

PROPOSED DETERMINATION OF INTERPRETATION OF, AND ADDITION OF, TO THE "OFFICIAL LIST OF SPECIFIC NAMES IN ZOOLOGY" OF (a) "VIVIPARA" LINNAEUS, 1758, AS PUBLISHED IN THE COMBINATION "HELIX VIVIPARA" AND (b) OF "CONTECTUM" MILLET, 1813, AS PUBLISHED IN THE COMBINATION "CYCLOSTOMA CONTECTUM" AND PROPOSED VALIDATION UNDER THE PLENARY POWERS OF THE FAMILY-GROUP NAME "VIVIPARIDAE" GRAY (J.E.), 1847 (CLASS GASTROPODA, ORDER PROSOBRANCHIA)

By **LOTHAR FORCART**

(*Naturhistorisches Museum, Basel, Switzerland*)

(Commission Reference : Z.N.(S.) 857)

The main object of the present application is to ask the International Commission on Zoological Nomenclature to stabilise the interpretation of the nominal species *Helix vivipara* Linnaeus, 1758, and *Cyclostoma conlectum* Millet, 1813 (Class Gastropoda, Order Prosobranchia). A secondary object is to ask the International Commission to use its Plenary Powers to validate the family-group name VIVIPARIDAE Gray (J.E.), 1847, by suppressing PALUDINIDAE Gray (J.E.), 1840, a name based upon a generic name (*Paludina* Férussac, 1812) which has long been abandoned as a junior objective synonym of *Viviparus* Montfort, 1810.

2. The nomenclature of the nominal species *Helix vivipara* Linnaeus, 1758, has caused great confusion. At present the name *Viviparus viviparus* (Linnaeus) is used for two different species of the genus *Viviparus* Montfort, 1810 (cf. Watson, 1955 : 163). Watson (1955 : 164) described the specific differences of these species, which he distinguished as the "narrower species" and the "ventricose species". The confusion has been due to differences of opinions on the interpretation of the original description of *Helix vivipara*, and of the International Rules.

3. C. R. Boettger (1931 : 257-260 and in an application since submitted to the International Commission¹) advances the opinion that the nominal species *Helix vivipara* Linnaeus is a composite species, composed of the narrower and the ventricose species. He founds this opinion on the supposition that the illustrations, cited by Linnaeus (1758 : 773) in the bibliographic references to *Helix vivipara*, refer partly to the narrower and partly to the ventricose species. H. Watson (1955 : 164-167) supports the opposite opinion, namely, that the description and the bibliographical references of *Helix vivipara* Linnaeus, 1758,

¹ For Dr. Boettger's application see pages 50-52 of the present Part.
Bull. zool. Nomencl. Vol. 13, Double-Part 2/3. March 1957.

refer exclusively to the narrower species. The decision between these opinions is a matter not of nomenclature but of taxonomy, being a question of the interpretation of the bibliographic references and of the figures cited by Linnaeus, some of which are so poorly executed that the determination of the figured species is impossible.

4. C. R. Boettger, assuming the nominal species *Helix vivipara* to be a composite species, argues that the description of *Nerita fasciata* Müller (1774 : 182) constitutes a revision of *Helix vivipara* Linnaeus, 1758, and claims that that description eliminates the component described as *Nerita fasciata* of that nominal species. Boettger further claims that the nominal species *Nerita fasciata* Müller is, like *Helix vivipara* Linnaeus, a composite species, composed of the narrower species and *Viviparus ater ater* (Cristofori & Jan) (= *Paludina achatina* var. *pyramidalis* Rossmässler, 1835) cf. Zilch (1955 : 52). In addition Boettger claims that the name *fasciata* Müller has been restricted by Schröter (1779 : 369-370) to the narrower species. Boettger concludes from these suppositions that the specific name *vivipara* Linnaeus must be restricted to the ventricose species. Watson (1955 : 167-170) has proved however that that species must be named *Viviparus contectus* (Millet).

5. These suppositions of Boettger are not in accordance with article 31 of the *Règles Internationales de Nomenclature Zoologique* (cf. 1953, *Copenhagen Decisions zool. Nomencl.* : 72-73), which prescribes that the component of a composite species, to which the name of the nominal species has to be applied, must be fixed by the procedure of typification, and not by the procedure of elimination.

6. Watson (1955 : 171, pl. 8, figs. 2-3) has established the narrower species as that component of the nominal species *Helix vivipara*, to which the name *vivipara* should be applied, by his selection of a specimen of this species as the lectotype of *Helix vivipara*.

7. Draparnaud (1801 : 40-41) first differentiated the narrower species, which he named *Cyclostoma achatinum* Draparnaud, 1801, and the more ventricose species, which he called *Cyclostoma viviparum* (Linnaeus). As the specific name *vivipara* Linnaeus has been fixed by Watson's (1955 : 171) selection of the lectotype to the narrower species, *Cyclostoma achatinum* Draparnaud is a subjective synonym of *Helix vivipara* Linnaeus, 1758. Draparnaud (1805 : 34-36) used the same names for these species as in 1801 (cf. Watson, 1955 : 169), and figured both species (pl. 1, figs. 16-17 = *Cyclostoma viviparum*, fig. 18 = *Cyclostoma achatinum*).

8. Millet (1813 : 5) gave the name *Cyclostoma contectum* Millet, 1813, to the more ventricose species, which Draparnaud in 1805 had treated as *Cyclostoma viviparum*. The description of *Cyclostoma contectum* refers to the more

ventricose species, but the synonymy: "*C. viviparum*. Drap. Hist. des. Moll. p. 34—*Helix vivipara*. Linn. Syst. nat. 690.—*Nerita vivipara*. Mull. Verm. Hist. 370—Gault. t. 5, f. A.—*Bulinus viviparus*. Poir. Prodr. p. 61.—La Vivipare à bandes. Geoff. 110." both to the ventricose and to the narrower species. Consequently the nominal species *Cyclostoma contectum* is at present a composite species, the identity of which can be established only by the selection of a lectotype.

9. *Cyclostoma contectum* Millet, 1813, was established as a new name for *Cyclostoma viviparum*, as used by Draparnaud (1805 : 34). This is evident by Millet's remarks (1813, *Advertisement* : IX) : " Dans cet Essai, j'ai suivi la méthode et le plus souvent la nomenclature de Draparnaud, comme étant ce qu'il y a de mieux et de plus nouveau dans ce genre. En empruntant quelquefois ses descriptions, j'ai cru devoir en ajouter d'autres, et y faire aussi différents changements". and (p. 6, footnote) : " Le nom de vivipare ne pouvant plus convenir exclusivement à cette espèce, puisque celle qui suit " (*Cyclostoma achatinum*) " est également vivipare, j'ai cru avec raison devoir le changer ". In the interest of stability in nomenclature it is essential that the interpretation of the foregoing nominal species be placed beyond possibility of dispute. For this purpose I consider that the present opportunity should be taken to select a lectotype for the nominal species *Cyclostoma contectum* Millet from among the specimens included in this nominal species in the works cited by Millet when publishing this name. Of these the most suitable appears that figured by Draparnaud in the first of the references cited by Millet. Locard (1896 : 35) writing of the specimens of the Draparnaud collection in the Natural History Museum of Vienna, observed : " Parmi les échantillons de la collection de Draparnaud deux seulement sont bien adultes ; le plus gros exactement conforme à la description et à la figuration données par cet auteur, représente bien le véritable *Vivipara* contecta tel que nous le comprenons aujourd'hui ". Millet's naming of this species has been followed by subsequent authors and its definitive adoption is therefore highly desirable. To this end I now select the specimen figured by Draparnaud ([1805], *Hist. nat. Moll. terrest. fluviat. France* : pl. 1, fig. 16), being a specimen figured in one of the works cited by Millet in his description of *Cyclostoma contectum*, to be the lectotype of that nominal species.

10. The object which I had in view in making the present application will have been secured if the International Commission (1) gives Rulings directing that the nominal species *Helix vivipara* Linnaeus, 1758, and *Cyclostoma contectum* Millet, 1813, are to be interpreted by the lectotypes selected for the first of these species by Watson in 1955 and for the second of these species by myself in paragraph 9 of the present application, and (2) places the names *vivipara* Linnaeus and *contectum* Millet, interpreted in each case as recommended above, on the *Official List of Specific Names in Zoology*. I am reminded, however, by the Secretary that from the point of view of the work of the Commission the questions dealt with in the present application form part only of an earlier

proposal submitted by Mr. A. E. Ellis¹ that the generic name *Viviparus* Montfort, 1810, with *Helix vivipara* Linnaeus, 1758, as type species by original designation, should be placed on the *Official List of Generic Names in Zoology*. I have also been informed by the Secretary that a counter-proposal in opposition to Mr. Ellis's application has been received in the Office of the Commission, under which the Commission is being asked to suppress the generic name *Viviparus* Montfort, 1810, for the purpose of validating its junior objective synonym *Paludina* Férussac, 1812. As regards this latter proposal I must say at once that, while the name *Paludina* Férussac was widely used by workers in the nineteenth century, it has hardly appeared in the literature of the last fifty years, except occasionally as a rejected junior synonym. In my opinion there is no case at all for the suppression of the name *Viviparus* Montfort under the Plenary Powers in favour of the long-forgotten name *Paludina* Férussac and I strongly recommend that the proposal in favour of this course should be rejected. On the other hand, *Viviparus* Montfort has long been an established name in general use and I have pleasure therefore in associating myself with Mr. Ellis's proposal that this name should be placed on the *Official List of Generic Names in Zoology*, subject, it will be understood to the insertion in that *List* of an endorsement that the type species of the genus so named, i.e. the nominal species *Helix vivipara* Linnaeus be interpreted, as recommended earlier in the present application, by the lectotype selected by Mr. Hugh Watson in 1955.

11. There is one other problem which arises in connection with the more extended application submitted by Mr. Ellis to which I feel that I must refer. This is in connection with the family-group name based on the generic name *Viviparus* Montfort. Here two family-group names are involved, namely, VIVIPARIDAE Gray (J.E.), 1847 (*Proc. zool. Soc. Lond.* 15(178) : 155) and PALUDINIDAE Gray (J.E.), 1840 (*Synopsis Contents Brit. Mus.* (ed. 42) : 117; *id.*, 1840 (*Manual Land- & Fresh-water Shells Brit. Isls.* (ed. 2) : 79, 89). These names are objective synonyms of one another, since *Paludina* Férussac, 1812, is a junior objective synonym of *Viviparus* Montfort, 1810, having, like it, *Helix vivipara* Linnaeus as type species. Under a decision which must be regarded as unfortunate (1953, *Copenhagen Decisions zool. Nomencl.* : 36, Decision 54(1)(a)), the Fourteenth International Congress of Zoology introduced a rule that a family-group name based upon a generic name which is a junior synonym of some other generic name is not to be replaced by a name based upon the valid name of the type genus if it has priority over that name. The application of this decision in a case like the present would be highly undesirable, involving, as it would, the objectionable and confusing re-appearance at the family-group-name level of the generic name *Paludina* Férussac, which, though commonly used in the nineteenth century, has long since disappeared in synonymy. I therefore desire to recommend that this matter should be dealt with by the Commission on the lines adopted in its recently published *Opinion* 423 where it used its

² See pages 38—43 of the present Part.

³ For the counter proposal here referred to see pages 67—72 of the present Part.

Plenary Powers to validate a well-known family-group name (*XANTHINAE* Dana, 1851) by suppressing an unwanted and long-forgotten family-group name of older date (*PILUMNIDAE* Samouelle, 1819).

13. In the light of the considerations advanced in the present application, I now ask the International Commission on Zoological Nomenclature :—

(1) to give the following Rulings, namely :—

(a) that the nominal species *Helix vivipara* Linnaeus, 1758, be interpreted by reference to the lectotype selected therefor by Watson in 1955 ;

(b) that the nominal species *Cyclostoma contectum* Millet, 1813, be interpreted by reference to the lectotype selected therefor by Forcart in paragraph 9 of the present application ;

(2) to place the under-mentioned specific names on the *Official List of Specific Names in Zoology* :—

(a) *vivipara* Linnaeus, 1758, as published in the combination *Helix vivipara*, the species so named to be interpreted as indicated in (1)(a) above ;

(b) *contectum* Millet, 1813, as published in the combination *Cyclostoma contectum*, the species so named to be interpreted as indicated in (1)(b) above ;

(3) to reject the proposal that the name *Paludina* Férussac, 1812, should be validated by the suppression under the Plenary Powers of its senior objective synonym *Viviparus* Montfort, 1810, the name currently in use for this genus ;

(4) to approve the proposal that the generic name *Viviparus* Montfort, 1810 be placed on the *Official List of Generic Names in Zoology* with *Helix vivipara* Linnaeus, 1758, as type species, subject to the insertion of an endorsement that this nominal species be interpreted as recommended in (1)(a) above ;

(5) to use its Plenary Powers to suppress the family-group name *PALUDINIDAE* Gray (J.E.), 1840, in order to prevent that name from becoming the oldest available family-group name for the genus *Viviparus* Montfort, 1810, the name of which is a senior objective synonym of the long-discarded generic name *Paludina* Férussac, 1812 ;

(6) to place the family-group name *VIVIPARIDAE* Gray (J.E.), 1847 (type genus : *Viviparus* Montfort, 1810), as validated under the Plenary Powers in (5) above on the *Official List of Family-Group Names in Zoology* ;

- (7) to place the family-group name PALUDINIDAE Gray (J.E.), 1840, as suppressed under the Plenary Powers in (5) above, on the *Official Index of Rejected and Invalid Family-Group Names in Zoology*.

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