, v. 52, (Saggio Distrib. Metod. Animali Vertebr. a Sangue Freddo, p. 37,) 1832.
- < *Silurida*, Bonaparte, Nuovi Annali delle Sei. Nat., t. 2, p. 131, 1833; t. 4, p. 183, 1840.
- < *Silurida*, Swainson, Nat. Hist. and Class. Fishes, etc., v. 2, pp. 195, 333, 1839.
- < *Siluroidei*, Müller, Archiv f. Naturgesch., 9. Jg., B. 1, p. 317, 1843.
- < *Siluroidei*, Müller, Archiv f. Naturgesch., 11. Jg., B. 1, pp. 131, 136, 1845.
- < *Silurida*, Bonaparte, Cat. Metod. Pesci Europei, p. 37, 1846.
- < *Siluroidei*, Kner, Sitzungsber. k. Akad. Wissensch. (Wien), v. 42, p. 257, 1861.

- < *Silurida*, Richardson, Enc. Brit., 8th ed., v. 12, p. 261, 1856.  
 < *Aspredinida*, Adams, Man. Nat. Hist., p. 107, 1854.  
 = *Aspredinoidei*, Bleeker, Ich. Arch. Indici Prod., v. 1, pp. 36, 327, 1858.  
 = *Aspredinoidei*, Bleeker, Enum. Sp. Piscium Archipel. Indico, p. XXVIII, 1859.  
 = *Aspredinoidei*, Bleeker, Nederl. Tijdschr. Dierk., v. 1, p. 117, 1863; Atlas Ich. Indes Néerland., v. 2, p. 18, 1862-3.  
 < *Silurida*, Günther, Cat. Fishes Brit. Mus., v. 8, p. 19, 1870.  
 = *Aspredinida*, Cope, Proc. Am. Assoc. Adv. Sci., v. 20, p. 331, 1872.  
 = *Aspredinida*, Gill, Arrangement Fam. Fishes, p. 19, 1872.  
 < *Siluri*, Fitzinger, Sitzungsber. k. Akad. Wissensch. (Wien), B. 67, 1. Abth. p. 44, 1873.  
 = *Aspredinida*, Jordan, Standard Nat. Hist., v. 3, p. 112, 1885.\*  
 < *Bunocephalida*, C. and R. Eigenmann, Am. Nat. v. 22, p. 648, 1888; Rev. S. Am. Nematognathi, pp. 9, 12, 1890.

The absence of an operculum has been given by late authors as characteristic of this family. I am skeptical, however, whether the bone is really wanting, and indeed the attribute is in contradiction to the statement of Valenciennes, who has asserted that the bone, although vestigiary, is present but entirely soldered to the preoperculum.† Dr. Eigenmann, in a recent conversation with me, agreed that the bone might perhaps be found. The species of the family in the National Museum unfortunately are represented by unique specimens, and consequently can not be dissected. It is to be hoped that an investigation of the question may soon be made.

### ASPREDININÆ.

*Synonyms as subfamily names.*

- < *Siluridia*, Rafinesque, Analyse de la Nature, p. 89, 1815.  
 < *Ancipomes*, (tribu) Latreille Fam. Nat. Règne An., p. 125, 1825.  
 < *Pimclodini*, Bonaparte, Nuovi Annali d. Sci. Nat., t. 2, p. 133, 1839; t. 4, p. 276, 1840.  
 < *Aspredina*, Swainson, Nat. Hist. and Class. Fishes, etc., v. 1, p. 332, 1838; v. 2, pp. 159, 308, 1839.  
 < *Pimclodini*, Bonaparte, Cat. Metod. Pesci Europei, p. 5, 1846.  
 = *Aspredini*, (cohors) Bleeker, Ich. Arch. Indici Prodr., v. 1, p. 328, 1858; Enum. sp. Piscium Archipel. Indico, p. XXVIII, 1859.  
 = *Asprediniformes*, Bleeker, Nederl. Tijdschr. Dierk., v. 1, p. 117, 1863; Atlas Ich. Indes Néerland, v. 2, p. 18, 1862.  
 < *Silurida Proteropodes* (group *Aspredinina*) Günther Cat. Fishes B. M., V. 5, pp. 11, 12, 266, 1864.  
 = *Platystacina* C. and R. Eigenmann, Rev. S. Am. Nematognathi, pp. 9, 20, 1890.

### Genera.

1. *Aspredo* (Gron.) Scopoli Int. ad Hist. Nat., p. 453, 1777 = *Platysyacus* Bloch Aus-land. Fische, v. 8, p. 63, 1794 = *Platistus* Raf. An. Nat., p. 89, 1815 = *Cotylephorus* Swainson Nat. Hist. Fish., etc., v. 1, p. 332, 1838; v. 2, p. 308, 1839. Type *A. Batrachus* (Linn.)

\* Dr. Jordan adopted the name *Platystacus* instead of *Aspredo*.

† Les trois pièces operculaires sont réduites à de simples vestiges et entièrement coudées au preopercule, en sorte que la dilatation et la contraction de leurs ossements ne dépendent que de l'arcade palato-ptérygoïdiennes. Cuv. et Val., xv, 429, 1840.

2. *Aspredinichthys* Bleeker Ich. Arch. Indici Prodr., v. 1, p. 328, 1858; Nederl. Tijdschr. Dierkunde, v. 1, p. 118, 1863.

Type *A. tibicen*—*Aspredo tibicen* Temminck.

### BUNOCEPHALINÆ.

*Synonyms as subfamily names.*

- < *Siluridia*, Rafinesque, Analyse de la Nature, p. 89, 1815.  
 < *Anesipomes (tribu)* Latreille Fam. Nat. Règne An., p. 125, 1825.  
 < *Pimelodini*, Bonaparte, Nuovi Annali d. Sci. Nat., t. 2, p. 133, 1839; t. 4, p. 276, 1840.  
 < *Aspredina*, Swainson, Nat. Hist. and Class. Fishes, etc., v. 1, p. 332, 1838, V. 2, pp. 189, 378, 1839.  
 < *Pimelodini*, Bonaparte, Cat. Metod. Pesci Europei, p. 5, 1846.  
 = *Bunocephalini (cohors)* Bleeker Ich. Arch. Indici Prodr., v. 1, p. 328, 1858; Enum. sp. Piscinum Archipel. Indico, p. xxviii, 1859.  
 = *Bunocephaliformes*, Bleeker, Nederl. Tijdschr. Dierk., v. 1, p. 117, 1863; Atlas Ich. Indes Néerland, v. 2, p. 19, 1862.  
 < *Silurida* *Proteropodes* (group *Aspredinina*) Günther Cat. Fishes B. M., v. 5, pp. 11, 12, 266, 1864.  
 = *Bunocephalina*, C. and R. Eigenmann, Rev. S. Am. Nematognathi, pp. 9, 13, 1890.

*Genera.*

3. *Bunocephalus* Kner Sitzungsab. 1. Akad. Miss., [Wien], v. 17, p. 96, 1855 = *Aspredo* Swainson Nat. Hist. Fish etc., v. 1, p. 332, 1838; v. 2, p. 368, 1839.  
 Type *B. verrucosus* = *Platyistacus verrucosus* Bloch.  
 4. *Dysichthys* Cope Proc. Acad. Nat. Sc. Phila., 1874, p. 133.  
 Type *D. coracoideus* Cope.  
 5. *Bunocephalichthys* Bleeker Arch. Indici Prodr., v. 1, p. 329, 1858; Nederl. Tijdschr. Dierk., v. 1, p. 118, 1863.\*  
 Type *B. hypsiurus* = *Bunocephalus hypsiurus* Kner.

### RELATIONSHIP.

The affinities of the *Aspredinids* to the other families of *Nematognaths* can not be positively ascertained till a study of the anatomy, and especially of the osteology, of those fishes has been made and their structural characteristics compared with those of other families. The materials for this investigation are not now at hand. The skull of *Aspredo* has been figured by Dr. C. B. Brühl in his "Osteologisches aus dem Pariser Pflanzgarten" (1856, pl. 10, figs. 1-8), and the figures given amply confirm the differentiation of the genus as the type of a peculiar family, but the details are not sufficiently given or are too ambiguous to justify any positive conclusions. No opercular bones are represented, and Professor Cope has positively denied the existence of an operculum, giving as the diagnostic characteristic of the family *Aspredinida*, "oper-

\* The genera *Aspredinichthys* and *Bunocephalichthys*, as well as the restrictions of the previously named ones, have been generally referred (as by Günther and the Eigenmanns) to Bleeker's article published in 1863, but they were actually published with appropriate diagnoses in 1858, as indicated in the synonymy.

culum wanting." On the other hand, the contradictory statements of Valenciennes (repeated in a footnote on p. 350)\* are to be considered. The superficial examination I could only make of species of the family in alcohol did not permit me to confirm the existence of any opercular bones, but nevertheless they may be present.

Meanwhile the family can be recognized by the characters given by Dr. and Mrs. Eigenmann, and another not noticed by them is also noteworthy. The intermaxillary bones, instead of being transverse, as in most nematognaths, are longitudinal, entirely distinct, parallel with each other, and carry the teeth at their posterior ends. The supramaxillaries are anterior and connected with the antero-external angle of the ethmoid. On the whole the family appears to be more nearly related to the *Argiidae*, *Loricariidae* and their admitted relatives than to the *Siluridae*. An anatomical revision of the family is, however, much needed, and any opinion formed without such an examination must be considered as purely provisional.

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\* There can be no vestige, however, of a suboperculum, if there are of the operculum and interoperculum.