SMITHSONIAN MISCELLANEOUS COLLECTIONS
VOLUME 73, NUMBER 5

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OPINIONS 98 TO 104

(PUBLICATION 2973)

CITY OF WASHINGTON
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OPINION 98

Brauer and Bergenstamm

SUMMARY.—Rigidly construed, Brauer and Bergenstamm (1889 to 1894) did not fix the types for the older generic names, except in the cases where they distinctly state that the species mentioned is the type of the genus.

Statement of case.—Dr. Charles H. T. Townsend submitted the following case for opinion:

Friedrich Brauer and Julius Edlen von Bergenstamm published in the Denkschriften der kaiserlichen Akademie der Wissenschaften, from 1889 to 1894, an elaborate work entitled "Vorarbeiten zu einer Monographie der Muscaria schizometopa (exclusive Anthomyidae)," in four parts, comprising a total of 494 royal quarto pages and 11 royal quarto plates containing some 310 faithful drawings representing fully 300 distinct genera, the whole illustrating the authors' conceptions of the genera treated. This is a monumental work wholly unapproached in character by any work ever published on the Muscoidea. It treats the fauna of the world, giving the results of an exhaustive intensive study of external adult characters. The authors went as far as it is possible to go on external adult characters alone. Synopses of groups and genera embodying full diagnoses are given in both German and Latin. In each case the generic diagnosis is accompanied by one or more specific names, usually only one, and in that case immediately following the generic name, indicating the species which the authors employed to typify and illustrate their concept of a genus. In some cases the word type follows the specific name, but in most cases it is omitted. The word type, when it occurs, may in some cases be held as referring either to the type specimen of the species cited or the species itself in the sense of a genotype designation. In some cases the specific name immediately following a genus represents a species not originally included, but in a few of these cases an originally included species is also cited in or after the diagnosis, either following or preceding the generic name. It seems plain that in every case the intention of the authors, in citing the specific name or names, was to designate either the type species alone, or several typical species including the type species thereby fixing their conception of the genus.

The same authors published in the Verhandlungen der k. k. zoologisch-botanischen Gesellschaft in Wien, in 1893, a paper with exactly the same title as the

above, comprising 79 octavo pages, referring in a footnote to the three parts of the above-cited quarto work so far published at that time. In this work the authors gave synopses of the European genera and groups, in German, similar in plan to those given in the quarto work but in each case they preceded with the word "Type" the specific name. This paper is practically a repetition of the European faunal element in the quarto work.

It is plainly evident that the above quarto work was intended by its authors as a practically complete elucidation of the muscoid genera of the world known in collections up to that time, and it does in reality constitute such an elucidation. It is evident also that all possible consistent adherence to the generic concepts of this work will greatly advance the interests of muscoid taxonomy by facilitating the fixation of the numerous genera. If such adherence is not possible to obtain, certain genotype designations published subsequently to the above quarto work will hold, resulting in an entirely different interpretation of many of the genera treated.

In view of these facts, does the Commission rule that in all cases in said quarto work where a single originally included species immediately follows the generic name, the species in question shall be taken as the genotype; and that in all cases where the species immediately following the generic name is not an originally included species, the genotype shall be the first originally included species, if any, cited in connection with the generic diagnosis; provided in all cases that no conflicting valid genotype fixation had previously been effected?

DISCUSSION.—The foregoing case was submitted to Commissoner Karl Jordan for special study. At the meeting of the Commission in Budapest, August 30, 1927, he presented a verbal report discussing in detail the various documents involved.

He also presented the following written report:

In this work, which is preliminary to a more extensive work, the authors give diagnoses of all genera of these flies known to them. They quote behind the name of the genus usually *one* species, rarely *two*, and still more rarely *no* species. Nothing is said as to whether these species are meant to be examples or genotypes.

The genera should be grouped in three categories for the purpose of arriving at an opinion about the question "genotype" versus "example."

(1) New genera.—If only one species is mentioned, this must be accepted as genotype; if two are mentioned, one of them is the genotype.

(2) Old genera where a species is distinctly stated to be "Typus" of the genus.—In many cases B. and B. say "Typus," but it is clear that in these cases the addition of the word Typus means that B. and B. have examined the type [specimen] of the *species*.

(3) Old genera where one or two species are quoted without one of them being distinctly designated type of the genus.—In these cases the quoted species are merely "examples." In the later work, 1893, where for each genus a genotype is given, the genotypes are not always the same species as those quoted in the preliminary work under consideration; evidently B. and B. were not yet quite clear about the concept genotype when they published their preliminary studies.

In summary he found that, rigidly construed, Brauer and Bergenstamm did not fix the types for the older generic names, except in the cases where they distinctly state that the species mentioned is the type of the genus.

The findings were unanimously approved by the 8 Commissioners and Alternates present, namely: Apstein, Bather, Hartert, Jordan (K.), Muesebeck, Rothschild, Stejneger, and Stiles.

Later, the case with Commissioner Jordan's conclusion was submitted in Circular Letter No. 127 to all absent Commissioners. The final vote stands as follows:

Opinion concurred in by fifteen (15) Commissioners: Apstein, Bather, Chapman, Dabbene, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Neveu-Lemaire, Stejneger, Stiles, Stone, Warren, and two (2) Alternates, Muesebeck and Rothschild: Total 17.

Opinion dissented from by no Commissioner.

Not voting two (2) Commissioners: Handlirsch, Ishikawa.

OPINION 99

Endamoeba Leidy, 1879, vs. *Entamoeba* Casagrandi and Barbagallo, 1895

SUMMARY.—*Entamoeba* 1895, with *blattae* as type by subsequent (1912) designation, is absolute synonym of *Endamoeba* Leidy, 1879a, p. 300, type *blattae*, and invalidates *Entamoeba* 1895, type by subsequent (1913) designation *hominis* = *coli*.

Statement of case.—Dr. W. H. Taliaferro presents the following case for Opinion:

Should the two generic names *Endamoeba* Leidy, 1879, and *Entamoeba* Casagrandi & Barbagallo, 1895, both be retained or should they be considered homonyms? It is impossible to decide this question from the existing International Rules. The spirit of Article 35, a-e, would point to the conclusion that they were homonyms, but Article 36 (recommendations) would allow the interpretation that both should be retained. In the past, authors have disagreed in regard to this question. Dobell (1919, "The Amoebae Living in Man"), for example, advocates the retention of both names whereas others consider them homonyms.

Discussion.—This is a case upon which legitimate difference of opinion may arise. It has both its academic and its practical aspects.

The first point at issue is whether *Endamoeba* and *Entamoeba* are homonyms, or whether they come under the first recommendation of Article 36 which reads as follows:

It is well to avoid the introduction of new generic names which differ from generic names already in use only in termination or in a slight variation in spelling which might lead to confusion. But when once introduced, such names are not to be rejected on this account. Examples: *Picus, Pica; Polyodus, Polyodon, Polyodonta, Polyodontas, Polyodontus.*

Neither Leidy, 1879, nor Casagrandi & Barbagallo, 1895 and 1897, gave the derivation of their generic name. Accordingly, the conceivable possibilities as to etymology seem to lie in recommendations *e* and *k* of Article 8 which read as follows:

The following words may be taken as generic names:

e. Greek or Latin derivatives expressing diminution, comparison, resemblance, or possession. Examples: *Dolium, Doliolum; Strongylus, Eustrongylus; Limax, Limacella, Limacia, Limacina, Limacites, Limacula; Lingula, Lingulella, Lingulepis, Lingulina, Lingulops, Lingulopsis; Neomenia, Proneomenia; Buteo, Archibuteo; Gordius, Paragordius, Polygordius.*

k. Words formed by an arbitrary combination of letters. Examples: *Neda, Clanculus, Salifa, Torix.*

In view of the history of the genus *Amoeba* it would be difficult to assume that recommendation *k* obtains in this case.

In attempting to derive the two names from the Greek, it seems not absolutely inconceivable that the authors might have united the Greek words ἐν and ἀμοιβή, Leidy using a *d* and Casagrandi & Barbagallo using a *t* for sake of euphony. If this possibility were actually the fact, the case would be somewhat similar to *Microdon* and *Mikrodon*, but more similar to *Taeniarhynchus* Weinl., 1858a, and *Taeniorhynchus* Arribalzaga, 1891, and etymologically [not necessarily taxonomically] the words would be not only synonyms but, if used for two different things, *virtually* homonyms.

Another, certainly more probable and more scholastic line of argument would be that while both names are based on ἀμοιβή, Leidy derived his Greek prefix from ἔνδον and Casagrandi & Barbagallo derived their prefix from ἐντός.

Professor J. M. Campbell, of the Catholic University of America, has kindly furnished the Secretary with the following memorandum in regard to these two words:

ἔνδον, seen in our ordinary lexica, is derived from ἐν + Indo-European *-dom*. Its original signification is "in the house" (*-dom*, cf. Latin *domus*).

ἐντός, of our lexica, is derived from ἐν + Indo-European *-tos* (meaning "from"). Its original signification is "in from," *i. e.*, "from within." The Indo-European *-tos* ("from") is seen in the Sanscrit *mukha-táh* ("*from* the mouth") and in the Latin *caelitus* ("*from* heaven").

Both ἔνδον and ἐντός, according to Boisacq's "Dictionnaire étymologique de la Langue grèque" (Paris, 1910), are now synonymous, signifying "à l'intérieur."

Their early confusion of meaning is indicated by the career of ἔνδον in the dialects. In Cretan, Megarian, and Syracusan, ἔνδον became written ἐνδός on analogy with ἐντός. Such an analogical form probably arose from the approximate similarity in spelling of ἔνδον and ἐντός and, what is of more interest to us, from their similarity in meaning.

Accordingly, *endon* and *entos* are now synonyms and from this point of view *Endamoeba* and *Entamoeba* are words of identical meaning but of slightly different etymology in their historic development, in that both of them have in common the Greek words ἐν and ἀμοιβή but differ in the Indo-European *dom* and *tos*.

Words of similar derivations as respects the *end* and *ent* are well known in terminology in zoology and are often interchangeable. For instance, *endoplasm* is interchangeable with *entoplasm*, and *endoderm* with *entoderm*. Not only would the concurrent use of these terms in different senses be confusing but zoologists have come to use them as absolute synonyms.

Turning now to the more practical and less academic side of the question we are faced by the following taxonomic situation.

Endamoeba Leidy, 1879a, p. 300, has for its monotype *Amoeba blattae*. The generic name was emended by Chatton, 1910, Ann. Zool. exp. gén., 282,[1] and 1912, Bull. Soc. zool. France, p. 110, to read *Entamoeba,* and by Chatton and Lalung, 1912, BSPe, p. 142, in the same sense. Accordingly, there is a generic name *Endamoeba* and one *Entamoeba* with the same species (*E. blattae*) as type.

Entamoeba[2] Casagrandi & Barbagallo, 1895c, p. 18, contained *Amoeba coli* and *A. blattae* without designation of type. Apparently the first type designation in words was by Brumpt (1913, p. 21) as *Entamoeba hominis* which is *Amoeba coli* renamed. It will be noted that the type designation is three years later than Chatton's emendation of *Endamoeba* to *Entamoeba*. It is also clear that Chatton (1912) quotes the generic name *Entamoeba* Casagrandi & Barbagallo, 1897, and invites attention to the fact that as early as 1910 he (Chatton,[2] AZeg, 282) had shown that protozoologists had erroneously attributed the parentage of the genus *Entamoeba* to Casagrandi & Barbagallo, 1897. Accordingly, for Chatton *Endamoeba* 1879 and *Entamoeba* 1897 were simple orthographic variants and it is not at all impossible (renaming and cf. Opinion 6) to construe his papers (1910, 282, and 1912, 110) as a designation of *blattae* as the type of *Entamoeba* Casagrandi & Barbagallo, 1897. This point of view receives support in the fact that Chatton eliminated *E. coli* from *Entamoeba* and made it type of *Löschia*. If this point of view be accepted, *Endamoeba* 1879 and *Entamoeba* 1895 are to be interpreted as having the same genotype, on the premise that Chatton in 1912 determined the type of *Entamoeba* Casagrandi & Barbagallo as *blattae* while Brumpt did not make his determination (*hominis=coli*) until 1913.

We are further faced by the complication that some authors consider the species *blattae* and *coli* as congeneric, others as belonging to two different genera in the same family, and still others as belonging to two different subgenera in the same genus.

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[1] It is obvious that Casagrandi & Barbagallo were discussing *E. coli* rather than *E. blattae,* and that they cited only incidentally the latter species. To take *E. blattae* as type of their *Entamoeba* is theoretically possible under the Rules, but is contraindicated by Art. 30, *n, p, q, t,* also by the obvious fact that Casagrandi & Barbagallo had *E. coli* especially in mind. The difficulty is solved equally well by considering *Entamoeba* a variant of *Endamoeba,* as Chatton (1910) did, before Chatton & Lalung, 1912, eliminated *coli* to *Löschia.*

[2] "*Entamoeba* Leidy, 1879" . . . . "C'est à tort que Doflein (1909) attribue la paternité du genre *Entamoeba* à Casagrandi & Barbagallo (1897)."

The case has already produced considerable confusion in literature and it seems obvious that unless the name *Entamoeba* is definitely suppressed both the nomenclatorial and the taxonomic status of the species which come into consideration will become even more confused.

Accordingly,

(a) since the original authors did not give the derivation of the two names in question,

(b) since Chatton (1910, Ann. Zool. exp. gén., 282, and 1912, Bull. Soc. zool. France, p. 115) interpreted the two names as orthographic variants, hence identical in origin, and therefore homonyms,

(c) since Chatton's action appears to be the earliest interpretation available to the Secretary and therefore has priority,

(d) since (under Opinion 6) Chatton's paper (1912, Bull. Soc. zool. France, p. 113) is to be interpreted as designating *blattae* as type of *"Entamoeba"* 1897 (=1895), [emendation of *Endamoeba,* but obviously construed as identical with *Entamoeba*],

(e) since the concurrent use of the two generic names as closely allied separate units has already given rise to a confusion which promises to increase rather than to decrease,

(f) since zoologists are accustomed to use words of similar derivation as respects the *end* and *ent* interchangeably, and

(g) since, conceivably, *Entamoeba* and *Endamoeba* might have been derived from ἐν and ἀμοιβή with *d* and *t* for sake of euphony, or still more probably, and more scholastically, derived from ἔνδον or ἐντός and ἀμοιβή, the one or the other adverb being used as seemed the better at the moment, whether for euphony's sake or for other reason (that they have the same meaning, etc.) and since they are therefore of the same meaning and practically, though not academically, of the same ultimate derivation ἐν (+ *tos* or + *dom*) and ἀμοιβή, the Secretary recommends that the name *Entamoeba* 1895, either with type *hominis*=*coli* as definitely designated by Brumpt, 1913, p. 21, or with *blattae* as accepted by Chatton and Lalung (1912, 111) and as implied by Chatton (1910, 282), be definitely invalidated by *Endamoeba* Leidy, 1879a, p. 300, type *blattae*, irrespective of the point whether the type of *Entamoeba* be considered *blattae* or *coli*.

The foregoing Opinion was submitted to vote by mail and carried as follows:

Opinion concurred in by twelve (12) Commissioners: Apstein, Horvath, Jordan (D. S.), Kolbe, Loennberg, Monticelli, Neveu-Lemaire, Skinner, Stejneger, Stiles, Stone, Warren.

Opinion dissented from by three (3) Commissioners: Bather, Handlirsch, Jordan (K.).

Not voting, two (2) Commissioners: Chapman, Hartert.

The points raised in the dissenting votes were sent to all Commissioners and a new ballot was taken with the following result:

Concur with the original Opinion, eight (8) Commissioners: Handlirsch, Jordan (D. S.), Jordan (K.), Neveu-Lemaire, Monticelli, Stiles, Stone, and Warren.

Dissent from original Opinion, three (3) Commissioners: Apstein, Bather, and Horvath.

Not voting, six (6) Commissioners: Chapman, Dabbene, Hartert, Kolbe, Loennberg, and Stejneger.

All papers were tabled until the Budapest meeting of the Commission. Commissioner K. Jordan was appointed a committee of one to restudy the case for the Commission. He reported as follows:

Endamoeba Leidy, 1879 with *blattae* as only species.

Entamoeba Casagrandi & Barbagallo, 1895, with two species, *blattae* and *coli*, none being designated as genotype.

When Casagrandi and Barbagallo proposed *Entamoeba* as a new genus they were unaware of the existence of the name *Endamoeba* Leidy, 1879.

Which spelling of the name should be used? The question can be decided on nomenclatorial grounds and on philological grounds:

A. Nomenclatorial Considerations

In 1912 Chatton separated from *Entamoeba* the species *coli* as genotype of his new genus *Löschia*, leaving *blattae* as only original species in *Entamoeba*. As nobody had dealt, nomenclatorially, with *Entamoeba* prior to 1912, Chatton's action made *blattae* the type of *Entamoeba*. In 1912 the two concepts stood like this:

Endamoeba Leidy, 1879, type *blattae*.

Entamoeba Casagrandi & Barbagallo, 1895, type *blattae*. That is to say, the second name falls as a synonym of *Endamoeba*.

B. Philological Considerations

In zoology the prefixes *Ento-* and *Endo-* are frequently interchanged. In zoological terminology they are located as being identical. They come under the category of names of which the spelling in Latin varied to a slight extent and which the Rules of Nomenclature do not accept as different, such as *auctumnalis* and *autumnalis* (p. 87 of Rules). *Entamoeba* is philologically the same as *Endamoeba*.

On motion and second, the foregoing report was adopted by unanimous vote of those present, namely: Apstein, Bather, Hartert, Hedicke, Jordan (K.), Muesebeck, Rothschild, Stejneger, and Stiles, and authorized to be published.

OPINION 100

SUSPENSION OF RULES, *Spirifer* AND *Syringothyris*

SUMMARY.—Under Suspension of the Rules the genotype of *Spirifer* Sowerby, 1816, is fixed as *Anomia striata* Martin, and the genotype of *Syringothyris* Winchell, 1863, is fixed as *Syringothyris typa* Winchell (= *Spirifer carteri* Hall).

STATEMENT OF CASE.—Miss Helen M. Muir Wood has submitted the following case for opinion under Suspension of the Rules:

The genus *Spirifer* was first named and described by James Sowerby, Feb. 1, 1816, in Mineral Conchology, Vol. 11, p. 41. The only species mentioned is "*Spirifer cuspidatus*" [*Anomia cuspidata* of W. Martin, 1798, Trans. Linn. Soc., Vol. 4, p. 45]. In his discussion of *Spirifer* Sowerby writes: "this genus will comprehend nearly all the shells retained as *Terebratula* by Lamarck which have a triangular foramen and not a perforation at the apex of the beak as the character of that genus requires. The several individuals in which I have discovered spiral appendages bear a considerable affinity to each other. . . . ." He adds in a footnote, "I gave a paper sometime since to the Linnean Society on the construction of this tubular cartilage which almost fills the shells . . . . "

" . . . . I conceive that all those in Martin's division of *Anomitae* d. d. (Martin's outlines and p. 243) which he describes as having both valves convex and a large trigonal foramen belong to this genus and also perhaps those of his next section with a small foramen . . . . " [This refers to Petrificata Derbiensia of Martin, 1809, p. 9, and includes the following species of Martin: first, *Anomites trigonalis, triangularis, striatus, subconicus, cuspidatus;* secondly, *acutus, rotundus, glaber, resupinatus,* and *lineatus.*]

In December 1814 and February 1815 James Sowerby had read a paper before the Linnean Society entitled "Some Account of the Spiral tubes or ligaments in the genus *Terebratula* of Lamarck as observed in several species of fossil shells." This paper which did not appear in print until 1818 (Trans. Linn. Soc., Vol. 12, p. 514) contained an account and figures of the spires in *Anomia, Terebratula striata* of Martin (Petrificata Derbiensia, 1809, pl. 23, figs. 1 and 2) and is referred to in the footnote in the Mineral Conchology. Sowerby states, p. 515: "I suspect *Anomia cuspidata* . . . . with the beak of the perforated valve lengthened and reverse may have a similar construction within as well as *Anomia subconica* of Martin tab. 47." A footnote on the same page, added at the time of publication, referring to *Anomia cuspidata,* states "Figured since the reading of this paper as *Spirifer cuspidata* in Mineral Conchology tab. 120."

From the preceding it follows (1) that *Spirifer* was neither named nor diagnosed before February 1816 (Min. Conch.), (2) that the diagnostic character by which the genus was distinguished from *Terebratula* was the shape of the foramen, (3) that the possession of spires by species so distinguished was inferred in the case of *Spirifer cuspidatus,* (4) that the only species actually named as *Spirifer* was *Anomia cuspidata* Martin, which therefore is the genotype (monotypic).

König in 1825 (Icones Foss.) proposed the name *Trigonotreta* for a miscellaneous collection of forms including species now assigned to *Spirifer* and *Orthis*. He mentions *resupinatus, cuspidatus, minimus,* in his text but figures and describes only *stokesii* and *speciosus*.

Dalman in 1828 (K. Svensk. Vetensk. Acad. Handl., p. 99) referred *Spirifer cuspidatus* to *Cyrtia* with *Cyrtia exporrecta* as one of the syntypes, subsequently lectotype. Von Buch in 1840 (Mém. Soc. géol. France, sér. I) and M'Coy in 1844 (Syn. Carb. Limestone Fossils of Ireland) referred *cuspidatus* to genus *Cyrtia* Dalman. M'Coy considered *Cyrtia* to be a subgenus of *Spirifer*. He describes *Spirifer striatus* as being "very well known on the continent as the species in which Mr. Sowerby first discovered spiral appendages," a statement which may have been correct but had no bearing on the nomenclature.

King in 1850 (Permian Fossils) quoted *Spirifer* Sow., 1815 = *Cyrtia* Dalman, 1828, and stated: "This genus is typified by the *Anomites cuspidatus* of Martin . . . . as the typical species *Anomites exporrectus* Wahlenberg of Dalman's *Cyrtia* agrees with type of Sowerby's *Spirifer* in form . . . . I am led to assume that these genera are one and the same . . . . " He revived the genus *Trigonotreta* König as = *Spirifer* auctt., but gave no type and did not refer to *Spirifer striatus*.

If any choice had existed before, the question of genotype of *Spirifer* was thus definitely settled.

Confusion was first introduced by Davidson in 1853 (Mon. Foss. Brach., Vol. I) who in discussing the genotype of *Spirifer* stated that Sowerby intended *Anomia striata* as his type and not *cuspidatus* of whose internal character he was not quite certain. He also quoted in support of his views M'Coy, 1844, and the alleged fact that King had at first taken *cuspidatus* as type of *Spirifer* and later abandoned it.

In 1857 Davidson (Mon. Foss. Brach., Vol. 2, p. 44) described *cuspidatus* as belonging to "*Spirifera*" and not to the subgenus *Cyrtia,* and also quoted *Spirifera striata* as the type of the genus "*Spirifera.*"

In spite of Davidson, Meek & Hayden, 1864 (Smithsonian Contributions to Knowledge, Vol. 14, p. 18) accepted *Spirifer cuspidatus* as the genotype of *Spirifer* and revived *Trigonotreta* König, 1825 for *Spirifer striatus* and related species. The genotype of *Trigonotreta* König is, however, *T. stokesii* which is not synonymous with *Spirifer striatus*.

Meek in 1865 (Palaeontology of the Upper Missouri, p. 19) accepts *cuspidatus* as genotype of *Spirifer* and took *Spirifer striatus* as genotype of *Trigonotreta* König. This is inadmissible since this species was not mentioned by König.

In 1863 A. Winchell described his genus *Syringothyris* (Proc. Acad. Nat. Sci. Philadelphia, Vol. VII, p. 6) with genotype *S. typa* Winchell.

In 1867 Davidson and Meek, in Geol. Mag., Vol. IV, pointed out the similarity in structure of *Spirifer cuspidatus* with *Syringothyris* of Winchell.

King in 1868 (Ann. & Mag. Nat. Hist., 4th ser., Vol. 2, p. 1) assigned "*cuspidatus*" to genus *Syringothyris* and assumed its identity with *S. typa* of Winchell.

In 1877 Dall ("Index to Names which have been applied to the Subdivisions of the Class Brachiopoda," Bull. U. S. Nat. Mus., No. 8) stated correctly that *Spirifer cuspidatus*, the sole species mentioned by Sowerby in Min. Conch., 1816, after his definition of *Spirifer*, should be the genotype. In spite of this he was in favor of retaining *Spirifer striatus* as the type of *Spirifer* and of

placing *cuspidatus* in the genus *Syringothyris* of Winchell. Under heading *Trigonotreta*, Dall said "*T. stokesii* Kön. l. c. selected as type."

Davidson, 1880 (Mon. Foss. Brach., Vol. 4, p. 278) described *cuspidatus* as belonging to the genus *Syringothyris* of Winchell 1863 and placed it in the synonymy of *S. typa* Winchell.

In 1890 Schuchert (9th Ann. Rep. State Geol. New York, p. 30) distinguished *Syringothyris cuspidata* from *S. typa* but accepted it as belonging to *Syringothyris* and not *Spirifer*. *S. typa* he showed to be synonymous with *S. carteri* of Hall, which, having priority, became the genotype of *Syringothyris*.

Anomia striata has been accepted as genotype of *Spirifer* by Hall & Clarke (Paleontology, New York, Vol. 8, pt. 2, p. 7, 1894), Schuchert (Bull. U. S. Geol. Surv., 1897, p. 380), S. S. Buckman (Quart. Journ. Geol. Soc., 1908, Vol. 64, p. 29) and by others.

Hall and Clarke after a brief review of the facts stated that "an inversion of the terms could only induce lamentable disorder in nomenclature." They regarded *Trigonotreta* as a precise synonym of *Spirifer*. Buckman quoted *Trigonotreta*, genotype *stokesii*, for a group of species distinct from *Spirifer striatus*.

In 1913 F. J. North (Geol. Mag., Vol. X, p. 394), among other statements inconsistent with the data as here given, says that J. Sowerby in 1815 founded his genus *Spirifer* with *Anomia striata* as his genotype.

In 1919, J. Allan Thomson (Geol. Mag., Vol. VI, p. 371) draws attention to the fact that the generic name *Spirifer* is wrongly used for the group including *Anomites striatus* Martin, and that it should be restricted to the group including *Anomites cuspidatus* of Martin, and should replace *Syringothyris* Winchell. He is, however, in favor of retaining the genus *Spirifer* with genotype *A. striatus* contrary to the laws of nomenclature.

In consideration of these facts it is asked that the Law of Priority be suspended in the case of *Spirifer* Sowerby, and that it be fixed with *Anomia* (or *Terebratula*) *striata* Martin as genotype, leaving *Syringothyris* with *Spirifer carteri* Hall as genotype and including *Syringothyris cuspidata* (Martin).

DISCUSSION.—Commissioner Bather reports:

I have checked the references in Miss Wood's statement of the case, and I find that

(1) According to the rules the genotype of *Spirifer* is *Anomia cuspidata* Martin;

(2) According to the rules *Syringothyris* is a synonym of *Spirifer;*

(3) All writers of importance for the past 70 years, in conscious opposition to the rules, take *Anomia striata* Martin as genotype of *Spirifer*, and maintain *Syringothyris* with genotype *Spirifer carteri* Hall or a synonym thereof.

To avoid the confusion that would be introduced into two well-known Brachiopod genera, one of which is widely distributed with a large number of species, I propose as the opinion of the Commission:

That the Rules be suspended in the case of *Spirifer* and *Syringothyris* so that the former may be fixed with genotype *Anomia striata* Martin and the latter with genotype *Syringothyris typa* Winchell (= *Spirifer carteri* Hall).

In accordance with the prescribed routine, notice that Suspension of the Rules has been asked in these cases has been published in the following journals:

Nature, No. 2813, Vol. 112, p. 473, Sept. 29, 1923.
Science, No. 1508, Vol. 58, p. 422, Nov. 23, 1923.
Zoologischer Anzeiger, Vol. 58 (Heft 1-2), p. 55, Dec. 18, 1923.
Monitore Zoologico Italiano, Anno 35, No. 2-3, 1924.

As no expression of opinion against Suspension has been received by the Secretary to date (one year from publication in three journals) the Secretary calls for vote on the Opinion as prepared by Commissioner Bather, namely, that under Suspension of the Rules the genotype of *Spirifer* Sowerby, 1816, be fixed as *Anomia striata* Martin, and the genotype of *Syringothyris* Winchell, 1863, be fixed as *Syringothyris typa* Winchell (=*Spirifer carteri* Hall).

At the Budapest meeting of the Commission, Commissioner Bather was appointed a committee of one to restudy this case, and on August 30 he presented the following report:

Under Suspension of the Rules, the genotype of *Spirifer* Sowerby, 1816, is fixed as *Anomia striata* Martin instead of *Anomia cuspidata* Martin. This action makes it unnecessary to regard *Syringothyris* as a synonym of *Spirifer* even on the assumption that its genotype, *Syringothyris typa,* is congeneric with *Anomia cuspidata.*

After considerable discussion and on motion and second the conclusions were unanimously adopted by the 8 Commissioners and Alternates present, namely: Apstein, Bather, Hartert, Jordan (K.), Muesebeck, Rothschild, Stejneger, and Stiles.

The foregoing data were submitted in Circular Letter No. 129 to the absent Commissioners and the final vote stands as follows:

Opinion concurred in by seventeen (17) Commissioners and Alternates: Apstein, Bather, Chapman, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Muesebeck, Monticelli, Rothschild, Skinner, Stejneger, Stiles, and Warren.

Opinion dissented from by no Commissioner.

Not voting four (4) Commissioners: Dabbene, Ishikawa, Neveu-Lemaire, and Stone.

OPINION 101

NOMENCLATORIAL STATUS OF DANILEWSKY, "CONTRIBUTION À L'ÉTUDE DE LA MICROBIOSE MALARIQUE" IN ANNALES DE L'INSTITUT PASTEUR, 1891, VOL. 5, PAGES 758-782.

SUMMARY.—The technical Latin designations used by Danilewsky, 1891, Annales de l'Institut Pasteur, Vol. 5 (12), pp. 758-782, are not in harmony with the International Rules of Zoological Nomenclature and are therefore not subject to citation or the Law of Priority on basis of said publication.

STATEMENT OF CASE.—Ernest Hartman, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, has submitted the following case for Opinion:

In looking over the paper of Danilewsky, "Contribution à l'étude de la microbiose malarique" in Annales de l'Institut Pasteur, 1891, Vol. 5, pages 758-782, I am unable to interpret his naming under the present rules of the Commission. I refer this paper to the International Commission on Zoological Nomenclature for an interpretation of the names therein or for elimination as a source of zoological names.

DISCUSSION.—The Contribution under consideration was published at a time when there existed very divergent views regarding the malarial parasites and many articles on this subject were written by persons who were obviously not entirely at home in respect to the prevailing conceptions of genera, species, and varieties, and who were unfamiliar with the principles and practices of zoological nomenclature.

Some of these authors were obviously under the impression that zoological nomenclature consisted in using 1, 2, 3, or 4 Latin names as designations of organisms, but they evidently did not use the words in the sense of the system of nomenclature proposed by Linnaeus and adopted by zoologists and botanists. Furthermore, some of the zoologists who published on this subject either did not consider themselves governed by zoological rules or were unfamiliar with them. The result is that the nomenclature of the parasites of malaria in man and birds represents one of the most confusing chapters in the entire history of zoological nomenclature. To straighten out the difficulties authors familiar with the principles and practices of zoological nomenclature have obviously endeavored to interpret the rules as applied to this field with the utmost consideration for their colleagues who were less familiar with nomenclatorial customs.

The following extract from the Contribution under consideration will serve to give a conception of Danilewsky's viewpoint:

(P. 762) Nous allons passer maintenant à l'étude du *microbe de l'infection malarique aiguë*. Il doit être distingué de celui de la forme chronique. Tous les microbes de nature animale vivant et se développant à l'intérieur des cellules sont ordinairement appelés cytozoaires, cyto-parasites ou cyto-microbes. Ces noms indiquent le lieu où ils se trouvent. En me conformant à cette nomenclature, j'ai proposé de remplacer la dénomination du plasmodium malarique de l'homme, *Haemamaeba*, en celle de *Cytamaeba*. Mais comme chez *les oiseaux* le même parasite, n'étant pas mobile, n'a pas de caractère amiboïde, ce nom d'amaeba ne peut lui être appliqué. Aussi, et surtout à cause de la propriété fondamentale du microbe de donner des spores, je l'appellerai *Cytosporon malariae*.[1]

(P. 780) Au point de vue de l'hypothèse unitaire de l'infection malarique on pourrait proposer le rapprochement suivant des diverses formes du parasite, sans entrer pour cela dans la discussion de sa place dans le système zoologique:

Cytozoon malariae hominis avium	Cytozoon praecox s. Cytosporon	(a) Haemamaeba-Cytamaeba (b) Cytosporon avium
	Polymitus (c)	(d) Haemogregarina avium
	Laverania	(e) Laverania hominis

Thus two generic names are used by Danilewsky on page 762 for what he designates "le même parasite."

The table of designations given on page 780 is subject to various interpretations. Under the most favorable interpretation Danilewsky recognizes one species, *Cytozoon malariae* with 2 varieties or subspecies, *hominis* and *avium*, and attempts to harmonize early names with his nomenclature. Even this interpretation, however, does not leave the reader clear as to the author's intention; possibly he considered earlier names as inappropriate and substituted for them the generic name, *Cytamaeba*; then, considering this latter inappropriate, he appears to have substituted for it *Haemocytosporon* which he contracted to *Cytosporon*.

During the past thirty years the Secretary has repeatedly endeavored to interpret the nomenclature of Danilewsky's Contribution, but is unable to reach a conclusion which he considers in harmony with the rules of any code of nomenclature in effect at present or at date of publication of said Contribution or prior thereto. In conference with other zoologists, the Secretary has learned that they also find the same difficulty in interpreting said Contribution.

The Secretary invites the attention of the Commission to the fact that there is an enormous accumulative economic loss in science result-

[1] On ne doit voir dans ce nom provisoire (abrégé de *Haemocytosporon*) aucune allusion à une parenté de ce microbe avec les champignons, les monades ou les mycétozoaires. Sa classification zoologique sera discutée plus loin.

ing from the designations used by some authors, even in papers which represent not only interesting but valuable contributions to our knowledge of biology, physiology, anatomy, etc.; later their colleagues endeavor to show the utmost consideration and broadest possible interpretation of the rules in order to bring as many of these papers as possible into harmony with the rules. The Secretary is persuaded that as an economic measure in the interest of the advancement of science the time is opportune to judge the nomenclatorial status of many of these nomenclatorial confusions from a practical point of view and to relieve systematists from the expensive burden of time necessary in order to interpret or save the nomenclature used by authors who either innocently or purposely do not present their technical names in a reasonably interpretable method—whatever may be the value of their contributions from a standpoint of biology, anatomy, physiology, pathology, etc.

On the principle that it is encumbent upon an author who proposes new names, to familiarize himself with, and reasonably apply the rules of zoological grammar, namely, nomenclature, the Secretary recommends that the Commission adopt the following Opinion in answer to the question raised by Ernest Hartman:

The technical Latin designations used by Danilewsky, 1891, Annales de l'Institut Pasteur, Vol. 5 (12), pp. 758-782, are not in harmony with the International Rules of Zoological Nomenclature and are therefore not subject to citation under the Law of Priority on basis of said publication.

Opinion prepared by Stiles.

Opinion concurred in by thirteen (13) Commissioners: Apstein, Bather, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Loennberg, Neveu-Lemaire, Warren, and Stone.

Opinion dissented from by no Commissioners.

Not voting, three (3) Commissioners: Kolbe, Monticelli, and Stejneger.

OPINION 102

Proteocephala Blainville, 1828, vs. *Proteocephalus* Weinland, 1858

SUMMARY.—A generic name (example *Proteocephalus,* 1858) is not invalidated by the earlier publication of the identical or a similar name of higher rank (example *Proteocephala,* 1828). If *Taenia ambigua* (tod. of *Proteocephalus,* 1858) is congeneric with *ocellata* (tsd. of *Ichthyotaenia,* 1894), *Ichthyotaenia* is a subjective synonym of *Proteocephalus.*

Statement of case.—Prof. George R. LaRue of the University of Michigan has presented the following case for opinion:

I wish to submit for a ruling the question of the availability of the generic name *Proteocephalus* Weinland, 1858. The facts are substantially these:

Weinland (1858a, p. 53) proposed the generic name *Proteocephalus,* designating *Taenia ambigua* Dujardin as type and assigning *Taenia filicollis* and *T. dispar* to the genus.

It so happens that Blainville (1828, p. 552) had already used the name *Proteocephala* for a family of Cestodaria with the single genus *Caryophyllaeus.* The question now arises whether *Proteocephalus* Weinland, 1858, is invalidated by the prior use of *Proteocephala* Blainville, 1828, as the designation of a family. As I see it the question resolves itself into two parts, namely, whether two words differing only in termination ("*us*" and "*a*") are to be considered as homonyms, and whether the use of a name to designate a family bars the subsequent use of that name to designate a genus.

The first question seems to have been answered in the first recommendation following Art. 36 of the International Code, see Bulletin No. 24, Hygienic Laboratory, Wash., p. 47.

The second question does not seem to be covered by the Code as published in 1905. Art. 34 which governs the rejection of a generic name which has previously been used to designate another genus obviously does not apply and no recommendation appears to have been made by the Commission to cover cases similar to the one in question.

The argument against the use of the name *Proteocephalus* Weinland, 1858, has been stated by Luehe (1899, Zool. Anz., v. *22*: 525-526). Since he has been followed in his use of the name *Ichthyotaenia,* by Rudin (1916), Meggitt (1914), Wagner (1917), M. Plehn (1924), it has seemed well to quote Luehe's argument:

"Railliet (1899, Sur la classification des Téniadés. In: Centrbl. f. Bact. u. Paraskde. Bd. 26, p. 33 f) hat inzwischen den Namen *Ichthyotaenia* Lönnb., 1894, als synonym eingezogen zu *Proteocephalus* Weinl., 1858. Dass letzterer Name an sich seines grösseren Alters wegen prioritätsberechtigt wäre, ist zuzugeben und war auch mir bekannt. Gleichwohl sehe ich keine Veranlassung ihn zu Ungunsten des bisher allgemein üblichen Gattungsnamens *Ichthyotaenia* auszugraben. Schon 1828 nämlich hat Blainville (Dict. Sci. nat., T. 57, p. 552) den Namen *Proteocephala* gebraucht für eine Cestodenfamilie (einzige Gattung *Caryophyllaeus*). Wenn nun auch dieser Name, weil den heute geltenden

Vorschriften für die Bildung der Familiennamen nicht entsprechend, in Wegfall kommt, so darf doch meines Erachtens ein homonymer Gattungsname nicht anerkannt werden. Dass es sich bei Blainville um einen Familien-, nicht um einen Gattungsnamen handelt, kommt hierbei für mich um so weniger in Betracht, als wir heute allgemein die Familiennamen von den Gattungsnamen ableiten.

"Nicht besser ist es um das Prioritätsrecht von *Tetracotylus Montic.*, 1892, bestellt. Dieser Name unterscheidet sich nur durch das Geschlecht von *Tetracotyle* Filippi, 1854, mit welchem er im übrigen vollständig gleich gebildet ist. Ich muss daher beide Namen als homonym ansehen, sonst könnte ja beispielsweise auch noch einmal der Name *Bothriocephalum* (neben *Bothriocephalus* Rud.) gebildet werden. Das in No. 4 der von der Deutsch. Zoolog. Gesellsch. bearbeiteten Nomenclaturregeln angeführte Beispiel "*Picus* und *Pica*" kann gegen diese meine Anschauung nicht geltend gemacht werden, da dies beides altlateinische Worte sind, welche schon von den Römern in der ihnen auch heute noch von uns beigelegten verschiedenen Bedeutung gebraucht wurden und welche daher mit einem anderen Massstabe gemessen werden müssen als neue Wortbildungen.

"Ich gebe zu, dass es sich hier um strittige Fragen handelt. Stiles ist, wie er mir brieflich mitgetheilt hat, hinsichtlich beider Puncte anderer Ansicht wie ich. So lange indessen diese Fragen noch nicht in einer allgemein gültigen und auch mich bindenden Weise entschieden sind (wozu diese Zeilen vielleicht die Anregung geben), beanspruche ich für mich das Recht, den bisher allgemein üblichen Gattungsnamen *Ichthyotaenia* auch fernerhin zu gebrauchen. Als typische Art dieser Gattung sehe ich *Ichthyotaenia ocellata* (Rud.) Lönnberg an, da dies nicht nur die Art ist, welche Lönnberg (Centrbl. f. Bact. u. Paraskde., Bd. 15, 1894, p. 803) an erster Stelle nennt (*I. filicollis* [Rud.] Lönnbg. ist synonym zu *I. ocellata* [Rud.] Lönnberg), sondern auch diejenige von den von Lönnberg aufgeführten Arten, welche am besten bekannt ist. . . . .

"Ich bin gern bereit zuzugeben, dass dereinst vielleicht auch die Ichthyotaenien wieder eine Auftheilung erfahren müssen, aber vorläufig ist unsere Kenntnis der überwiegenden Mehrzahl der hierher gehörigen Arten noch viel zu gering, um eine solche Auftheilung zuzulassen. Am allerwenigsten würde dieselbe gerechtfertigt sein, wenn wirklich der Name *Proteocephalus* Weinl. zur Anerkennung gelangen sollte und damit eine Species inquirenda (*Taenia ambigua* Duj.). Typus der Gattung würde. Wenn übrigens Weinland in dieselbe Gattung auch die *Taenia dispar* Gze. einreiht, so ist dies zweifellos unberechtigt."

Concerning *Tetracotylus* Monticelli, 1891i, I have pointed out (LaRue, 1914) that *T. coryphicephalus,* the type of this genus, is not congeneric with *Proteocephalus filicollis, P. percae,* and other species of *Proteocephalus.* Hence I can not agree that *Tetracotylus* is a synonym of *Proteocephalus* and *Ichthyotaenia.*

As for *Taenia ambigua,* which Lühe considered to be a species inquirenda, I have pointed out that it is a synonym of *Taenia filicollis* Rud., (LaRue, 1914, 38-48). I am unable to accept Lühe's statement that *Ichthyotaenia filicollis* is a synonym of *I. ocellata.* The arguments for my view are too long to state here. They are given in full in my monograph (LaRue, 1914, 38-48, and 93-108).

The fact that Weinland included *Taenia dispar* in his genus *Proteocephalus* is not a serious matter.

Discussion.—Professor LaRue's premises raise two distinct points. The first of formal nomenclature, the second a question of nomenclature dependent to some extent upon subjective conceptions of synonymy.

Proteocephalus Weinl., 1858a, 53, tod. *Taenia ambigua* versus the dead family name *Proteocephala* Blainville, 1828a, v. 57, 552.—Art. 34 of the International Code is unambiguous. It reads as follows: "A generic name is to be rejected as a homonym when it has previously been used for some other genus of animals. Example: *Trichina* Owen, 1835, nematode, is rejected as homonym of *Trichina* Meigen, 1830, insect."

There is nothing in Art. 34 which provides that a generic name becomes a homonym if the identical name has previously been used for a systematic unit of some other rank (for instance, species, family, order, etc.). On the contrary Art. 33 definitely states that: "A name is not to be rejected because of tautonymy, that is, because the specific or the specific and subspecific names are identical with the generic name. Examples: *Trutta trutta, Apus apus apus.*"

The fact that *Proteocephala* is a dead family name because it is not formed in accordance with Art. 4 (ending *idae*) has no bearing upon the present case, which opens up the very broad question whether generic names are to be invalidated as homonyms because of the prior publication of an identical name for a supergeneric group. If this kind of homonymy were to be admitted, numerous cases would arise for adjudication. The history of nomenclature clearly shows that the rule of homonyms is applicable only as applied to systematic units of identical rank except in so far as the contrary might be implied from the custom of some authors to consider tautonyms as homonyms. As pointed out above, however, Art. 33 distinctly provides that tautonyms are not homonyms.

The answer to Professor LaRue's first question is, therefore, that *Proteocephala*, 1828, has no nomenclatorial bearing on *Proteocephalus*, 1858.

Proteocephalus, 1858, tod. *ambigua* versus *Ichthyotaenia*, 1894, tsd. *ocellata*.—It is to be noticed that *Taenia ambigua* is a species inquirenda fide Lühe, 1899k, but that it is a synonym of *filicollis* fide LaRue, 1914; also that *filicollis* is a synonym of *ocellata* fide Lühe, 1899k, but that it is distinct from *ocellata* fide LaRue, 1911. Thus there is a difference of opinion between Lühe and LaRue in regard to the subjective synonymy in case of the names *ambigua*, *filicollis*, and *ocellata*. This difference of opinion belongs in the field of systematic zoology, not in the field of nomenclature.

If *ambigua* and *ocellata* (the type species of *Proteocephalus* and *Ichthyotaenia*) are congeneric, *Proteocephalus*, 1858, has clear priority over *Ichthyotaenia*, 1894, and *Ichthyotaenia* is a subjective synonym of *Proteocephalus* regardless of the subjective synonymic status of *ambigua, filicollis,* and *ocellata.*

On basis of the foregoing premises and argument the Secretary recommends that the Commission adopt the following opinion:

A generic name (example, *Proteocephalus*, 1858) is not invalidated by the earlier publication of the identical or a similar name of different [higher] rank (example, *Proteocephala*, 1828). If *Taenia ambigua* (tod. of *Proteocephalus*, 1858) is congeneric with *ocellata* (tsd. of *Ichthyotaenia*, 1894), *Ichthyotaenia* is a subjective synonym of *Proteocephalus.*

The foregoing Opinion was submitted at the Budapest (1927) Meeting to Lord Rothschild as special subcommittee of one for consideration and report. He reported as follows:

I desire to report on Circular Letter No. 124 that I find that *Proteocephalus* as a generic name can and must stand beside *Proteocephala*, as Family names and names of higher groups have no connection with generic designations.

Opinion written by the Secretary.

Opinion concurred in—

(a), regarding *Proteocephalus*, by thirteen (13) Commissioners: Apstein, Bather, Chapman, Handlirsch, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Neveu-Lemaire, Stejneger, Stiles, Stone, and Warren.

Commissioner Stone states: "With the understanding that generic and subgeneric names are treated exactly alike nomenclatorially, *i. e.*, an earlier subgeneric name of identical form, renders invalid a subsequent generic name. So with species and subspecies."

Commissioner Stejneger appended a footnote, as follows: "I suggest, however, that the summary is not quite clear. The subgenus has not the same 'rank' as the genus, hence someone might argue that 'a generic name is not invalidated by the earlier publication of the identical or similar subgeneric name.' Would not 'higher' for 'different' remedy that?" [Change adopted as an editorial correction. —C. W. S.]

(b), regarding synonymy, by eleven (11) Commissioners: Bather, Chapman, Handlirsch, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Neveu-Lemaire, Stejneger, Stiles, and Warren.

Opinion dissented from—

(a), regarding *Proteocephalus*, by no Commissioner.

(b), regarding synonymy, by no Commissioner.

Not voting—

(a), regarding *Protocephalus,* four (4) Commissioners: Dabbene, Hartert, Ishikawa, and Loennberg.

(b), regarding synonymy, six (6) Commissioners: Apstein, Dabbene, Hartert, Ishikawa, Loennberg, and Stone.

Votes not clear on either (a) or (b) cast by Commissioner Monticelli.

OPINION 103

THE GENERIC NAME *Grus*, TYPE *Ardea grus*

SUMMARY.—The type of *Grus* Pallas, 1767, is *Ardea grus* Linn., 1758, by absolute tautonymy. *Grus* is hereby placed in the Official List of Generic Names.

PRESENTATION OF CASE.—Dr. Witmer Stone of the Academy of Natural Sciences, Philadelphia, requests an opinion on the type of *Grus*. His presentation of case is as follows:

Application of Generic Name Grus.

In his Systema Natura, 1758, Linnaeus divides the genus *Ardea* into four sections, *Cristatae*, *Grues*, *Ciconiae*, and *Ardeae*.

(1) Are any of these citable as genera? The last three seem to be exactly parallel to the divisions of *Simia* regarded as subgenera by Stiles and Orleman (Jour. of Mam. Feb. 1926).

(2) If not citable from here, are not *Grus* and *Ciconia* citable from Pallas (Spicilegia Zool. IV, p. 1, 1767) *as covering the species included in Linnaeus' groups?*

Pallas in his work discusses and describes a new species *Grus psophia* and the genus *Grus* has recently been quoted from here as applying solely to this species (the only one mentioned) thus becoming a synonym of *Psophia*.

Previously it was regarded as applying to all the species of Linnaeus' section *Grues*, and *Ardea grus* was by tautonymy the type. This I think is the correct view. Pallas states that the birds included in *Ardea* by Linnaeus are divisible into three genera and then cites *Ardeae*, *Ciconiae* and *Grues*—the three Linnaean groups and refers to "Gruibus reliquis" in describing and comparing his new and evidently aberrant species.

DISCUSSION OF CASE.—by Commissioner Stejneger.

THE TYPE OF *Grus* PALLAS, 1767, IS *Ardea grus* LINNAEUS, 1758.

The question of the recognition of the quasigeneric names which Linnaeus and subsequent authors of the eighteenth century applied to sectional divisions of genera without apparent intention to use them nomenclatorially is so complicated and requires such extensive research, not only as to the manner of their application by these authors themselves, but particularly as to the effect their legitimation at this late date would have upon already otherwise stabilized and current nomenclature, that it is thought unwise to raise it with regard to a case which is susceptible of definite and identical settlement by other means.

The question laid before the Commission by Dr. Stone is essentially this:

What species is the type of the genus *Grus* instituted by Pallas in 1767?

The main object of Pallas' paper entitled "*Grus psophia*" (in Spicilegia Zoologica, fasc. 4, 1767, pp. 3-9, pl. 1) was to give a description of the bird hitherto known as *Psophia crepitans* based on autopsy of a fresh specimen of this then rare South American bird and to show that it does not constitute a separate genus, as postulated by Linné, but that it must be attached to one of the sections of the Linnaean genus *Ardea*, which Pallas, however, regards and names as a distinct genus *Grus*.

It therefore becomes necessary to review briefly the treatment accorded the two genera by Linné.

In 1758 (10 ed. Syst. Nat., vol. 1, p. 154) Linnaeus has the genus *Psophia* (with one species: *crepitans*). The genus *Ardea*, with 19 species, is found on page 141. The latter Linné enumerated under four section headings as follows:

x Cristatae: *rostro vix capite longiore* (species 1-2)
xx Grues: *capite calvo* (species 3-6)
xxx *Ciconiae* (species 7-8)
xxxx *Ardeae* (species 9-19)

In the 12th Edition (pp. 263 and 233 respectively) the treatment is exactly the same, except that the section of *Ardeae* there includes eight more species (species 9-26) and that one species, *Ardea ibis*, has been transferred to the genus *Tantalus*.

Pallas begins his article as follows:

Aves ab *Ill.* LINNAEO sub *Ardearum* nomine recensitae constantivus et evidentissimis characteribus in tria genera, ab antiquioribus jam olim Ornithologis agnita et judiciole adoptata, distingui possunt: *Ardearum* nempe *Ciconiarum* atque *Gruum*. (The birds enumerated by Linné under the name *Ardea* can be distinguished by constant and most obvious characters in three genera which were already recognized and judiciously adopted by the older ornithologists, viz.: *Ardea*, *Ciconia* and *Grus*.)

He then proceeds to enumerate the characters of these genera, including in *Ciconia* Linné's genus *Mycteria*, and in *Grus* the Linnaean genus *Psophia*, at the same time referring Linné's *Tantalus*, together with his *Ardea ibis* and *Ardea aequinoctialis*, to *Numenius*. The sentence in which Pallas relegates the generic term *Psophia* to the synonymy of *Grus* (p. 4) reads as follows:

Ex autopsia quoque dedici, avem Americanam, quam PSOPHIAE nomine indigitarunt BARRERIUS et post eum Linnaeus, non pro peculiaris generis ave habendum, sed *Gruibus* esse accessendam, quibus characteres, habitu, moribusque convenit. (From autopsy I have also learned that the American bird which Barrère, and after him Linné, have published under the name *Psophia*,

is not to be regarded as a separate genus but must be added to the *Grues*, with which it agrees in characters, habitus, and habits.)

All this by way of introduction to a minute description of the external characters and internal anatomy of a fresh specimen of a *Psophia* from the vivarium of the Prince of Orange, which forms the real object of the memoir, since no specimen had come under the eyes of any other zoologist since the time of Marcgrave and Barrère.

It is quite obvious that Pallas did not make *Grus* a monotypic genus with *psophia* as type. The argument that he mentions no other specific term in conjunction with the generic name cannot prevail against the fact that Pallas repeatedly refers to the existence of other *Grues*, and to the species enumerated by Linné in particular.

In addition to the previous quotations it is only necessary to cite the first paragraph of his "Descriptio Gruis Psophiae" (p. 7) which reads as follows:

Magnitudo circiter *Numenii Arquatae;* sed corpus paulo crassius atque brevius. *Proportiones* membrorum omnes longe breviores etiam sunt, quam in Gruibus reliquis; ceteroquin *habitus* consimilis. (Size about that of *Numenius arquata;* but the body a little heavier and shorter. All the proportions of the limbs are also much shorter than in the other Grues; habitus otherwise entirely similar.)

"The other Grues" refers plainly to the species enumerated by Linné in the tenth edition,[1] viz.: *Ardea canadensis, A. grus, A. americana*, and *A. antigone*.

The type of the genus *Grus* Pallas must therefore be looked for among one of these species (including of course *Grus psophia* Pallas) in which case *Ardea grus* Linné becomes the type by tautonymy.

REMARKS BY THE SECRETARY.—Commissioner Apstein (1915a, 195) agrees with Commissioner Stejneger that *grus* Linn., 1758, is a type of *Grus* Pallas, but both he and Sherborn date the latter as 1766, instead of 1767.

The Secretary views *Grus* as dating from Linn., 1758a, tat. *Ardea grus*.

As the argument by Stejneger and the data by Apstein give the same general results as the argument by the Secretary, and as the question of date appears to be non-essential in disposing of the case, the Secretary supports the conclusions by Stejneger and Apstein and does not emphasize his own view as to date.

The Secretary moves that:

If Commissioner Stejneger's Opinion on *Grus* is adopted by the Commission, the generic name *Grus* Pallas, 1766 or 1767, tat. *Ardea grus*, is hereby placed in the Official List of Generic Names.

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[1] By referring specifically to *Ardea ibis*, see above, Pallas shows that he is dealing with the 10th edition though it makes no difference inasmuch as the 12th edition is identical in the treatment of the *Grues*.

The foregoing Opinion was submitted to the Commission in Circular Letter No. 112.

Opinion prepared by Commissioner Stejneger.

Opinion concurred in by sixteen (16) Commissioners, namely: Apstein, Bather, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Kolbe, Loennberg, Neveu-Lemaire, Stejneger, Stiles, Stone, and Warren.

Opinion dissented from by no Commissioners.

Not voting, two (2) Commissioners: Ishikawa, and Monticelli.

Secretary's motion concurred in by fifteen (15) Commissioners, namely: Apstein, Bather, Chapman, Dabbene, Handlirsch, Hartert, Horvath, Jordan (D. S.), Jordan (K.), Loennberg, Monticelli, Neveu-Lemaire, Stiles, Stone, and Warren.

Secretary's motion dissented from by no Commissioner.

Not voting, three (3) Commissioners: Kolbe, Stejneger, and Ishikawa.

OPINION 104

57 Generic Names Placed in the Official List

SUMMARY.—The following 57 generic names, with type species cited, are hereby placed in the Official List of Generic Names:

PROTOZOA: *Bursaria, Eimeria, Laverania, Plasmodium, Sarcocystis.*

CESTODA: *Ligula.*

NEMATODA: *Filaria, Heterodera, Rhabditis, Strongylus, Syngamus.*

OLIGOCHAETA: *Enchytraeus.*

HIRUDINEA: *Haemadipsa, Limnatis.*

CRUSTACEA: *Armadillidium, Astacus, Cancer, Diaptomus, Gammarus, Homarus, Nephrops, Oniscus, Pandalus, Penaeus, Porcellio.*

XIPHOSURA: *Limulus.*

SCORPIONIDEA: *Scorpio.*

ARANEAE seu ARANEIDA: *Avicularia, Dendryphantes, Dysdera, Latrodectus, Segestria.*

ACARINA: *Cheyletus, Chorioptes, Demodex, Dermanyssus, Glyciphagus, Polydesmus, Psoroptes, Rhizoglyphus, Trombidium.*

THYSANURA: *Lepisma.*

COLLEMBOLA: *Podura.*

ORTHOPTERA: *Blatta, Ectobius, Gryllus, Periplaneta.*

ANOPLURA: *Pediculus, Phthirus.*

HEMIPTERA: *Anthocoris, Nabis, Notonecta, Reduvius, Triatoma.*

DERMAPTERA: *Forficula.*

SUCTORIA S. SIPHONAPTERA S. APHANIPTERA: *Pulex.*

MAMMALIA: *Cercopithecus.*

PRESENTATION OF CASE.—The Secretary's Circular Letter No. 122 contained a list of 61 names suggested for inclusion in the Official List of Generic Names. Practically all of these are in Commissioner Apstein's (1915) list of Nomina Conservanda. The addition of *Laverania* is made in order to meet a difference of opinion among specialists as to classification.

The Secretary has personally checked these names and believes that they are all nomenclatorially available and valid, and that, therefore, they can be adopted in harmony with the Rules instead of as Nomina Conservanda. He has changed the dates given by Commissioner Apstein in several instances to agree with the dates found in Washington.

The Secretary has altered several genotypes given by Commissioner Apstein as the genera were published as monotypic. These alterations do not however influence the position of the genera.

The Notice that the 61 names in question were under consideration was published in Science, May 13, 1927, v. 65 (1689), pp. 471-472, and Zoologischer Anzeiger, v. 71 (1/2), p. 64.

Objection or question of one sort or another has been raised to five of the 61 names (*Atropos, Daphne, Termes, Nepa and Corixa*), and these have, therefore, been tabled, temporarily and without prejudice.

In addition to the 56 names in the Secretary's Circular Letter No. 122, one name (*Cercopithecus* from Circular Letter No. 102) is added to the list. This name had been tabled temporarily pending a conference between Commissioner Apstein and the Secretary. This conference has been held and the slight differences of Opinion on the case have been harmonized, thus making the vote unanimous. Commissioner Apstein was appointed a special committee of one for special study of this case.

The list of 57 names follows (for complete bibliographic references see standard nomenclators and bibliographies; the letters, as 1758a, are taken from Stiles and Hassall, Index Catalogue):

PROTOZOA:

Bursaria Mueller, 1773a, 62, tsd. *truncatella.*

Eimeria Schneider, 1875d, xli, mt. *falciformis* (erroneously quoted as *simplex* in Zool. Record, v. 12, Prot., 579), type host *Mus musculus.*

Laverania Grassi & Feletti, 1890a, 60, mt. malariae (homonym) so. *falciparа* Welch, 1897, 36, 47, type host *Homo.* [For authors who consider the parasite of aestivo-autumnal malaria generically distinct from that of quartan malaria.] Not Laverania Labbé, 1899a, 82, type *ranarum,* type host *Rana esculenta.*

Plasmodium Marchiafava & Celli, 1885d, 791, mt. tsd. *malariae* (as restricted to quartan fever), type host *Homo.*

Sarcocystis Lankester, 1882, QJMS, 54, mt. *miescheri* syn. *miescheriana.*

CESTODA:

Ligula Bloch, 1782a, 1, pl. 1, figs. 1-2, tsd. *avium.*

NEMATODA:

Filaria Mueller, 1787a, 64-67, tsd. *martis.*

Heterodera Schmidt, 1871a, 1, mt. *schachtii.*

Rhabditis Dujardin, 1845a, 230, 239-243, tsd. (1865) *terricola.*

Strongylus Mueller, 1780, pl. 42, figs. 1-12; or Goeze, 1782a, 41, 137; mt. *equi* = tsd. *equinus.* Absolute synonym *Sclerostoma* Rud., 1809a, 35, type *equinum.*

Syngamus Siebold, 1836a, 105-116, mt. *trachealis* Sieb., syn. of *trachea.*

OLIGOCHAETA:

Enchytraeus Henle, 1837, Arch. Anat. Phys. Med., 74, mt. *albidus.*

HIRUDINEA:

Haemadipsa Tennent, 1859, Ceylon, v. 1, 302, mt. *zeylanica* Moq.-Tand., 1827a, 120: or ?1826.

Limnatis Moq.-Tand., ?1826; or 1827a, 122, mt. *nilotica* Sav., 1820, 113.

CRUSTACEA:

Armadillidium Brandt, 1831, Thiere in der Artzneimittel, v. 2, 81; or 1833, Bull. Soc. imp. nat. Moscow, 184, tsd. (1915) *vulgare* Latr., 1804c, 47, so. *armadillo* Linn., 1758a, 637.

Astacus Pall., 1772, 81; and Fabr., 1775a, 413, tat. *Cancer astacus* Linn., 1758a, 631, syn. *fluviatilis* Fabr., 1775a, 413.

Cancer Linn., 1758a, 625, tsd. (1810) *pagurus*.

Diaptomus Westwood, 1836, Brit. Encyclop., v. 2, 228, type *Cyclops castor*.

Gammarus Fabr., 1775, 418, tsd. (1810) *pulex* Linn., 1758a, 633.

Homarus Fabr., in Weber, 1795a, 94, tsd. *gammarus* = *marinus*, s. *vulgaris*. Same as Milne-Edw., 1837, HnC, 329, 333.

Nephrops Leach, 1815, Edinb. Encycl., v. 7, 398; 1815, TLSL, 344; mt. *norvegicus*.

Oniscus Linn., 1758a, 636, tsd. (1804) *asellus* Linn., 1758a, 637, (1810) *murarius* 1792 so. *asellus*.

Pandalus Leach, 1815, TLSL, 376, mt. *annulicornis*.

Penaeus Fabr., in Weber, 1795a, 94 (1798 emendation of 1795 misprint) tsd. (1810) *monodon*.

Porcellio Latr., 1804c, 39, 49, tod. *Oniscus scaber* Latr., 1804.

XIPHOSURA:

Limulus Mueller, 1785, 124, tsd. (1810) *polephemus* Linn., 1758a.

SCORPIONIDEA:

Scorpio Linn., 1758a, 624, tsd. (1810) *europaeus* Linn., 1758a.

ARANEAE seu ARANEIDA:

Avicularia Lam., 1818a, 107, tat. *avicularia* Linn., 1758a.

Dendryphantes Koch, 1837a, 31, tsd. (1869) *hastatus*.

Dysdera Latr., 1804, Nouv. Dic. Hist. nat., 34, mt. *punctoria* Latr., 1804 syn. *erythrina*.

Latrodectus Walck., 1805, 81, tsd. (1810) *13-guttatus*.

Segestria Walck., 1805, 48, tsd. (1810) *florentina*.

ACARINA:

Cheyletus Latr., 1796a, 179, mt. *eruditus*.

Chorioptes Gerv., in Gerv. & Ben., 1859a, 463, tod. *caprae*.

Demodex Owen, 1843, 252, mt. *folliculorum* Simon, 1842, 218-237, pl. 11.

Dermanyssus Dugès, 1834, Ann. Sci. nat., 18, tsd. *gallinae* deGeer, 1778a, 111, pl. 6, fig. 8, syn. *avium*.

Glyciphagus Hering, 1838, 619, type *domesticus*.

Polydesmus Latr., 1802b, 44, mt. *complanatus*.

Psoroptes Gerv., 1841a, 9, mt. *equi* Gerv., 1841a, 9.

Rhizoglyphus Clap., 1869a, 506, tod. *robini* Clap., 1869.

Trombidium Fabr., 1775a, 430, tsd. (1810) *holosericeum* Linn., 1758a, 617.

THYSANURA:

Lepisma Linn., 1758a, 344, 608, tsd. (1810; 1915) *saccharina* Linn., 1758a, 608.

COLLEMBOLA:

Podura Linn., 1758a, 344, 608, tsd. (1810) *plumbea* [; tsd. antedated (1915) *aquatica*].

ORTHOPTERA:

Blatta Linn., 1758a, 342, 424, tsd. (1810; 1915) *orientalis* Linn., 1758a, 424.

Ectobius Stephens, 1835, Ill. Brit. Ent. Mandib., v. 6, 45, tsd. (1840) *Blatta lapponica* Linn., 1758a, 425.

Gryllus Linn., 1758a, 342, 425, tsd. (1810; 1915) *campestris* Linn., 1758a, 428.

Periplaneta Burm., 1838, Handb. Ent., v. 2, 502, tsd. (1903) *Blatta americana* Linn., 1758a, 424.

ANOPLURA:

Pediculus Linn., 1758a, 610, tsd. (1810) *humanus*, restricted later to syn. of tsd. (1915; 1916) *capitis*.

Phthirus Leach, 1815, Edinb. Encycl., v. 9 (1), 77, mt. *inguinalis* so. *Pediculus pubis* Linn., 1758a, 611. Same as *Phthirius*, emendation.

HEMIPTERA:

Anthocoris Rodhe in Fallèn, 1814, 9, tsd. (1840; 1910; 1915; 1917) *Cimex nemorum* Linn., 1761, 254, so. *sylvestris* Linn., 1758a, 449.

Nabis Latr., 1802b, 248, tsd. (1840; 1917) *vagans* Fabr., so. (tsd. 1915) *Cimex ferus* Linn., 1758a, 449.

Notonecta Linn., 1758a, 343, 439, tsd. (1810; 1915) *glauca* Linn., 1758a, 439. Europe.

Reduvius Fabr., 1775a, 729, tsd. (1810; 1840; 1915; 1917) *Cimex personatus* Linn., 1758a, 446 [; tsd. by error (1803) *fuscipes*].

Triatoma Laporte, 1832, Mag. de Zool., v. 2, 11, mt. *gigas* Fabr. = *rubrofasciatus* deGeer; tsd. (by error, 1915) *infestans*.

DERMAPTERA:

Forficula Linn., 1758a, 342, 423, tat. (1758) and tsd. (1810; 1915) *auricularia* s. (1758) *forficula* s. *vulgaris*.

SUCTORIA s. SIPHONAPTERA s. APHANIPTERA:

Pulex Linn., 1758a, 614, tsd. (1810; 1915) *irritans* Linn., 1758a, 614. Europe.

MAMMALIA:

Cercopithecus Linn., 1758a, 26, tsd. (1926) *Simia diana* Linn., 1758a, 26.

Opinion concurred in by eleven (11) Commissioners: Apstein, Chapman, Dabbene, Horvath, Ishikawa, Jordan (D. S.), Monticelli, Neveu-Lemaire, Stiles, Stone, Warren.

Opinion dissented from by no Commissioner.

Not voting, seven (7) Commissioners: Bather, Handlirsch, Hartert, Jordan (K.), Kolbe, Loennberg, Stejneger.