

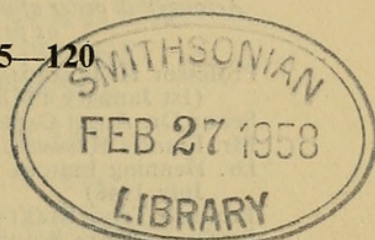
# OPINIONS AND DECLARATIONS RENDERED BY THE INTER- NATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

*Edited by*

**FRANCIS HEMMING, C.M.G., C.B.E.**

Secretary to the Commission

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## OPINION 502

Validation under the Plenary Powers of the generic name *Lepidurus* Leach, 1819 (Class Crustacea, Order Phyllopoda), designation under the same Powers of a type species in harmony with accustomed usage for the nominal genus *Triops* Schrank, 1803 (Class Crustacea, Order Phyllopoda) and addition of those names and of *Apus* Scopoli, 1777 (Class Aves), to the *Official List of Generic Names in Zoology* and matters incidental thereto

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# INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

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## OPINION 502

VALIDATION UNDER THE PLENARY POWERS OF THE  
GENERIC NAME "LEPIDURUS" LEACH, 1819 (CLASS  
CRUSTACEA, ORDER PHYLLOPODA), DESIGNATION  
UNDER THE SAME POWERS OF A TYPE SPECIES  
IN HARMONY WITH ACCUSTOMED USAGE FOR  
THE NOMINAL GENUS "TRIOPS" SCHRANK,  
1803 (CLASS CRUSTACEA, ORDER  
PHYLLOPODA) AND ADDITION OF THOSE  
NAMES AND OF "APUS" SCOPOLI,  
1777 (CLASS AVES), TO THE "OFFICIAL  
LIST OF GENERIC NAMES IN  
ZOOLOGY" AND MATTERS  
INCIDENTAL THERETO

**RULING :—**The under-mentioned action is hereby  
taken under the Plenary Powers :—

(a) The names of genera in the Class Crustacea (Order  
Phyllopoda) specified below are hereby suppressed  
for the purposes of the Law of Priority but not  
for those of the Law of Homonymy :—

- (i) *Binoculus* Müller (O.F.), 1776 ;
- (ii) *Apos* Scopoli, 1777 ;
- (iii) *Apodium* Rafinesque, 1814 ;
- (iv) *Phyllopus* Rafinesque, 1815.

(b) All designations or selections of type species for the  
genus *Triops* Schrank, 1803 (Class Crustacea,



Order Phyllopoda) made prior to the present Ruling are hereby set aside and the nominal species *Apus cancriformis* Bosc, [1801—1802], is hereby designated to be the type species of the above genus.

(c) The under-mentioned family-group names in the Class Aves are hereby suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy :—

(i) CYPSELINAE Bonaparte, 1838 (type genus : *Cypselus* Illiger, 1811) ;

(ii) MICROPODIDAE Stejneger, 1885 (type genus : *Micropus* Wolf, 1810).

(2) It is hereby directed that under the provisions of *Declaration 36* the generic name *Triops* Schrank, 1803, is to be treated as being of the masculine gender.

(3) The under-mentioned generic names are hereby placed on the *Official List of Generic Names in Zoology* with the Name Numbers severally specified below :—

(a) *Lepidurus* Leach, 1819 (gender : masculine) (type species, by monotypy : *Monoculus apus* Linnaeus, 1758, as defined by the lectotype selected by Holthuis (L.B.) (1956 : 72) (Class Crustacea, Order Phyllopoda) (Name No. 1245) ;

(b) *Triops* Schrank, 1803 (gender as determined under (2) above: masculine) (type species, by designation under the Plenary Powers in (1)(b) above : *Apus cancriformis* Bosc, [1801—1802]) (Class Crustacea, Order Phyllopoda) (Name No. 1246) ;

(c) *Apus* Scopoli, 1777 (gender : masculine) (type species, by monotypy : *Hirundo apus* Linnaeus, 1758) (Class Aves) (Name No. 1247).



(4) The under-mentioned specific names are hereby placed on the *Official List of Specific Names in Zoology* with the Name Numbers severally specified below :—

- (a) *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*, as interpreted by the lectotype selected by Holthuis (L.B.) in 1956 (specific name of type species of *Lepidurus* Leach, 1819) (Class Crustacea, Order Phyllopoda) (Name No. 1475) ;
- (b) *cancriformis* Bosc, [1801—1802], as published in the combination *Apus cancriformis* (specific name of type species of *Triops* Schrank, 1803) (Class Crustacea, Order Phyllopoda) (Name No. 1476) ;
- (c) *apus* Linnaeus, 1758, as published in the combination *Hirundo apus* (specific name of type species of *Apus* Scopoli, 1777) (Class Aves) (Name No. 1477).

(5) The under-mentioned generic names are hereby placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* with the Name Numbers severally specified below :—

- (a) *Apodium* Rafinesque, 1814, as suppressed under the Plenary Powers in (1)(a)(iii) above (Name No. 1097) ;
- (b) *Apos* Scopoli, 1777, as suppressed under the Plenary Powers in (1)(a)(ii) above (Name No. 1098) ;
- (c) *Apus* Schaeffer (J.C.), 1756 (invalid because published before the starting point of zoological nomenclature (Name No. 1099) ;
- (d) *Apus* Cuvier (G.L.C.F.D.), [1797—1798] (a *nomen nudum*) (Name No. 1100) ;



- (e) *Apus* Cuvier (G.F.), 1800 (a junior homonym of *Apus* Scopoli, 1777) (Name No. 1101) ;
- (f) *Apus* Latreille, [1802—1803] (a junior homonym of *Apus* Scopoli, 1777) (Name No. 1102) ;
- (g) *Apus* Schoch, 1868 (a junior homonym of *Apus* Scopoli, 1777) (Name No. 1103) ;
- (h) *Binoculus* Geoffroy (E.L.), 1764 (a name published in a work rejected for nomenclatorial purposes by the Ruling given in *Opinion* 228) (Name No. 1104) ;
- (i) *Binoculus* Müller (O.F.), 1776, as suppressed under the Plenary Powers in (1)(a)(i) above (Name No. 1105) ;
- (j) *Brachypus* Meyer, 1814 (a junior objective synonym of *Apus* Scopoli, 1777) (Name No. 1106) ;
- (k) the under-mentioned names, each of which is a junior homonym of *Brachypus* Meyer, 1814 :—
  - (i) *Brachypus* Swainson, 1824 (Name No. 1107) ;
  - (ii) *Brachypus* Meigen, 1824 (Name No. 1108) ;
  - (iii) *Brachypus* Gray (J.E.), 1825 (Name No. 1109) ;
  - (iv) *Brachypus* Schoenherr, 1826 (Name No. 1110) ;
  - (v) *Brachypus* Fitzinger, 1826 (Name No. 1111) ;
  - (vi) *Brachypus* Guilding, 1828 (Name No. 1112) ;
- (l) *Brevipes* [Palmer], 1836 (a junior objective synonym of *Apus* Scopoli, 1777) (Name No. 1113) ;
- (m) *Cypselus* Illiger, 1811 (a junior objective synonym of *Apus* Scopoli, 1777) (Name No. 1114) ;



(n) *Micropus* Wolf, 1810 (a junior objective synonym of *Apus* Scopoli, 1777) (Name No. 1115) ;

(o) the under-mentioned names, each of which is a junior homonym of *Micropus* Wolf, 1810 :—

(i) *Micropus* Hübner, 1818 (Name No. 1116) ;

(ii) *Micropus* Gray (J.E.), 1831 (Name No. 1117) ;

(iii) *Micropus* Swainson, [1832] (Name No. 1118) ;

(iv) *Micropus* Spinola, 1837 (Name No. 1119) ;

(v) *Micropus* Denny, 1842 (Name No. 1120) ;

(vi) *Micropus* Kner, 1868 (Name No. 1121) ;

(p) *Monops* Billberg, 1820 (a junior objective synonym of *Lepidurus* Leach, 1819) (Name No. 1122) ;

(q) *Phyllopus* Rafinesque, 1815, as suppressed under the Plenary Powers in (1)(a)(iv) above (Name No. 1123) ;

(r) *Thriops* Ghigi, 1921 (an Erroneous Subsequent Spelling for *Triops* Schrank, 1803) (Name No. 1124) ;

(s) *Trinoculus* Voigt, 1836 (a junior objective synonym of *Lepidurus* Leach, 1819) (Name No. 1125) ;

(t) *Triopes* Schrank, 1803 (an Invalid Original Spelling for *Triops* Schrank, 1803) (Name No. 1126).

(6) The under-mentioned specific names are hereby placed on the *Official Index of Rejected and Invalid Specific Names in Zoology* with the Name Numbers severally specified below :—

(a) *palustris* Müller (O.F.), 1776, as published in the combination *Binoculus palustris* (a junior objective



synonym of *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) (Name No. 497) ;

(b) *cancriformis* Lamarck, 1801, as published in the combination *Limulus cancriformis* (a junior objective synonym of *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) (Name No. 498) ;

(c) *productus* Bosc, [1801—1802], as published in the combination *Apus productus* (a junior objective synonym of *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) (Name No. 499).

(7) The under-mentioned family-group names are hereby placed on the *Official List of Family-Group Names in Zoology* with the Name Numbers severally specified below :—

(a) TRIOPSIDAE Keilhack, 1909 (type genus : *Triops* Schrank, 1803) (Class Crustacea, Order Phyllopoda) (Name No. 207) ;

(b) APODINAE Hartert, 1897 (type genus : *Apus* Scopoli, 1777) (Class Aves) (Name No. 208).

(8) The under-mentioned family-group names are hereby placed on the *Official Index of Rejected and Invalid Family-Group Names in Zoology* with the Name Numbers severally specified below :—

(a) APIDAE Burmeister, 1843 (type genus : *Apus* Cuvier (G.F.), 1800) (an Invalid Original Spelling for APODIDAE) (invalid because name of type genus is a junior homonym of a generic name of older date (*Apus* Scopoli, 1777) (Class Crustacea, Order Phyllopoda) (Name No. 241) ;



- (b) APODES Billberg, 1820 (type genus : *Monops* Billberg, 1820) (an Invalid Original Spelling for APODIDAE) (invalid because based not upon the name of the type genus (*Monops*) but upon the specific name (*apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) of the type species of the type genus) (Class Crustacea, Order Phyllopoda) (Name No. 242) ;
- (c) APODIDAE Agassiz (J.L.R.), 1846 (type genus : *Apus* Cuvier (G.F.), 1800) (a correction of the Invalid Original Spelling APIDAE and, like it, invalid because the name of the type genus is a junior homonym of a generic name of older date (*Apus* Scopoli, 1777)) (Class Crustacea, Order Phyllopoda) (Name No. 243) ;
- (d) APUSIENS Milne Edwards (H.), 1840 (type genus : *Apus* Cuvier (G.F.), 1800) (invalid because a vernacular (French) word and not a Latinised word) (Name No. 244) ;
- (e) BINOCULIDAE Fowler, 1912 (type genus : *Binoculus* Müller (O.F.), 1776) (invalid under *Declaration* 20 because name of type genus suppressed under the Plenary Powers in (1)(a)(i) above) (Class Crustacea, Order Phyllopoda) (Name No. 245) ;
- (f) PHYLLOPODIDAE (correction of PHYLLOPIA) Rafinesque, 1815 (type genus : *Phyllopus* Rafinesque, 1815) (invalid under *Declaration* 20 because name of type genus suppressed under the Plenary Powers in (1)(a)(iv) above) (Class Crustacea, Order Phyllopoda) (Name No. 246) ;
- (g) PHYLLOPIA Rafinesque, 1815 (type genus *Phyllopus* Rafinesque, 1815) (an Invalid Original Spelling for PHYLLOPODIDAE) (Class Crustacea, Order Phyllopoda) (Name No. 247) ;



- (h) APODIDAE Reichenow, 1897 (type genus : *Apus* Scopoli, 1777) (invalid because published for some purpose other than for use in zoological nomenclature) (Class Aves) (Name No. 248) ;
- (i) CYPSELINAE Bonaparte, 1838 (type genus : *Cypselus* Illiger, 1811) (invalid because suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy under the Plenary Powers in (1)(c)(i) above) (Class Aves) (Name No. 249) ;
- (j) MICROPODIDAE Stejneger, 1885 (type genus : *Micropus* Wolf, 1810) (invalid because suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy under the Plenary Powers in (1)(c)(ii) above) (Class Aves) (Name No. 250).

## I. THE STATEMENT OF THE CASE

The present *Opinion* is concerned with the problem created by the long-standing confusion created by the use of the generic name *Apus* as the name for a genus of birds (the Swifts) and also as the name for a genus of Phyllopod Crustacea. This question was raised by Dr. L. B. Holthuis (*Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands*) in a letter addressed to the Secretary on 20th September 1955. In the ensuing period Dr. Holthuis elaborated the text of an application dealing with the carcinological aspects of this case, while Mr. Hemming, in consultation with ornithologists, examined the repercussions on ornithological nomenclature of the proposals contemplated from the carcinological side by Dr. Holthuis. At the same time the



complex problems involved at the family-group-name level were examined jointly by the foregoing specialists. These consultations led to the submission to the Commission on 8th February 1956 of the following comprehensive application prepared jointly by Dr. Holthuis and Mr. Hemming :—

**Proposed use of the Plenary Powers (a) to validate the generic name “*Lepidurus*” Leach, 1819, and to designate a type species for, and to determine the gender of, “*Triops*” Schrank, 1803 (Class Crustacea, Order Phyllopoda) and (b) to validate the family name “*Apodidae*” Hartert, 1897 (Class Aves)**

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and

FRANCIS HEMMING, C.M.G., C.B.E.

(*London*)

### Introductory

The controversy existing amongst carcinologists as to the correct names that have to be applied to the two Phyllopod genera that by different authors have been indicated as *Apos*, *Apus*, *Binoculus*, *Lepidurus* or *Triops*, has caused a considerable instability in the nomenclature of this group. Furthermore this question not only concerns carcinological, but also involves ornithological nomenclature. Therefore a final decision on this problem by the International Commission on Zoological Nomenclature is highly desirable.

2. The following are the references to Crustacean genera dealt with in this proposal :

*Apus* Schaeffer, 1756, *Krebsart. Kiefenfuss* : 131 (type species, by selection by E. Desmarest (1858, Chenu's *Ency. Hist. nat. (Crust.)* : 59): *Apus cancriformis* Bosc [1801—1802] *Hist. nat. Crust.* 2 : 244) (gender: masculine)



*Binoculus* Geoffroy, 1764, *Hist. abrég. Ins. Env. Paris* 2 : 658 (type species, by selection by Fowler (1912, *Ann. Rep. New Jersey State Mus.* 1911 : 466) : *Monoculus apus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 635) (gender : masculine)

*Binoculus* Müller (O.F.), 1776, *Zool. dan. Prodr.* : 200 (type species, by selection by Fowler (1912, *Ann. Rep. New Jersey State Mus.* 1911 : 466) : *Binoculus palustris* Müller (O.F.), 1776, *Zool. dan. Prodr.* : 200 (a junior objective synonym of *Monoculus apus* Linnaeus, 1758) (gender : masculine)

*Apos* Scopoli, 1777, *Intr. Hist. nat.* : 404 (type species, by monotypy : *Monoculus apus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 635) (gender : masculine)

*Apus* Cuvier, [1797—1798], *Tabl. élém. Hist. nat. Anim.* : 700 (*nomen nudum*)

*Apus* Cuvier, 1800, *Leçons Anat. Comp.* 1 : tabl. 7 (type species, by absolute tautonymy : *Monoculus apus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 635) (gender : masculine)

*Apus* Latreille, [1802—1803], *Hist. nat. gén. partic. Crust. Ins.* 3 : 16 (type species, by monotypy : *Monoculus apus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 635) (gender : masculine)

*Triops* Schrank, 1803, *Fauna boica* 3(1) : 180, xvii (type species, by monotypy : *Binoculus palustris* Müller (O.F.), 1776, *Zool. dan. Prodr.* : 200 (a junior objective synonym of *Monoculus apus* Linnaeus, 1758) (gender : masculine)

*Apodium* Rafinesque, 1814, *Princip. fond. somiol.* : 29 (substitute name for *Apus* Latreille [1802—1803]) (gender : neuter)

*Phyllopus* Rafinesque, 1815, *Analyse Nature* : 99 (a substitute name for *Apus* Latreille [1802—1803]) (gender : masculine)

*Lepidurus* Leach, 1819, *Dict. Sci. nat.* 14 : 539 (types species, by monotypy : *Monoculus apus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 635) (gender : masculine)

*Monops* Billberg, 1820, *Enum. Ins. Mus. Billberg.* : 132 (type species, by monotypy : *Monoculus apus* Linnaeus, 1758) (gender : masculine)

*Trinoculus* Voigt, 1836, Cuvier's *Thierreich* (ed. 2) 4 : 275 (a substitute name for *Apos* Scopoli, 1777 (gender : masculine)

*Apus* Schoch, 1868, *Mikr. Thiere* 2 : iii, 21 (Class Rotifera)

*Proterothriops* Ghigi, 1921, *Atti Soc. Ital. Sci. nat.* 60 : 163, 166 (type species, by original designation : *Apus numidicus* Grube, 1865, *Arch. Naturgesch.* 31 : 278) (gender : masculine)



### History of the genera of Crustacea involved

3. Under the name *Apus cancriformis* Schaeffer, in his pre-Linnean (1756) paper "Der krebsartige Kiefenfuss mit der kurzen und langen Schwanzklappe", gave good descriptions and excellent figures of the two species of Phyllopods with which we are concerned here. One of the species, here for convenience named species "A", was extensively figured by Schaeffer on pls. 1—5 of his work, while he accurately figured the second species, here named species "B", on his pl. 6.

4. Linnaeus in the Tenth Edition of his *Systema Naturae* included both species in his nominal species *Monoculus apus*, which therefore was a composite species. All subsequent authors of the XVIIIth Century followed Linnaeus in considering "A" and "B" as one species.

5. Geoffroy (1764) removed *Monoculus apus* from the genus *Monoculus* and placed it in his new genus *Binoculus*, referring to the species as *Binoculus cauda biseta*. Geoffroy's *Histoire abrégée* of 1764 is not binominal and has been rejected for nomenclatorial purposes by the International Commission in *Opinion 228* (1954, *Ops. Decls. int. Comm. zool. Nomencl.* 4 : 209—220). The next author to use the generic name *Binoculus* was Müller (O.F.) (1776) who placed in it *B. palustris* and *B. piscinus*. *Binoculus palustris* was a new name that Müller, without apparent reason, substituted for *Monoculus apus* Linnaeus. *B. piscinus* is a name for a parasitic Copepod. The oldest valid type selection for *Binoculus* Müller, as far as is known to us, is that by Fowler (1912), who selected *Binoculus palustris* Müller as the type species of that genus. Latreille (1810, *Consid. gén. Ordre nat. Crust. Arachn. Ins.* : 421), it is true, selected *Monoculus argulus* Fabricius, 1793, as the type species of *Binoculus*, but this selection is invalid as *M. argulus* was not included in the original description of *Binoculus* Müller.

6. In 1777 Scopoli erected a new genus *Apos*, in the original description of which he only cited one species, *Monoculus apus* Linnaeus, which is therefore the type species by monotypy.

7. The name *Apus* has been treated by some authors (e.g. Neave, 1939, *Nomencl. zool.* 1 : 268) as having been published as a generic name by Cuvier in [1797—1798] (*Tabl. élém. Hist. nat. Anim.* : 454, 700) but an inspection of this work shows that this claim is ill-founded. In the "Table des noms latins" Cuvier on page 700 entered the name *Apus* with a reference to page 454 in the body of the work. Reference to that page shows, however, that Cuvier there dealt with the present genus



under the name "Les Monocles (*Monoculus*)". He divided this genus into several sections, the third of which he called "Les Apus". Neave and others who have accepted the generic name *Apus* from the above work were presumably misled into so doing by the fact that within the section "Les Apus" Cuvier entered one species as "*l'apus cancriforme* (*Monoculus apus* Lin.) *Limulus apus* Müller". For at first sight the term "*apus cancriforme*" (which was printed in italics) looks like a properly formed Latin binomen, apart from the fact that the word "*apus*" is printed with a small letter instead of with a capital. Closer inspection, however, shows clearly that Cuvier used the above term as a vernacular (French) word and that he regarded *Monoculus apus* Linnaeus (which, as shown above, he cited immediately after the term "*apus cancriforme*") as being the scientific name for this species. There is therefore nothing on page 454 of Cuvier's book which can be accepted as constituting the introduction of the generic name *Apus*. Accordingly, the only possible ground on which it might have been claimed that he used the word "*Apus*" as a generic name in this book is his inclusion of this name in the "Table des noms latins" on page 700. But this claim is now excluded by the ruling given by the International Commission in its *Opinion* 374 (1955, *Ops. Decls. int. Comm. zool. Nomencl.* 11(14) : 369—378), where it ruled that the name *Antirhynchonella* published in 1871 in the index to Quenstedt's work *Die Brachiopoden* but without any corresponding use in the text did not thereby acquire the status of availability. The name *Apus* Cuvier [1797—1798] published on page 700 of the *Tableau élémentaire* must therefore be rejected as a *nomen nudum*.

8. The first author to use the name *Apus* as a generic name for Phyllopods was Cuvier (1800). The type species of this genus is *Monoculus apus* Linnaeus by absolute tautonymy.

9. Bosc [1801—1802] was the first author to recognise "A" and "B" as distinct species; he even (incorrectly) split "A" into two separate species, which he named *Apus cancriformis* and *A. viridis* respectively, while to species "B" the new name *Apus productus* was given. The name *Apus viridis* by subsequent authors practically always has been placed in the synonymy of *A. cancriformis* and is of no further importance here.

10. In 1803 in Part 1 of Volume 3 of his *Fauna boica* Schrank introduced the generic name *Triops* under which he cited only the species *Triops palustris* (= *Binoculus palustris* Müller (O.F.), 1776), which is therefore the type species of *Triops* by monotypy. *Triops* thereby became a junior objective synonym of *Binoculus* Müller (O.F.), of *Apos* Scopoli, and of *Apus* Cuvier. This generic name was published in two Original Spellings, *Triops* and *Triopes*, the former appearing on page 180, the latter on page 251. Schrank's remarks about this genus



afford clear evidence that the spelling *Triopes* was the "result of an inadvertent error". Accordingly under the relevant Decision by the Copenhagen Congress (1953, *Copenhagen Decisions zool. Nomencl.* : 43—44, Decision 71(1)(a)(ii) the spelling *Triops* is the Valid Original Spelling for this name. Even if no clear evidence had been provided by Schrank the spelling *Triops* would still have been the Valid Original Spelling under the second part of the Copenhagen Decision cited above, for this was the spelling used for this name by Schrank himself as "First Subsequent User" in Part 2 of the same volume (: xvii), published at a later date in the same year (1803). It may be noted here that there is an Erroneous Subsequent Spelling of this name, namely *Thriops* Ghigi, 1921 (*Atti Soc. ital. Sci. nat.* **60** : 160—188).

11. Other objective synonyms of the names discussed above are the generic names *Apodium* Rafinesque, 1814, *Phyllopus* Rafinesque, 1815, and *Trinoculus* Voigt, 1836, all three being proposed as substitute names for either *Apus* or *Apos*. In addition, in 1820, Billberg introduced the name *Monops* with *Monoculus apus* Linnaeus, as type species by monotypy, without, however, referring to any of the earlier generic names given to this species.

12. Leach ([1814], *Edinburgh Ency.* **7** : 388) was the first author definitely to restrict the nominal species *Monoculus apus* Linnaeus, thereby removing its composite character and giving to it the interpretation which has been adopted by all subsequent workers. Five years later Leach (1819) was the first author also to consider species "A" and species "B" as belonging to different genera. For the genus containing species "A" he retained the name *Binoculus* and gave the name *Lepidurus* to the genus containing "B". In the remainder of the present section of this application these genera will be referred to as genus "X" and genus "Y" respectively. In the specific nomenclature Leach followed Bosc, referring to the two species as *Apus cancriformis* and *Apus productus* respectively.

13. Throughout practically the whole of the XIXth century the species "A" and "B" were indicated with the names *Apus cancriformis* and *Lepidurus* (or *Apus*) *productus*. At the end of that century, however, Hartert (1897, *Thierreich* **1** : 83) discovered that the oldest generic name for the Swift (Class Aves, Order Apodiformes) is *Apus* Scopoli, 1777, and he consequently introduced this name into ornithological nomenclature for the genus that until then was generally known as *Micropus* Wolf, 1810, or *Cypselus* Illiger, 1811. From various sides there was a strong opposition against this changing of names. For example, Bell (1900, *Ann. Mag. nat. Hist.* (7) **5** : 480) suggested that *Apus* Schaeffer, 1756, although a pre-Linnean name, should be adopted for the Phyllopod genus, while he furthermore was of the opinion that *Apos* Scopoli (1777 : 404) invalidated *Apus* Scopoli (1777 : 483). Stebbing (1910, *Ann. S. Afr. Mus.* **6** : 484) followed Bell's suggestion



and adopted the name *Apus* Schaeffer, 1756, for the Crustacean; he furthermore remarked that, if it were necessary to reject Schaeffer's name on nomenclatorial grounds, the name *Apos* Scopoli, 1777, could be used, leaving *Apus* Scopoli as a generic name for birds. Stebbing's nomenclature was adopted by several later authors such as Barnard (1929, *Ann. S. Afr. Mus.* **29** : 229) and Linder (1952, *Proc. U.S. nat. Mus.* **102** : 52) while Gurney (1923, *Ann. Mag. nat. Hist.* (9) **11** : 496, 497) continued to use the generic name *Apus* Latreille [1802—1803], deliberately neglecting the *Règles* by adopting what he called "the rules of commonsense". The foregoing zoologists employed the name *Apus cancriformis* for species "A" and the name *Lepidurus apus* or *L. productus* for species "B". Some carcinologists, however, abandoned the name *Apus* entirely. The first of these was Keilhack (1909, *Zool. Annalen* **3** : 177) who furthermore argued that the name *Apos* Scopoli, 1777, could not be used for any genus of Notostracan Phyllopods (a group to which both species "A" and "B" belong) as was suggested by Bell and Stebbing, since Scopoli's diagnosis does not fit any such genus, but evidently was meant for the genus of Anostracan Phyllopods now known as *Branchipus* Schaeffer, 1766. Keilhack, however, was wrong here. Though Scopoli's short description of *Apos* may not entirely fit the Notostracan genera, the fact that the only nominal species included in the original description of it is *Monoculus apus* Linnaeus, makes that species automatically the type species of Scopoli's genus. Most subsequent authors accepted Keilhack's point of view as correct and, to our knowledge, the generic name *Apos* Scopoli has not been adopted by any later zoologist. Keilhack suggested that the generic name *Triops* Schrank should be used to replace *Apus* Cuvier and in this respect he has been followed by several other authors. These authors use the name *Triops cancriformis* for species "A" and *Lepidurus productus* or *L. apus* for species "B". The situation at present is thus such that the generic name *Lepidurus* Leach is adopted by practically all carcinologists to indicate genus "Y", while for the other genus either the name *Apus* Schaeffer (or *Apus* Cuvier), or *Triops* Schrank is employed. Most authors have the same opinion about the size of these genera, only the Italian author Ghigi (1921, *Atti Soc. ital. Sci. nat.* **60** : 160—188) divided "X" in two distinct genera which he called *Thriops* (an erroneous spelling of *Triops*) Schrank (containing species "A"), and *Proterothriops* (a new genus).

14. To solve the very intricate problem placed before us we first have to ascertain to which species must be applied the specific name *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*. As pointed out above, Bosc [1801—1802] was the first author to split *Monoculus apus* Linnaeus. Under his *Apus cancriformis*, Bosc referred to Schaeffer's first two plates and to "*Monoculus apus*. Fab.", while under *A. productus* he only referred to Schaeffer's pl. 6 (under *A.*



*viridis* a reference to Schaeffer's pl. 5 was given). This seems to indicate that Bosc himself thought of *A. cancriformis* as the typical *Monoculus apus*. Leach (1819) on the other hand made it clear that he considered *Lepidurus productus* as a synonym of the typical *Monoculus apus*. Leach's point of view has been adopted by most subsequent authors, the species *Lepidurus productus* (Bosc) often being given the name *Lepidurus apus* (Linnaeus). So far as we know no lectotype has ever been selected for *Monoculus apus* Linnaeus and the identity of that nominal species consequently is not yet definitively established. In order to remedy this undesirable situation the senior author (Holthuis) selects here, in agreement with current usage, as the lectotype of *Monoculus apus* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) 1 : 635) the specimen figured as Figure III on plate VI of Schaeffer's (1756) "Der Krebsartige Kieferfuss". This selection now definitively links the specific name *apus* Linnaeus, 1758, to species "B". At the same time Holthuis selects as the lectotype of *Apus productus* Bosc [1801—1802] (*Hist. nat. Crust.* 2 : 244) the same specimen, namely that figured on pl. VI, fig. III, of Schaeffer's "Der Krebsartige Kiefenfuss". *Monoculus apus* Linnaeus and *Apus productus* Bosc thereby now have become objective synonyms of one another. Further, as the lectotype of *Apus cancriformis* Bosc, [1801—1802] (*Hist. nat. Crust.* 2 : 244) Holthuis selects the specimen figured as Figure IV on plate I of Schaeffer's "Der Krebsartige Kiefenfuss". By these selections the identity of the above nominal species is now definitely determined.

15. Bosc [1801—1802] is cited by practically all zoologists as the original author of the name *Apus cancriformis*. Even Sherborn (1924, *Index Anim.*, Pars secund. (5) : 1035) considered this to be a new name of Bosc's. There is, however, an earlier use of the specific name *cancriformis* for one of the two species dealt with here. That name is *Limulus cancriformis* Lamarck, 1801 (*Syst. Anim. sans Vertèbr.* : 169). Since Bosc ([1801—1802] *Hist. nat. Crust.* 2 : 243) refers to Lamarck's *Syst. Anim. sans Vertèbr.*, the latter must have been published before the former, so that the specific name *cancriformis* Lamarck is older than *cancriformis* Bosc. Since Lamarck's name is given as a substitute name for *Monoculus apus* Linnaeus, it is identical with *Apus productus* Bosc and specifically distinct from *Apus cancriformis* Bosc. As Bosc in his synonymy of *Apus cancriformis* does not cite *Limulus cancriformis* Lamarck, we may conclude, as have most authors, that Bosc's name is a new name and not merely a new combination formed with the specific name *cancriformis* proposed by Lamarck. This is rendered the more probable by the fact that there is an exactly similar case in regard to the specific name *productus*. One of the three species placed in the genus *Limulus* by Lamarck (1801, *Syst. Anim. sans Vertèbr.* : 169) is *Limulus productus*, which is a new combination formed with the specific name *productus* as originally proposed by Müller (O.F.), (1785, *Entomotr.* : 132) in the combination *Caligus*



*productus*. This species belongs to the parasitic Copepoda and at present is known under the name *Dinematura producta* (O. F. Müller). It is of course entirely different from the phyllopod species which Bosc ([1801—1802] *Hist. nat. Crust.* 2 : 244) named *Apus productus*. Since it is perfectly obvious to anyone that *Apus productus* Bosc [1801—1802] is a new name and not a new combination of *Limulus productus* Lamarck, 1801, one is, we believe, justified in considering the name *Apus cancriformis* Bosc [1801—1802] also as a new name and not as a new combination of *Limulus cancriformis* Lamarck, 1801. *Limulus cancriformis* Lamarck and *Apus cancriformis* Bosc are at present placed in different genera and therefore are not homonyms of one another, so that the existence of Lamarck's specific name *cancriformis* does not endanger that of the specific name *cancriformis* Bosc. It is requested here that the name *cancriformis* Lamarck, 1801, as published in the combination *Limulus cancriformis*, be placed on the *Official Index of Rejected and Invalid Specific Names in Zoology*, since it is a junior objective synonym of the name *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*.

16. We may now direct our attention to the generic names for species "A" and "B". It is clear that *Apus* Schaeffer, 1756, being a pre-Linnean name, cannot be used unless validated under the Plenary Powers. *Binoculus* Geoffroy likewise is an unavailable name as it was published in a non-binominal book which has been rejected by the International Commission on Zoological Nomenclature. *Apus* Cuvier [1797—1798] is a *nomen nudum*, and *Apus* Cuvier, 1800, is a junior homonym of *Apus* Scopoli, 1777; the two former names thus are also unavailable. The generic names *Binoculus* Müller (O.F.), 1776, *Apos* Scopoli, 1777, *Triops* Schrank, 1803, *Apodium* Rafinesque, 1814, *Phyllopus* Rafinesque, 1815, *Lepidurus* Leach, 1819, *Monops* Billberg, 1820, and *Trinoculus* Voigt, 1836, all have as their type species either *Monoculus apus* Linnaeus, 1758, or a species that is objectively identical with it. Therefore the foregoing generic names are objective synonyms of each other. The oldest of these names, *Binoculus* Müller (O.F.), 1776, consequently is the only available name and if the normal rules were to be applied, that name should be used for genus "Y". The oldest available name for genus "X", as far as is known to us, is *Proterothriops* Ghigi, 1921. Neither *Binoculus* nor *Proterothriops* have been much used by carcinologists and their reintroduction for genera "Y" and "X" respectively would cause a great deal of confusion in the nomenclature of the Phyllopoda.

17. For genus "X" the generic names *Apus* Schaeffer, or *Triops* Schrank have been regularly employed; *Proterothriops*, the nomenclatorially correct name, has been used by a few authors, who employed it for part of the genus only. Many carcinologists would advocate the validation of the name *Apus* Schaeffer, 1756, under the Plenary Powers, since this name is used in many important publications on Phyllopods,



several of which being of quite recent date. Apart from the serious difficulties which would be involved in a proposal for the validation of a pre-Linnean name, the above solution would have been acceptable, had it not been that since Hartert's (1897) rediscovery of the name *Apus* Scopoli, 1777, that name has become firmly established in ornithological nomenclature. In modern handbooks and check-lists, such as Peters's (1940 *Check-List of Birds of the World* 4 : 244) this name has been generally adopted. To change the generic name of the Swift back to *Micropus* Wolf, 1810, or *Cypselus* Illiger, 1811, would seriously disturb ornithological nomenclature. This consideration alone is, we consider, sufficient to rule out the possibility of using the Plenary Powers to validate *Apus* as a name for Crustacea.

18. Schrank (1803) in the description of the type species of his genus referred to Schaeffer's (1756) plates 1—4 and not to the other plates published by that author. This makes it probable that Schrank's specimens actually belonged to species "A", since that is the only species figured on those plates, species "B" being shown on Schaeffer's pl. 6 only. Schrank therefore incorrectly applied the specific name *palustris* Müller (O.F.) (which is objectively synonymous with *apus* Linnaeus and thus belongs to species "B") to his specimens. *Triops* Schrank, 1803, therefore may be considered as a genus based upon a misidentified type species. This is, in our opinion, a clear case where it would be appropriate in the interests of nomenclatorial stability that the Commission should make use of the provision inserted in the *Règles* by the Thirteenth International Congress of Zoology, Paris, 1948, for dealing with the names of genera based upon misidentified type species (1950, *Bull. zool. Nomencl.* 4 : 158—159) and therefore under that procedure designate species "A" to be the type species of *Triops* Schrank in place of species "B". The name *Triops* would thereupon become available for use in the sense adopted by Keilhack and other authors. Since it is not practicable to validate *Apus* Schaeffer, 1756, the validation of the name *Triops* Schrank in the above sense is the best solution.

19. Practically all modern carcinologists use the generic name *Lepidurus* Leach, 1819, to indicate genus "Y". However, as has been pointed out above there are at least four senior generic names that are objective synonyms of *Lepidurus*, which thus is unavailable nomenclatorially, *Binoculus* Müller being the correct name for the genus. Since, however, the name *Lepidurus* is so generally used at present, while *Binoculus* is highly unfamiliar to zoologists, the use of the Plenary Powers for the validation of the former name seems to be entirely justified. By this action a further confusion and instability in the nomenclature of the Phyllopoda will be prevented.

20. At this point it is necessary to draw attention to one further problem on which action under the Plenary Powers will be necessary



as part of any general settlement of outstanding problems in connection with this case. This is concerned with the question of the gender to be assigned to the generic name *Triops* Schrank, 1803. This name has invariably been treated as being masculine and the abandonment of this practice would lead to serious confusion and inconvenience without securing any benefit whatsoever. Unfortunately, however, under a decision taken by the Copenhagen Congress (1953, *Copenhagen Decisions zool. Nomencl.* : 50, Decision 84(7)(b)(iii)) generic names having the termination “-ops” are to be treated as being feminine in gender. In the case of the Decapod Crustacea the general practice has been to treat generic names having this termination as being masculine in gender and we consider that this practice should be validated and we have in mind to submit a proposal to the Commission in this sense. It would clearly be most undesirable that the settlement of the *Apus* problem should be postponed until after this general problem has been submitted to, and settled by, the Commission, for this would inevitably involve a considerable delay. On the other hand, a decision on the particular case of the gender of the generic name *Triops* must be taken as part of the decision on the present case, for the gender to be attributed to that name must be noted in the entry relating to the name *Triops* when that generic name is inscribed on the *Official List*. We accordingly recommend that, as has been proposed in relation to the generic name *Nephrops* [Leach], [1814], where an exactly similar problem arises (1955, *Bull. zool. Nomencl.* **11** : 260—262), the name *Triops* Schrank should be treated as a separate case and that the Commission acting under its Plenary Powers should direct that this generic name be treated as being masculine in gender.

### Ornithological genera concerned

21. The following are the references for the names of the ornithological genera involved in the present case :—

*Apus* Scopoli, 1777, *Introd. Hist. nat.* : 483 (gender : masculine) (type species, by monotypy : *Hirundo apus* Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 192)

*Micropus* Wolf, 1810, in Meyer & Wolf, *Taschenb. deuts. Vögelk.* **1** : 280 (type species, by selection by Salvadori (1880, *Mem. R. Accad. Sci. Torino* (2) **33** : 534) : *Hirundo apus* Linnaeus, 1758)

*Cypselus* Illiger, 1811, *Prodr. Syst. Mamm. Av.* : 229 (a substitute name for *Apus* Scopoli, 1777)

*Brachypus* Meyer, 1814, *Ann. Wetterau. Ges.* **3** : 333 (a substitute name for *Micropus* Wolf, 1810)

*Brevipes* [Palmer], 1836, *Analyst* **4** : 101 (a substitute name for *Brachypus* Meyer, 1814).



22. The generic name *Apus* Scopoli, 1777, is an available name and is the oldest such name for the Swift. It should therefore now be placed on the *Official List of Generic Names in Zoology*, the name of its type species, *apus* Linnaeus, 1758, as published in the combination *Hirundo apus*, being placed at the same time on the *Official List of Specific Names in Zoology*. The four other generic names specified in paragraph 8 above are, as is there shown, all junior objective synonyms of *Apus* Scopoli, 1777, and should therefore be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

23. The following names are all junior homonyms either of *Brachypus* Meyer, 1814, or of *Micropus* Wolf, 1810, and should therefore be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

*Brachypus* Swainson, 1824, *Zool. J.* 1(3) : 305

*Brachypus* Meigen, 1824, *Syst. Besch. europ. zweifl. Ins.* 4 : 34

*Brachypus* Gray (J.E.), 1825, *Ann. Phil.* (2) 10 : 338

*Brachypus* Schoenherr, 1826, *Curculionid. Disp. meth.* : 217

*Brachypus* Fitzinger, 1826, *Neue Classif. Rept.* : 20, 50

*Brachypus* Guilding, 1828, *Zool. J* 4(14) : 167

*Micropus* Hübner, 1818, *Zutr. z. Samml. exot. Schmett.* 1 : 24

*Micropus* Gray (J.E.), 1831, *Zool. Miscell.* (1) : 20

*Micropus* Swainson, [1832], in Richardson, *Faun. bor.-amer.* 2 : 486

*Micropus* Spinola, 1837, *Essai Genr. Ins. Hémipt.* : 218

*Micropus* Denny, 1842, *Monogr. Anoplurorum Brit.* : 247

*Micropus* Kner, 1868, *Sitzber. Akad. Wiss. Wien, Math.-Naturw. Kl.* 58(1) : 29, 322.

### Family-Group-Name Problems

24. The family-group-name problems involved in the present case are complicated by reason partly of the unfortunate decision of the Copenhagen (1953) Congress to keep alive family-group names based upon generic names which are junior objective synonyms, or junior subjective synonyms, of generic names of older date, and partly of the fact that the Crustacean and ornithological aspects of the problem involved are brought into direct relation with one another through the existence of homonymous family names. In the immediately following paragraphs particulars are given, first, of the family-group names which have been published for the family of Crustacea with which we



are directly concerned and, second, of the family-group names which have been given to the family of birds containing the Swift. Next, the problems arising in each case are discussed in isolation. Finally, the relation of these names to one another is considered in the light of the unfortunate situation of homonymy which has arisen through the establishment of identical family-group names on the basis on the one hand of the avian genus *Apus* Scopoli, 1777, and on the other hand of the Crustacean genus *Apus* Cuvier. We are indebted to the senior author's colleague Dr. G. C. A. Junge for assistance and advice as regards the avian names involved.

25. The following family-group names have been published for the family of Crustacea containing the genera styled in the present paper as Genus "X" and Genus "Y" :—

PHILLOPIA (an Invalid Original Spelling for PHYLLOPODIDAE) Rafinesque, 1815, *Analyse Nature* : 99 (type genus : *Phyllopus* Rafinesque, 1815, *Analyse Nature* : 99)

APODES (an Invalid Original Spelling for APODIDAE) Billberg, 1820, *Enum. Ins. Mus. Billberg.* : 132 (type genus : *Monops* Billberg, 1820)

APUSIENS Milne Edwards (H.), 1840, *Hist. nat. Crust.* 3 : 353 (invalid because a vernacular (French) word and not a Latinised word)

APIDAE (an Invalid Original Spelling for APODIDAE) Burmeister, 1843, *Organisation Trilobiten* : table opposite page 38 (type genus : *Apus* Cuvier, 1800)

APODIDAE Agassiz (J.L.R.), 1846, *Nomencl. zool.*, Index univ. : 30 (a correction of APIDAE Burmeister, 1843)

TRIOPSIDAE Keilhack, 1909, Brauer's *Süsswasserf. Deutschl.* 10 : 7 (type genus : *Triops* Schrank, 1803)

BINOCULIDAE Fowler, 1912, *Ann. Rep. New Jersey State Mus.* 1911 : 466 (type genus : *Binoculus* Müller (O.F.), 1776)

26. The following family-group names have been published for the family of birds containing the genus *Apus* Scopoli, 1777 :—

CYPSELINAE Bonaparte, 1838, *Geogr. comp. List Birds Europe N. Amer.* : 8 (type genus : *Cypselus* Illiger, 1811, a junior objective synonym of *Apus* Scopoli, 1777)

MICROPODIDAE Stejneger, 1885, *Standard nat. Hist.* 4 : 437 (type genus : *Micropus* Wolf, 1810, a junior objective synonym of *Apus* Scopoli, 1777)

APODIDAE Reichenow, 1897, *Ornith. Monatsber.* 5 : 10 (type genus : *Apus* Scopoli, 1777) (invalid because published for some purpose other than for use in zoological nomenclature)



APODINAE Hartert, 1897, *Das Thierreich* 1 : 80 (type genus : *Apus* Scopoli, 1777) (known to have been published later than APODIDAE Reichenow because Hartert cited a reference to Reichenow's paper).

27. Of the four family-group names based on different generic names which have been given to the family of Crustacea with which we are here concerned, one name, APODIDAE published as APIDAE by Burmeister in 1843, is already invalid under a decision taken by the Fourteenth International Congress of Zoology, Copenhagen, 1953 (1953, *Copenhagen Decisions zool. Nomencl.* : 36, Decision 54(1)(b), for it is based upon the name of a genus (*Apus* Cuvier, 1800) which is a homonym of a previously published name (*Apus* Scopoli, 1777). In addition, there is, it should be noted, another name APODIDAE (correction of APODES) Billberg, 1820, which is also invalid, having been based by Billberg not upon the name (*Monops* Billberg) used by him for the type genus but upon the specific name (*apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) of the type species of the type genus, an error which gives to the family-group name so published the misleading appearance of having been based—as, in fact, Burmeister's later name APIDAE was based—upon the generic name *Apus* Cuvier, 1800. Two of the remaining names will also be invalid if the Commission accepts the proposals at the generic-name level submitted in the present application. For, if the International Commission suppresses the generic names *Binoculus* Müller (O.F.), 1776, and *Phyllopus* Rafinesque, 1815, under its Plenary Powers, the family-group names based on those generic names (BINOCULIDAE Fowler, 1912, and PHYLLOPODIDAE (correction of PHYLLOPIA) Rafinesque, 1815) will both thereby also be automatically suppressed under the Ruling given by the Commission in *Declaration 20* (1955, *Ops. Decls. int. Comm. zool. Nomencl.* 10(19) : i—viii). The avoidance of the need for using the name PHYLLOPODIDAE is particularly satisfactory, for, so far as we know, no one apart from Rafinesque has ever employed this name, the reintroduction of which after so long an interval would be bound to give rise to confusion. The rejection of the name BINOCULIDAE is also much to be welcomed, for this name has hardly, if at all, been used in carcinological literature. The rejection of the names discussed above will leave the well-established name TRIOPSIDAE Keilhack, 1909, based on *Triops* Schrank, 1803, the oldest available, and indeed the only available, name for this family of Crustacea.

28. The three family-group names in the Class Aves which are involved in the present case are all objective synonyms of one another, the type genus of each having the Swift, *Hirundo apus* Linnaeus, 1758, as its type species. Of these names, the first, CYPSELINAE (type genus : *Cypselus* Illiger, 1811) was published by Bonaparte in 1838 and the second, MICROPODIDAE (type genus : *Micropus* Wolf, 1810) by Stejneger in 1885. The third, based upon the generic name *Apus* Scopoli, 1777,



was first published in 1897, in which year it was published independently by two different authors, namely as APODIDAE by Reichenow and as APODINAE by Hartert. Reichenow's name was the first to be published, as is shown by the fact that in Hartert's paper there is a direct reference to that by Reichenow. We must note here, however, that, although Reichenow published the name APODIDAE, he made it clear that he himself rejected this name and considered that it ought not to be used in zoological nomenclature, writing of it as follows: "Da die Anwendung von Apodidae sich nicht empfehlen dürfte". Accordingly, under a decision taken by the Copenhagen Congress that a name is not to be treated as having acquired the status of availability if its author makes it clear that it is published by him for some purpose other than for use in zoological nomenclature (1953, *Copenhagen Decisions zool. Nomencl.* : 63, Decision 114) the name APODIDAE did not acquire the status of availability through being published by Reichenow in the manner described above. The family-group name based on the generic name *Apus* Scopoli, 1777, is therefore to be attributed to Hartert by whom it was published in conditions which satisfied the requirements of the *Règles*. We see therefore that the position as regards the three family names discussed above is that the name (APODIDAE) based on the valid name of the type genus (*Apus* Scopoli) is of later date than either of the other two names (CYPSELINAE ; MICROPODIDAE). Up to 1953, however, it would still have been the valid name for this family of birds. However, under a decision taken by the Copenhagen Congress in that year (1953, *Copenhagen Decisions zool. Nomencl.* : 36, Decision 54(1)(a)) a family-group name based upon a generic name which (as here) is a junior objective synonym of another generic name is nevertheless to be retained. Accordingly, in the absence of remedial action by the Commission the valid name for this family is CYPSELIDAE.

29. Having examined separately the family-group name problems which arise in connection with the names to be used for the families of Crustacea and birds involved in the present case, we must now consider the position of the names for these families in relation to the name APODIDAE which has been bestowed upon both. In the case of the family of Crustacea we have seen that the name APODIDAE which is based upon the invalid name *Apus* Cuvier was formerly widely used by carcinologists. During the last forty-five years, however, it has been largely replaced by the name TRIOPSIDAE following the initiative of Keilhack and later authors. In the case of the family of birds an exactly opposite movement has been in progress, for, whereas formerly the names CYPSELIDAE and MICROPODIDAE were both widely used, the name APODIDAE has been making steady progress and is now used by the majority of authors. This name, for example, is used in Peters's *Check-List of Birds of the World*, in the *Handbook of British Birds* and in Roger Tory Peterson's *Field Guide to the Birds of Britain and*



*Europe* and the same author's *Field Guide to the Birds Found East of the Rockies*. It is moreover the name which is accepted in the Check-List prepared by the British Ornithologists' Union. At this stage it would clearly be a retrograde step from the point of view of nomenclatorial stability to abandon the name APODIDAE in favour of either CYPSELIDAE or MICROPODIDAE. Prior to the Copenhagen Congress of 1953 the *Règles* contained no provision regulating the action to be taken in cases where a state of homonymy arose at the family-name level as the result of such names being formed in different groups from generic names which were themselves homonyms of one another, being words having the same stem (*thème*). This matter was considered by the Copenhagen Congress of 1953 which inserted in the *Règles* a provision that, where two family-group names were found to be homonyms of one another by reason of being based upon generic names which possess the same stem but are not themselves homonyms of one another, the case is to be referred to the International Commission for decision. The Congress further directed that the Commission was to make a spelling change in one of the names sufficient to bring the condition of homonymy to an end. The decision so taken covers the case where each of two similar but valid generic names (such as *Cyprina* and *Cyprinus*) is taken as the base for a family-group name with the result that the two names so formed consist of the same word (in the case cited above, the word CYPRINIDAE). The foregoing decision gives no guidance, however, as to the action which should be taken where as in the present case a family name in current use, such as the name APODIDAE in birds, is a junior homonym of a family name in some other group, which is invalid by reason of the fact that the name of its type genus (in the case of the family APODIDAE in Crustacea, the name *Apus* Cuvier, 1800) is itself a junior homonym of the name of the type genus (in the case of the family APODIDAE in Aves, the name *Apus* Scopoli, 1777) of the other family. The omission of the Copenhagen Congress to deal with this class of case was no doubt accidental and it is reasonable to infer that in such a case the correct course is to refer the matter to the Commission for decision.

30. In the present case the position as regards the family of Crustacea concerned is that the name APODIDAE is invalid because (as we have seen in paragraph 27 above) it is based upon a generic name which itself is a junior homonym of another generic name. For this reason and because of the confusion which would arise owing to the wide usage of the name APODIDAE in ornithology, there would clearly be no justification for the re-introduction of this name in carcinology, where moreover the name TRIOPSIDAE must now be regarded as being firmly entrenched. In the case of the family of birds the name APODIDAE is based upon the valid name of the type genus of the family, and is currently the name most commonly used for that family. Further, apart from the doubts as to the treatment to be accorded to homonymous family-group names which then existed, the name



APODIDAE, as being the name based upon the valid name of its type genus, was the valid name for this family up to the time when in 1953 the rules were changed by the Copenhagen Congress. Accordingly, it may be concluded that the interests of nomenclatorial stability in the two groups concerned will be best served by a settlement under which (a) the name TRIOPSIDAE is confirmed as the name for the family of Crustacea formerly known as APODIDAE and (b) the name APODIDAE is accepted as the family name for the family of birds formerly known either as CYPSELIDAE or as MICROPODIDAE. A solution on these lines is accordingly recommended. This solution will involve the suppression by the Commission under its Plenary Powers of the names CYPSELINAE Bonaparte, 1838, and MICROPODIDAE Stejneger, 1885, both of which have priority over APODIDAE Hartert, 1897.

### Recommendations

31. In the light of the considerations set forth in the present application the International Commission is asked to take the following action for the purpose of restoring order and preventing further confusion in the nomenclature of the groups concerned, namely that it should :—

(1) use its Plenary Powers :—

(a) to suppress for the purposes of the Law of Priority but not for those of the Law of Homonymy the under-mentioned names of genera, each of which has as its type species either *Monoculus apus* Linnaeus, 1758, or the objectively identical nominal species *Binoculus palustris* Müller (O.F.), 1776 :—

(i) *Binoculus* Müller (O.F.), 1776 ;

(ii) *Apos* Scopoli, 1777 ;

(iii) *Apodium* Rafinesque, 1814 ;

(iv) *Phyllopus* Rafinesque, 1815 ;

(b) to suppress for the purposes of the Law of Priority but not for those of the Law of Homonymy the under-mentioned names of family-group taxa in the Class Aves :—

(i) CYPSELINAE Bonaparte, 1838 ;

(ii) MICROPODIDAE Stejneger, 1885 ;



- (c) under the procedure prescribed by the Thirteenth International Congress of Zoology, Paris, 1948, for determining the type species of a genus based upon a misidentified type species, to set aside all type designations or selections for the genus *Triops* Schrank, 1803, made prior to the Ruling now asked for and, having done so, to designate *Apus cancriformis* Bosc, [1801—1802], to be the type species of the foregoing genus ;
  - (d) to direct that the gender to be attributed to the generic name *Triops* Schrank, 1803, shall in accordance with established practice be the masculine gender ;
- (2) take note that under the Ruling given in *Declaration* 20 the undermentioned family-group names will automatically be suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy in the event of the suppression under the Plenary Powers of the names of the type genera of the taxa respectively concerned as recommended in (1)(a) above :—
- (a) BINOCULIDAE Fowler, 1912 (type genus : *Binoculus* Müller (O.F.), 1776) ;
  - (b) PHILLOPIA (Invalid Original Spelling for PHYLLOPODIDAE) Rafinesque, 1815 (type genus : *Phyllopus* Rafinesque, 1815) ;
- (3) place the under-mentioned generic names on the *Official List of Generic Names in Zoology* :—
- (a) *Lepidurus* Leach, 1819 (gender : masculine) (type species, by monotypy : *Monoculus apus* Linnaeus, 1758, as defined by the lectotype selected by Holthuis in the present application) (Class Crustacea) ;
  - (b) *Triops* Schrank, 1803 (gender : masculine, as determined under the Plenary Powers under (1)(d) above) (type species, by designation under the Plenary Powers under (1)(c) above : *Apus cancriformis* Bosc, [1801—1802] (Class Crustacea) ;
  - (c) *Apus* Scopoli, 1777 (gender : masculine) (type species, by monotypy : *Hirundo apus* Linnaeus, 1758) (Class Aves) ;
- (4) place the under-mentioned specific names on the *Official List of Specific Names in Zoology* :—
- (a) *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*, as defined by the lectotype selected by



Holthuis in the present application (specific name of type species of *Lepidurus* Leach, 1819) (Class Crustacea) ;

(b) *cancriformis* Bosc, [1801—1802], as published in the combination *Apus cancriformis* (specific name of type species of *Triops* Schrank, 1803) (Class Crustacea) ;

(c) *apus* Linnaeus, 1758, as published in the combination *Hirundo apus* (specific name of type species of *Apus* Scopoli, 1777 (Class Aves) ;

(5) place the under-mentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

(a) *Apodium* Rafinesque, 1814, as suppressed under the Plenary Powers under (1)(a)(iii) above ;

(b) *Apos* Scopoli, 1777, as suppressed under the Plenary Powers under (1)(a)(ii) above ;

(c) *Apus* Schaeffer, 1756 (invalid because published before the starting point of zoological nomenclature) ;

(d) *Apus* Cuvier, 1800 (a junior homonym of *Apus* Scopoli, 1777) ;

(e) *Apus* Latreille, [1802—1803] (a junior homonym of *Apus* Scopoli, 1777) ;

(f) *Apus* Schoch, 1868 (a junior homonym of *Apus* Scopoli, 1777) ;

(g) *Binoculus* Geoffroy, 1764 (a name published in a work rejected for nomenclatorial purposes) ;

(h) *Binoculus* Müller (O.F.), 1776, as suppressed under the Plenary Powers under (1)(a)(i) above ;

(i) *Brachypus* Meyer, 1814 (a junior objective synonym of *Apus* Scopoli, 1777) ;

(j) The under-mentioned names, each of which is a junior homonym of *Brachypus* Meyer, 1814 :—

(i) *Brachypus* Swainson, 1824 ;

(ii) *Brachypus* Meigen, 1824 ;

(iii) *Brachypus* Gray (J.E.), 1825 ;

(iv) *Brachypus* Schoenherr, 1826 ;

(v) *Brachypus* Fitzinger, 1826 ;

(vi) *Brachypus* Guilding, 1828 ;



(k) *Brevipes* [Palmer], 1836 (a junior objective synonym of *Apus* Scopoli, 1777) ;

(l) *Cypselus* Illiger, 1811 (a junior objective synonym of *Apus* Scopoli, 1777) ;

(m) *Micropus* Wolf, 1810 (a junior objective synonym of *Apus* Scopoli, 1777) ;

(n) The under-mentioned names, each of which is a junior homonym of *Micropus* Wolf, 1810 :—

(i) *Micropus* Hübner, 1818 ;

(ii) *Micropus* Gray (J.E.), 1831 ;

(iii) *Micropus* Swainson, [1832] ;

(iv) *Micropus* Spinola, 1837 ;

(v) *Micropus* Denny, 1842 ;

(vi) *Micropus* Kner, 1868 ;

(o) *Monops* Billberg, 1820 (a junior objective synonym of *Lepidurus* Leach, 1819) ;

(p) *Phyllopus* Rafinesque, 1815, as suppressed under the Plenary Powers under (1)(a)(iv) above ;

(q) *Thriops* Ghigi, 1921 (an Erroneous Subsequent Spelling for *Triops* Schrank, 1803) ;

(r) *Trinoculus* Voigt, 1836 (a junior objective synonym of *Lepidurus* Leach, 1819) ;

(s) *Triopes* Schrank, 1803 (an Invalid Original Spelling for *Triops* Schrank, 1803) ;

(6) place the under-mentioned specific names on the *Official Index of Rejected and Invalid Specific Names in Zoology* :—

(a) *palustris* Müller (O.F.), 1776, as published in the combination *Binoculus palustris* (a junior objective synonym of *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) ;



- (b) *cancriformis* Lamarck, 1801, as published in the combination *Limulus cancriformis* (a junior objective synonym of *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) ;
  - (c) *productus* Bosc, [1801—1802], as published in the combination *Apus productus* (a junior objective synonym of *apus* Linnaeus, 1758, as published in the combination *Monoculus apus*) ;
- (7) place the under-mentioned names on the *Official List of Family-Group Names in Zoology* :—
- (a) TRIOPSIDAE Keilhack, 1909 (type genus : *Triops* Schrank, 1803, with the type species designated under the above Powers under (1)(c) above) (Class Crustacea) ;
  - (b) APODINAE Hartert, 1897 (type genus *Apus* Scopoli, 1777) (Class Aves) ;
- (8) place the under-mentioned family-group names on the *Official Index of Rejected and Invalid Family-Group Names in Zoology* :—
- (a) APIDAE Burmeister, 1843 (type genus : *Apus* Cuvier, 1800) (an Invalid Original Spelling for APODIDAE) (invalid because based upon a generic name rejected as a junior homonym of an earlier name, namely *Apus* Scopoli, 1777) (Class Crustacea) ;
  - (b) APODES Billberg, 1820 (type genus : *Monops* Billberg, 1820) (an Invalid Original Spelling for APODIDAE) (invalid because based not upon the name of the type genus (*Monops*) but upon the specific name (*apus*) Linnaeus, 1758, as published in the combination *Monoculus apus*) of the type species of the type genus) ;
  - (c) APODIDAE Agassiz (J.L.R.), 1846 (type genus : *Apus* Cuvier, 1800) (a correction of the Invalid Original Spelling APIDAE Burmeister, 1843) (invalid because based upon a generic name rejected as a junior homonym of an earlier name, namely *Apus* Scopoli, 1777) (Class Crustacea) ;
  - (d) APODIDAE Reichenow, 1897 (type genus : *Apus* Scopoli, 1777) (invalid because published for some purpose other than for use in zoological nomenclature) (Class Aves) ;



- (e) APUSIENS Milne Edwards (H.), 1840 (type genus : *Apus* Cuvier, 1800 (invalid because a vernacular (French) word and not a Latinised word) (Class Crustacea) ;
- (f) BINOCULIDAE Fowler, 1912 (type genus : *Binoculus* Müller (O.F.), 1776) (suppressed under the Plenary Powers automatically through the suppression under those Powers of the name of its type genus) (Class Crustacea) ;
- (g) CYPSELINAE Bonaparte, 1838, as suppressed under the Plenary Powers under (1)(b) above (type genus : *Apus* Scopoli, 1777) (Class Aves) ;
- (h) MICROPODIDAE Stejneger, 1885, as suppressed under the Plenary Powers under (1)(b) above (type genus *Micropus* Wolf, 1810) (Class Aves) ;
- (i) PHILLOPIA Rafinesque, 1815 (type genus : *Phyllopus* Rafinesque, 1815) (an Invalid Original Spelling for PHYLLOPODIDAE) (Class Crustacea).

## II. THE SUBSEQUENT HISTORY OF THE CASE

**2. Registration of the present application :** Upon the receipt of Dr. Holthuis' preliminary communication in September 1955 the problem presented by the divergent uses of the generic name *Apus* was allotted the Registered Number Z.N.(S.) 1020.

**3. Publication of the present application :** The present application was sent to the printer on 29th February 1956 and was published on 26th June of the same year in Part 3 of Volume 12 of the *Bulletin of Zoological Nomenclature* (Holthuis & Hemming, 1956, *Bull. zool. Nomencl.* **12** : 67—85).

**4. Issue of Public Notices :** Under the revised procedure prescribed by the Thirteenth International Congress of Zoology,



Paris, 1948 (1950, *Bull. zool. Nomencl.* 4 : 51—56), Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in the present case was given on 26th June 1956 (a) in Part 3 of Volume 12 of the *Bulletin of Zoological Nomenclature* (the Part in which the application by Dr. Holthuis and Mr. Hemming was published) and (b) to the other prescribed serial publications. In addition such Notice was given to four general zoological serial publications and to twelve ornithological serials in various parts of the world.

**5. Comments received :** The publication of the present application and the issue of Public Notices in regard thereto elicited comments from ten specialists (Denmark, one ; Germany, one ; The Netherlands, one ; United Kingdom, one ; U.S.A., six). With one exception all the specialists concerned supported the general object of the present application either from the carcinological, or from the ornithological point of view. Two of the specialists who indicated general support—and also the specialist who expressed opposition to the proposal submitted—took exception to a proposal submitted on one point of detail, namely the recommendation that, in order to provide a valid basis for long-established practice the Commission, when dealing with the generic name *Triops* Schrank, 1803, one of the names involved, should use its Plenary Powers to direct that the gender to be assigned to that name should be the masculine gender instead of the feminine gender prescribed for names having the termination “-ops” by the Copenhagen Congress. The communications discussed above are reproduced in the immediately following paragraphs.

**6. Support received from Henning Lemche (Universitetets Zoologiske Museum, Copenhagen), subject to a reservation on the question of the gender to be assigned to the generic name “Triops” Schrank, 1803 :** On 29th June 1956 Dr. Henning Lemche (*Universitetets Zoologiske Museum, Copenhagen*) addressed the following letter to the Office of the Commission in support of the present case, subject to a reservation on the question of the gender to be assigned to the generic name *Triops* Schrank, 1803 :—

There is a minor point in the application of Holthuis on *Apus* which—as being a point of principle—I feel it necessary to object to,



viz. the deliberate changing of the gender of generic names in order to suit any little group of specialists which, for some reason, have adopted another gender than usual for names with special endings in some special group.

It is to be remembered that all zoologists are accustomed to the change of gender when a species is transferred to another genus. These changes never give rise to difficulties. So, the inconvenience is very small of changing the gender in the relatively few genera where it has been found that the ending used does not conform to general practice among specialists in most other groups of the animal kingdom.

On the other hand, the general zoologist cannot be oriented about special practices in the taxonomy of every single larger taxon. He will be at a loss when he is to find out what is the correct gender to be used if there is no general conformity, and if he will have to consult some new *Opinion* in every single case.

I don't care much what will be in future the correct gender of *Triops* or any other “-ops” but I think it essential that we do not add to general nomenclatorial confusion by making exceptions from the general Rules in minor cases as, e.g. such of the gender.<sup>1</sup> All too much has already been done along this line, and I am afraid that we cannot continue without looking for the consequences. Perhaps it may even be wiser to revise the cases where exceptions have already been made.

So, I should like to urge that the general problem of the gender of all “-ops's” should be decided upon as a whole or—rather—as part of the general problem whether such endings should be allowed to have different genders in different groups.

In the case of *Triops*, I am opposed to the proposal that the gender of this name should be treated separately, without regard to the general problem involved. So, I propose that the item relative to this point in Holthuis' application be deleted, substituted by a note that the gender of *Triops* is to be decided upon as part of the whole problem of uniformity of the gender of generic names with special endings throughout the animal kingdom.

**Support received from Ernst Mayr (Museum of Comparative Zoology at Harvard College, Cambridge, Mass., U.S.A.). :** In a

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<sup>1</sup> When later it was established that the Rule provisionally adopted by the Copenhagen Congress regarding the gender to be assigned to generic names having the termination “-ops” was incorrect and measures were taken to rectify the deficiency so disclosed (paragraph 17 below), Dr. Lemche (in a letter dated 28th February 1957) withdrew his objection of the attribution of the masculine gender to the generic name *Triops* Schrank, adding the hope “that we are now approaching general agreement in this case”.



letter dated 18th July 1956 Professor Ernst Mayr (*Museum of Comparative Zoology at Harvard College, Cambridge, Mass., U.S.A.*) intimated his support for the present application as follows :—

I congratulate Holthuis and you on this exceptionally thorough and well balanced treatment.

**8. Support received from W. Meise (Zoologisches Staatsinstitut und Zoologisches Museum, Hamburg, Germany) :** On 18th August 1956 Dr. W. Meise (*Zoologisches Staatsinstitut und Zoologisches Museum, Hamburg, Germany*) addressed the following note of support to the Office of the Commission (Meise, 1956, *Bull. zool. Nomencl.* **12** : 288) :—

In thanking Dr. Holthuis for a copy of his and your paper on *Apus*, I should very much like to say that my comment is a full “yes” concerning birds, which I know better than “*Apus productus*” (as we named the Phyllopod when we caught it alive near Berlin, 30 years ago). It seems to me that this is an ideal case for the Commission, as they have only to fix matters as they are now, and to fit them under the Rules as far as possible.

**9. Support received from K. H. Voous (Zoologisch Museum, Amsterdam, Netherlands) :** On 20th August 1956 Professor K. H. Voous (*Zoologisch Museum, Amsterdam, Netherlands*) addressed the following note of support to the Office of the Commission (Voous, 1956, *Bull. zool. Nomencl.* **12** : 288) :—

I take much pleasure in informing you that I am strongly supporting the recommendations made by Dr. L. B. Holthuis and you relative to the use of the generic name *Apus* Scopoli, 1777 with type species *Hirundo apus* Linnaeus, 1758 and the family-group name APODINAE (Class Aves) as well as all other recommendations for the use or the rejecting of other avian specific, generic and group names in the *Bulletin of Zoological Nomenclature* Vol. 12, pages 81—85.

**10. Support received from Alan Longhurst (London) :** On 24th August 1956 Mr. Alan Longhurst (*London*) addressed the following



letter to the Office of the Commission in support of the present case (Longhurst, 1956, *Bull. zool. Nomencl.* **12** : 288) :—

You may be aware of my recent systematic review of the Notostraca in *Bull. Brit. Mus. (nat. Hist.)* **3**(1) : 1—57 in which I have made use of the nomenclature whose usage you are seeking to regulate ; I am fully in agreement with your proposals with regard to the nomenclature to be adopted in the Notostraca and deplore the retention of *Apus* Scopoli, 1777, for a genus of Swifts, I am not competent to comment but on the strength of the arguments you advance and on its very widespread acceptance among ornithologists, I would feel that you are correct in its usage.

**11. Support received from Walter G. Moore (Loyola University, New Orleans, U.S.A.) :** The following note dated 14th September 1956 in which Dr. Walter G. Moore (*Loyola University, New Orleans, U.S.A.*) indicated his support for the proposals submitted in this case was transmitted to the Office of the Commission by Dr. L. B. Holthuis (the senior co-applicant) on 1st October 1956 (Moore, 1956, *Bull. zool. Nomencl.* **12** : 314) :

I shall be sorry to stop using the name *Apus* for the Notostracan, but you have presented a very convincing case as to the necessity for such a change.

**12. Support received from N. T. Mattox (University of Southern California, Los Angeles, California, U.S.A.) :** On 18th September 1956 Dr. N. T. Mattox (*University of Southern California, Los Angeles, California, U.S.A.*) addressed the following letter of support to the Office of the Commission :—

It was with a great deal of interest that I read the recent paper by you and Dr. Holthuis in regard to the names *Lepidurus* Leach, *Triops* Schrank and APODIDAE Hartert.

As one who is interested in the phyllopod-crustacea I heartily agree with the establishment of the generic names *Lepidurus* Leach and *Triops* Schrank and the elimination of the confusion caused by the use of *Apus* in the crustacea.

**13. Support received from Ralph W. Dexter (Kent State University, Kent, Ohio, U.S.A.) :** On 15th November 1956



Professor Ralph W. Dexter (*Kent State University, Kent, Ohio, U.S.A.*) addressed the following letter to the Office of the Commission in support of the present case :—

I have read carefully the report which Dr. L. B. Holthuis and you published in Volume 12, Part 3 of the *Bulletin of Zoological Nomenclature* and I agree with the recommendations which you gentlemen propose.

It happens by coincidence that I am particularly interested in both phyllopod Crustacea and the group of birds known as Swifts. For many years I have been disturbed over the fact that both groups employ a common generic name (i.e. *Apus*). Substituting the generic name *Triops* for *Apus* and making the corresponding adjustments would correct the situation. It may be of interest to point out a recent monograph on the *Notostraca* by Alan R. Longhurst (1955, *Bulletin of the British Museum of Natural History, Zoology*, Vol. 3, No. 1) uses the generic name *Triops* in place of the formerly recognised generic name of *Apus*. It is encouraging that specialists themselves are correcting the unfortunate situation which has existed for so long.

**14. Support received from Alexander Wetmore (Smithsonian Institution, Washington, D.C., U.S.A.), subject to a reservation on the question of the gender to be assigned to the generic name "Triops" Schrank, 1803 :** On 21st November Dr. Alexander Wetmore (*Smithsonian Institution, Washington, D.C., U.S.A.*) sent the following letter to the Office of the Commission in support of the present case, subject to a reservation on the question of the gender to be assigned to the generic name *Triops* Schrank, 1803 :—

Reference is made to a proposal before the International Commission of Zoological Nomenclature relative to certain names to be employed for Crustacea, and particularly to the use of the family name APODIDAE for a group of birds.

While I do not care to enter into discussion of the rather complicated procedures outlined in connection with the crustacean names which do not concern directly my own fields of study, except for one matter mentioned below, I recommend strongly the continuation of APODIDAE as a family name in Aves for the group of swifts. The term APODIDAE was set up originally in direct conformation with the Rules of Nomenclature in force at the time. Further, under those rules it was not in competition with any crustacean name since *Apos* Scopoli, 1777, was antedated by *Binoculus* Müller, 1776.



The generic term *Apus* Scopoli, 1777, in addition to being the base for the family name of the swifts, serves also for the higher categories of classification in this group in the ordinal term Apodiformes, and the suborder *Apodi*. These, as your submission indicates are now widely established in ornithology. In addition to the official list of the British Ornithologists Union that you cite, these names are employed in the fifth edition of the official check-list of the American Ornithologists Union which is now in press.

Under Recommendation (7)(d), p. 81, it is proposed that the generic name *Triops*, as a word of feminine gender, be declared masculine in accordance with erroneous current practise. Errors in usage of this have not been unusual, and it has come about in a number of cases that workers, myself among them, intent on their problems, have followed such erroneous treatment without critical consideration of the derivation of the name. Any action of the International Commission in such errors would in my opinion be directed toward correction rather than perpetuation by decree. Since correction involves at most the minor matter of a change in one or two letters at the end of a specific or subspecific term, there can be no reasonable basis for claim of resultant confusion or hardship. I recommend as strongly as possible that all such requests be denied.

**15. Objection received from Paul Tasch (University of Wichita, Wichita, Kansas, U.S.A.) :** On 31st July 1956 Professor Paul Tasch (*University of Wichita, Wichita, Kansas, U.S.A.*) addressed the following letter to the Office of the Commission in which he set out his objections to the present case (Tasch, 1956, *Bull. zool. Nomencl.* **12** : 312—313) :—

A recent note by the Commission appearing in *Science*, 26th December 1955, read : “*Lepidurus* Leach, 1819 validation ; *Triops* Schrank, 1803—determination of gender and designation of type species for (Class Crustacea, Order Decapoda)”.

I should like to discuss the second item. The Order is incorrectly given. The Order should be Notostraca. In addition, I wish to contest the propriety of restoring the name *Triops*. I think *Triops* should be replaced by *Apus* for the following reasons :—

(1) The most cogent argument for validation of the name *Apus* and rejection of the name *Triops* has been given by a foremost student of the notostracans, R. Gurney (1923, “Notes on some British and



North African specimens of *Apus cancriformis* Schaeffer ” (*Ann. Mag. nat. Hist.* (9) **11** : 496—502)). The essence of his thesis is :

- (a) The name *Apus cancriformis* has been used for generations. This form has been widely figured in zoological literature. Writers on zoological subjects continue to use this name, whereas systematists have replaced it by *Triops*.

One of the leading students of notostracans, Folke Linder (1952, “Contributions to the morphology and taxonomy of the Branchiopoda Notostraca, with special reference to the N.A. species ” (*Proc. U.S. nat. Mus.* **102** : 1—69) wrote : “I fully agree with Gurney and Barnard that the name of *Triops* Schrank, 1803, pp. 180, 251 (sometimes spelled *Triopes* or *Thriops*, ought to be rejected ” (footnote, *idem.* : 52).

These views were endorsed by the present writer (1955, *J. Paleont.* **29**(3) : 556 ; **29**(6) : Paleontologic Notes).

- (b) Until the introduction of the Rules, no ambiguity ever attached to the name *Apus* applied to the branchiopod crustacean.
- (c) Scopoli’s original use of the name is itself ambiguous since he applied *Apus* to the bird that had become known as *Cypselus*, and on a preceding page applied the name *Apos* to the anostracan now known as *Branchipus*. Hence the argument that *Apus* is occupied applying to a bird is in error since *Apos* applied to a branchiopod used on an earlier page, actually had priority over *Apus*. Thus, the transference of the name *Apus* to a bird is, in fact itself a violation of the Rules.

(2) Schrank (1803, *Fauna Boica.* **3** : 1—272) used the name *Triopes palustris* (p. 251) and *Triops* (p. 180). In the synonymy that Schrank gives (p. 251), it is of interest that he does not cite Scopoli. Rather he lists *Limulus palustris* Müller and *Monoculus apus* L. In other words, Schrank did not erect the new name *Triops* or *Triopes* in order to replace the *Apus* of Scopoli. If he did, it is most curious that Scopoli is not mentioned in the synonymy he gives. Yet it is from Scopoli’s use of the name *Apus* that the argument of its being an occupied name arises. This argument was first advanced by Keilhack (1910). Although he used the name *Triops* in 1909 in a handbook on German Phyllopods, no argument was given at that time for its use. (Cf. Keilhack (L.), 1910, “Zur Nomenklature der deutschen Phyllopoden ” (Wurzburg, *Zool. Ann.* **3** : 177—184).)



(3) Now Keilhack's argument (*idem* : 181) was that *Apos* Scopoli is a synonym of *Branchipus* Schaeffer and that his *Apus* applied to the bird known by the generic name of *Cypselus*. Hence, he was satisfied that *Apus* in any form was a preoccupied name. However, there are several aspects to consider that shed a different light on the matter. If, as argued by Gurney (and agreed in by the present writer) *Apos* has priority over *Apus*, then *Apus* is not an occupied name. Although it is true as Gurney pointed out that it is a homonym by Article 34 of the International Rules, this, in itself, is not the most important desideratum. In addition, Schrank's *Triops* was invalid at the time it was proposed (1803) because it was not erected to replace Scopoli's genus *Apus* and the genus which it was erected to replace was not itself invalid at the time. Keilhack's argument in 1910 cannot establish belatedly the validity of the Rules in the year 1803. This would be like living backwards. I feel that we must let each taxonomy be sufficient unto its own day and evaluate it in the context of its times, the contemporary practices, knowledge, misconceptions, etc. Proceeding as Keilhack did, we would rewrite all of history and much of the history of science to bring it up to date.

(4) Thus there is a multipronged argument against the acceptance of *Triops* and rejection of *Apus*. These can be summarised as follows :—

(a) World wide usage in zoological literature of the name *Apus* with no confusion resulting, up to the time of Keilhack (1910).

(b) The contradictory usage by Scopoli of *Apos* and *Apus*.

(c) The multiple spelling of the name *Triops* by Schrank, and the fact that he did not indicate that he was replacing Scopoli's name *Apos* or *Apus*, rather that he was replacing names not then occupied.

(d) No set of Rules should be made retroactive in a way to rewrite the history of actual events. As matters stand, Keilhack, in 1910, is creeping into Schrank's mind, putting words in Schrank's mouth in the year 1803. This impresses the writer as an absurdity.

(5) In the event that the Commission holds that *Triops* has long since been validated I urge it to reopen the matter. The very question it now is considering, i.e. the gender and type species of *Triops*, better than anything else, indicates the confusion surrounding use of this name. By contrast, no confusion is possible for *Apus* (*A. cancriformis*). No zoologist anywhere in the world would, on reading this last name, think it was a bird or an anostracan. Instantaneous recognition that it was a notostracan would obtain.



(6) Even though by "letter of the law" reading, Keilhack's argument can be sustained it seems advisable to heed the consensus of some of the world's leading students of the notostracans that *Apus* prevail and *Triops* be rejected.

(7) In the Branchiopoda section of the *Treatise on Invertebrate Paleontology* (in press), the writer has used the name *Apus* in the unit on Notostraca.

**16. Review of the question of the gender properly attributable to the generic name "Triops" Schrank, 1803 :** Following the close at the end of December 1956 of the Prescribed Six-Month Waiting Period following the publication of the present application in the *Bulletin of Zoological Nomenclature*, the position reached in this case was reviewed by the Secretary early in the year 1957. It was evident that in general the proposals submitted for the settlement of the *Apus* problem had been warmly welcomed both by carcinologists and by ornithologists and had secured an overwhelming measure of support. The only question still outstanding on which a decision would be needed if the Commission were to give its approval to the proposals submitted was the question of the gender to be attributed to the generic name *Triops* Schrank, 1803. Of the specialists who had commented on the present case (paragraph 5 above) seven (7) had supported the validation of the masculine gender as the gender to be attributed to the generic name *Triops* Schrank, but (3) had expressed opposition to this proposal on the ground that, in their view, the gender to be attributed to any given generic name should be the classically correct gender and therefore that no exceptions to the gender rules laid down by the Copenhagen Congress in 1953 ought to be permitted. At that time the status of the gender rules laid down in Copenhagen Decision 84 (1953, *Copenhagen Decisions zool. Nomencl.* : 49—51) was provisional only, the Copenhagen Congress having expressly stipulated by its Decision 85 (*loc. cit.* : 51) that those Rules should be reviewed by the Commission before coming definitely into operation. Mr. Hemming accordingly took the view that an effort should be made to secure that, when the Commission came to vote on the question of the gender to be attributed to the generic name *Triops*, it should have before it also the material needed to enable it to review, in accordance with the provisions of Copenhagen Decision 85, the Rule relating



to the gender to be assigned to names having the termination “-ops” provisionally laid down in Copenhagen Decision 84. Mr. Hemming thereupon invited Professor L. W. Grensted, Consulting Classical Adviser to the Commission, to whom the whole question of the appropriateness of the gender Rules laid down in Decision 84 had already been remitted, to submit an Interim Report on the provision relating to the gender to be attributed to “-ops” names included in that Decision in advance of the comprehensive Report which he had been asked to prepare. In response to this request Professor Grensted submitted in February 1957 an Interim Report on the foregoing provision in which it was shown that broadly speaking names having the ending “-ops” should be treated as feminine when derived from the Greek word  $\acute{o}\psi$ , i.e. the word with a short “o” meaning “a voice”, but that word having the above termination should be treated as masculine in gender when derived from the Greek word  $\acute{\omega}\psi$ , i.e. the word with a long “o” having the meaning “an eye” or “a face”. The Report submitted by Professor Grensted showed therefore that the Copenhagen Rule on the subject of the gender to be attributed to names having the termination “-ops” was misleading and, in part, incorrect. It was thus apparent that, if Copenhagen Decision 84 were to be revised by the Commission in the manner recommended, the question of the gender to be attributed to the generic name *Triops* Schrank would become a matter for interpretation and in consequence the objection to the acceptance of the masculine gender for that name on the ground that such an attribution was not in harmony with the Copenhagen Rule which had been advanced by the three specialists referred to in paragraph 5 above would lose its validity, being seen to be wide of the mark.

**17. Procedure adopted for obtaining decisions both as to the gender to be attributed to generic names having the termination “-ops” and as to the proposals submitted for the solution of the “Apus” problem :** Upon the receipt from Professor Grensted of the Report on the question of the gender to be attributed to generic names having the termination “-ops” described in the preceding paragraph, Mr. Hemming decided that the proper course in the present case would be to submit to the Commission



two papers simultaneously, the first containing proposals for the adoption of a *Declaration* giving a revised Ruling under Copenhagen Decision 85 as to the gender to be attributed to generic names having the termination “-ops”, the second re-stating the proposals previously submitted for the solution of the *Apus* problem, this latter paper to contain a recommendation for the determination of the gender to be attributed to the generic name *Triops* Schrank based upon the Ruling which the Commission would be invited to embody in the *Declaration*, the possible adoption of which would form the subject of the first of this pair of papers. The paper dealing with the proposed *Declaration* reviewing under Copenhagen Decision 85 the provisional Rule relating to the gender to be attributed to names having the termination “-ops” was prepared by Mr. Hemming towards the close of February 1957 and was submitted to the Commission on 15th March 1957, together with Voting Paper V.P.(57)25. The proposal so submitted was approved by the Commission in its vote on the above Voting Paper. The decision so taken has since been embodied in *Declaration* 36.<sup>2</sup>

**18. Withdrawal by the applicants of the proposal that the masculine gender be attributed to the generic name “*Triops*” Schrank, 1803, by action under the Plenary Powers and substitution therefor of a proposal that that gender be attributed to the above generic name under the provisions of the “*Declaration*” asked for in the proposal submitted with Voting Paper V.P.(57)25 :** The Report by the Commission’s Consulting Classical Adviser on the question of the gender properly attributable to generic names having the termination “-ops” was communicated to the applicants immediately upon its receipt in the Office of the Commission. On 26th February 1957 Mr. Hemming addressed the following letter to the Office of the Commission, in which, on behalf of Dr. Holthuis and himself, he withdrew the application previously submitted that the masculine gender should be assigned to the generic name *Triops* Schrank, 1803, by the Commission under its Plenary Powers and substituted therefor a request that the foregoing gender be assigned to that generic name as the gender correctly applicable thereto after the Copenhagen

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<sup>2</sup> The *Declaration* here referred to is being published in the immediately preceding Part of the present volume.



Rule concerned had been reviewed by the Commission in the light of the Report submitted by Professor Grensted :—

**Submission of a Revised Proposal regarding the method to be adopted for determining the masculine gender as the gender to be attributed to the generic name “Triops” Schrank, 1803 (Class Crustacea)**

By L. B. HOLTHUIS and FRANCIS HEMMING

Dr. Holthuis and I have reviewed the question of the method to be adopted in determining the gender to be attributed to the generic name *Triops* Schrank, 1803, in the light of the conclusions on the subject of the gender attributable to generic names having the termination “-ops” prepared by Professor L. W. Grensted, Consulting Classical Adviser to the International Commission, a copy of which was kindly furnished to us for consideration by the Office of the Commission.

2. From the Report submitted by Professor Grensted it is now clear that the gender to be attributed to generic names having the termination “-ops” may be either masculine or feminine in gender according to the Greek word from which the “-ops” portion of the name is derived. The Report shows further that, save in one rare situation which does not arise in the case of the name *Triops* Schrank, the feminine gender attributed to “-ops” names by the Copenhagen Congress is correct only if the “-ops” portion of the name is derived from the Greek word  $\delta\psi$  with a short “o” having the meaning “a voice” and that where the “-ops” portion of the name is based upon the Greek word  $\omega\psi$  with a long “o” having the meaning “an eye” or “a face”, the gender attributable to the name is the masculine gender.

3. In the present case it would, in our opinion, be absurd to suppose that the “-ops” portion of the name *Triops* is derived from a word having the meaning “a voice”, such a meaning being entirely inappropriate for the genus of Crustacea concerned. On the other hand, it would be perfectly reasonable on *a priori* grounds to conclude that the “-ops” portion of the name *Triops* was derived from a Greek word having the meaning “an eye” and therefore that under the conclusions reached by Professor Grensted the gender attributable to this generic name is the masculine gender. Reference to the original description establishes beyond question that the foregoing presumption as to what Schrank had in mind is well founded, for, after applying the term “Dreyaug Triops” to this taxon, he described it as follows “*Augen*: oben: zwey nierenförmig, zusammengesetzt; das dritte kugelförmig, einfach, kleiner”, thus clearly indicating that it was the three-eyed condition of the species comprised in this group to which he wished to draw attention when giving the name *Triops* to this genus.



4. In these circumstances we are of the opinion that in accordance with the classical rules the correct gender for the generic name *Triops* Schrank is the masculine gender and consider that the proper course would be for the Commission to give a Ruling that the above is the correct gender for this generic name, as soon as it has adopted a *Declaration* clarifying and correcting the Copenhagen Rule as to the gender to be attributed to names having the termination “-ops”. We accordingly now withdraw our previous recommendation that the masculine gender be assigned to the name *Triops* Schrank, 1803, under the Plenary Powers and in its place we ask that the foregoing gender be attributed to that name as a matter of interpretation of the *Règles* amended as recommended above.

**19. Submission to the Commission of the proposals put forward in this case as amended by the applicants in regard to the method asked to be adopted for the determination of the gender to be attributed to the generic name “Triops” Schrank, 1803 :** On 27th February 1957 Mr. Hemming as Secretary completed the following paper giving particulars of the developments which had occurred since the original submission of this case, including the amendment of the nature of the action asked for in connection with the determination of the gender attributable to the generic name *Triops* Schrank, 1803, set out in the supplementary application submitted by the applicants and reproduced in the immediately preceding paragraph of the present *Opinion* :—

**The generic name “Apus” as used correctly in the Class Aves and as used incorrectly in the Class Crustacea and associated problems**

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

The application with which the present note is concerned was submitted by Holthuis and Hemming and was published in June 1956 (*Bull. zool. Nomencl.* **12** : 67—85), its purpose being to secure the help of the International Commission to put an end to the state of confusion arising from the incorrect use of the generic name *Apus* in the Class Crustacea (Order Phyllopoda) concurrently with its correct use in the Class Aves.

2. The issues are complicated not only because names for taxa belonging to two different Classes are involved but also because in the



case of the Crustacea portion of the application two genera are involved owing to the fact that the basic nominal species concerned—*Monoculus apus* Linnaeus, 1758—was a composite, the components of which are regarded as belonging to different genera and have been so regarded for nearly one hundred and forty years. For the first of these genera the name *Triops* Schrank, 1803 has been, and is, in general use except by those workers who have incorrectly used the name *Apus* for it. The nominal genus *Triops* Schrank is, however, technically defective as it was based on a misidentified type species. The Commission is asked to remedy this defect by directing under the special procedure introduced by the International Congress of Zoology for this purpose, that the type species of this genus shall be the species (*Apus cancriformis* Bosc, [1801—1802]) intended by the original author and long accepted as such. The generic name *Triops* is always treated as being masculine in gender and the Commission is asked to approve this usage. For the second of the Crustacea genera concerned, the name used by practically all modern carcinologists is *Lepidurus* Leach, 1819. The Commission is asked to validate this usage by suppressing under the Plenary Powers four long-forgotten and virtually unknown names of earlier date. On the ornithological side, the proposal submitted includes only one recommendation involving the use of the Plenary Powers. The object of this proposal is to secure that the family name for the Swifts shall be a name (APODIDAE) based upon the valid generic name (*Apus* Scopoli, 1777) for this group of birds.

**3. Issue of Public Notices :** The application submitted in this case involves the possible use of the Commission's Plenary Powers and Public Notice has accordingly been given in the prescribed manner. In addition, such Notice has been given to four serials concerned with general zoology. As regards specialist serials there is no suitable serial in the carcinological field but in the case of birds there are numerous such serials and Notice was issued to twelve in different parts of the world.

[Paragraph 4 of this paper contained the names and addresses of the specialists who had furnished comments on the application submitted in this case. This paragraph is omitted here, the particulars furnished in it having been given in the paragraphs (paragraphs 6 to 15) of the present *Opinion* in which the comments received have been reproduced in full.]

**5. Support for the present proposal :** Subject to the point of detail discussed in paragraph 6 below, all the specialists who have commented on the proposals have given it their unqualified support with the exception of Professor Tasch who advocates the validation of the name *Apus* for the Crustacean genus in place of the name *Triops* Schrank but who does not comment on the repercussions of this proposal on the avian genus *Apus* as currently and correctly applied to the Swifts.



**6. Comments received on the question of the gender to be attributed to the generic name "Triops" Schrank, 1803 :** A word of explanation is needed in regard to one minor aspect of the present case, namely the gender to be attributed to the generic name *Triops* Schrank, 1803. In the provisions relating to the determination of the gender of generic names adopted by the Copenhagen Congress one of the provisions prescribed that "names having the final term '-ops' or '-opsis' obviously derived from the corresponding Greek word" are to be treated as being feminine in gender (1953, *Copenhagen Decisions zool. Nomencl.* : 51, Decision 84(7)(b)(iii)). The generic name *Triops* Schrank has always been treated as being masculine in gender and in the interest of stability in nomenclature the applicants accordingly asked that the Commission, when dealing with this case, should use its Plenary Powers to direct that the gender to be attributed to this generic name should be the masculine gender. Of the ten specialists who commented on this case, seven of the nine who supported the proposals submitted for settling the *Apus*-case advocate the proposal for maintaining the currently accepted gender for the name *Triops* Schrank. The one specialist who was opposed to those proposals commented adversely on the proposed stabilisation of the gender of this generic name. In addition, two zoologists who are not specialists in this particular group—Lemche (*Copenhagen*) and Wetmore (*Washington, D.C.*)—raised objection to the proposal submitted in regard to the gender to be attributed to the generic name *Triops*, the objection so raised being one of a general character based upon the view that in all circumstances, the technically correct gender should be attributed to generic names, these specialists not believing that the principle of stability propounded by the Copenhagen Congress should be held to be applicable to the question of the gender of generic names.

**7. Report by the Commission's Consulting Classical Adviser on the question of the gender correctly attributable to generic names having the termination "-ops" :** At the time when the Fourteenth International Congress of Zoology, Copenhagen, 1953, adopted a series of rules for determining the gender to be attributed to generic names (1953, *Copenhagen Decisions zool. Nomencl.* : 49—51, Decision 84), it recognised the intrinsic difficulties involved in attempting to lay down general rules in this field and by a further decision—recorded as Decision 85 (*loc. cit.* : 51)—placed on the International Commission the duty of reviewing the gender rules set out in Decision 84 before those rules were incorporated into the *Règles*. As a preliminary to placing before the Commission the information needed to enable it to discharge the duty so laid upon it by the Copenhagen Congress, I asked Professor L. W. Grensted, the Commission's Consulting Classical Adviser, to examine in detail the rules set out in Copenhagen Decision 84 and



to advise on the question whether any amendments or clarifications were required. In an Interim Report now received on the subject of the gender to be attributed to names having the termination “-ops” Dr. Grensted states (a) that, if the context shows that the “-ops” portion of a given generic name has the meaning “a voice” and not the meaning “a face”, it is clear that the name is derived from the Greek word  $\delta\psi$  [short “o”], in which case (as laid down in the Copenhagen Rules) its gender would be feminine, but (b) that, if it is clear from the context that “-ops” portion of a given generic name has the meaning “a face”, that portion of the name could have been derived either (i) from the Greek word  $\delta\psi$  [short “o”], in which case the gender would be feminine or (ii) from the Greek word  $\omega\psi$  [long “o”], in which case the most generally used gender for the Greek word in question is the masculine gender, though there is one recorded instance of its having been treated as a neuter word. Of the two Greek words  $\delta\psi$  and  $\omega\psi$  having the meaning “a face”, the word with a short “o” is a rare contracted form of “-opsis”, while the word with a long “o”, which is much commoner, is a separate noun.

**8. Situation created by the Report received from the Consulting Classical Adviser on the question of the gender attributable to generic names having the termination “-ops” :** The Report received from the Commission’s Consulting Classical Adviser has created an entirely new situation, for it is now apparent that Rule (7)(b)(iii) in the Copenhagen Decision 84 is not capable in its present form of providing a definite basis for determining the gender to be attributed to generic names having the termination “-ops”, for there are three different Greek words from any one of which such a generic name may have been derived and in consequence the expression “obviously derived from the corresponding Greek word” which appears in the foregoing Rule is inapplicable except in any rare case where the author of a generic name gave its derivation from the Greek. Further, Dr. Grensted’s Report shows that the above Rule, if it could be applied, would produce a correct gender in only a limited number of cases, the correct gender for most names consisting of the word “-ops” and having the meaning “a face” being masculine and not feminine (the gender specified in the above Copenhagen Rule). In its present form that Rule is unworkable and virtually meaningless and accordingly any Ruling given in regard to the gender to be accepted for the generic name *Triops* Schrank would necessarily need to be given as a matter of interpretation. Thus in this case there is no longer any question of the use of the Plenary Powers for the purpose of determining the gender to be attributed to the generic name *Triops* Schrank, 1803. In consequence, the only objections received against the acceptance of the masculine gender for this generic name, both of which were based upon a dislike on theoretical grounds to the use of the Plenary Powers for the purpose of stabilising the gender to be attributed to generic



names, namely the objections received from the zoologists specified in paragraph 6 above, fall to the ground and are no longer relevant. (The position has been explained to the zoologists concerned.)

**9. Procedure now proposed to be adopted :** Since for the reasons explained above the generic name *Triops* Schrank, 1803, is not "obviously derived" from a Greek noun of feminine gender the provisional Rule relating to the determination of the gender of generic names having the termination "-ops" adopted by the Copenhagen Congress in 1953 (Decision 84(7)(b)(iii)) is inapplicable to that name, the determination of the gender of which is, therefore, a matter which lies entirely within the discretion of the International Commission. Now, however, that a serious flaw has been detected in the Copenhagen Rule relating to the determination of the gender of generic names having the above termination, it would be undesirable to leave that Rule in its present unsatisfactory state. Moreover, to do so would run counter to the instruction given to the Commission by the Copenhagen Congress (Decision 85) that the gender rules then provisionally adopted (Decision 84) should be reviewed and, if necessary, amended prior to their being included in the *Règles*. Accordingly, I am submitting to the Commission concurrently with the present paper a paper bearing the Registered Number Z.N.(S.) 1206, in which I recommend that in pursuance of the instructions given to it under the foregoing Congress Decision it should adopt a *Declaration* completing and correcting the defective Rule for determining the gender to be attributed to generic names having the termination "-ops" included as Rule (7)(b)(iii) in Decision 84 of the above Congress.<sup>3</sup>

**10. Gender proposed to be assigned to the generic name "Triops" Schrank, 1803 :** It remains to consider the action to be taken for determining the gender of the generic name *Triops*, Schrank, 1803, now that for the reasons explained above the decision to be taken in this matter is seen to be a matter for the unfettered discretion of the International Commission. The considerations which alone are relevant in this connection are: (1) The virtual certainty that the "-ops" portion of the above generic name is derived from the Greek word ὠψ [long "o"], meaning "an eye" or "a face". (2) The gender attributed to the foregoing Greek word in all except one recorded case is the masculine gender. (3) The gender always attributed to the generic name *Triops* Schrank in the literature is the masculine gender. (4) All except two of the specialists who have indicated their support for the proposals submitted in the present case have recommended the definitive adoption of the masculine gender for the above

<sup>3</sup> The proposal here referred to was later approved by the International Commission and has since been embodied in *Declaration* 36. See paragraph 17 of the present *Opinion*.



generic name. Further, the two applicants have now withdrawn their original proposal that the Commission should use its Plenary Powers for the purpose of determining the gender of the generic name *Triops* Schrank, 1803, and in place of that proposal recommend that the Commission should give a direction as a matter of interpretation that the gender to be attributed to the generic name *Triops* Schrank, 1803, shall be the masculine gender.

**11. Proposal now submitted for vote :** The proposal now submitted is that the Commission should approve and adopt the proposals in relation to the *Apus*-problem and associated matters as set out in paragraph 31 of the application as printed on pages 81 to 95 of Part 3 of Volume 12 of the *Bulletin of Zoological Nomenclature*, subject (a) to the withdrawal of the proposal set out in Point (1)(d) (use of the Plenary Powers to determine the gender of the generic name *Triops* Schrank, 1803), a proposal which as explained in paragraph 10 of the present paper has now been withdrawn, and (b) to the incorporation in the application of a proposal that, acting within its own discretion the Commission should direct that the gender to be attributed to the foregoing generic name be the masculine gender.

### III. THE DECISION TAKEN BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

**20. Issue of Voting Paper V.P.(57)24 :** On 15th March 1957 a Voting Paper (V.P.(57)24) was issued in which the Members of the Commission were invited to vote either for, or against, "the proposal relating to the *Apus*-problem and associated matters as set out in paragraph 11 of the paper bearing the Registered Number Z.N.(S.) 1020 [i.e. in the paragraph numbered as above in the paper reproduced in paragraph 19 of the present *Opinion*] submitted concurrently with the present Voting Paper".



**21. The Prescribed Voting Period :** As the foregoing Voting Paper was issued under the Three-Month Rule, the Prescribed Voting Period closed on 15th June 1957.

**22. Particulars of the Voting on Voting Paper V.P.(57)24 :** At the close of the Prescribed Voting Period, the state of the voting on Voting Paper V.P.(57)24 was as follows :—

(a) *Affirmative Votes had been given by the following twenty-three (23) Commissioners (arranged in the order in which Votes were received) :*

Mayr ; Vokes ; Hering ; Boschma ; Lemche ; Bodenheimer ; Prantl ; Holthuis ; Dymond ; Riley ; Esaki ; Jaczewski ; do Amaral ; Key ; Bonnet ; Hemming ; Mertens ; Sylvester-Bradley ; Tortonese ; Cabrera ; Kühnelt ; Stoll ; Bradley (J.C.) ;

(b) *Negative Votes :*

None ;

(c) *Voting Papers not returned, two (2) :*

Hankó ; Miller.<sup>4</sup>

**23. Declaration of Result of Vote :** On 16th June 1957, Mr. Hemming, Secretary to the International Commission, acting as Returning Officer for the Vote taken on Voting Paper V.P.(57)24,

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<sup>4</sup> After the close of the Prescribed Voting Period a late affirmative Vote was received from Commissioner Miller.



signed a Certificate that the Votes cast were as set out in paragraph 22 above and declaring that the proposal submitted in the foregoing Voting Paper had been duly adopted and that the decision so taken was the decision of the International Commission in the matter aforesaid.

**24. Insertion of an additional name on the "Official Index of Rejected and Invalid Generic Names in Zoology :** On 27th October 1957, Mr. Hemming, as Secretary, executed the following Minute drawing attention to the omission in the application submitted in the present case of a recommendation for the addition of the name *Apus* Cuvier (G.L.C.F.D.), [1797—1798], to the *Official Index of Rejected and Invalid Generic Names in Zoology* and directing that this omission be made good in the Ruling to be prepared for the purpose of giving effect to the decision taken by the Commission by its vote on Voting Paper V.P.(57)24 :—

**Addition of the generic name "Apus" Cuvier (G.L.C.F.D.), [1797—1798] to the "Official Index of Rejected and Invalid Generic Names in Zoology"**

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

In the re-examination of the application relating to the *Apus* problem in connection with the preparation of the Ruling to be included in the *Opinion* giving effect to the decision taken by the Commission by its vote on Voting Paper V.P.(57)24, it has come to notice that one of the invalid names involved in the above case was not included in the list of generic names there recommended for addition to the *Official Index of Rejected and Invalid Generic Names in Zoology*. The name concerned is *Apus* Cuvier (G.L.C.F.D.), [1797—1798] (*Tabl. élém. Hist. nat. Anim.* : 700).

2. The above name is the subject of an extended discussion in paragraph 7 of the application submitted in this case.<sup>5</sup> It is there explained that by some authors the name *Apus* has been treated as

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<sup>5</sup> See pp. 77-78 of the present *Opinion*.



having been first published as a generic name for the Phyllopod genus now to be known as *Lepidurus* Leach by the elder Cuvier (i.e. by Baron G.L.C.F.D. Cuvier in [1797—1798] in his *Tableau élémentaire de l'Histoire naturelle des Animaux*. It is shown by the applicants, however, that in the two passages where Cuvier has been credited with having introduced the name *Apus* as a generic name in the above work, the name *Apus* does not occur as a generic name on page 454 (the word appearing there only in the form of a reference to its use as a specific name by Linnaeus and later by Müller), while on the second of the two pages (page 700) cited the name *Apus*, though cited as a generic name, is not accompanied by any "indication". Accordingly, as pointed out by the applicants in the foregoing paragraph (and also in paragraph 2 of the application) the name *Apus* Cuvier, [1797—1798], as published on page 700, is a *nomen nudum*, while, as reputed to have been published on page 454, it is a cheironym.

3. Under the "Completeness-of-Opinions" Rule the foregoing name, attributed to page 700 but not to page 454 and noted as being a *nomen nudum*, should, as a name entering into the present case, now be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*. Moreover, quite apart from the foregoing Rule, such a disposition of this name would be desirable, in view of the fact that it is cited as a duly published name in so authoritative a work as Neave's *Nomenclator Zoologicus* and that in consequence a failure to include this name in the Ruling to be given in the comprehensive *Opinion* now about to be rendered might readily give rise to misunderstanding and unnecessary discussion.

4. Accordingly, as Secretary, I hereby direct that in the Ruling to be prepared giving effect to the decision taken by the Commission by its vote on Voting Paper V.P.(57)24, the name *Apus* Cuvier (G.L.C.F.D.), [1797—1798] (: 700) be included among the names there to be placed on the *Official Index of Rejected and Invalid Generic Names in Zoology*, the entry so to be made to be endorsed to show that this name was a *nomen nudum*.

**25. Preparation of the Ruling given in the present "Opinion" :** On 5th November 1957, Mr. Hemming prepared the Ruling given in the present *Opinion* and at the same time signed a Certificate that the terms of that Ruling were in complete accord with those of the proposal approved by the International Commission in its Vote on Voting Paper V.P.(57)24, subject to the minor adjustment specified in the Minute executed by the Secretary on 27th October 1957 (the text of which has been reproduced in paragraph 24 of the present *Opinion*).



**26. Original References :** The following are the original references for the generic and specific names placed on *Official Lists* and *Official Indexes* by the Ruling given in the present *Opinion* :—

*Apodium* Rafinesque, 1814, *Princip. fond. somiol.* : 29

*Apos* Scopoli, 1777, *Introd. Hist. nat.* : 404.

*Apus* Schaeffer (J.C.), 1756, *Krebsart. Kiefenfuss* : 131

*Apus* Scopoli, 1777, *Introd. Hist. nat.* : 483

*Apus* Cuvier (G.L.C.F.D.), [1797—1798], *Tabl. élém. Hist. nat. Anim.* : 700

*Apus* Cuvier (G.F.), 1800, *Leçons Anat. comp.* 1 : tabl. 7

*Apus* Latreille, [1802—1803], *Hist. nat. gén. partic. Crust. Ins.* 3 : 16

*Apus* Schoch, 1868, *Mikr. Thiere* 2 : iii, 21

*apus*, *Hirundo*, Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 192

*apus*, *Monoculus*, Linnaeus, 1758, *Syst. Nat.* (ed. 10) 1 : 635

*Binoculus* Geoffroy (E.L.), 1764, *Hist. abrég. Ins. Env. Paris* 2 : 658

*Binoculus* Müller (O.F.), 1776, *Zool. dan. Prodr.* : 200

*Brachypus* Meyer, 1814, *An. Wetterau. Ges. gesammte Naturk.* 3 : 333

*Brachypus* Swainson, 1824 *Zool. J.* 1(3) : 305

*Brachypus* Meigen, 1824, *Syst. Besch. europ. zweifl. Ins.* 4 : 34

*Brachypus* Gray (J.E.), 1825, *Ann. Phil.* (2) 10 : 338

*Brachypus* Schoenherr, 1826, *Curculionid. Disp. meth.* : 217

*Brachypus* Fitzinger, 1826, *Neue Classif. Rept.* : 20, 50

*Brachypus* Guilding, 1828, *Zool. J.* 4(14) : 167



*Brevipes* [Palmer], 1836, *Analyst* 4 : 101

*cancriformis*, *Limulus*, Lamarck, 1801, *Syst. Anim. sans Vertèbr.* : 169

*cancriformis*, *Apus*, Bosc, [1801—1802], Castel's Buffon, *Hist. nat. Crust.* 2 : 244

*Cypselus* Illiger, 1811, *Prodr. Syst. Mamm. Av.* : 229

*Lepidurus* Leach, 1819, *Dict. Sci. nat.* 14 : 539

*Micropus* Wolf, 1810, in Meyer & Wolf, *Taschenb. deuts. Vögelk.* 1 : 280

*Micropus* Hübner, 1818, *Zutr. z. Samml. exot. Schmett.* 1 : 24

*Micropus* Gray (J.E.), 1831, *Zool. Miscell.* (1) : 20

*Micropus* Swainson, [1832], in Richardson, *Fauna bor.-amer.* 2 : 486

*Micropus* Spinola, 1837, *Essai Genres Ins. Ordre Hémipt.* : 218

*Micropus* Denny, 1842, *Monogr. Anoplurorum Brit.* : 247

*Micropus* Kner, 1868, *Sitzber. Kais. Akad. Wiss. Wien (Math.-Nat. Cl.)* 58(1) : 29, 322

*Monops* Billberg, 1820, *Enum. Ins. Mus. Billberg.* : 132

*palustris*, *Binoculus*, Müller (O.F.), 1776, *Zool. dan. Prodr.* : 200

*Phyllopus* Rafinesque, 1815, *Analyse Nature* : 99

*productus*, *Apus*, Bosc, [1801—1802], Castel's Buffon, *Hist. nat. Crust.* 2 : 244

*Thriops* Ghigi, 1921, *Atti Soc. ital. Sci. nat.* 60 : 161—188

*Triopes* Schrank, 1803, *Fauna boic.* 3(1) : 251

*Triops* Schrank, 1803, *Fauna boic.* 3(1) : 180

*Trinoculus* Voigt, 1836, Cuvier's *Thierreich* (ed. 2) 4 : 275



27. The following is the reference for the lectotype selection specified in the Ruling given in the present *Opinion* :

For the nominal species	Holthuis (L.B.), 1956, in Holthuis
<i>Monoculus apus</i> Linnaeus,	(L.B.) & Hemming (F.), <i>Bull.</i>
1758	<i>zool. Nomencl.</i> <b>12</b> : 72, para-
	graph 14

28. The following are the original references for the family-group names placed on the *Official List* and *Official Index* of the names of taxa of the family-group category by the Ruling given in the present *Opinion* :—

APIDAE Burmeister, 1843, *Organisation Trilobiten* : table opposite page 38 (Class Crustacea)

APODES Billberg, 1820, *Enum. Ins. Mus. Billberg.* : 132 (Class Crustacea)

APODIDAE Agassiz (J.L.R.), 1846, *Nomencl. zool. Index univ.* : 30 (Class Crustacea)

APODIDAE Reichenow, 1897, *Ornith. Monatsber.* **5** : 10 (Class Aves)

APODINAE Hartert, 1897, *Das Thierreich* **1** : 80 (Class Aves)

APUSIENS Milne Edwards (H.), 1840, *Hist. nat. Crust.* **3** : 353 (Class Crustacea)

BINOCULIDAE Fowler, 1912, *Ann. Rep. New Jersey State Mus.* **1911** : 466 (Class Crustacea)

CYPSELINAE Bonaparte, 1838, *Geogr. comp. List Birds Europe N. Amer.* : 8 (Class Aves)

MICROPODIDAE Stejneger, 1885, *Standard nat. Hist.* **4** : 437 (Class Aves)

PHILLOPIA Rafinesque, 1815 (an Invalid Original Spelling for PHYLLOPODIDAE) (Class Crustacea)

PHYLLOPODIDAE (correction of PHILLOPIA) Rafinesque, 1815, *Analyse Nature* : 99 (Class Crustacea)

TRIOPSIDAE Keilhack, 1909, Brauer's *Süsswasserf. Deutschl.* **10** : 7 (Class Crustacea).



29. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

30. The present *Opinion* shall be known as *Opinion* Five Hundred and Two (502) of the International Commission on Zoological Nomenclature.

DONE in London, this Fifth day of November, Nineteen Hundred and Fifty-Seven.

*Secretary to the International Commission  
on Zoological Nomenclature*

**FRANCIS HEMMING**





International Commission on Zoological Nomenclature. 1958. "Opinion 502. Validation under the Plenary Powers of the generic name *Lepidurus* Leach, 1819 (Class Crustacea, Order Phyllopoda), designation under the same Powers of a type species in harmony with accustomed usage for the nominal genus *Triops* Schrank, 1803 (Class Crustacea, Order Phyllopoda) and addition of those names and of *Apus* Scopoli, 1777 (Class Aves), to the Official List of Generic Names in Zoology and matters incidental thereto." *Opinions and declarations rendered by the International Commission on Zoological Nomenclature* 18, 65–120.

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