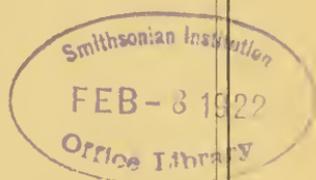


SMITHSONIAN MISCELLANEOUS COLLECTIONS

VOLUME 73, NUMBER 1

OPINIONS RENDERED BY THE INTERNATIONAL
COMMISSION ON ZOOLOGICAL
NOMENCLATURE

OPINIONS 68 TO 77



(PUBLICATION 2657)

CITY OF WASHINGTON
PUBLISHED BY THE SMITHSONIAN INSTITUTION
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Opinions	1 to 25,	1938, July,	1910 (out of print).
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"	57 "	65, 2256, March,	1914
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OPINIONS RENDERED BY THE INTERNATIONAL
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OPINION 68

THE TYPE SPECIES OF *PLEURONECTES* LINNÆUS, 1758A

SUMMARY.—Fleming, 1828, p. 196, does not designate the type of *Pleuronectes*.

STATEMENT OF CASE.—Chancellor David Starr Jordan has submitted the following case for opinion:

THE TYPE OF *PLEURONECTES* L.

The Linnæan genus *Pleuronectes*, containing many species, was subdivided by Rafinesque, 1810, *Indice d'Ittiologia Siciliana*, pp. 14-15, and by Cuvier, 1817, *Le Règne Animal*, vol. 2, pp. 218-224. In neither case was the name *Pleuronectes* applied to any one of these subdivisions. Such application to a restricted group was first made by Fleming, 1828, pp. 196-199 (*History of British Animals*). He recognizes four genera of flounders, *Pleuronectes*, *Solea* (Rafinesque), *Platessa* (Cuvier), and *Hippoglossus* (Cuvier). The types of the last three genera are clearly *Pleuronectes solea* L., *Pleuronectes platessa* L., and *Pleuronectes hippoglossus* L. As to *Pleuronectes* Fleming says:

"Gen. XLVI. *PLEURONECTES*. Turbot. Mouth entire; teeth numerous, slender. Lateral line curved. Eyes on the left side."

The five species named represent five modern genera, all allies of the turbot. *Pleuronectes maximus* L. is the type of the genus *Psetta* Swainson.

The first species named by Fleming is "96, *P. maximus*. Common Turbot."

Under the rules of the Zoological Congress, does this act of Fleming restrict the name of *Pleuronectes* to the Turbot group? In this case later usage has made *Pleuronectes maximus* L., the Turbot, the type.

Or does Fleming fail to fix the type? In this case we go on to Bleeker, 1862, pp. 422-429 (*Versl. en Mededeel. Kon. Akad. Wetens. Amsterdam*), who makes *Pleuronectes* synonymous with *Platessa* Cuvier, the type being *Pleuronectes platessa* L. In this Bleeker has been followed by common usage.

DISCUSSION.—It is to be noticed that Doctor Jordan does not ask the Commission to determine the type of *Pleuronectes*, but only whether Fleming in 1828 does, or does not, fix the type of this genus.

The question at issue involves an interpretation of the expression used in Article 30g of the International Rules, reading :

The meaning of the expression, "select the type," is to be rigidly construed. Mention of a species as an illustration or an example of a genus does not constitute a selection of a type

as applied to Fleming's action in 1828, p. 196. For earlier opinion on this general point (Art. 30g), see Opinion 45 (The Type of *Syngnathus* L. 1758), p. 103 (as applied to Rafinesque and Swainson).

The details of the premises presented by Doctor Jordan are as follows:

Linnæus (1758a, pp. 268-271) included the following 16 species in his genus *Pleuronectes*: 1, *achirus*; 2, *trichodactylus*; 3, *lineatus*; 4, *ocellatus*; 5, *lunatus*; 6, *hippoglossus*; 7, *cynoglossus*; 8, *platessa*; 9, *flesus*; 10, *limanda*; 11, *solea*; 12, *linguata*; 13, *rhombus*; 14, *maximus*; 15, *passer*; 16, *papillosus*.

Rafinesque (1810, pp. 14-15, and 52-53, Indice d'Ittiologia Siciliana) mentions under his sixth order, I Pleronetti, three genera, as being represented among the Sicilian fishes, as follows:

VI. ORDINE. I. PLERONETTI. (Pages 14-15)

45. *Solea* (Raf. app. gen. 4.) *buglossa*. Raf. (*Pleuronectes solea* Linn.) *Sogliola comune*. *Linguata*. a Messina *Palaja*. a Catania *Linguatu*.
46. — *Limanda*. Raf. (*Pleuronectes Linguata* Linn.) *Sogliola limanda*. *Lema*, ò *Lima*, ò *Passari*.
47. — *Platessa*. Raf. (Pl. *platessa* Linn.) *Sogliola pianosa*. *Pianussu*, ò *Passera*.
48. — *Rhomboide*. Raf. app. sp. 6. (Pl. *limanda*. var. Lac.) *Sogliola romboide*. *Rumbu imperiali*.
49. — *Cithara*. Raf. app. sp. 7. *Sogliola citara*. *Cantinu*.
50. — *pegusa*. Raf. (Pl. *pegusa*. Lac.) *Sogliola pegusa*. *Linguata ucchiuta*.
51. — *Arnoglossa*. Raf. app. sp. 8. *Sogliola arnaglossa*. *Linguata liscia*.
52. — *cynoglossa*. Raf. app. sp. 9. *Sogliola linguacane*. *Linguata mavista*.
53. *Scophthalmus* (Raf. app. gen. 5.) *maximus*. (*Pleuronectes maximus* Linn.) *Rombo massimo*. *Rumolo imperiali*.
54. — *Rhombus*. Raf. (Pl. *rhombus* Linn.) *Rombo comune*. *Rumbu*, ò *Linguata masculu*. a Messina *Passera*.
55. — *diurus*. Raf. app. sp. 10. *Rombo doppiacoda*. *Rumbu dupiacuda*.
56. *Bothus rumolo*. Raf. car. gen. 23, sp. 54. *Boto rumolo*. *Rumolo*. a Catania *Lumcru*.
57. — *Tappa*. Raf. car. sp. 55. *Boto tappa*. *Tappa*. a Catania *Panta*.
58. — *Imperialis*. Raf. car. sp. 56. *Boto imperiale*. *Tappa imperiali*, ò *Linguata imperiali*.

Thus, the genus *Solea* 1810 (see also Quensel, 1806, p. 230, genus *Solea*, with *S. vulgaris*, syn. *Pleuronectes solea* Linn.) contains the species *Pleuronectes solea*, which in 1806 and 1810 became the type of *Solea* by absolute tautonymy (Article 30d), and the Linnæan species *Pleuronectes rhombus* and *Pleuronectes maximus* were placed (1810) in *Scophthalmus*.

Cuvier (1817, pp. 218-224, Règne Animal) distributes the Linnæan species of *Pleuronectes* L. as follows ("Nous les divisions comme il suit"):

Pleuronectes [no species mentioned as type, and no subgenus mentioned as *Pleuronectes*].

subg. *Platessa* Cuvier, 1817, contains—

La Plie franche ou Carrelet (*Pleur. platessa* L.) [type by absolute tautonymy].

Le Flet ou Picaud (*Pleur. fesus* L.).

La Limande (*Pleur. limanda* L.).

subg. *Hippoglossus* Cuvier, 1817, contains—

Le Flétan (*Pleuronectes hippoglossus*) [type by absolute tautonymy], and several species in footnote.

subg. *Rhombus* Cuvier, 1817 [not *Rhombus* Lacépède, 1800, of which the type is *alepidotus* teste Jordan & Evermann, not *Rhombus* Da Costa, 1776, mollusk, not *Rhombus* Humph., 1797, mollusk, not *Rhombus* Montf., 1810, mollusk], contains—

Le Turbot (*Pleuronectes maximus*) ("Le pl. passer d'Artédi et de Linn. n'est point différent du turbot").

La Barbue (*Pleuronectes rhombus*) [type by absolute tautonymy]; he mentions also *Pleuronectes nudus* Risso, *Diaphanus* Sh., *Arnoglossum* Rondelet, and further, in footnote, several other species.

subg. *Solea* Cuvier, 1817, containing—

Pleuronectes solea L. [type by absolute tautonymy].

Pleuronectes cynoglossus L.

subg. *Monochires* Cuvier, 1817 [not clear whether French or Latin], containing—

Le Linguatula Rondelet (*Pleuronectes microchirus*).

subg. *Achirus* Lacépède, 1802, containing—

Pleuronectes achirus L., and in footnote several other species including *Pleuronectes lineatus* [author not given].

subg. *Plagusia* Brown, 1756, not *Plagusia* Latreille, 1806, crustacean.

Fleming, 1828,¹ "in the enumeration of British animals contained in this volume" (p. xviii), "as a compiler" (p. xxi), gives descrip-

¹"History of British Animals, exhibiting the descriptive characters and systematical arrangement of the genera and species of quadrupeds, birds, reptiles, fishes, mollusca, and radiata of the United Kingdom; including the indigenous, extirpated, and extinct kinds, together with periodical and occasional visitors."

tions, synonymy, and occurrence in British waters for the following fishes that come under consideration in connection with this case:

- g. 46. *Pleuronectes*. Turbot. [5 species reported.]
 96. *P. maximus*. Common Turbot.
 97. *P. rhombus*. Brill.
- g. 47. *Solea*. Sole. [2 species reported.]
 101. *S. vulgaris*. Common sole. Syn. *Pleuronectes solea* Linn.
- g. 48. *Platessa*. Fluke. [5 species reported.]
 103. *P. vulgaris*. Plaise. Syn. *Pleuronectes platessa* Linn.
 104. *P. flesus*. Flounder. Syn. *Pleuronectes flesus* Linn.
 105. *P. limanda*. Dab. Syn. *Pleuronectes limanda* Linn.
- g. 49. *Hippoglossus*. Holibut. [1 species reported.]
 108. *H. vulgaris*. Common holibut. Syn. *Pleuronectes hippoglossus* Linn.

The author does not state in connection with any one of these four genera what species he accepts as type species. None of the five species mentioned under *Pleuronectes* appears, from the premises presented, to be the type of *Pleuronectes* by absolute tautonymy, but species No. 97, *Pleuronectes rhombus*, is type of *Rhombus* 1817 (not *Rhombus* Lacép, 1800), by absolute tautonymy, and both *Pleuronectes maximus* and *Pleuronectes rhombus* had been placed in the genus *Scophthalmus* by Rafinesque, 1810. The fact that Fleming gives the vernacular name "Turbot" to the genus *Pleuronectes*, and "Common Turbot" to the species *Pleuronectes maximus*, cannot, "rigidly construed," be taken as designation of type.

In the introduction to this work, Fleming (1828, p. xxi) states that his History (1828) "is destined to serve as an adjunct" to his Philosophy of Zoology (1822), and this statement leads the Secretary to consult said "Philosophy," in order to better understand the premises.

Fleming (1822, v. 2, Philosophy of Zoology), in the general discussion on nomenclature and species, says:

- p. 153, Where synonymes have unavoidably been created in consequence of the want of communication between distant observers, the rule universally known, but not equally extensively observed, is to give the preference to the name first imposed.
- p. 157, Where useless changes are thus produced in nomenclature, their authors, and their names should be overlooked.

In a number of places Fleming clearly determines the type species of a genus, for instance:

- p. 173, 2. MIMETES (of Dr. Leach), *Chimpanze*. . . . The *Simia troglodytes* of authors, is the type of the genus.
3. SIMIA. Orang-Outang. . . . The *Simia Satyrus* is the type.
- p. 174, 13. LEMUR. . . . The Lemur Macaco is the type of this genus.

In many cases Fleming simply mentions a single species under the genus without stating that it is the type. For instance:

- p. 178, 27. RHINOLOPHUS. . . . *Rh. ferrum equinum*.
 28. NYCTERIS. . . . *N. hispidus*.

The foregoing citations clearly show that Fleming had a distinct conception of the type species as we understand it to-day.

The practical point arises whether Fleming intended that the citation of a single species should be accepted as a designation by him of the type species. If Fleming avers in any portion of his book that this interpretation is to be made, the Secretary has thus far been unable to find the statement. The general tendency of the entire work toward the naming of a type species is, however, striking for a book published in 1822, and the temptation is very great indeed to make the interpretation that Fleming actually intended to designate a type species for nearly every genus he mentioned.

In his Philosophy, Fleming (1822, vol. 2) refers to *Pleuronectes* as follows:

- p. 388, 64. PLEURONECTES. With pectoral fins. This genus includes 1. Pleuronectes (*P. platessa*). 2. Hippoglossus (*R. [P.] hippoglossus*).
 3. *Rhombus* (*P. maximus*). 4. *Solea* (*P. solea*).
 65. ACHIRUS. Destitute of pectoral fins. *Pleuronectes achirus*.

The point is to be noticed that in 1822 Fleming used *Pleuronectes* for *Pleuronectes platessa*, and *Rhombus* for *Pleuronectes maximus*, while in 1828 he changed his view and used *Pleuronectes* for *Pleuronectes maximus* and *Pleuronectes rhombus*, but he placed *Pleuronectes platessa* in the genus *Platessa*.

Accordingly the premise presented by Doctor Jordan that Fleming (1828, 196-199) was the first to restrict the name *Pleuronectes* to a subdivision of the original genus is found to be erroneous. Such restriction appears to have been made at least as early as 1822 by Fleming, and his 1822 action was reversed in 1828.

It will be noticed that Fleming in 1822 adopted the four subgeneric groups used by Cuvier, 1817, and that he corrected the nomenclatural error of Cuvier, in that Fleming recognized *Pleuronectes* for one of the subgenera, namely, for that group which Cuvier named *Platessa*, and the type of which by absolute tautonymy is *Pleuronectes platessa*. The question is: Did Fleming here select *platessa* as type of *Pleuronectes* s. str.?

At least four views are possible:

(1) *Type by inclusion*.—By the principle of "type by inclusion" *platessa* would become, *ipso facto*, the type of *Pleuronectes* s. str., because *Pleuronectes* s. str., here clearly includes *Platessa* 1817, for

which *platessa* is type by tautonymy. But the proposal to insert into Art. 30 the principle of "type by inclusion" was rejected by the Commission at its Boston meeting.

(2) *Typical subgenus*.—The view might be advanced that Fleming here proposed, apparently for the first time, the typical subgenus *Pleuronectes*, and that by citing only the name *Pleuronectes platessa*, he designated the type by monotypy. Art. 30c.

(3) *Type by renaming*.—The view might be advanced that Fleming deliberately renamed *Platessa* 1817, for which the type had already been determined by absolute tautonymy, hence that *platessa* became automatically type of *Pleuronectes* s. str. Art. 30f.

(4) *Type by monotypy*.—The view might be advanced that Fleming, by quoting only *platessa* under *Pleuronectes*, definitely intended to take this as type.

In respect to this last view (4) different authors might differ in opinion, for the point might be advanced that Fleming did not dispose of all the original species of *Pleuronectes* 1758, and that he simply mentioned *platessa* as an example of *Pleuronectes* s. str., hence, that "rigidly construed" this is not a type selection.

Nevertheless, from the premises here presented it seems clear that Fleming, 1822, actually did propose the typical subgenus of *Pleuronectes*, that he correctly named this subgenus as *Pleuronectes*, and that he mentioned only one species (*platessa*) as representative of this typical subgenus. Accordingly, unless there are important reasons to the contrary, it would seem best to take *platessa* as type of *Pleuronectes*.

While the evidence seems to point to the conclusion that *platessa* should be taken as type species of *Pleuronectes* on basis of Fleming (1822, p. 388), it seems wise, in view of the possibility of a difference of opinion (4), to follow the case further in order to see how the views given under (2) and (3) would coincide with the later history of the generic name.

Without entering upon a detailed discussion of this very confused case of nomenclature, which involves many references in addition to those cited by Doctor Jordan, attention is invited to the facts that—

(a) Fleming's action in 1822 in substituting *Pleuronectes* for Cuvier's genus *Platessa*, 1817, is followed by Bleeker (1862), Günther (1862), Leunis (1883), and Claus (1895), while Jordan² and Evermann (1898), and Apstein (1915) definitely mention *Pleuronectes platessa* as the type of *Pleuronectes*, and

²Jordan (1917a, 13, The genera of fishes) accepts *platessa* as type of *Pleuronectes*.

(b) On the other hand Fleming's action of 1828 in placing *Pleuronectes rhombus* and *Pleuronectes maximus* in the genus *Pleuronectes* is followed later by Fleming (1842), while Jordan & Goss (1889) definitely designate *Pleuronectes maximus* as type of *Pleuronectes*.

In answering Doctor Jordan's question, the Commission is of the opinion that Fleming's action of 1828 (pp. 196-199) is not to be construed as fixing the type of *Pleuronectes*.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Handlirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Dautzenberg, Kolbe, Roule, Simon.

The foregoing Opinion was submitted to all Commissioners for vote and to more than 350 zoologists, zoological laboratories, colleges, and scientific institutions for comment. No adverse criticism has been received by the Secretary, but the following comments have been sent to him:

Commissioner Allen: It seems to me that Fleming in 1822, by including only *Pleuronectes platessa* L. in his subgenus *Pleuronectes*, distinctly indicates, in view of his clear recognition of the need of type designations, that he regarded *P. platessa* L. as the type and that his action in 1828 has not necessarily any bearing on the case.

Commissioner Bather: I agree with the conclusion arrived at, but I am perhaps more influenced in coming to the conclusion by the fact that Fleming's book of 1828 was professedly a history of British animals only, and that in the absence of any evidence to the contrary it should be so accepted. Therefore, quite apart from the existence of the 1822 work, I should not regard Fleming as fixing types in 1828.

Commissioner Hartert: It is clear that Fleming did not formally fix the types in this case, which is perfectly parallel to that of the genera of the swallows of Forster, 1817. I accepted Forster's genera, but the A. O. U. and as competent nomenclaturists of England and Germany disagreed with my action, holding that Forster did not formally designate the type of *Hirundo*.

Commissioner Hoyle: Fleming, 1828, did not fix the type of *Pleuronectes*, but I am inclined to think (from the data given) that he made *platessa* the type in 1822.

Commissioner D. S. Jordan: I think both cases [*Pleuronectes* and *Sparus*] practically above question—fortunately coinciding with usage.

Commissioner Stejneger: I hold that Fleming, in 1822, actually designated the types [for *Pleuronectes* and *Sparus*] as understood in the International Code of Nomenclature.

Doctor Pappenheim (Berlin) studied the case, upon the request of Commissioner Kolbe, and presented to him the following memorandum:

Ich schlage vor die Fischgattungsnamen "*Pleuronectes* L." und "*Sparus* L." unbedingt zu verwerfen und durch *Platessa* Cuv. und *Chrysophrys* Cuv. zu ersetzen. Als Type für die Gattung *Platessa* hat nach meiner Auffassung die Art *Pl. platessa* (L.), für *Chrysophrys* die Art *aurata* (L.) zu gelten.

Die gegenteiligen Ansichten könnten sich m. M. nur auf Fleming stützen, dessen Arbeiten ein systematischer Wert nicht zukommt. Andererseits genügt zur Begründung der Wahrung der von Cuvier aufgestellten Namen das in den Anlagen (Letter No. 27 und No. 28) gegebene Material.

Eine Notwendigkeit, bei Verwerfung der Namen "*Pleuronectes*" und "*Sparus*" und auch die Familien Namen "*Pleuronectidæ*" und "*Sparidæ*" aus nomenclatorischer Gründen zu verwerfen, liegt m. M. n. nicht vor, wie ich überhaupt der Meinung bin, dass die angeblich allgemein giltigen, weit international festgelegten Nomenclaturregeln in begründeten Fällen, wie den beiden vorliegenden aus systematisch-morphologischen Gründen vernachlässigt werden können.

Ich werde jedenfalls in Zukunft ohne Rücksicht auf etwaige gegenseitige Entscheidungen der Kommission die Namen "*Pleuronectes*" und "*Sparus*" nicht mehr anwenden.

William C. Kendall, Lewis Radcliffe, and Hugh M. Smith (U. S. Fish Commission) unite in the conclusion that Fleming (1822) should be regarded as having designated *platessa* as the type of *Pleuronectes* and the fact that the disposal of the matter otherwise in 1828 should not affect the question; that if, however, Fleming or other authors cannot be accepted, the question lies between Swainson (1839, v. 2, p. 302) and Bleeker (1862, 428), and that Bleeker does not designate the type in the sense that the exact rule of the Zoological Congress seems to require any more specifically than was evidently intended by Swainson.

Miss Mary J. Rathbun: My opinion is that *platessa* should be regarded as the type of *Pleuronectes* by action of Fleming in 1822, and that Fleming 1828, 196, does not designate the type of *Pleuronectes*.

Favorable replies have been received also from: P. P. Calvert, C. Tate Regan, A. A. Tyler, and H. L. Viereck.

Oldfield Thomas: The tendency of the proposed answers appears to be that Fleming's 1822 quotations of species should be accepted as genuine selections, a view with which I agree.

OPINION 69

THE TYPE SPECIES OF SPARUS LINNÆUS, 1758

SUMMARY.—Fleming, 1828, 211, does not designate the type of *Sparus*.

STATEMENT OF CASE.—Chancellor David Starr Jordan has submitted the following case for opinion:

THE TYPE OF *SPARUS* L.

The genus *Sparus* L. was subdivided by Cuvier (1817, vol. 2, pp. 271-274, Règne Animal), who failed to retain the name for any of its parts.

Fleming (1828, pp. 211-212, History of British Animals) recognized three genera among the Linnæan species—*Sparus*, *Pagrus* Cuvier (*Sparus pagrus* L.) and *Dentex* Cuvier (*Sparus dentex* L.). Under *Sparus* he says:

“Gen. LXVII. SPARUS, GILTHEAD. Four or six teeth in each jaw, in one row; the rest of the jaw paved with large round teeth, with blunt summits.”

One species is mentioned, *Sparus aurata* L., which is the common “Gilt-head,” the type of *Chrysophrys* Cuvier, 1817, and of *Aurata* Risso, 1826.

Does this constitute a restriction of *Sparus* to *S. aurata*? Common usage so regards it. Later authors have proposed to use the name for other Linnæan species of *Sparus*.

The other species, formerly referred to *Sparus*, are never called “Gilt-head.”

DISCUSSION.—The case of *Sparus* involves the same principles as the case of *Pleuronectes* (see Opinion 68).

The details of the premises presented by Doctor Jordan are as follows:

Linnæus (1758a, pp. 277-282, Systema Naturæ) included in the genus *Sparus* 22 species, as follows: 1, *aurata*; 2, *annularis*; 3, *sargus*; 4, *melanurus*; 5, *smaris*; 6, *mæna*; 7, *saxatilis*; 8, *orphus*; 9, *hurta*; 10, *erythrinus*; 11, *pagrus*; 12, *boops*; 13, *cantharus*; 14, *chromis*; 15, *salpa*; 16, *synagris*; 17, *dentex*; 18, *spinus*; 19, *virginicus*; 20, *mormyrus*; 21, *capistratus*; 22, *galilæus*.

Cuvier (1817, vol. 2, pp. 268-272, Règne Animal) distributed original Linnæan species among the following systematic units:

PERCOIDES

g. *Smaris* Cuvier, 1817 [not *Smaris* Latreille, 1796, arach.], including—
Sparus mæna L.

Sparus smarís L. [type by absolute tautonymy], together with certain other species mentioned in footnote.

g. *Boops* Cuvier, 1817, including—

Sparus salpa L.

Sparus melanurus L.

Sparus boops L. [type by absolute tautonymy].

g. *Sparus* Cuvier, 1817. [Cf. *Sparus* Linn., 1758.] ("Que je réduits aux espèces de l'ancien genre de ce nom, dont les mâchoires peu extensibles sont garnies, sur les côtes, de molaires rondes, semblables à des pavés. Ils vivent généralement de *fucus*. Je les subdivise comme il suit") :

[subg.] *Sargus* Cuvier, 1817 [not *Sargus* Fabr., 1798, dipteron], containing—

La Sargue ordinaire (*Sp[arus] sargus* L.) [type by absolute tautonymy].

[subg.] Les Daurades [Latin name not given], containing—

La Daurade ordinaire (*Sp[arus] aurata* L.), together with several other species mentioned in footnote.

[subg.] *Pagrus* Cuvier, 1817, containing—

Le Pagre ordinaire (*Sp[arus] argenteus* Schn.) [= *pagrus* Linn., teste Jordan and Evermann].

Le Pagel (*Sp[arus] erythrinus* L.), and 3 species in footnote.

g. *Dentex* Cuvier, 1817, containing—

Le Denté ordinaire (*Sp[arus] dentex* L.) [type by absolute tautonymy], and several species mentioned in footnote.

g. *Cantharus* Cuvier, 1817 [not *Cantharus* Bolt, 1798, mollusk, not *Cantharus* Montf., 1808, mollusk], containing—

Le Canthère ordinaire (*Sp[arus] cantharus* L.) [type by absolute tautonymy], and several species in footnote.

Fleming (1828, pp. 211-212, History of British Animals) reports and describes the following original Linnæan species of the genus *Sparus* for Great Britain:

g. 47. *Sparus* Gilthead. [1 species reported.]

136, *S. aurata*.

g. 48. *Pagrus* Braize. [2 species reported.]

137, *P. vulgaris*. Common Braize. Syn. *Sparus pagrus* Linn.

g. 49. *Dentex*. [1 species reported.]

139, *D. vulgaris*. Syn. *Sparus dentex* Linn.

The author does not state in connection with any one of these three genera what species he accepts as type species; but *Sparus pagrus* had become the type of *Pagrus* in 1817, by absolute tautonymy (*argenteus* = *pagrus*, see Jordan and Evermann, 1898). *Sparus dentex* had become the type of *Dentex* in 1817, by absolute tautonymy. *Sparus aurata* does not appear, from the premises presented, to be the type of *Sparus* by absolute tautonymy, but Cuvier, 1817, had placed *Sparus aurata* in the genus *Sparus*, subgenus Les Daurades (no Latin name used), to which subgenus Cuvier later (1829) gives the name *Chryso-phris* (= *Chryso-phrys*, 1830), of which it was the first species mentioned. Prior to this date (1829), however, Fleming (1822, Philosophy of Zoology) had adopted three of Cuvier's subgenera of *Sparus*.

and had retained for Les Daurades the subgeneric name *Sparus*, as shown in the following quotation:

p. 392, 92. *Sparus*. Teeth on the sides round, with flat summits. Jaws nearly fixed. 1. *Sargus* (*S. sargus*). 2. *Sparus* (*S. aurata*). 3. *Pagrus* (*S. pagrus*).

Accordingly, the premises presented by Doctor Jordan appear to be incomplete, for Fleming's action of 1828 in adopting *Sparus* for *Sparus aurata* is virtually simply an adoption of his action of 1822.

The same question and the same possibilities of interpretation now arise in respect to Fleming's action of 1822 in regard to *Sparus*, that arose in connection with his action of 1822 in regard to *Pleuronectes* (see Opinion No. 68, The Type of *Pleuronectes* L.).

While the evidence in the foregoing seems to point to the conclusion that *aurata* should be taken as type species of *Sparus* on basis of Fleming 1822, p. 392, it seems wise, in view of the possibility of a difference of opinion in regard to the interpretation, to follow the case further, in order to see how this view would coincide with the later history of the generic name.

Without entering upon a detailed discussion of this case, which involves many references in addition to those cited by Doctor Jordan, attention is invited to the facts that—

(a) Fleming's action of 1822 in retaining *Sparus* for the species *Sparus aurata* is followed by Fleming, 1828, and Fleming, 1842¹; and

(b) Cuvier's action of 1829 in placing the species *Sparus aurata* in the genus *Chrysophris*, 1829 (*Chrysophrys*, 1830) is followed by Swainson (1829), Cuvier & Valenciennes (1830), Burmeister (1837) who gives *Sparus* Linn. as synonym, Günther (1859), Ludwig's Leunis (1883), Claus (1885), Knauer (1887), R. Blanchard (1890), and Railliet (1895), while Apstein (1915a), definitely designates *Sparus aurata* as type of *Chrysophrys*.

From the two quotations given in the foregoing—1822 and 1828—it will be seen that in 1828 Fleming is simply reporting the presence of *Sparus aurata* in British waters, and that, "rigidly construed," he does not here designate a type species for the genus *Sparus*, but in 1822 he distinctly recognizes a typical subgenus (*Sparus* s. str.) to include Cuvier's 1817 "Les Daurades." Cuvier's 1829 genus *Chrysophris* (1830 *Chrysophrys*), therefore, includes Fleming's 1822 typical subgenus *Sparus*.

In answering the question presented by Doctor Jordan, the Commission is therefore of the opinion that Fleming, 1828, p. 211, did

¹ Also Jordan (1917a, 13, The genera of fishes).

not designate the type for *Sparus aurata* for British waters, and that in using the generic name *Sparus* for the species *Sparus aurata*, he simply acted nomenclaturally in accordance with his action of 1822.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Handlirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Dautzenberg, Kolbe, Roule, Simon.

The foregoing Opinion was submitted to all Commissioners for vote and to more than 350 zoologists, zoological laboratories, colleges, and scientific institutions for comment. No adverse criticism has been received by the Secretary, but the following comments have been sent to him:

Commissioner Allen: Again it seems to me that Fleming may be correctly assumed to have fixed the type of *Sparus* in 1822 (by monotypy) as *Sparus aurata* Linn. Fleming's *Sparus* (1822 and 1828) = Les Daurades Cuvier (1817), to which Fleming appears to have been the first to assign a name, selecting *Sparus* for it.

While Fleming did not formally, or in the strict sense of Article 30 of the International Code, designate a type for either *Pleuronectes* or *Sparus*, I should not in the least hesitate, were I forced to give a decision in the case, to decide that, for all practical purposes, Fleming did indicate *Pl. platessa* L. as the type of *Pleuronectes*, and *Sp. aurata* L. as the type of *Sparus*; at least I should hold that such a decision was warranted by usage and in harmony with many precedents.

Commissioners Bather, Hartert, D. S. Jordan, and Stejneger: Same remarks as under Opinion 68.

Commissioner Hoyle: As regards *Sparus*, I am not clear about the action of Cuvier, 1817. If an author divides the genus and does not retain the original name for one of the parts, does not that render his action null and void? Or can we pick out one of his parts, apply the old name to that and neglect his new one?

Favorable opinions have been received from: P. P. Calvert, Barton W. Evermann, W. C. Kendall, Lewis Radcliffe, Hugh M. Smith, Oldfield Thomas, A. A. Tyler, and H. L. Viereck.

Miss Mary J. Rathbun: Also that *aurata* became the type of *Sparus* in 1822 by Fleming, and, therefore, he did not designate the type of that genus in 1828.

Doctor Pappenheim: See remarks under Opinion 68.

OPINION 70

THE CASE OF *LIBELLULA AMERICANA* L., 1758, VS. *LIBELLULA AMERICANUS* DRURY, 1773

SUMMARY.—In view of the fact that *Libellula americanus* Drury, 1773, is an evident *lapsus calami* for *Gryllus americanus*, the *lapsus* is to be corrected, and the specific name in this instance, *americanus* 1773, is not invalidated by *Libellula americana* 1758.

STATEMENT OF CASE.—A. N. Caudell presents the following case for opinion:

Shall the specific name *americanus* Drury, 1773, be suppressed in favor of *serialis* Thunberg, 1815?

The pertinent references are:

1770, Drury, Illustrations of Nat. Hist., vol. 1, plate 49.

1771, Linnæus, Mantissa Plantarum, p. 533.

1773, Drury, Illustrations of Nat. Hist., vol. 1, index.

1815, Thunberg, Mem. Acad. Imp. Sci., St. Petersb., vol. 5, p. 241.

Drury, 1770, figured two locusts, but used no names except an indication that figure 2 of the plate was related to [or identical with¹] *Gryllus tartaricus* of Linnæus.

Linnæus, 1771, refers to the above plate by Drury, and names figure 1 as *Gryllus ? squarrosus*.

Drury, 1773, in index, refers to the above work of Linnæus, quoting the name *squarrosus*, but the species is placed under the generic name *Libellula*. No. 2 of the plate is here given the specific name *americanus* and is, like the name *squarrosus* Linn., placed under *Libellula*.

Thunberg, 1815, described the species *Gryllus serialis*, which has been found to be a synonym of the above *americanus* of Drury.

In the tenth edition of Linnæus' *Systema Naturæ*, there is described a true dragon fly under the name *Libellula americana*, and thus the above combination of *Libellula americanus* by Drury apparently makes the latter a primary homonym. However, this inclusion of this species by Drury in the genus *Libellula* seems to be an error, or *lapsus calami*, for the following reason:

1. The insect *Gryllus tartaricus* of Linnæus, which Drury mentions in 1770 as related to his figure 2, is a locust, that is, the genus *Gryllus* as then used.

2. In the index of vol. 1 of Drury's Illustrations in 1773, mention is made of the reference of *squarrosus* to the genus *Gryllus* by Linnæus in 1771, and in the absence of other evidence there seems no reason to think Drury intended other than to follow him; *squarrosus* is figure 1 of the plate, and the second figure, *americanus*, also a locust, would clearly be treated the same.

3. The termination of the two species as appearing in the index, 1773, is "us," an ending agreeing with *Gryllus* but not with *Libellula*. It is to be noted, however, that Drury is not consistent in his termination, as in the index the names *cincta* and *squamosus* are included under the genus *Vcspa*.

¹"I have not seen it anywhere described unless the insect mentioned by Linnæus . . . is the same with this."

4. The previous plate, no. 48, contains only dragon flies, that is, the genus *Libellula*, and the mistake of failing to change the name of the genus to *Gryllus* for the species figured on plate 49, either by the author or the typesetter, seems easy.

5. Drury was an entomologist and one not likely to mistake a locust for a dragon fly, and thus not liable to place this large grasshopper in a Neuropterous genus.

The above reasons make it quite clear that the inclusion of *americanus*, at its first appearance, in the genus *Libellula* was an error or a *lapsus calami*, and Art. 19 is apparently an authority for setting aside such reference.

DISCUSSION.—The Secretary has, in the presence of A. N. Caudell, verified the facts submitted in respect to *Libellula americanus* Drury, 1773, index, as applied to plate 49, figure 2, of Drury, 1770, and is convinced that a *lapsus* for *Gryllus americanus* is present.²

The portions of the Code which come into consideration in this case are as follows:

ARTICLE 35.—A specific name is to be rejected as a homonym (1) when it has previously been used for some other species of the same genus. Examples: *Tænia ovilla* Rivolta, 1878 (n. sp.), is rejected as homonym of *T. ovilla* Gmelin, 1790.

ARTICLE 19.—The original orthography of a name is to be preserved unless an error of transcription, a *lapsus calami*, or a typographical error is evident.

In the Code of the American Ornithologists' Union, 1892, p. 47, Canon 33, which corresponds to Articles 34 and 35 of the International Code, reads as follows:

A generic name is to be changed which has previously been used for some other genus in the same kingdom; a specific or subspecific name is to be changed when it has been applied to some other species of the same genus, *or used previously in combination with the same generic name.* [Italics not in the original.]

By a strict construction of Canon 33 of the A. O. U. Code, the interpretation might be made that *Libellula americanus* 1773, even though a *lapsus*, is invalidated by *Libellula americana* 1758.

The case in question is one of several of its kind that has come to the attention of the Secretary, but this is the first instance in which the Commission has been requested to render a definite opinion upon cases of this nature.

² A reference to Drury, 1782 (Illustrations of Nat. Hist., vol. 3, p. xviii, footnote), has been brought to the attention of the Secretary. This reads: "The reader is desired to correct an error in the index, where this and the following insect are ranked among the *Libellula*, but should be among the *Grilli Locusta*." This quotation supports the opinion as written.

It is clearly the intent of the International Code, as shown by Article 19, to permit the correction of an evident error of transcription, a *lapsus calami* or a typographical error, and upon basis of this intention the Secretary recommends that the Commission adopt as its opinion the following:

In view of the fact that *Libellula americanus* Drury, 1773, is an evident *lapsus calami* for *Gryllus americanus*, the *lapsus* is to be corrected, and the specific name in this instance, *americanus* 1773, is not invalidated by *Libellula americana* 1758.

Opinion written by Stiles.

Opinion concurred in by 15 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Handlirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 3 Commissioners: Kolbe, Roule, Simon.

Bather agrees with the conclusion but submits evidence from Durrant contained in footnote, p. 73.

Hartert adds: The Commission has nothing to do with the A. O. U. Code.

K. Jordan adds: Article 35 is not clear. The expression "previously used for some other species in the same genus" is too general. It should be stated that the species *new* at the time and published in combination with the "same generic name" are meant.

OPINION 71

INTERPRETATION OF THE EXPRESSION "TYPICAL SPECIES" IN
WESTWOOD'S (1840) SYNOPSIS.

SUMMARY.—The species cited by Westwood, 1840 (*An Introduction to the Modern Classification of Insects*, vol. 2, Synopsis, separate pagination, pages 1 to 158), as "typical species" are to be accepted as definite designations of genotypes for the respective genera. The question whether any given species under consideration represents the valid genotype or not is dependent upon two points: *First*, whether the species was available as genotype and, *second*, whether this designation in 1840 is antedated by some other designation.

STATEMENT OF CASE.—J. C. Crawford and Chas. H. T. Townsend have requested an Opinion upon the question whether the species cited by Westwood (1840) in his Synopsis, and designated "Typical species" are to be accepted as types of the genera in question. Dr. Townsend's presentation of the case reads as follows:

J. O. Westwood published in volume 2 of his *Introduction to the Modern Classification of Insects*, in 1840, under the title of "Synopsis of the Genera of British Insects," 158 octavo pages of generic diagnoses, including a specific name with each genus. With reference to the function of this specific name, we find footnote on first page stating that following data are given in first line of each genus: "1. Name of the genus; 2. Name of its founder; 3. Synonym of the genus; 4. Author of the synonymical genus; 5. Number of British species; 6. Typical species; 7. Reference to the best figure."

It is plainly evident that this "Synopsis" is entirely restricted to the British species, and that the selection of the "typical species" has necessarily been restricted in each case to the British fauna, thereby resulting often in a genotype that is not typical in the sense of the founder of the genus.

Does the Commission rule that mention in this "Synopsis" of the "typical species," meaning unquestionably "typical *British* species," constitutes a valid designation of genotype?

Westwood makes the following statement in the preface (p. vi, vol. 1) to his "Introduction":

"At the same time, in order that this work may serve as a precursor to the works of Curtis, Stephens, &c., I have added a synopsis of the British genera, brought down to the present time. The idea of the addition of this synopsis was derived from Latreille's "Considérations Générales," in which the genera are shortly characterised, and the names of the typical species given in an Appendix. The additions of generic synonymes, references to generic figures, and indications of the number of British species, will render the synopsis more complete, although it must be evident that it can serve but as a guide to more extended research."

C. H. T. T.

DISCUSSION.—The question has been submitted by the Secretary of this Commission to the Secretary of the International Commission on Entomological Nomenclature, who has reported as follows:

Although some members of the Entomological Committee are of opinion that Westwood did not mean to designate genotypes in the modern sense, it is unanimously agreed that the species mentioned by Westwood under a genus should be considered genotype, if it was originally included in the genus, and if no genotype has been designated prior to Westwood.

That some authors have used the expression "Typical species" simply in the sense of a characteristic example of a genus, and that others have used it in the sense of "Type species," seems quite clear. Accordingly each paper must be judged separately in deciding whether the case in question fulfills the requirements of the Code that "the meaning of the expression 'select the type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type."

In connection with Westwood's Synopsis, there are two points of evidence that seem to come into special consideration in arriving at an interpretation of his use of the expression "Typical species."

First, Westwood (1839, vol. 1, p. vi, Introduction to Modern Classification of Insects) distinctly states that "The idea of the addition of this synopsis was derived from Latreille's *Considérations Générales*, in which the genera are shortly characterised, and the names of the typical species given in an Appendix"; accordingly Westwood intended that his Synopsis with "Typical species" should correspond to Latreille's "Table des genres avec l'indication de *l'espèce qui leur sert de type*" [italics not in the original].

The Commission has already adopted the Opinion (no. 11, pp. 17-18) that Latreille's Table . . . "should be accepted as designation of types of the genera in question (Art. 30)." Accordingly, since Westwood definitely states that his idea was obtained from Latreille's (1810) publication, it would appear logical to conclude that Westwood's (1840) Synopsis also is to be construed as designation of genotype.

Second: The foregoing interpretation of Westwood's citation receives support in the fact that in his Synopsis (see the case of *Demetrius*) he cites the original generic name under which the species was published. For instance, on p. 1, he gives the following: "*Demetrius* Bonelli. *Rhysophilus* Leach. 4 sp. *Carab. atricapillus* Linn." This is a method of citation very common among authors who are designating genotypes, but it is relatively uncommon when an author is simply citing a species as an example of a genus. In the

latter case it is usually the custom to cite the specific name only in combination with the name of the genus for which it is quoted as an example.

On the basis of the foregoing premises the Secretary recommends that the Commission confirm the report from the Entomological Commission, and adopt as its opinion the following:

The species cited by Westwood, 1840 (*An Introduction to the Modern Classification of Insects*, vol. 2, Synopsis, separate pagination, pages 1 to 158), as "Typical species" are to be accepted as definite designations of genotypes for the respective genera. The question whether any given species under consideration represents the valid genotype or not is dependent upon two points: *First*, whether the species was available as genotype, and *second*, whether this designation in 1840 is antedated by some other designation.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Bather, Blanchard, Dautzenberg, Handlirsch, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 1 Commissioner: Apstein.

Not voting, 3 Commissioners: Kolbe, Roule, Simon.

Apstein signs the concurrence in the Opinion but adds: Ich halte es ausgeschlossen dass Westwood Type in unserem jetzigen Sinne gemeint hat. Sind Typen bis jetzt bestimmt, so sollen sie nicht zu Gunsten von Westwood geändert werden, wenn sie auch erst zwischen 1840-1916 bestimmt sind. [In the last line of the Opinion Apstein inserts between the words "other" and "designation" the expression "auch späteren (als 1840)"; thus in reality he dissents from the Opinion.—C. W. S.]

OPINION 72

HERRERA'S ZOOLOGICAL FORMULÆ

SUMMARY.—Designations of animals, according to the system proposed by Herrera in the case submitted for Opinion, are formulæ, and not names. Accordingly they have no status in Nomenclature, and are therefore not subject to consideration under the Law of Priority. No author is under obligation to cite these designations in any table of synonymy, index, or other list of names.

STATEMENT OF CASE.—W. Dwight Pierce submits the following case for opinion:

Herrera, in 1900, proposed to prefix all zoological generic names with a syllable to indicate class, and to terminate them with "us" or "s," and to place behind them certain initials further to assist in locating the genus: *Insapis mellifica* (I, Hy, A).

DISCUSSION.—The foregoing case was submitted, for consideration and report, to the International Commission on Entomological Nomenclature, from the Secretary (Karl Jordan) of which the following report has been received:

The case, though based on insects, is of a general nature, and therefore one for the Commission to deal with. It has been submitted to European Entomological Committees only. Ten members have given their opinion. All agree as follows:

According to Herrera's own showing, the *names* of the genera are *Apis*, *Musca*, *Otus*, etc. If any of these names should be preoccupied, the formulæ *Insmuscas*, *Insbombyxus*, etc., cannot be considered as replacing preoccupied names. If Herrera has published such a formula as a title for a new genus (*INSEXUS*), *EXUS* should be regarded as the name of the new genus. In quoting literally from the work of Herrera, the formula "*Insbombyxus*" should be placed between inverted commas, ". . .": "*Insmuscas*" *domestica*, without the initials following in Herrera's formula. If the quotation is *not literal*, *Musca*, *Bombyx*, etc., should be used.

K. J.

The Secretary to the International Commission on Zoological Nomenclature concurs in general with the foregoing report, but invites attention to certain features of the case submitted.

In principle, according to the premises submitted, the designations by Herrera are of essentially the same kind as the designations by Rhumbler, 1910, *Zoologischer Anzeiger*, pp. 453 to 471, and *Verhandlungen des VII Internationalen Zoologen-Kongresses, zu Graz, 1910* (published 1912), pp. 859 to 874.

The following case is an example which illustrates Rhumbler's system:

Pachynodon reverendus Amegh. Eupachnodontos $\grave{\text{e}}$ reverendos A. m ! !=
fossiler Ungulate aus dem östlichen Südamerika.—E = Säugetier; u =
Ungulat.

It has long been a principle in zoological nomenclature that a name is only a name. For instance, the Code of Nomenclature adopted by the American Ornithologists' Union, 1892, pp. 21-22, contains the following:

PRINCIPLE V.—A name is only a name, having no meaning until invested with one by being used as the handle of a fact; and the meaning of a name so used, in zoological nomenclature, does not depend upon its signification in any other connection.

REMARKS.—The bearing of this principle upon the much desired *fixity* of names in Zoology, and its tendency to check those confusing changes which are too often made upon philological grounds, or for reasons of ease, elegance, or what not, may be best illustrated by the following quotation:

"It being admitted on all hands that words are only the conventional signs of ideas, it is evident that language can only attain its ends effectually by being permanently established and generally recognized. This consideration ought, it would seem, to have checked those who are continually attempting to subvert the established language of zoology by substituting terms of their own coinage. But, forgetting the true nature of language, they persist in confounding the *name* of a species or [other] group with its *definition*; and because the former often falls short of the fulness of expression found in the latter, they cancel it without hesitation, and introduce some new term which appears to them more characteristic, but which is utterly unknown to the science, and is therefore devoid of any authority.¹ If these persons were to object to such names of men as *Long*, *Little*, *Armstrong*, *Golightly*, etc., in cases where they fail to apply to the individuals who bear them, or should complain of the names *Gough*, *Lawrence*, or *Harvey*, that they were devoid of meaning, and should hence propose to change them for more characteristic appellations, they would not act more unphilosophically or inconsiderately than they do in the case before us; for, in truth, it matters not in the least by what conventional sound we agree to designate an individual object, provided the sign to be employed be stamped with such an authority as will suffice to make it pass current."

(*B. A. Code*, 1842)

These words, which in the original lead up to the consideration of the "law of priority," seem equally sound and pertinent in connection with the above principle of wider scope.

Regeln für die wissenschaftliche Benennung der Thiere zusammengestellt von der Deutschen Zoologischen Gesellschaft, 1894, p. 5, paragraph 5c, states:

¹Linnæus says on this subject: "Abstinendum ab hac innovatione quæ nunquam cessaret, quin indies aptiora detegerentur ad infinitum."

c. Ein Name darf nicht verworfen oder geändert werden etwa aus dem Grunde, weil er "nicht bezeichnend" ist oder weil seine Bildung "unter Missachtung philologischer Sprachregeln" erfolgte oder "weil er zu lang ist, schlecht klingt" und so weiter; doch sind fortan derartige fehlerhafte Wortbildungen, z. B. hybride Wörter, zu vermeiden.

Es darf z. B. der Name *Oriolus persicus* L. nicht etwa deshalb geändert werden, weil es ein amerikanischer, in Persien nicht vorkommender Vogel ist, oder *Voluta lapponica* L., weil es eine indische, in Lappland nicht vorkommende Schnecke ist. Auch Artbezeichnungen mit gleichem Art- und Gattungsnamen sind daher zulässig, z. B. *Buteo buteo*, *Arctus arctus*.

Article 32 of the International Code reads as follows:

A generic or specific name, once published, cannot be rejected, even by its author, because of inappropriateness. Examples: Names like *Polyodon*, *Apus*, *albus*, etc., when once published are not to be rejected because of a claim that they indicate characters contradictory to those possessed by the animals in question.

Rhumbler's proposition was discussed informally by several of the members of the Commission at the Gratz meeting, and their interpretation was to the effect that the designations suggested by Rhumbler represented formulæ and not names, hence that they had no status whatever under the Code.

Were these to be accepted as names, they could not be changed in case it was discovered later that they had been given erroneous préfixes designating classification. Further, the prefix *Eu* would lead to confusion because of such names as *Eustrongylus*—a nematode, not a mammal (E) ungulate (u).

It is obvious that the formulæ in question suggested by Rhumbler and by Herrera would not be clear to readers unless they had constantly at hand the keys to these formulæ. Accordingly, in general usage it would be impossible for the average reader clearly to recognize which portions of the formulæ represented generic names and which portions designated classification, or whether a formula or a name were present (cf. *Eustrongylus*) and this confusion would be increased by changes in the classification. The result would be a chaotic condition in Nomenclature, in which it would be impossible for the average reader to orientate himself.

If, on the other hand, the entire combination of letters and punctuation marks adopted were accepted as the technical name, the combinations resulting from change of names depending upon change of knowledge in respect to classification and distribution would be such as to outweigh any possible advantage that could be gained by recognizing the combinations as names, since as names they would not be in this case subject to emendation.

Finally, the propositions made by Rhumbler and Herrera have never been adopted in the International Code, and the only paragraph in the Code which, in the most liberal interpretation, could be cited in favor of these designations is Article 8, Recommendation k, which provides that one may take as generic names:

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

Recommendation k, however, was written without any consideration of cases such as are proposed by Rhumbler and Herrera, and the formulæ in question are admittedly not arbitrary combinations of letters.

In view of the foregoing premises, the Secretary recommends that the Commission adopt as its Opinion the following:

Designations of animals, according to the system proposed by Herrera in the case submitted for opinion, are formulæ, and not names. Accordingly they have no status in Nomenclature, and are therefore not subject to consideration under the Law of Priority. No author is under obligation to cite these designations in any table of synonymy, index, or other list of names.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Handlirsch, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Hartert, Kolbe, Roule, Simon.

Bather: The whole matter seems to be still simpler than this elaborate Opinion (with which I entirely agree), viz., Herrera and Rhumbler were merely making proposals of a general nature; they were in fact proposing a new scheme of nomenclature. Their proposals were not accepted and we have nothing to do with their suggested examples.

Jordan (D. S.): By all means discourage this sort of thing.

Monticelli: Perfettamente d'accordo.

OPINION 73

FIVE GENERIC NAMES IN CRINOIDEA, EIGHTY-SIX GENERIC NAMES IN CRUSTACEA, AND EIGHT GENERIC NAMES IN ACARINA, PLACED IN THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: CRINOIDEA: *Antedon*, *Bathyrinus*, *Holopus*, *Metacrinus*, *Rhizocrinus*. CRUSTACEA: *Acanthocyclus*, *Actæa*, *Actæomorpha*, *Actumnus*, *Arcania*, *Archias*, *Arenæus*, *Atergatis*, *Atergatopsis*, *Banarcia*, *Bathynectes*, *Bellia*, *Benthochascon*, *Caphyra*, *Carpilius*, *Carpilodes*, *Carpoporos*, *Carupa*, *Chlorodopsis*, *Cænophthalmus*, *Corystoides*, *Cryptocnemus*, *Cyclodius*, *Cymo*, *Dacryopilumnus*, *Daira*, *Deckenia*, *Domccia*, *Ebalia*, *Epilobocera*, *Epimelus*, *Erimacrus*, *Erimetopus*, *Euphyllax*, *Favus*, *Gecarcinucus*, *Hepatella*, *Heterolithadia*, *Heteronucia*, *Heterozius*, *Hydrothelphusa*, *Iliacantha*, *Iphiculus*, *Iphis*, *Ixa*, *Leucosilia*, *Lissocarcinus*, *Lithadia*, *Lupocyclus*, *Mecrocryptus*, *Myrodes*, *Nucia*, *Nursia*, *Nursilia*, *Onychomorpha*, *Oreophorus*, *Osachila*, *Paracyclois*, *Parathelphusa*, *Parathranites*, *Parilia*, *Pariphiculus*, *Persephona*, *Phlyxia*, *Pirimela*, *Platymera*, *Podophthalmus*, *Polybius*, *Portumnus*, *Potamocarcinus*, *Potamonautes*, *Pseudophilyra*, *Pseudothelphusa*, *Randallia*, *Scylla*, *Spelæophorus*, *Sphærocarcinus*, *Telmessus*, *Thalamita*, *Thalamitoides*, *Thalamonyx*, *Tlos*, *Trachycarcinus*, *Trichodactylus*, *Trichopeltarion*, *Valdieuia*. ACARINA: *Amblyomma*, *Argas*, *Dermacentor*, *Hæmaphysalis*, *Hyalomma*, *Ixodes*, *Rhipicentor*, *Rhipiccephalus*.

STATEMENT OF CASE.¹—*Crinoidea*. The following five generic names in Crinoidea were submitted to the International Commission by Mr. Austin Hobart Clark, Secretary to the Advisory Committee on the Nomenclature of Echinoderms, with recommendation that they be placed in the Official List of Generic Names. Mr. Clark reported that all of these names are in general use, that under the International Rules they are nomenclatorially correct and valid, and that no question or objection can arise as to their status. The names were brought to the attention of the zoological profession in the Secretary's Circular Letter no. 7, dated May, 1915. In reply to this [Circular Letter no. 7], no person has raised any question or objection of any kind whatsoever to the five names here submitted for final vote. These same five names, with identical types, were sub-

¹ Abbreviations used in the above and following lists:

- tod = Type by original designation.
- tpd = Type by present designation.
- tsd = Type by subsequent designation.
- mt = Type by monotypy.

mitted to the Commission independently by Apstein (1915a, 129) upon recommendation of Döderlein (Strassburg).

Antedon de Fréminville, 1811, 349 (Bull. Soc. Philom., Paris, vol. 2), type, *A. gorgonia* = *Asterias bifida* Pennant, 1777.

Bathyrinus Wyville-Thompson, 1872, 772 (Proc. Roy. Soc. Edinb., vol. 7), type, *B. gracilis*.

Holopus d'Orbigny, 1837, 1 (Mag. Zool., 7 ann., classe 10), type *H. rangii* d'Orbigny.

Metacrinus (Wyville-Thomson MS. in) Carpenter, 1882, 167 (Bull. Mus. Comp. Zool. Camb., vol. 10 (4), tsd. (Clark 1908t, 527), *M. wyvillii* Carpenter, 1884.

Rhisocrinus M. Sars, 1864, 127 (Forhandl. Vidensk. Selsk.), type, *R. lofotensis*.

Crustacea. A list of 99 generic names in Crustacea was submitted to the Commission by Miss Mary J. Rathbun, Secretary to the Advisory Committee on the Nomenclature of Crustacea, who reported that, under the International Rules, she considered the names nomenclatorially correct and valid, and she recommended that they be placed in the Official List of Generic Names.

The list in question was brought to the attention of the zoological profession in the Secretary's Circular Letter no. 4, dated April, 1915, and a special effort was made to reach specialists in the group. Replies have been received from various zoologists including W. T. Calman, Stanley Kemp, J. S. Kingsley, J. G. de Man, and Thomas R. R. Stebbing.

Every name has been eliminated from the original list in regard to which either the foregoing or any other zoologist has raised the slightest objection or question in their correspondence with the Secretary of the Commission, and said names have been referred again to Miss Rathbun for further opinion.

The following list of eighty-six generic names (for bibliography see footnote ²) contains no name or type designation to which the slightest question or objection has been raised by any person:

² BIBLIOGRAPHY

- ADAMS and WHITE, 1848, Zool. Voy. H. M. S. Samarang, Crust.
 ALCOCK, 1896, Jour. Asiatic Soc., Bengal, v. 65, pt. 2, No. 2.
 ALCOCK and ANDERSON, 1899, Ann. Mag. Nat. Hist. (7), v. 3.
 BELL, 1855, Trans. Linn. Soc., Lond., v. 21.
 BENEDICT, 1892, Proc. U. S. Nat. Mus., v. 15.
 DANA, 1851, Am. Journ. Sci. (2), v. 12.
 —, 1852, Crust. U. S. Expl. Exped., v. 1.
 EYDOUX and SOULEYET, 1842, Voy. Bonite, v. 1, Crust.
 FAXON, 1893, Bull. Mus. Comp. Zool., v. 24.
 GUÉRIN, 1830, Voy. Coquille, Zool., v. 2, Crust.

Acanthocyclus Milne Edwards and Lucas, 1844, 29, mt. *A. gayi* Milne Edwards and Lucas, 1844.

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- DE HAAN, 1833, Fauna Japonica.
 HILGENDORF, 1869, S. B. Ges. Naturf. Freunde, Berlin, Jan. 21, 1868.
 LAMARCK, 1801a, Syst. Anim. sans Vert.
 LANCHESTER, 1900, Proc. Zool. Soc., Lond., pt. 3.
 LATREILLE, 1825, Encyc. Méth., v. 10.
 —, 1829a, Cuvier's Règne Anim. (2), v. 4, footnote.
 LEACH, 1814, Edin. Encyc.
 —, 1815a, Trans. Linn. Soc., Lond., v. 11.
 —, 1816, Mal. Podoph. Brit., text of pl. 3.
 —, 1817a, Zool. Misc., v. 3.
 —, 1817b, Mal. Podoph. Brit., text of pl. 25.
 —, 1820, Mal. Podoph. Brit., text of pl. 9B.
 LEACH in Desmarest, 1823, Dict. Sci. Nat., v. 28.
 MACLEAY, 1838, Zool. S. Africa, Annulosa.
 MIERS, 1877, Journ. Linn. Soc., Lond., v. 13.
 —, 1879, Proc. Zool. Soc., Lond.
 —, 1886, Chall. Rep. Zool., v. 17.
 MILNE EDWARDS, 1837, Hist. Nat. Crust., v. 2.
 —, 1844, Jacquemont's Voy. dans l'Inde, v. 4, Zool. Crust.
 —, 1848, Ann. Sci. Nat. (3), v. 9.
 —, 1853, Ann. Sci. Nat. (3), v. 20.
 —, 1865, Ann. Soc. Entom., France (4), v. 5.
 —, 1867, Ann. Soc. Entom., France (4), v. 7.
 —, 1869a, Ann. Soc. Entom., France (4), v. 9.
 —, 1869b, Nouv. Arch. Mus. Nat., Paris, v. 5.
 —, 1872, Ann. Sci. Nat. (5), v. 15.
 —, 1873a, Jour. Mus. Godeffroy, v. 4.
 —, 1873b, Nouv. Arch. Hist. Nat., Paris, v. 9.
 —, 1878, Bull. Soc. Philom. (7), v. 2.
 —, 1879, Crust. Règ. Mex.
 —, 1880, Bull. Mus. Comp. Zool., v. 8.
 MILNE EDWARDS, and LUCAS, 1844, d'Orbigny's Voy. l'Amér. Mérid., v. 6, pt. 1.
 NOBILI, 1906, Bull. Mus. Hist. Nat., Paris.
 PAULSON, 1875, Invest. Crust. Red Sea, v. 1.
 RATHBUN, 1894, Proc. U. S. Nat. Mus., v. 17.
 RÜPPELL, 1830, Krabben d. rothen Meeres.
 SAUSSURE, 1857, Rev. et Mag. Zool. (2), v. 9.
 SMITH, 1870, in Verrill, Amer. Nat., v. 3.
 STIMPSON, 1857, Proc. Bost. Soc. Nat. Hist., v. 6.
 —, 1858, Proc. Acad. Nat. Sci., Phila., v. 10.
 —, 1860, Ann. Lyc. Nat. Hist., N. Y., v. 7.
 —, 1871, Bull. Mus. Comp. Zool., v. 2.
 WHITE, 1846, Ann. Mag. Nat. Hist., v. 17.
 —, 1847, Proc. Zool. Soc., Lond., v. 15.
 WOOD-MASON, 1891, Ann. Mag. Nat. Hist. (6), v. 7.
 ZEHNTNER, 1894, Rev. Suisse Zool., v. 17.

- Actæa* de Haan, 1833, 4, 18, tpd. (1st sp.) *A. savignii* Milne Edwards, 1834 = *Cancer (Actæa) granulatus* de Haan, 1833 = *C. granulatus* Audouin, 1825, not *C. granulatus* Linnæus, 1758.
- Actæomorpha* Miers, 1877, 183, mt. *A. crosa* Miers, 1877.
- Actumnus* Dana, 1851, 128, tpd. (1st sp.) *A. tomentosus* Dana, 1852. Species not named until 1852.
- Arcania* Leach, 1817, 19, mt. *A. erinacca* = *Cancer erinaceus* Fabricius, 1787.
- Archias* Paulson, 1875, 56, mt. *A. sexdentatus* Paulson, 1875.
- Arenæus* Dana, 1851, 130, mt. *A. cribrarius* = *Lupa cribraria* Milne Edwards, 1834 = *Portunus cribrarius* Lamarck, 1818.
- Atergatis* de Haan, 1833, 4, 17, tpd. (1st sp.) *Cancer (Atergatis) integerrimus* de Haan, 1833 = *C. integerrimus* Lamarck, 1818.
- Atergatopsis* A. Milne Edwards, 1862, 43, Ann. Sci. Nat. (4), v. 18, mt. *Carpilius signatus* White, 1848.
- Banarcia* A. Milne Edwards, 1869, 168, mt. *B. armata* A. Milne Edwards, 1869.
- Bathynectes* Stimpson, 1871, 145, tod. *B. superba* = *Portunus superba* Costa, 1838? = *B. longispina* Stimpson, 1871.
- Bellia* Milne Edwards, 1848, 192, mt. *B. picta* Milne Edwards, 1848.
- Benthochascon* Alcock and Anderson, 1899, 10, mt. *B. hemingi* Alcock and Anderson, 1899.
- Caphyra* Guérin, 1830, 26, mt. *C. rouxii* Guérin, 1830.
- Carpilius* Leach in Desmarest, 1823, 228, mt. *C. maculatus* Fabricius = *C. maculatus* Linnæus, 1758.
- Carpilodes* Dana, 1851, 126, mt. *C. tristis* Dana, 1852. Species not named until 1852.
- Carpoporos* Stimpson, 1871, 138, mt. *C. papulosus* Stimpson, 1871.
- Carupa* Dana, 1851, 129, mt. *C. tenuipes* Dana, 1852. Species not named until 1852.
- Chlorodopsis* A. Milne Edwards, 1873, 227, tpd. (1st sp.) *C. melanochirus* A. Milne Edwards, 1873.
- Cænophthalmus* A. Milne Edwards, 1879, 236, mt. *C. tridentatus* A. Milne Edwards, 1879.
- Corystoides* Milne Edwards and Lucas, 1844, 31, mt. *C. chilensis* Milne Edwards and Lucas, 1844.
- Cryptocnemus* Stimpson, 1858, 161, mt. *C. pentagonus* Stimpson, 1858.
- Cyclodius* Dana, 1851, 126, tpd. (1st sp.) *C. ornatus* Dana, 1852. Species not named until 1852.
- Cymo* de Haan, 1833, 5, 22, type *Cancer (Cymo) androssiji* de Haan, 1833 = *Pilumnus* (?) *androssyi* Audouin, 1825. Only valid species; the remaining species given by de Haan is a *nomen nudum*.
- Dacryopilumnus* Nobili, 1906, 263, mt. *D. eremita* Nobili, 1906.
- Daira* de Haan, 1833, 4, 18, mt. *D. perlata* = *Cancer (Daira) perlatus* de Haan, 1833 = *C. perlatus* Herbst, 1790.
- Deckenia* Hilgendorf, 1869, 2, mt. *D. imitatrix* Hilgendorf, 1869.
- Domecia* Eydoux and Souleyet, 1842, 234, mt. *D. hispida* Eydoux and Souleyet, 1842.
- Ebalia* Leach, 1817, tpd. (1st sp.) *E. tuberosa* = *Cancer tuberosus* Pennant, 1777 = *pennanti* Leach, 1817.
- Epilobocera* Stimpson, 1860, 234, mt. *E. cubensis* Stimpson, 1860.
- Epimelus* A. Milne Edwards, 1878, 227, mt. *E. cessacii* A. Milne Edwards, 1878.

- Erimacrus* Benedict, 1892, 220, substituted for *Podacanthus*, mt. *Platycorystes* (*Podacanthus*) *isckenbeckii* Brandt, 1848.
- Erimctopus* Rathbun, 1894, 26, Proc. U. S. Nat. Mus., v. 17, mt. *E. spinosus* Rathbun, 1894.
- Euphyllax* Stimpson, 1860, 225, mt. *E. dovii* Stimpson, 1860.
- Favus* Lanchester, 1900, 767, mt. *F. granulatus* Lanchester, 1900.
- Gecarcinicus* Milne Edwards, 1844, 4, mt. *G. jacquemontii* Milne Edwards, 1844.
- Hepatella* Smith, 1870, 250, mt. *H. amica* Smith, 1870.
- Heterolithadia* Alcock, 1896, 171, 261, mt. *H. fallax* = *Ebalia fallax* Henderson, 1893.
- Heteronucia* Alcock, 1896, 170, 177, Jour. Asiatic Soc. Bengal, v. 65, pt. 2, No. 2, mt. *H. vesiculosa* Alcock, 1896.
- Heterozius* A. Milne Edwards 1867, 275, mt. *H. rotundifrons* A. Milne Edwards, 1867.
- Hydrothelphusa* A. Milne Edwards, 1872, 2, mt. *H. agilis* A. Milne Edwards, 1872.
- Iliacantha* Stimpson, 1871, 155, tpd. (1st sp.) *I. subglobosa* Stimpson.
- Iphiculus* Adams and White, 1848, 57, mt. *I. spongiosus* Adams and White, 1848.
- Iphis* Leach, 1817, 19, 25, mt. *I. septemspinosa* = *Leucosia septemspinosa* Fabricius, 1798 = *Cancer septemspinus* Fabricius, 1787.
- Ixa* Leach, 1815, 310, 334, mt. *I. cylindrus* = *Cancer cylindrus* Fabricius, 1777.
- Leucosilia* Bell, 1855, 295, mt. *L. jurinei* = *Guaia (Iliia) jurinei* Saussure, 1853 = *L. jurinii* Bell, 1855.
- Lissocarcinus* Adams and White, 1848, 45, mt. *L. polybioides* Adams and White, 1848.
- Lithadia* Bell, 1855, 305, mt. *L. cumingii* Bell, 1855.
- Lupocyclus* Adams and White, 1848, 46, mt. *L. rotundatus* Adams and White, 1848.
- Merocryptus* A. Milne Edwards, 1873, 84, mt. *M. lambriformis* A. Milne Edwards, 1873.
- Myrodes* Bell, 1855, 298, mt. *M. cudactylus* Bell, 1855.
- Nucia* Dana, 1852, 392, 397, mt. *N. speciosa* Dana, 1852.
- Nursia* Leach, 1817, 18, mt. *N. hardwickii* Leach, 1817.
- Nursilia* Bell, 1855, 308, mt. *N. dentata* Bell, 1855.
- Onychomorpha* Stimpson, 1858, 162, mt. *O. lamelligera* Stimpson, 1858.
- Oreophorus* Rüppell, 1830, 18, mt. *O. horridus* Rüppell, 1830.
- Osachila* Stimpson, 1871, 154, mt. *O. tuberosa* Stimpson, 1871.
- Paracyclois* Miers, 1886, 288, mt. *P. milne-edwardsii* Miers, 1886.
- Parathelphusa* Milne Edwards, 1853, 213 (179), tsd. (Rathbun, 1905) *P. tridentata* Milne Edwards, 1853. In the above mentioned article references are made to the Arch. Mus. Hist. Nat. Paris, v. 7; that the former was, however, published first is recognized in Arch. f. Naturg., Jhg. 20, v. 2, 1855, p. 285.
- Parathranites* Miers, 1886, 185, mt. *Lupocyclus (Parathranites) orientalis* Miers, 1886.
- Parilia* Wood-Mason, 1891, 264, mt. *P. alcocki* Wood-Mason, 1891.
- Pariphiculus* Alcock, 1896, 171, 257, tpd. (1st sp.) *P. coronatus* = *Randallia coronata* Alcock and Anderson, 1894.

- Persephona* Leach, 1817, 18, 22, tpd. (1st sp.) *P. punctata* = *Cancer punctatus* Linn., 1758 (part) = *Cancer punctatus* Linn., 1767 = *P. latreillii* Leach, 1817 = *P. lamarckii* Leach, 1817.
- Phlyxia* Bell, 1855, 303, tpd. (1st sp.) *P. crassipes* Bell, 1855.
- Pirimela* Leach, 1816, mt. *P. denticulata* = *Cancer denticulatus* Montagu, 1808.
- Platymera* Milne Edwards, 1837, 107, mt. *P. gaudichaudii* Milne Edwards, 1837.
- Podophthalmus* Lamarck, 1801, 152, mt. *P. vigil* = *Portunus vigil* Fabricius, 1798 = *Podophthalmus spinosus* Lamarck, 1801. In 1801 Lamarck wrote "*Podophthalmus*" but later (1818) "*Podophthalmus*."
- Polybius* Leach, 1820, mt. *P. henslowii* Leach, 1820.
- Portumnus* Leach, 1814, 391, 429, mt. *P. latipes* = *Cancer latipes* Pennant, 1777 = *P. variegatus* Leach, 1814.
- Potamocarcinus* Milne Edwards, 1853, 208 (174), mt. *P. armatus* Milne Edwards, 1853.
- Potamonantes* MacLeay, 1838, 64, type *Thelphusa perlata* Milne Edwards, 1837; the only species designated by name by MacLeay.
- Pseudophilyra* Miers, 1879, 40, tpd. (1st sp.) *P. tridentata* Miers, 1879.
- Pseudothelphusa* Saussure, 1857, 305, mt. *P. americana* Saussure, 1857. Originally written *Pseudo-Thelphusa*.
- Randallia* Stimpson, 1857, Feb., 85, mt. *R. ornata* = *Ilia ornata* Randall, 1839.
- Scylla* de Haan, 1833, 3, 11, mt. *S. serrata* = *Cancer serratus* Forskål, 1775 = *Portunus (Scylla) serratus* de Haan, 1833. Only two species were given by de Haan, and they are synonymous.
- Spelæophorus* A. Milne Edwards, 1865, 148, tpd. (1st sp.) *S. nodosus* = *Oreophorus nodosus* Bell, 1855.
- Sphærocarcinus* Zehntner, 1894, 163, mt. *S. bedoti* Zehntner, 1894.
- Telmessus* White, 1846, 497, mt. *T. cheiragonus* = *T. serratus* White, 1846 = *Cancer cheiragonus* Tilesius, 1815.
- Thalamita* Latreille, 1829, 33, mt. *Cancer admete* Herbst, 1803.
- Thalamitoides* A. Milne Edwards, 1869, 146, tpd. (1st sp.) *T. quadridens* A. Milne Edwards, 1869.
- Thalamonyx* A. Milne Edwards, 1873, 168, tpd. (1st sp.) *Goniosoma danæ* A. Milne Edwards, 1869.
- Tlos* Adams and White, 1848, 57, mt. *T. muriger* Adams and White, 1848.
- Trachycarcinus* Faxon, 1893, 156, mt. *T. corallinus* Faxon, 1893.
- Trichodactylus* Latreille, 1825, 705, mt. *T. fluviatilis* Latr. 1825.
- Trichopeltarion* A. Milne Edwards, 1880, Dec. 29, 19, mt. *T. nobile* A. Milne Edwards, 1880.
- Valdivia* White, 1847, 85, mt. *V. serrata* White, 1847.

ACARINA. The following eight names in *Acarina (Ixodoidea)* have been made public to the zoological profession by publication in the following journals: Bull. Soc. Zool. France, 1915, p. 88, v. 40; Nature, 1911, p. 42, v. 88; Proc. Int. Cong. Zool. Monaco, 1913, published 1914, p. 859; Zoologischer Anzeiger, 1911, pp. 589-590, v. 38.

In addition they were brought to the attention of the zoological profession in the Secretary's Circular Letter no. 1, 1915.

The same list was submitted in Circular Letter no. 10, dated July, 1915, addressed to the members of the International Commission on Medical Zoology (Parasitology).

The list has also been submitted to Dr. Hassall, Secretary to the Advisory Committee on the Nomenclature of the Ixodoidea, and he reports favorably upon them. Finally the names were submitted to Doctor Jordan, Secretary to the International Commission on Entomological Nomenclature, and word has been received from him recommending that the Commission proceed to vote on the names in question.

Not a single objection or question of any kind has been received at the Secretary's office in regard to these names.

All of the generic names have been verified personally by the Secretary to the Commission on Zoological Nomenclature, and he considers them nomenclatorially correct and valid.

Amblyomma Koch, 1844a, 223-231 (Arch. Naturg.), type *Acarus cajennensis* Fabricius, 1787a.

Argas Latreille, 1796a, 178 (Précis), type *Acarus reflexus* Fabricius, 1794.

Dermacentor Koch, 1844a, 235-237, type *Acarus reticulatus* Fabricius, 1794.

Hæmaphysalis Koch, 1844a, 237, type *H. concinna* Koch, 1844.

Hyalomma Koch, 1844a, 220-223, type *Acarus ægyptius* Linn., 1758.

Ixodes Latreille, 1796a, 179, type *Acarus ricinus* Linnæus, 1758.

Rhipicentor Nuttall and Warburton, 1908, 398 (Proc. Cambridge Phil. Soc., vol. 14), mt. *R. bicornis* N. & W., 1908.

Rhipicephalus Koch, 1844a, 238-239, type *Ixodes sanguineus* Latreille, 1806.

DISCUSSION.—In view of the foregoing premises, and on basis of the study given by specialists in each of the three groups in question, the Secretary recommends that the foregoing names be placed in the Official List of Generic Names.

Opinion written by Stiles.

Opinion concurred in by 13 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 5 Commissioners: Handlirsch, Kolbe, Roule, Simon, Stejneger.

Apstein: Sollen die Off. Listen von Gattungsnamen wirklich durch Ummengen beliebiger Namen beschwert werden? Von den 92 Namen Crustaceen sind die meisten wohl überflüssig, da kein Zweifel möglich ist. Es ist eine Kleinigkeit mehrere 1,000 Namen zu notieren, aber was ist damit erreicht? Entweder soll man eine kleine Zahl wichtiger, all bekannter und streittiger Gattungen aufnehmen oder alle Gattungen, dann ergibt sich ein dicker Band.

Dautzenberg: Je ne puis approuver des listes des nomina conservanda, si les noms qu'elles enferment sont considérés comme devant subsister et continuer à être employés alors même qu'on s'apercevrait un jour que l'un ou l'autre est en contradiction avec la loi de priorité. Mais s'il est entendu que les listes dressées par des spécialistes compétents ne pourront être modifiées que s'il est clairement démontré que tel ou tel nom est en contradiction évidente avec la loi de priorité, je suis prêt à apposer ma signature au bas de ces listes.

Jordan (D. S.): I have no objection, but I think that a study beginning from Linnæus and proceeding upward will save time.

Stiles: The problem is not a theoretical one as to what is the *best* way to establish an Official List, or what kind of a list to establish, but rather what is *any* way to meet the divergent views of scores of independent workers and make progress by voluntary (namely unpaid) cooperation. A long list of Nomina Conservanda has been proposed by one Commissioner (Apstein) and this has brought to the Secretary a storm of protests together with urgent appeals from general zoologists to establish some sort of list so that nomenclature will be more stable. Careful studies of various groups have been made by various Commissioners and other zoologists, but numerous cases and questions have been left open and undecided. A Code has been adopted which covers the vast majority of cases and persons who understand nomenclature can apply these rules to most of the names with which they have to deal. Still, up to recent years the striking trend of nomenclature has been to emphasize differences rather than agreements of views as respects names. The Official List is an attempt to allow the troubled waters to settle awhile and *to see in how far we all agree*; thus it is trying out a new technique in the hope of obtaining results, and the more names that can be shown to be acceptable to all workers, despite divergent views as to *why* they are acceptable, the more settled will be the subject of nomenclature, even if many disputed points must be left to future generations.

To insist at present upon an immediate application of the Code to *all* disputed cases or to an adoption of Nomina Conservanda to cover *all* disputed cases would inevitably result in two independent nomenclatures and this is not practical until we find out which are the disputed names, into what categories these can be classified, and why they are in dispute. Herein lies the value in comparing the Apstein (Nomina Conservanda) and the Jordan (Priority) lists. When certain generic names of fishes appear in both lists, and are

placed in an Official List, while other names show disagreement, we obtain a clearer vision of our problems.

The Official List has a chief object and a chief result in view: The chief object is to give to the general zoologists a list of names which, so far as can humanly be determined, seem to be beyond dispute; the chief result is to find out where we all can agree, thereby bringing us all more closely together before we reach the final differences of opinion on cases which are in dispute.

The outlook for settling *all* cases by *any one* method in our generation is hopeless—unless we can change human nature. Our lives in general are made up of a series of compromises in policies in order to carry out principles; nomenclature can hardly hope to escape this same necessity. The great principles in nomenclature are (1) stability in so far as this is possible under a system of changing conceptions as to classification, and (2) objectivity as to selection between competitive names; the methods by which these desiderata are to be reached are dependent fully as much upon policy as upon principle, and secondary principles can well afford to make way for policies which, by compromises, hold out hope for success of the primary principle.

OPINION 74

APSTEIN'S (1915) LIST OF NOMINA CONSERVANDA

SUMMARY.—The Commission has no power to adopt *en bloc* Apstein's list of proposed Nomina Conservanda, but is prepared to consider names separately upon presentation of reasonably complete evidence.

PRESENTATION OF CASE.—Commissioner Apstein has submitted to the Commission a list of Nomina Conservanda which was printed in the *Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin*, No. 5, Mai, 1915, pages 119-202, and which he suggests be used as basis for studies, the results of which can be submitted to the next International Zoological Congress. The printed document is herewith accepted as Presentation of Case, and reference is made to the printed list for details. Copies of the list have been mailed to members of the Commission, and the Secretary's Circular Letter no. 19, December, 1915, contains the correspondence on the subject, between Commissioner Apstein and the Secretary.

DISCUSSION.—An examination of different portions of Apstein's list shows clearly that although full data are not presented in respect to the individual names, many of the generic names quoted are valid under the Code, and in many cases the type species cited is correct. On the other hand, the list contains some names that are not valid under the Code, and in some cases the type species cited is not the correct genotype under the Code.

The list in question corresponds, nevertheless, to the general invitation issued by the Commission in its report to the Gratz Congress, to send to the Secretary of the Commission zoological generic names to be studied in connection with the preparation of an Official List of Generic Names, and whatever may be the individual opinion of zoologists in respect to the names in question, Commissioner Apstein has accomplished an excellent piece of work in compiling this list and thus bringing to the attention of the Commission a number of names that are, more or less, in general use by various zoologists.

It is equally clear, however, that the Commission has no authority either under the Rules, or under its Plenary Power, to act upon this list as a unit.

The Secretary has submitted several groups of names to specialists in the respective groups for special study, and has already placed some of the names before the Commission, for vote.

In order that definite action may be taken upon the general question concerning this list, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) The Commission is not authorized, either under the Rules, or under the Plenary Power, to adopt *en bloc* the list of names presented by Commissioner Apstein.

(2) The Secretary is authorized and instructed to submit to the Commission for adoption in the Official List of Generic Names, any of the names in Apstein's (1915a) List for which he may be able to find proper authority under the Rules.

(3) The Commission invites Commissioner Apstein to submit full data respecting any name in said list which he considers should be adopted under the Plenary Power, said data to show that "a strict application of the Rules will result in greater confusion than uniformity."

(4) The Commission can, at least for the present, consider names under the Plenary Power only as individual cases, each name to be considered on its own merits.

(5) The foregoing paragraph (4) is not, however, to be construed as preventing the Commission from considering any given publication (article, book, or catalogue) as a whole, in which more than a single name is involved, all of which come under the same general conditions.

Opinion written by Stiles.

Opinion concurred in by 10 Commissioners: Allen, Bather, Blanchard, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Skinner, Stiles.

Opinion dissented from by 1 Commissioner: Handlirsch.

Not voting, 7 Commissioners: Apstein, Dautzenberg, Kolbe, Monticelli, Roule, Simon, Stejneger.

Commissioner Apstein makes the following statement, which is concurred in by Commissioner Kolbe:

Die Liste der Nomina Conservanda (1915) habe ich als Antrag an die Intern. Nomenclatur Kommission für den nächsten Internat. Zoologen Congress eingereicht. Dass sie nicht auf dem Prioritätsgesetz strikt basiert, geht aus dem Antrage (Zool. Anz., v. 46, 31, viii, 15) so wie aus der Einleitung zu der Liste hervor, liegt auch schon in dem Titel "Nomina Conservanda."

Die Liste bildet also ein Novum über das der nächste Internat. Zoolog. Congress zu beschliessen haben wird. Wenn die Nomenclatur-Regeln Ausnahmen (suspensions!) nur zulassen in dem Falle der Verwirrung und bei Larven, so sind die Regeln eben viel zu eng

gefasst und muss der nächste Intern. Zoologen Congress hiergegen Abhilfe schaffen.

Was Punkt 3 in Circular letter 32 betrifft, das ich "full data respecting any name in said list" vorlegen soll, so ist das 1, nicht möglich wegen des Umfanges der Arbeit, 2, nicht nötig, da es sich bei den Namen der Liste um ganz gebräuchliche Namen handelt die wie ich schon sagte, nicht auf strikter Priorität basieren sondern von einem anderen Standpunkt aus beurteilt werden müssen.

OPINION 75

TWENTY-SEVEN GENERIC NAMES OF PROTOZOA, VERMES, PISCES,
REPTILIA AND MAMMALIA INCLUDED IN THE OFFICIAL
LIST OF ZOOLOGICAL NAMES

SUMMARY.—The following twenty-seven generic names are herewith placed in the Official List of Zoological Names, with the type species given in the body of this Opinion: PROTOZOA: *Volvox*. VERMES: *Hirudo*, *Lumbricus*. PISCES: *Ammodytes*, *Anarhichas*, *Atherina*, *Fistularia*, *Mugil*, *Myxine*, *Trachinus*, *Uranoscopus*, *Xiphias*. REPTILIA: *Draco*. MAMMALIA: *Bulana*, *Bos*, *Castor*, *Delphinus*, *Erinaceus*, *Hippopotamus*, *Hystrix*, *Monodon*, *Moschus*, *Ovis*, *Phoca*, *Sus*, *Talpa*, *Ursus*.

PRESENTATION OF CASE.—Circular Letter no. 26, dated April 29, 1916, contained a list of 30 generic names proposed for inclusion in the Official List of Zoological Names. Said Circular Letter was mailed to approximately 350 zoological institutions, laboratories, and professional zoologists throughout the world, and 20 copies were sent to each Commissioner for distribution in his own country. The Circular Letter contained an invitation to all persons interested to express their approval or disapproval of these names. All of the names were published by Apstein in 1915. The names of fishes have been reported upon favorably by Commissioner Jordan, who has studied them for the Commission. The names of the mammals have been laid before the Advisory Committee on the Nomenclature of Mammals; the genotypes of the mammalian names agree with the genotypes accepted by Palmer 1904.

It would appear, therefore, that ample notification has been given the zoological profession that these names would come before the Commission for final vote.

Seventy-five zoologists have responded to Circular Letter no. 26; sixteen of these expressed approval of all of the names. Twenty-six additional responses raised no objection and made no comment on any of the names. In thirty-three instances only a portion of Circular Letter no. 26 was returned to the Secretary, but no adverse comment was made on any names in the rest of the list.

In connection with 27 of the generic names in said Circular Letter, no objection, question, or adverse comment of any kind whatsoever has been raised. In connection with three names, namely, *Doris*, *Elephas*, and *Equus*, points have been raised which indicate the advisability of again referring these three names to specialists in the groups in question for further consideration.

The point was also raised in regard to the general advisability of including in the list the original type localities of certain type species as published by the original authors.

DISCUSSION.—The Secretary feels very strongly on the point that at the present moment the Commission should show preference to cases which can be agreed upon by unanimous consent, and that so far as possible, it seems wise to postpone consideration of names that may be questioned from any point of view whatsoever, until the world conditions become more settled.

In accordance with this policy, three of the names in question, namely, *Doris*, *Elephas*, and *Equus*, have been tabled temporarily and without prejudice, and the original type localities have been omitted from the list.

After elimination of the three names and the type localities just referred to, there remain 27 generic names with genotypes, in regard to which no objection, question, or criticism of any kind has been raised.

The Secretary has verified personally all the references given below, and so far as evidence is available it appears that these 27 generic names are nomenclatorially available and valid under the Code, and that the type designations given are in accord with the Rules. The only question which it seems possible to raise in respect to these type designations is the point whether certain of them are type by subsequent designation, or type by absolute tautonymy; whichever method is followed the end result remains the same.

Upon basis of the foregoing premises, the Secretary recommends that the following 27 generic names, as definitely fixed by the type species mentioned, be adopted in the Official List of Zoological Names.

ABBREVIATIONS

- Art. = Article Internat'l Rules Zool. Nomenclature.
 Op. = Opinion issued by the Internat'l Commission.
 mt. = Monotypic.
 tod. = Type by Original Designation.
 tsd. = Type of Subsequent Designation.
 tat. = Type by Absolute Tautonymy.
 tt. = Type by tautonymy.

PROTOZOA

Volvox Linn., 1758a, 646, 820, tsd. *V. globator* Linn., 1758a, 820.

VERMES

Hirudo Linn., 1758a, 649, tsd. *H. medicinalis* Linn., 1758a, 649.
Lumbricus Linn., 1758a, 647, tsd. *L. terrestris* Linn., 1758a, 647.

PISCES

Ammodytes Linn., 1758a, 247, mt. *A. tobianus* Linn., 1758a, 247.
Anarhichas Linn., 1758a, 247, mt. *A. lupus* Linn., 1758a, 247.
Atherina Linn., 1758a, 315, mt. *A. hepsetus* Linn., 1758a, 315.
Fistularia Linn., 1758a, 312, mt. *F. tabacaria* Linn., 1758a, 312.
Mugil Linn., 1758a, 316, mt. *M. cephalus* Linn., 1758a, 316.
Myxine Linn., 1758a, 650, mt. *M. glutinosa* Linn., 1758a, 650.
Trachinus Linn., 1758a, 250, mt. *T. draco* Linn., 1758a, 250.
Uranoscopus Linn., 1758a, 250, mt. *U. scaber* Linn., 1758a, 250.
Xiphias Linn., 1758a, 248, mt. *X. gladius* Linn., 1758a, 248.

REPTILIA

Draco Linn., 1758a, 199, mt. *D. volans* Linn., 1758a, 199.

MAMMALS

Balæna Linn., 1758a, 75, tsd. (or tt.) *B. mysticetus* Linn., 1758a, 75.
Bos Linn., 1758a, 71, tsd. (or tt.) *B. taurus* Linn., 1758a, 71.
Castor Linn., 1758a, 58, tsd. (or tt.) *C. fiber* Linn., 1758a, 58.
Delphinus Linn., 1758a, 77, tsd. (or tt.) *D. delphis* Linn., 1758a, 77.
Erinaceus Linn., 1758a, 52, mt. *E. europæus* Linn., 1758a, 52.
Hippopotamus Linn., 1758a, 74, tsd. (or tt.) *H. amphibius* Linn., 1758a, 74.
Hystrix Linn., 1758a, 56, tsd. (or tt.) *H. cristata* Linn., 1758a, 56.
Monodon Linn., 1758a, 75, mt. *M. monoceros* Linn., 1758a, 75.
Moschus Linn., 1758a, 66, mt. *M. moschiferus* Linn., 1758a, 66.
Ovis Linn., 1758a, 70, tsd. (or tt.) *O. arics* Linn., 1758a, 70.
Phoca Linn., 1758a, 37, tsd. (or tt.) *P. vitulina* Linn., 1758a, 38.
Sus Linn., 1758a, 49, tsd. (or tt.) *S. scrofa* Linn., 1758a, 49.
Talpa Linn., 1758a, 52, tsd. (or tt.) *T. europæa* Linn., 1758a, 52.
Ursus Linn., 1758a, 47, tsd. (or tt.) *U. arctos* Linn., 1758a, 47.

Opinion written by Stiles.

Opinion concurred in by 13 Commissioners: Allen, Apstein, Bather, Blanchard, Handfirsch, Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 5 Commissioners: Dautzenberg, Kolbe, Roule, Simon, Stejneger.

OPINION 76

STATUS OF PYROSOMA VS. MONOPHORA; CYCLOSALPA VS.
HOLOTHURIA; SALPA VS. DAGYSA; DOLIOLUM.
APPENDICULARIA AND FRITILLARIA

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SUMMARY.—The Secretary is authorized and instructed to insist that cases presented for opinion shall be accompanied by reasonably complete data to enable fair consideration of the points at issue. *Pyrosoma* 1804 has priority over *Monophora* 1804. *Cyclosalpa* 1827 is not invalidated by *Holothuria* 1758 (type *physalis*), which does, however, invalidate *Physalia* 1801. The present use of *Holothuria* (type *tubulosa*) in echinoderms is not in accord with the Rules, but authors are advised to use *Physalia* 1801 for the Portuguese Man of War, and *Holothuria* 1791 as genus of Sea Cucumber, pending action upon possible suspension of the Rules in these two cases. As presentation of the cases of *Salpa*, *Appendicularia*, *Doliolum*, and *Fritillaria* is incomplete and contains errors, these cases are laid upon the table indefinitely, but without prejudice; unless it can be shown that an application of the Rules in these cases will result in greater confusion than uniformity, the Rules should be enforced.

STATEMENT OF CASE.—The following names were submitted to the Commission by 12 special workers in the *Tunicata*, with request that the names be protected against change:

Doliolum, *Pyrosoma*, *Salpa*, *Cyclosalpa*, *Appendicularia*, und *Fritillaria* sind gegen Aenderung zu stützen.

Wir 12 unterzeichneten Tunicatenforscher sind übereingekommen, die 6 genannten Genusnamen pelagischer Tunicaten als gültig anzunehmen. Die Namen dieser Tunicaten werden von jedem Zoologen als vollkommen eingebürgert anerkannt werden, ihr Gebrauch hat bisher niemals zu Missverständnissen Anlass gegeben, die Genera sind Paradigmata in der zoologischen Systematik, sie spielen in der Entwicklungsgeschichte eine grosse Rolle und beanspruchen in der Tiergeographie, Planktonforschung und auch in der Hydrogeographie einen ganz hervorragenden Platz. Eine Aenderung der Namen würde eine schwere Schädigung bedeuten.

(1) *Doliolum* Quoy und Gaimard, 1834.—*Doliolum* ist von Otto 1823 (N. Acta Ac. Leop., v. 11, p. 313) für eine wohl durch *Phronima* ausgefressene *Pyrosoma* aufgestellt worden. Dann ist *Doliolum* von Quoy und Gaimard, 1834 (Voy. Astrolabe, v. 3, p. 599) gut beschrieben und jetzt in letzterem Sinne allgemein in Gebrauch. Den bisherigen Regeln nach würde *Doliolum* Synonym zu *Pyrosoma* werden, für *Doliolum* in heutigem Sinne würde ein neuer Name gebildet werden müssen. Der Familienname Doliolidae würde verschwinden.

(2) *Pyrosoma* Péron, 1804.—1804 beschrieb Péron (Ann. Mus., Paris, v. 4, p. 440) *Pyrosoma* und ebenfalls 1804 Bory (Voy. Iles Afr., v. 1, p. 107, nota) *Monophora*. Welcher der beiden Namen der ältere ist, lässt sich nicht feststellen, aber aus Quoy und Gaimard, 1824 (Voy. Uranie und Physicienne, p. 495), scheint hervorzugehen dass *Monophora* älter ist; sie schreiben, "Bory—avait donné le nom de monophore à un mollusque, qui depuis a été appelé pyrosome Péron." Es empfiehlt sich den Namen *Pyrosoma* für alle Fälle zu sichern.

(3, 4) *Salpa* Forskål, 1775, und *Cyclosalpa* Blainville, 1827.—Diese beiden Genera sind durch Ihle, 1911 (Zool. Anz., v. 38, pp. 585-589) verteidigt und auch in seine Bearbeitung in "Das Tierreich" (v. 37, 1912; Siehe auch Nota p. 27, von F. E. Schulze) übergegangen. Wir glauben uns mit diesem Hinweise begnügen zu können und erlauben uns noch an die gegenteiligen Aufsätze von Poche (Zool. Anz., v. 32, 1907, pp. 106-109; v. 39, 1912, pp. 410-413) zu erinnern.

(5) *Appendicularia* Fol, 1874.—*Appendicularia* wurde von Chamisso und Eisenhardt, 1820 (N. Acta Ac. Leop., v. 10 (11), p. 362, t. 34 F. 4), für eine arctische, nicht erkennbare Art, aufgestellt. Fol hat 1874 (Arch. Zool. exper., v. 3, notes, p. 49) den Gattungsnamen für die tropische Art *Appendicularia sicula*, die von der arctischen sicher generisch verschieden ist, übernommen und darauf hin hat sich der Name in letzterem Sinne allgemein eingebürgert. *Appendicularia* würde anderenfalls eine Species incerta enthalten und für *Appendicularia* mit der Species *sicula* würde ein neuer Gattungsnamen aufzustellen sein. Der Name der Ordnung *Appendiculariæ* würde verschwinden.

(6) *Fritillaria* Fol, 1874.—Quoy und Gaimard, 1834 (Voy. Astrolabe, v. 4, p. 306), stellen den Namen Frétiliaires auf [(*Fritillaria* Huxley 1851, Philos. Trans. (London), part 2, p. 595), *Fritillaire* C. Vogt, 1854 (Mém. Inst. Genève, v. 2, no. 2, p. 74)] identifizierten ihn aber sofort mit *Oikopleura* Mertens, 1831. Um den Namen *Fritillaria* zu retten, hat Fol, 1874 (Arch. exper., v. 3, notes, p. 49) ihn in bestimmten von früherem abweichendem Sinne gebraucht, in welchem er sich vollständig eingebürgert hat. *Fritillaria* würde Synonym zu *Oikopleura* und eine Neubenennung nötig.

C. Apstein (Berlin), A. Borgert (Bonn), G. P. Farran (Dublin), G. H. Fowler (Apsley-Guise), R. Hartmeyer (Berlin), W. A. Herdman (Liverpool), J. E. W. Ihle (Utrecht), H. Lohmann (Hamburg), W. Michaelsen (Ham-

burg), G. Neumann (Dresden), C. Ph. Sluiter (Amsterdam), F. Todaro (Rome).

DISCUSSION.—According to the premises submitted, these cases call for an exercise of the Plenary Power granted to the Commission by the Monaco Congress to suspend the Rules of Nomenclature under certain conditions. As this is the first instance of this kind that comes to vote, attention is invited to the wording of the resolutions¹ upon which said power is based.

In accordance with the provisions of §113¹ notice that the names in question had been submitted for action under the Plenary Power, by suspension of the Rules, was duly published.²

¹ See Proceedings Ninth International Congress on Zoology, Monaco (1913), 1914, pp. 890-891:

(§113) *Resolved*, That plenary power is herewith conferred upon the International Commission on Zoological Nomenclature, acting for this Congress, to suspend the Règles as applied to any given case, where in its judgment the strict application of the Règles will clearly result in greater confusion than uniformity, *provided*, however, that not less than one year's notice shall be given in any two or more of the following publications, namely, Bulletin de la Société Zoologique de France, Monitore Zoologico, Nature, Science (N. Y.), and Zoologischer Anzeiger, that the question of a possible suspension of the Règles as applied to such case is under consideration, thereby making it possible for zoologists, particularly for specialists in the group in question, to present arguments for or against the suspension under consideration; and *provided*, also, that the vote in Commission is unanimously in favor of suspension; and *provided further*, that if the vote in Commission is a two-thirds majority of the full Commission, but not a unanimous vote in favor of suspension, the Commission is hereby instructed to report the facts to the next succeeding International Congress; *and*

(§114) *Resolved*, That in the event that a case reaches the Congress, as hereinbefore described, with two-thirds majority of the Commission in favor of suspension, but without unanimous report, it shall be the duty of the President of the section on Nomenclature to select a special board of 3 members, consisting of one member of the Commission who voted on each side of the question and one ex-member of the Commission who has not expressed any public opinion on the case; and this special board shall review the evidence presented to it, and its report, either majority or unanimous, shall be final and without appeal, so far as the Congress is concerned; *and*

(§115) *Resolved*, That the foregoing authority refers in the first instance and especially to cases of the names of larval stages and the transference of names from one genus or species to another.

² See Science (N. Y.), v. 39, pp. 619-620, April 24, 1914; Bulletin de la Société Zoologique de France, v. 39, pp. 142-144, May 12, 1914; Monitore Zoologico Italiano, Anno 25, pp. 74-76; Zoologischer Anzeiger, v. 44, pp. 238-240, May 12, 1914.

In addition, these names were included in Circular Letter no. 2, Series 1915, mailed March 1915 to approximately 350 zoologists and zoological institutions of various kinds.

As a result of publication and Circular Letter no. 2, seven persons returned the list with no action taken, hence these persons come under the paragraph which reads: "In case you fail to mark any name one way or the other, I will interpret this as meaning that you have no opinion either for or against the name in question."

Twenty-eight persons took action on various names; some on all of the names, others only on names with which they were best acquainted. Twenty-seven persons raised no objection to any of the names and made no comment of any objective importance, except that, at the request of the Secretary, Commissioner Apstein, who originally submitted the list, added the species he considered should be accepted as type species for each of the six genera in question. One reply was received discussing the cases in detail and objecting to a suspension of the Rules as unnecessary.

The data collected were summarized in Circular Letter no. 11³ and transmitted to the Commission.

³ The following is a portion of Circular Letter no. 11:

As this is the first case that comes to the Commission for action under the Plenary Power, it seems wise that the papers in the case be laid before the Commission for discussion before the Secretary prepares a formal Opinion for vote.

In accordance with this thought the Secretary has the honor to invite your attention to the Seventh List of Generic Names, to Circular Letter no. 2, and to the foregoing replies to said letter.

If you will give me your views as to the general direction that the formal Opinion should take, I will collate all of the views expressed, and report to you upon them. This plan will naturally result in some delay, but the case is one of such importance, because it makes a precedent, that I cannot escape the feeling that the Secretary should receive from all of the Commissioners their preliminary views before he attempts to frame an Opinion.

In connection with your views kindly give consideration to the following points:

1. The names in question have been submitted favorably and unanimously by 12 specialists in the group involved;

2. All of the provisions prescribed by the Congress in reference to the suspension of the Rules have been complied with;

3. No objection to any of the said names has been raised—

a. By any specialist in the group in question,

b. By any specialist [except Bartsch] in any other group,

c. By any general zoologist.

4. Is it your "Opinion" that a suspension of the Rules in these six cases is based upon a question of convenience, or that the application of the Rules in these cases would "clearly result in greater confusion than uniformity"?

The various points raised in reply ⁴ to Circular Letter no. 11 have been held in mind by the Secretary in framing this Opinion.

*Duty of the Commission under the Plenary Power Resolutions.*²—It will be noticed that in reply to Circular Letter no. 11, the point is raised that the Commission should take very seriously the responsibility the International Congress has placed upon us and that the expression “where in its judgment the strict application of the Rules will clearly result in greater confusion than uniformity” is advanced as the standard upon which we must base our opinion; further, also, that this extraordinary Plenary Power must be exercised with the utmost care and discretion.

*Incompleteness of the statement of case.*⁵—In respect to the Statement of Case, two points of view may be considered:

(1) It is clear that no Court at Law would consider that the evidence submitted by the Appellants is presented in a manner that permits a fair judicial consideration of these cases. The Commission is practically a Court that should decide questions on basis of the evidence submitted, but it has a right to insist that this evidence shall be reasonably complete in order to enable the Commission to consider the cases from every essential point of view. From this standpoint, the Commission would be justified in declining to con-

5. If only a matter of convenience is involved, is this convenience of sufficiently far reaching importance to justify a suspension of the Rules?

6. If it is your “Opinion” that “greater confusion than uniformity” would result, does this apply to all of the names or only to certain of them?

7. Have the signers of the Seventh List submitted evidence that the application of the Rules in these cases would clearly result in greater confusion than uniformity, and is this evidence sufficient to justify favorable action on the part of the Commission?

8. Is the Secretary correct in accepting the genotypes suggested by Commissioner Apstein, or should the Secretary, as a precautional measure, request that these genotypes be confirmed by the other signers of the Seventh List?

9. Would the suspension of the Rules in these six cases involve an action sufficiently conservative to show that the Commission is using the Plenary Power with caution, or would it be sufficiently radical to indicate that the Commission invites a general suspension of the Rules in cases where convenience only is involved?

10. Do you consider all of the six names equal in importance from the standpoint of the suspension of the Rules, or should a distinction be made among them?

11. Is evidence submitted that any of the names come under paragraph 3 (115). If so, for which names?

⁴The replies were copied and transmitted to the Commissioners, but it is not necessary to print them with the Opinion.

⁵See p. 38, Statement of Case.

sider these cases because of the incomplete preparation of the evidence.

(2) It has, however, been the custom of the Commission to aid former Appellants by adding data not submitted by them, and in view of the fact that these names are the first to come up for consideration under the Plenary Power Resolutions, it would appear questionable whether the Commission should suddenly become more strict as to completeness of presentation. Accordingly, the Secretary has felt it better policy to add data that will enable the Commission to show every possible consideration to the Appellants.

Nevertheless, in view of the great amount of work involved, the Secretary recommends that the Commission take this occasion to establish for the future the policy involved in the following resolutions:

Resolved, That the Secretary is hereby authorized and instructed to insist that cases presented to the Commission for consideration shall be accompanied by reasonably complete data to enable a fair consideration of the nomenclatorial points at issue, and

Resolved, That in order to give opportunity to submit complete evidence, the Secretary is hereby authorized and instructed to return to Appellants cases not stated with a reasonable degree of completeness.

RESULT OF VOTE.—Resolution concurred in by 12 Commissioners: Allen, Bather, Blanchard, Handlirsch, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Not voting, 6 Commissioners: Apstein, Dautzenberg, Horváth, Kolbe, Roule, Simon.

Nomenclatorial views of writers on Tunicata.—During a study of the cases under consideration, the Secretary has had another opportunity to gain an insight into some of the nomenclatorial customs of writers on tunicates, and thus to see the origin of at least some of the difficulties presented.

The chief nomenclatorial difficulties in this group appear to be referable to certain fundamental factors:

(1) In general, authors on the tunicates appear to take no account of the principle of type species for genera. As a consequence, confusion results. The impression gained from the literature is that the authors have been working on the basis only of a morphological norm and without reference to a nomenclatorial type. In the judgment of the Secretary, the present nomenclatorial confusion in this group is likely to continue until some author gives himself the trouble to examine systematically the entire literature of the group and to determine, according to Article 30 of the Rules, the correct nomen-

clatorial type species for every generic name. Even the monographic works of Seeliger and Hartmeyer (Bronn's Thierreich) and of Ihle (1912a) and Neumann (1913a) (in Das Tierreich) do not appear to have been based upon the principle of type species. If any work exists in which genotypes have been determined for the entire tunicate group, the Appellants have not mentioned this in their evidence.

(2) Certain important authors in this group do not appear to have based their nomenclatorial work upon a careful study of the Rules of Nomenclature that existed at the time they wrote. Thus, early authors appear to have been unfamiliar with the Linnæan Rules, and more recent authors (since 1842) appear to have been unfamiliar with, or to have misinterpreted, or to have ignored, the rules as proposed or adopted by various societies from 1842 to 1910. Under these circumstances it is not surprising that confusion has resulted.

(3) A striking feature of tunicate literature is that authors consider that if the description upon which a given name is based seems obscure to them, they are at liberty to apply said name to any group they may desire, regardless of its original application,⁶ or to rename the original group.⁷

⁶ For examples see the following quotations:

Quoy and Gaimard (1834a, 599) in proposing a new genus *Doliolum*, say: "Il ne faut pas confondre ce genre avec celui ainsi nommé par M. Otto, dans les Nova acta curios. natur., t. 42, fig. 7, qui n'est qu'un Biplore tronqué aux deux extrémités par une espèce de crustacé pélagien nommé Phronyme, qui s'y loge et fait développer ses petits. Nous avons trouvé deux fois et rapporté ce singulier animal dans son logement."

Fol (1872a, 460) in proposing a family "Appendiculaires" and a new genus *Fritillaria* says: "Les descriptions que donnent Chamisso de son Appendiculaire, et Quoy et Gaimard de leur *Fritillaria* sont si vagues, que je me crois en droit de faire de ces noms l'usage que je voudrai. Je conserve comme nom de famille, le nom donné par Chamisso, et applique le terme de *Fritillaria* au second de mes genres que ce nom désigne assez bien."

Under *Fritillaria* he gives *F. furcata* (Vogt), and four new species: *F. megachile*, *F. aplostoma*, *F. formica*, and *F. urticans*.

Fol (1874a, xlix) in proposing a new genus *Appendicularia*, says: "Les noms *Appendicularia* (Cham.) et *Fritillaria* (Q. & G.) se rapportent clairement à des animaux de la famille qui nous occupe, mais il est impossible d'appliquer les descriptions dont ces noms ont été accompagnés à l'une plutôt qu'à l'autre des formes qui la composent. Je persiste donc à me considérer comme libre de les donner au genre que bon me semble, tout en faisant suivre le nom de cette réserve: *Diagnosis emendata*. Le nom donné par Chamisso n'ayant pas encore trouvé son emploi, je l'appliquerai au genre actuel."

Of the species of *Fritillaria* he now cites: *F. aplostoma* (which he changes to *haplostoma*), *F. megachile*, and *F. furcata*.

⁷ Mertens (1831a, 205-206) in proposing the new genus and species *Oikopleura chamissonis* says: "Das in Anfrage stehende Thier ist freilich schon

(4) At least one specialist in tunicates, who is so rigid in regard to priority that he rejects one name for another merely on basis of page precedence,⁸ does not consider it necessary to confine the genotype to the original species published under a genus.⁹

In the cases that are presented by the 12 specialists in tunicates, the Commission is, accordingly, requested to validate certain names in a group which does not as yet appear to have been subjected to any serious or systematic nomenclatorial study on basis of the International Rules. In the judgment of the Secretary, this fact alone should make the Commission exceedingly cautious, lest an Opinion be rendered which may possibly result in distinct and unnecessary confusion that might be avoided if some tunicate specialist will subject the group to the very necessary nomenclatorial study it deserves before important final steps are taken.

Classes of cases presented.—A study of the cases under consideration indicates that they naturally fall into certain categories, as follows:

I. *Pyrosoma* 1804 vs. *Monophora* 1804: This case involves simply a determination of the facts as regards the dates. If exact dates cannot be determined more closely than 1804, the case is amply provided for by Article 28.¹⁰

II. *Cyclosalpa* 1827 vs. *Holothuria* 1758 of Lûeche, 1912: This case involves a determination of the genotypes according to Article 30.

von Chamisso, vor mir, an derselben Stelle, wo ich es beobachtete, gesehen und bereits vor 10 Jahren in der 1. Abtheilung des 10. Bandes der Verhandlungen der Kaiserlichen Leopoldinisch-Carolinischen Akademie der Naturforscher als eine neue Gattung unter dem Namen *Appendicularia* aufgeführt worden. Allein die Beschreibung und Darstellung ist so unvollkommen, das ich mein Thier füglich als nicht bekannt annehmen kann und muss.... (p. 218). Ich habe diese Art mit dem Namen meines....Freundes belegt....weil er der erste war der die Aufmerksamkeit der Naturforscher auf dieses Thier gelenkt hat."

⁸ Thus Ihle (1911a, 588) says: "K. Heider (1805, S. 308 Anm.) hat schon darauf hingewiesen, dass *S. mucronata* in *S. democratica* umzuändern ist, denn Forskål beschreibt letztgenannte Art auf S. 113 seiner Arbeit und *S. mucronata* erst auf der folgenden Seite.... Wir kommen also zum Ergebnis, das....*S. mucronata* in *S. democratica* Forskål....zu ändern ist."

⁹ But Ihle (1911a, 585-586) also says: "Nun hat Linné [1767a] in der 12. Ausgabe seines Systema Nature der Gattung *Holothuria* [1758] noch mehrere Arten zugefügt, welche teilweise echte Holothurien sind, und der Typus der Gattung *Holothuria* ist unter den in dieser Gattung verbleibenden Arten zu suchen."

¹⁰ "If the names are of the same date, that selected by the first reviser shall stand."

III. *Dagysa* 1773 vs. *Salpa* 1775: This case involves (a) a determination of the genotypes (Art. 30) and an application of the Law of Priority (Arts. 26-27).

IV. *Appendicularia*, *Doliolum* and *Fritillaria*: These cases involve the principle (footnote 6) cited above, that an author who considers the original description of a genus insufficient from his point of view is at liberty to use the name in any way he may desire, regardless of rules or consequences.

Bibliography.—In discussing these cases, the Secretary refers to the articles mentioned in footnote.¹¹

¹¹ BIBLIOGRAPHY.—The Secretary desires to acknowledge, with the greatest appreciation, the very valuable aid extended to him by Dr. Paul Bartsch, Curator of the Division of Marine Invertebrates, United States National Museum, in obtaining literature and in a study of these cases.

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APSTEIN, 1915a, *Nomina Conservanda* <Sitzb. Ges. nat. Fr. Berl., No. 5, 119-202.

BARTSCH, 1915a, *The Status of the Tunicate Genera Appendicularia and Fritillaria* <Proc. Biol. Soc. Wash., v. 28, 145-146. Aug. 23.

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BORY, 1804a, *Voy. Iles d'Afr.*, v. 1. [Aug. 23, 1804.]

BROWNE, 1756a, *Hist. Jamaica*.

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FORSKÅL, 1775a, *Descriptiones Animalium*.

CASE OF *PYROSOMA*¹² PÉRON, 1804, VS. *MONOPHORA*¹³
BORY, 1804

According to the premises presented, (1) *Pyrosoma* and *Monophora* are synonyms and (2) it cannot be determined which has

- GILL, 1907a, Holothurian Names <Science, N. Y., v. 26, 185-186, Aug. 9.
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 IHLE, 1911a, U. d. Nomenk. d. Salpen <Zool. Anz., v. 38 (25-26), 19 Dec., 586-589.
 ——— 1912a, Salpæ I, *Desmomyaria* <Das Tierreich, 32. Lief. Mai.
 KNAUER, 1887a, Handwörterbuch der Zoologie.
 LAMARCK, 1801a, Syst. anim. sans vert.
 ——— 1815a, Hist. nat. anim. sans vert., v. 1.
 ——— 1816a, Idem, v. 2.
 ——— 1816b, Idem, v. 3.
 LAMOUREUX, BORY and DESLONGSCHAMPS, 1824a, Hist. nat. zooph. <Encycl. méth., v. 2.
 LINNÆUS, 1758a, Syst. nat., ed. 10, 1-823.
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 MERTENS, 1831a, Besch. d. *Oikopleura* <Mem. Acad. Imp. Sci. St. Petersburg, 6 sér., v. 1, 205-220, pls. 1-2.
 MODEER, 1780b, Slågtet Hafsblåsa, *Physophora* <K. Vet. Akad. N. Handl., v. 10, 277-294.
 ——— 1790b, Slågtet Plattmask, *Phyllidocæ* <K. Vet. Akad. N. Handl., v. 11, 191-200.
 NEUMANN, 1913a, Salpæ II: *Cyclomyaria* et *Pyrosomida* <Das Tierreich, 40. Lief., Dez.
 OTTO, 1823a, Beschreibung e. n. Mol. u. Zooph. <Nova Acta Phys.—Med. Acad. Caes. Leop. Car. nat. cur., v. 11, pp. 275-314, pls. 38-42.
 PALLAS, 1774b, Spic. zool., fasc. decimus, 1-41 [-51], pls. 1-4.
 ——— 1778b, Misc. zool., 1-224, pls. 1-14.
 PARKER & HASWELL, 1910a, Text Book of Zoology, v. 2.
 PÉRON, 1804a, Ann. Mus. nat., v. 4.
 POCHE, 1907d, U. d. r. Gebr. d. Gattungsnamen *Holothuria* u. *Actinia* [etc.] <Zool. Anz., v. 32 (3-4), 20 Aug., 106-109.
 ——— 1912a, Z. Nom. d. *Bohadschiidæ* u. d. *Dagysidæ* <Ibidem, v. 39 (11-12), Apr. 23, 410-413.
 QUOY & GAIMARD, 1833a, Voyage de l'Astrolabe, v. 4.
 ——— 1834a, Idem, v. 3.
 RUMPHIUS, 1741a, D'Amboinsche Rariteitkamer.
 SCHULZE, 1912a, footnote, p. 27, in Ihle, 1912a.
 SCOPOLI, 1777a, Introductio ad Hist. nat.
 SHERBORN, 1902a, Index animalium.
 ——— 1914a, Ann. Mag. Nat. Hist.
¹² *Pyrosoma* Péron, 1804a, 437, 440, pl. 72, monotype *P. atlanticum*, p. 440, pl. 72. [Aug. 18 [or earlier], 1804.]
¹³ *Monophora* Bory, 1804a, 107, monotype *M. noctiluca*, pp. 107-108, pl. 6, fig. 2. [Aug. 23, 1804.]

priority in publication, but (3) *Monophora* appears to be the earlier. On basis of these premises special protection is asked for *Pyrosoma* in order that it may not be suppressed in favor of *Monophora*.

The first premise is zoological in nature, and rests upon the technical judgment of the petitioning specialists. For the purpose of this Opinion it is fundamental, and is accepted as established.

The second and third premises involve questions of fact which can be studied without reference to technical interpretation in taxonomy.

According to the evidence before the Secretary (personal examination of the necessary literature) the two publications in question (Péron and Bory) are of the same year (1804), but that of Péron for *Pyrosoma* also bears the date of An XII of the French Republic, and that of Bory for *Monophora* also bears the date of An XIII of the French Republic.

An XII ended September 22, 1804, and An XIII began September 23, 1804. As it is a general principle that the date borne by a publication is to be assumed to be correct unless proved to be incorrect, the evidence of An XII and An XIII would at first appear to settle the question at issue. The work by Bory bears, however, the printed statement on its flyleaf that in accordance with law, two copies of the book were deposited in the Bibliothèque nationale, Paris, "ce 5 Fructidor An XII de la République Française" (namely, August 23, 1804). Furthermore, according to Sherborn (1914a, p. 366) volume 4 of the Ann. Mus. nat. (containing *Pyrosoma*) was published in August, 1804. Furthermore, also, Commissioner Blanchard in reply to a request of the Secretary to establish in Paris the exact date of issue of Péron's publication, has, under date of March 28, 1916, replied as follows:

Le fascicule 24 des Annales du Muséum d'histoire naturelle, qui contient le mémoire de Péron, se trouve annoncé et analysé dans le Journal général de la librairie [not accessible to the Secretary] de thermidor an XII. Thermidor an XII finissant le 18 août 1804, il est donc hors de doute que le mémoire de Péron est paru quelque temps, peut-être même plusieurs semaines avant cette date.

Accordingly the actual date of publication for *Monophora* is August 23, 1804, and for *Pyrosoma* it is earlier than August 18, 1804.

An examination of the facts of the case in question shows, therefore, that the 2nd and 3rd premises, upon which the Appellants ask special protection for *Pyrosoma* are erroneous, and that if the International Rules are rigidly applied, *Pyrosoma* is amply protected from danger of being suppressed in favor of *Monophora*.

In view of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

The data presented by the Appellants do not show that an application of the Rules in this case will produce greater confusion than uniformity, hence *Pyrosoma* vs. *Monophora* is not a case in which the Commission would be justified in suspending the Rules.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Handlirsch, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Kolbe, Monticelli, Skinner, Stejneger, Stiles.

Not voting, 4 Commissioners: Dautzenberg, Horváth, Roule, Simon.

CASE¹⁴ OF *CYCLOSALPA* 1827, *THALIA* 1791, AND
HOLOTHURIA 1758

Systematic Conceptions of Holothuria.—The generic name *Holothuria*, as used by various authors from 1758 to 1916, has included species of four different subkingdoms, namely, Group A, *Coelen-*

¹⁴ Names dating prior to 1758, hence not validated in original publication:

Holothuria Rumphius, 1741a, 49-50, monotype [*H. physalis* 1758].

Physalis Osb. [Not accessible to Secretary.]

Thalia Browne, 1756a, 386, contains 3 species [1 = *Hol. thalia*, 2 = *H. caudata*, 3 = *H. denudata*]; 1789a, 384, 386 [reprint, not validated here].

Names dating 1758 or later:

Holothuria Linn., 1758a, 657, contains *physalis*, *thalia*, *caudata*, *denudata*.

Type *physalis*, designated by Gill, 1907a, 185-186, and Schulze, 1912a, 27.

[See also Blumenbach, 1791a, 428 and 1799a, 421.]

Type *thalia*, designated by Poche, 1912a, 410-411.

Type *tubulosa*, designated by Apstein, 1915a, 132.

Holothurium Pallas, 1774b, 26 (for *Holothuria*) describes *zonarium*.

Phyllidoce Modeer, 1790b, 191-207, contains *zelella* 1758 (syn. *Phyllidoce labris caeruleis* Browne, 1789a, 387 [not validated by Edwards in Browne, 1789a, 387 or on pl. 48, fig. 1]), *denudata* 1758, and *porpita* 1758.

Physophora Forskål, 1775a, 112, 119, contains *hydrostatica*, *rosucca*, and *filiformis*.—Apstein, 1915a, 128 cites *hydrostatica* as type.

Arctusa Edwards in Browne, 1789a, 386 for *Arctusa* Browne, 1756a. [Not validated here].

Thalia Bruguière, 1791a, pls. 88-89, contains 1. *Hol. thalia* [type by absolute tautonymy], 2. *H. caudata*, 3. . . . ?. . . [could not be traced by Secretary], and 4. *H. physalis*.

Thalis Cuvier, 1798a, 398, for *Thalia* 1791, hence type *H. thalia*.

Cyclosalpa Blainville, 1827, 108-109, contains *Salpa pinnata* Gmel., *S. affinis*, and [as sp. incert.] "les espèces de thalides de Browne."—Apstein, 1915a, 186, cites *pinnata* as type.

Physalia Lamarck, 1801a, 355-356, mt. *P. pelagica* (= *H. physalis* 1758).—Apstein, 1915a, 128, cites *arctusa* Browne, 1756, as type.

Physalis Lamarck, 1816a, v. 2, 478-481 (uses both *Physalia* and *Physalis*).

terata, Group B, *Tunicata*, Group C, *Echinodermata*, and Group D, *Vermes*, as follows:

Linnæus (1758a, 657) validated *Holothuria* nomenclatorially as generic name under which he united two earlier genera to which he did not grant the rank of subdivisions, namely:

Group A, The Portuguese Man of War [*Holothuria*¹⁵ 1741; *Arethusa*¹⁶ 1756; and *Physalis*¹⁴].

1. *H. physalis*, for which he cited the earlier names: *Holothuria*¹⁵ Rumphius; *Arethusa*¹⁴ Browne; and *Physalis pelagica*¹⁴.

Group B, Three Jamaican salps [genus *Thalia* Browne,¹⁶ 1756].

2. *H. thalia*, based on *Thalia* 1. of Browne, 1756a, p. 384, pl. 43, fig. 3.
3. *H. caudata*, based on *Thalia* 2, of Browne, 1756a, p. 384, pl. 43, fig. 4.
4. *H. denudata*, based on *Thalia* 3, Browne, 1756a, p. 384.

Essentially, therefore, *Holothuria* 1758 equals *Holothuria* 1741 (syns. *Arethusa* 1756 and *Physalis*) + *Thalia* 1756.

That the first species (*H. physalis*) should have been taken as genotype by later authors is clear from the following facts:

- (1) *Holothuria* 1758 is based directly upon *Holothuria* 1741;
- (2) Linnæus' rule, in case of a division of a genus, reads:

Si genus receptum, secundum jus naturæ et artis, in plura dirimi debet, tum nomen ante commune manebit vulgatissimæ et officinali plantæ.

(3) As the Portuguese Man of War was observed, named, and reported by various authors, it was clearly, from Linnæus' viewpoint, more common than any one of the three species of the *Thalia* group, which were based upon the publication by only one author.

¹⁵ Rumphius (1741a, 49-50) described and named *Holothuria*, without binomial, stating that it belonged to the so-called *Urticaria marina*. Rumphius' animal is apparently *Physalia* of modern authors.

¹⁶ Browne (1756a, 386) is not accessible to the Secretary; in a later edition, Browne (1789a, 386) uses *Arctusa* for "The Portuguese Man of War" (*Physalia* of modern authors) and (1789a, 384) he uses *Thalia* as follows:

Thalia 1. Oblonga, crista, perpendiculari compressa quadrata, lineis lateralibus integris. Tab. 43 f. 3.

Thalia 2. Oblonga caudata, crista depressa rotundata, lineis lateralibus interruptis. Tab. 43. f. 4.

Thalia 3. Oblonga, lineis interruptis, cauda et crista destituta.

As he uses the names "3, *Holothuria thalia*. 4, *Holothuria caudata*" in the explanation on plate 43, it seems clear that *Thalia* 1756 is not validated in 1789.

From descriptions and figures, all three of Browne's species appear to be salps in the modern sense, but without re-examining the Jamaican salps it would be difficult or impossible to determine what particular genera and species are referred to.

Under ordinary circumstances the nomenclatorial decision might well be based upon this original publication alone, without additional historical review, but on account of the complications that have arisen, it seems wise to follow the literature further.

Linnaeus (1767a, 1089-1091) included in *Holothuria* the four (1758a) species of the two original groups (A, *Holothuria* 1741, and B, *Thalia* 1756) and added five other species that are recognized by authors as belonging to two other categories, namely,

Group C, Sea Cucumbers [cf. *Fistularia* Forskål, 1775, preoccupied by *Fistularia* 1758a, a fish] [cf. also *Bohadschia* Jæger, 1833].

1. *H. frondosa* Gunnerus, 1767, 115, [cf. *Cucumaria*;]
2. *H. phantapus* Linn., 1767a, 1089, [cf. *Psolus*;]
3. *H. tremula* Gunnerus, 1767, 119, [cf. *Holothuria* authors;]
8. *H. pentactes* Linn., 1767a, 1091, [cf. *Cucumaria*.]

Group D, Vermes, *Gephyrea*. [Cf. *Priapulus* Lamarck, 1816b, 76-77, mt. *caudatus* = *priapus* 1767 renamed.]

9. *H. priapus* Linn., 1767a, 1091.

Here is found the origin of the present day confusion. Many authors have taken the 12th edition of Linnaeus (1767a) as the starting point of their nomenclature, and, in fact, the British Association (1846) Code of Nomenclature adopts this date as basic. Other authors have taken the 10th edition of Linnaeus (1758a) as starting point, as provided for in the A. A. A. S., the A. O. U., the French, the German, and the International Rules. Accordingly, there was a period during which different authors might follow rules in good faith and still arrive at different nomenclatorial results. Hence, to understand the case, we must follow three (A-C) of the groups, A-D, still further.

This case may, in fact, be taken as a typical example of a number of complicated nomenclatorial problems that confront us, and it would be well to hold the cause in mind in reaching a conclusion.

GROUP A, THE PORTUGUESE MAN OF WAR. HOLOTHURIA 1741 = ARETHUSA 1756 = PHYSALIS = ARETUSA 1789 = PHYSALIA 1801.

Holothuria physalis has been taken as basis of *Holothuria* by the following authors:

Blumenbach (1791a, 428 and 1799a, 421) adopts *Holothuria* in its original (1741) sense, mentioning only one species, *H. physalis*. For his use of *Thalia* see below, p. 52.

Gill (1907a, Aug. 9, 185-186) definitely designates *H. physalis* as genotype of *Holothuria* 1758, as shown by the Commission (1910, p. 34) in Opinion No. 16.

Schulze (1912a, p. 27) considers that *Holothuria* should be retained for *H. physalis*; for his disposition of *Thalia*, see below.

Modeer (1789b, 285) had transferred *H. physalis* to *Physosphora* Forskål, 1775. This genus originally contained only *P. hydrostatica*, *rosacea*, and *filiformis*.

Lamarck (1801a, 355-356) adopted *Physalia* as a new genus, with *pelagica* as monotype. He gives as synonym of *pelagica*, *Holothuria physalis* Linn., *Thalia* 1791, and *Arethusa* Browne, p. 386.

Burmeister (1837a, 460) adopts *Physalia*, mentioning *Ph. caravelle* (with syns. *Ph. arethusa* Eisenh., *Ph. pelagica* Lam., *Cystisoma atlantica* Lesson).

Apstein (1915a, 128) (quoting Vanhöffen, 1903) reduces Browne's (1756) generic name (*Arethusa*) to specific rank, and cites it as type species (of *Physalia*) with the date 1756.

Physalia has been changed to *Physalis* by some authors. Either *Physalia* or *Physalis* has been used by nearly all authors since 1801 as generic name for the Portuguese Man of War, and it may be said to be at present practically in universal use, except for Gill (1907a) and Schulze (1912a).

GROUP B. THALIA BROWNE, 1756A, THE JAMAICAN SALPS

So far as the Secretary has found, the first authors to make *Thalia* available under the Rules, were Blumenbach (1791a) and Bruguière (1791a), but he is unable to state which publication has priority.

Pallas (1774b, 26) changed *Holothuria* to *Holothurium*, mentioning *H. zonaria*. Ihle (1912a, 27) gives *Holothurium* 1774 as synonym of *Salpa*.

Modeer (1790b, 201) had already transferred *Hol. denudata* (= *Thalia* 3 of Browne, 1756) to *Phyllidoce*. This genus of Modeer (1790b, 191-207) was based upon *velella*, [*Hol.*] *denudata* 1758, and *porpita*. It was clearly based primarily upon *Phyllidoce labris caeruleis* of Browne, 1789a, 387 (the only species of *Phyllidoce* 1789) which Modeer gives as synonym of *velella*.

Bruguière (1791a) uses *Thalia* on pls. 88-89, without specific names, for the following:

- pl. 88 fig. 1 = Browne's pl. 43 fig. 3 (reversed) = *Hol. thalia* 1758;
- pl. 88 fig. 2 = Browne's pl. 43 fig. 4 (reversed) = *Hol. caudata* 1758;
- pl. 88 fig. 3 = [not traced by Secretary];
- pl. 89 fig. 1 = The Portuguese Man of War = *Physalia*.

From the foregoing it appears that taxonomically *Thalia* 1791 is practically coextensive with *Holothuria* 1758, but nomenclatorially *Hol. thalia* becomes the genotype of *Thalia* by absolute tautonymy.¹⁷

Cuvier (1798a, 389) emended *Thalia* to *Thalis* as follows:

VII. LES THALIDES. (*Thalis*) (*Thalia* Brug.) (*Holothuria* Lin.) [generic diagnosis] "Une espèce (*thalis physalus*) (*holothuria physalus* Lin.) a de longs et nombreux tentacules; les autres (*holothuria thalia*, etc. Lin.) en sont dépourvues.

Thalis takes *Hol. thalia* as type, since *Thalis* is only an emendation of *Thalia*.

Blumenbach (1799a, 472) mentions *Thalia*, quoting only one species, *lingulata* (Atlantic Ocean) and citing Forster.

Lamarek (1801a, 356) accepts *Thalis*, mentioning only one species, *trilineata* (with references to *Hol. thalia* 1758 and *Thalia* Browne, 1756a, plate 43, figure 3, and referring to Bruguière, 1791a, plate 88, figure 1).

Blainville (1827, 108-109) separated from *Salpa* the group *Cyclosalpa*, with diagnosis; he cites *S. pinnata* Linn. Gmel., *S. affinis* Chamisso, and adds:

Il faut, sans doute, rapporter à cette section les espèces de thalides de Browne, puisqu'elles se réunissent aussi en cercle; peut-être même ne sont-ce que des biphores pinnés, comme le pense M. de Chamisso; mais ce qu'il est impossible d'assurer, tant les descriptions et les figures sont incomplètes.

According to the Code, the type of *Cyclosalpa* must be either *pinnata* or *affinis*. Browne's species are excluded (Art. 30eβ) since Blainville considered them as species inquirendae. Apstein (1915a, 186) has designated *C. pinnata* as type species.

¹⁷ Two possible interpretations come into consideration in connection with *Thalia* 1791 as follows:

First: Some authors might be inclined to consider *Thalia* a new name for *Holothuria* 1758. In this event the question would arise as to whether *Thalia* should take *Hol. physalis* 1758 as genotype, because of the citation by Linnæus; or whether *H. thalia* became the type of *Thalia* by absolute tautonymy, and thus by the principle of renaming became also type designation for *Holothuria* 1758.

Second: Some authors might maintain that Bruguière in 1791 divided the genus *Holothuria* as it existed at the date of his writing, retaining *Holothuria* for the Sea Cucumbers, and separating from *Holothuria* the genus *Thalia*. In this latter alternative *H. thalia* undoubtedly becomes type of *Thalia* by absolute tautonymy.

The Secretary accepts the second interpretation on the ground that it seems to him to correspond more clearly with the facts, and it also seems to simplify the complications.

Poche (1907a, Aug. 20, 106) in discussing *Holothuria* 1758, and applying the principle of elimination, cites the transfer of *physalis* to *Physosphora* in 1789, and of *denudata* to *Salpa* by Modeer¹⁸ 1790, 201 or 202, but does not mention *Thalia* 1791 and *Thalis* 1798 and 1801, and he states that either *thalia* or *caudata* should be taken as the type of *Holothuria* 1758.

Ihle (1911a, 585-586), in a discussion of the nomenclature of *Holothuria*, states that Traustedt (1885, 353) and Seeliger (1893, 23) consider *H. thalia* [type of *Thalia* 1791] and *H. caudata* as synonyms of *Cyclosalpa pinnata*, but that he (Ihle) considers that the identification of *H. thalia* with *C. pinnata* is only a conjecture ("ein Vermuten"), and that it is clear that Browne had observed "Salpen" although that the descriptions and figures of Browne are too meagre (dürftig) to permit of an identification of the two species. Ihle claims that even if the identity of *C. pinnata* with *H. thalia* be admitted, *Holothuria* cannot replace *Cyclosalpa*, since Linnæus (1767a) had added further species to *Holothuria* and the type of *Holothuria* should be sought among those still remaining in the genus.

Poche (1912a, Apr. 23, 410-411) in replying to Ihle (1911a, 585-586) points out the latter's error [under the Rules] in connection with Linnæus, 1767a, and designates *H. thalia* as type of *Holothuria*, 1758. This designation is, however, antedated by Gill's (1907) designation of *physalis*.

Schulze (1912a, 27) advises the use of *Salpa* 1775 for the species of *Thalia* 1756.

Ihle (1912a, May, p. 15) gives *Thalia* Browne, 1756 (see also 1789), and *Holothuria* Linn., 1758 (part), as doubtful synonyms of *Cyclosalpa*, and (p. 17) he cites *H. thalia* + *H. caudata* + *H. denudata* Linn., 1758, as doubtful synonyms of *Cyclosalpa pinnata* (1775).

GROUP C. SEA CUCUMBERS. HOLOTHURIA AUTHORS [NOT LINN., 1758]

It was seen above that Linnæus (1767a) added four species of Sea Cucumbers to *Holothuria*; namely, *frondosa*, *phantapus*, *tremula*, and *pentactes*.

Authors who took the 12th edition of Linnæus (1767a) as starting point for their nomenclature should have confined the genotype to one of these species in case they desired to restrict *Holothuria* to the Sea Cucumbers.

¹⁸ Modeer, 1790b, 201, placed *denudata* in *Phyllidoce*.—CWS. Compare, also, Sherborn, 1902a, 294

Gmelin (1790a, 3138-3143) added 16 species¹⁹ to *Holothuria*, changing *tremula* to *tubulosa* and *pentactes* to *pentacta*.

Bruguière (1791a, pls. 85-87) after eliminating the original species (1758) of *Holothuria* to *Thalia*, restricts *Holothuria* to the Sea Cucumbers.²⁰

Cuvier (1798a, 644-645) mentions only *tubulosa* Linn., [Gmel., 1790a, see *tremula* Linn.] and *pentacta* [see *pentactes*] under *Holothuria*.

Lamarck (1801a, 351) mentions only "*H. tubulosa* Linn.," and, since 1801, *Holothuria* has been almost universally confined to the Sea Cucumbers of this group.²¹

Apstein (1915a, 132) cites *tubulosa* Gmel. [cf. *tremula*] as type, and it will be noticed that of the authors quoted in footnote 21 *tremula* Linn., 1767a [cf. *tubulosa* Gmel. 1790a] is mentioned as a *Holothuria* auct. [not 1758] by: Linnæus (1767a), Cuvier (1830), and Gill (1907a), while *tubulosa* Gmelin, 1790a [cf. *tremula* Linn., 1767a] is mentioned as a *Holothuria* by Gmelin (1791a), Cuvier (1798a), Lamarck (1801a), Burmeister (1837a), Claus (1885a), Leunis (1886a) and Apstein (1915a).

This list might be extended much further, but it is sufficiently long to show that one of the Linnæus' (1767a) holothurian species, namely, *tremula*, which was renamed *tubulosa* by Gmelin (1790a),

¹⁹ The additional species are: 10. *elegans*, 11. *squamata*, 12. *penicillus*, 13. *fuscus*, 14. *inhærens*, 15. *lævis*, 16. *minuta*, 17. *forcipata*, 18. *zonaria*, 19. *vittata*, 20. *maxima*, 21. *impatiens*, 22. *nuda*, 23. *spirans*, 24. *papillosa*, 25. *spallanzani*.

²⁰ The text to these plates has not been found by the Secretary, but a later edition (1824, v. 2) of the *Encycl. méth.*, refers to plates 85-87 and uses for the figures the following names: *frondosa*, *phantapus*, *pentacta*, *doliolum*, *fuscus*, *inhærens*, *glutinosa*, *vittata*, *squamata*, and *penicillus*.

²¹ Duméril (1806a, 304-305) continues *Holothuria* as an echinoderm, but gives no species.

Lamarck (1816b, 71-74) quotes under *Holothuria*: *frondosa*, *phantapus*, *pentacta*, *doliolum*, *fuscus*, *inhærens*, *glutinosa*, *vittata*, *squamata* and *penicillus*.

Cuvier (1830a, 238-240) quotes: *phantapus* L., *squamata* Mueller, *regalis* Fab., *tremula* [cf. *tubulosa*], *frondosa*, and in footnote, *elegans*, etc.

Burmeister (1837a, 471) quotes *tubulosa* [cf. *tremula*], *elegans*, *impatiens*, *ananas*, *monacaria*, u. a., but recognizes *Bohadschia*, *Mülleria*, and *Trepang* as distinct genera.

Claus (1885a, 249) quotes *tubulosa* [cf. *tremula*], and *edulis*.

Leunis (1886a, 888-839) quotes *monacaria*, *marmorata*, *scabra*, *vagabunda*, *impatiens*, *atra*, *edulis*, *tubulosa* [cf. *tremula*], and *polii*.

Gill (1907a, 185) quotes *frondosa* and *pentactes* as *Cucumaria*, *phantapus* as *Psolus*, and *tremula* [cf. *tubulosa*] as *Holothuria* of modern authors.

has continued in *Holothuria* even after this name was definitely transferred to the Echinoderms.

From the standpoint of the British Association Code of 1846, which took Linnæus (1767a) 12th edition as starting point of nomenclature, the present general use of *Holothuria* for the Sea Cucumbers, instead of for the Portuguese Man of War, is therefore justified, although, as shown above, the name *Holothuria* should, on basis of the American, French, German, and International Rules, which take the 10th (1758a) instead of the 12th (1767a) edition of Linnæus as starting point, be used for the Portuguese Man of War.

Doubtless the papers by Gill (1907a) and Poche (1907a and 1912a) in discussing this case have caused more dissatisfaction with the Law of Priority than has any other single case of nomenclature that has ever arisen. And this case of *Holothuria* was one of those which the Commission had particularly in mind when we worded, in the way we did, the Resolutions presented to the International Congress and adopted by the Congress, conferring upon the Commission Plenary Power [§113] "to suspend the Rules as applied to any given case, where in its judgment the strict application of the Rules will result in greater confusion than uniformity" and [§115] "the foregoing authority refers in the first instance and especially to . . . the transference of names from one genus to another."

Holothuria is, in fact, the best example known to the Secretary in the entire field of nomenclature that comes into consideration in connection with the Plenary Power cited. If suspension of the Rules is not justified in this case, it is doubtful whether it is justified in any case. The name presents, therefore, a test case of the Plenary Power.

Unfortunately, the petitioners have presented their case of *Cyclosalpa* in such a way that the Commission can not act upon the case of *Holothuria* 1758 vs. *Physalia* 1801 and *Holothuria* of authors vs. *Bohadshia* 1833, at the present time, and it becomes necessary to notify the zoological profession that these two cases will come up for consideration under the Plenary Power authority. The Secretary has taken action in this direction. He was scarcely in a position to take this action earlier, on account of the fact that the petitioners' case of *Cyclosalpa* 1827 vs. *Holothuria* of Poche 1912 had not reached a stage in its procedure that justified further public notice.

On basis of the premises presented by the petitioners, and the supplementary data submitted in the foregoing discussion, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) *Cyclosalpa* 1827 is not invalidated by *Holothuria* 1758.

(2) The data submitted by the petitioners are not clear as to the point whether *Cyclosalpa* 1827 is invalidated by *Thalia* 1791.

(3) If *Thalia* 1791 is, as intimated by Schulze (1912), synonymous with *Salpa* 1775, *Cyclosalpa* 1827 is in no danger of being suppressed in favor of *Thalia* 1791.

(4) If *Thalia* 1791 is only a doubtful synonym of *Cyclosalpa* 1827, it is neither necessary nor wise to suppress *Cyclosalpa* 1827 in favor of *Thalia* 1791.

(5) If, on the other hand, *Holothuria thalia*, the type of *Thalia* 1791, is definitely recognized by systematists as congeneric with the type of *Cyclosalpa* 1827, a very simple case is presented in which the Law of Priority should be applied, unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity.

(6) *Holothuria* 1758 (type *physalis*) undoubtedly has priority over *Physalia* 1801.

(7) *Holothuria* of authors, as an echinoderm genus, type *tubulosa* (teste Apstein) is undoubtedly an illegal use of the name *Holothuria* and should (teste Gill, 1907; and Poche, 1907, and 1912) be superseded by *Bohadschia*.

(8) Notwithstanding the foregoing conclusions, the Commission advises zoologists to use *Physalia* 1801 for the Portuguese Man of War and *Holothuria* in its present general use in the echinoderms (namely, as a genus of Sea Cucumber) pending final action by the Commission on these two cases.

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 3 Commissioners, who vote to preserve *Cyclosalpa* under Suspension of Rules: Apstein, Handlirsch, Kolbe.

Not voting, 4 Commissioners: Dautzenberg, Horváth, Roule, Simon.

CASE²² OF *DAGYSA* 1773 VS. *SALPA* 1775

Hawkesworth (1773a, 2-3), quoting from notes by Banks and Solander, gave a brief description of certain animals, and adds:

These animals are of a new genus, to which Mr. Banks and Dr. Solander gave the name of *Dagysa* from the likeness of one species of them to a gem.

²² *Salpa* Catesby 1743a, 17, mt. *purpurasens variegatus*, a fish.—Edwards in Catesby, 1771a, 17.—Sherborn 1902a, 865.

No specific name is used, but the locality is given as between Plymouth and Madeira, off the coast of Spain, where, it is stated, "the sea abounds with them."

Gmelin (1790a, 3131) accepts *Dagysa*, with the single species *notata* (based upon Banks and Solander, 1773, 2) which becomes the type species of the genus.

Ihle (1912a, 47) quotes "*Dagysa notata* (part)" as synonym of *Salpa vagina* Tiles, 1791.

Förskål (1775a, 112) proposed the genus *Salpa*, with generic diagnosis, to contain *maxima*, and 10 other species.²²

Catesby (1743a, 17) had already described a fish under the name *Salpa purpurasens variegata*, "The Lane-Snapper." As this antedates 1758, the name does not come into consideration in nomenclature. Sherborn (1902a, 856) quotes this as "*Salpa* G. Edwards in M. Catesby, Carol. II, 1771, 17.—P." This latter reference has been examined by the Secretary, and the list of Linnæan names has been examined by Commissioner Skinner; a transcript of the list for the name in question makes it clear to the Secretary that *Salpa* Catesby 1771 is not validated, hence it does not compete with *Salpa* 1775.

Poche (1907a, 109) rehabilitates *Dagysa* 1773 in place of *Salpa* 1775, changing the family name *Salpidæ* to *Dagysidæ*.

Ihle (1911a, 586) states that on basis of the description in Hawkesworth the identity of *Dagysa* and *Salpa* is only a conjecture, but that Home (1814) published a drawing of *Dagysa* which was made during Banks' trip, and that this (*Dagysa strumosa*) is identical with *Salpa tilesii* Sol. Ihle rejects *Dagysa* 1775 on the ground that he considers it was not published in accordance with the Rules, and in support of this view he quotes Hawkesworth's reference to "another animal of a new genus they also discovered . . . the genus was called *Carcinium opalinum*." Ihle does not, however, call attention to the fact that Hawkesworth quotes many Linnæan names consistently, and that the term "genus" in this case might easily be a lapsus,

Dagysa Banks & Solander, 1773, 2-3, in Hawkesworth 1773a, mt., species not named here.—Gmelin, 1790a, 3131, mt. *notata*.

Salpa Förskål, 1775a, 112, 117, includes *maxima*, *pinnata*, *democratica*, *mucronata*, *punctata*, *confederata*, *fasciata*, *sipho*, *africana*, *solitaria*, *polycratica*.—Apstein, 1915a, 186, cites *maxima* as type.

Biphora Bruguière, 1792a [1789, teste Sherborn, 1902a, 128], x, 178-183, includes 9 original species (1775) of *Salpa* (*maxima*, *pinnata*, *democratica*, *mucronata*, *punctata*, *confederata*, *fasciata*, *africana*, *polycratica*).

Dagysa Home, 1814, 366.

especially in view of the numerous instances in which the nomenclature of the author is consistent.

Poche (1912a, 411-412) replying to Ihle (1911a) points out that Hawkesworth uses many Linnæan names consistently, and Poche insists upon the validity of *Dagysa* 1773.

Ihle (1912a, 27) accepts *Salpa*, without mentioning type species, and adopting as earlier generic synonyms: *Dagysa* 1773 (which he marks as "non. bin."), and *Holothurium* 1774, and he gives *D. notata* (part) as synonym of *S. vagina*. Schulze (1912a, 27) adds in a footnote:

Linne hatte in der 10. Auflage seiner Systema naturæ im Jahre 1758 in seiner Gattung 4 Arten aufgeführt. Die erste Art, *H. physalis*, die jetzt unter dem Namen *Physalia* bekannt ist, muss als erste angeführte Species den Gattungsnamen *Holothuria* behalten, der vor *Physalis* die Priorität hat. Für die übrigen 3 Arten [*Thalia* 1756] des Linnéschen Genus, unter denen sich sicher als Salpen erkennbare Tiere befinden muss ein neuer Gattungsname gewählt werden und da bietet sich als Name des nächsten in Betracht kommenden Beschreibers Forskål der Name *Salpa*.—Der Herausgeber [Schulze] im Einverständnis mit dem Autor.

[On p. 17, however, Ihle gives these three species as doubtful synonyms of *Cyclosalpa pinnata*.]

Schulze (1912a, 27) considers that *Thalia* Browne should be classified as *Salpa*, while Ihle (1912a, 15) places *Thalia* as a doubtful synonym of *Cyclosalpa*.

Apstein (1915a, 186) cites *maxima* as type of *Salpa*.

In connection with this case the point might well be mentioned that while Gmelin (1790a, 3129-3130) cites the original 11 species of *Salpa* under the generic name *Salpa*, Bruguière (1792a [or 1789, teste Sherborn 1902a, 128], x, 178-183) cites 9 of them under the generic name *Biphora*,²² and one of these is *maxima* (type of *Salpa*, teste Apstein). Ihle (1912a, 27) gives *Biphora* as synonym of *Salpa*. Whether *Biphora* complicates the question of *Salpa* or not, is not evident from the premises submitted.

The petitioners ask that *Salpa* be protected, and from the references they give they apparently have in mind a protection from *Dagysa* 1773.

On basis of the premises submitted, supplemented by the details given in the foregoing, the Secretary draws the following conclusions:

- (1) *Dagysa* 1773 is available from its publication in 1773.
- (2) The case is presented with evidence that is not complete enough to permit more than a tentative opinion;

(3) Assuming (a) that the case of *Salpa* 1775 is not complicated by *Biphora* 1792 [or 1789], and (b) that *Dagysa notata* 1790 is congeneric with *S. maxima*, and (c) that *maxima* is the correct genotype of *Salpa*, the case of *Dagysa* 1773 vs. *Salpa* 1775 appears to be a very simple case of the priority of *Dagysa* 1773 over *Salpa* 1775, but

(4) No transfer of name from one group to another appears to be necessary, and

(5) No evidence is presented involving names of larval forms;

(6) Accordingly, no special complications appear to be present such as exist in the case of *Holothuria*.

(7) The evidence is therefore still lacking that the strict application of the Rules in this case would result in greater confusion than uniformity.

In view of the foregoing data the Secretary recommends that the Commission adopt as its Opinion the following:

(1) If *Dagysa* 1773, type *notata*, is a synonym of *Salpa* 1775, the Law of Priority should be applied, unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity.

(2) The evidence is apparently contradictory and incomplete.

(3) See also recommendation to table, page 69.

Opinion written by Stiles.

Opinion concurred in by 10 Commissioners: Allen, Bather (part), Blanchard, Hartert, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from (in part) by 1 Commissioner: Bather.

Opinion dissented from by 4 Commissioners, who vote to retain *Salpa* under Suspension of Rules: Apstein, Handlirsch, Hoyle, Kolbe.

Bather: I do not quite concur in Clause 1 of the Opinion drafted by the Secretary.

Dagysa 1773 is a generic name without a specific name. It was not till 1790 that any species included in *Dagysa* received a name that could be quoted as that of the genotype. There are zoologists who, on this ground alone would hold *Dagysa* to be preoccupied by *Salpa* Forskål 1775 (assuming their identity).

But the identity of *Salpa* (with genotype *S. maxima*) and *Dagysa* (with genotype *D. notata*) is not admitted by all the Appellants; and the doubt is due to the insufficient description of *Dagysa*.

It must also be conceded that, even if the publication by Hawkesworth can be brought within the rules, it was not in very good form

and was so obscure that it escaped the search of even a careful investigator like Sherborn.

I therefore conclude that the continued use of *Salpa* should not be affected by the existence of *Dagysa*; and that *Dagysa* should not be used until, and unless, it be definitely proved to denote some genus that is *not Salpa*.

I agree, however, with Clause 2 of the drafted Opinion, and therefore I concur in Clause 3.

Hoyle: I am of the opinion that the use of *Dagysa* for *Salpa* will cause much confusion. *Salpa* is a name used not only by specialists but in laboratories, text-books and numerous books of travel. Under these circumstances I am obliged to divide my vote on the final question as I cannot vote for or against *in toto*.

CASE²³ OF *APPENDICULARIA* 1820, *OIKOPLEURA* 1831,
APPENDICULARIA 1874, *APPENDICULA* 1915,
AND *APPENDICULARIIDÆ*

Chamisso and Eysenhardt (1820a,²⁴ 362) propose the genus *Appendicularia*, with the monotype *A. flagellum* 1820, a new Arctic species taken in St. Lawrence Gulf [Bay], Bering Strait. They give no generic diagnosis, but they print a short specific diagnosis and they figure the species.

As shown above (footnote 7), Mertens (1831a, 205-220) claims to have found this same species (*A. flagellum*) in its type locality (St. Lawrence Gulf [Bay], Bering Strait) and definitely to have recognized it as *A. flagellum*; he deliberately renames the genus as *Oikopleura* and the species as *chamissonis*. This species is the only one he cites for *Oikopleura*, hence it is genotype both by renaming and by monotypy.

Accordingly, until it is proved that Mertens was wrong in considering the two animals identical, *Oikopleura* 1831 must be con-

²³ *Appendicularia* Chamisso and Eysenhardt, 1820a, 362, monotype *flagellum* 1820a, 312-363, pl. 31 fig. 4 (St. Lawrence Gulf [Bay], Bering Sea).

Oikopleura Mertens, 1831a, 205 (*Appendicularia* 1820 renamed), mt. *O. chamissonis* 1831a, 205-220, pls. 1-2 (*A. flagellum* renamed), (same locality, but different collection).

Appendicularia Fol, 1847a, xlix, mt. *sicula* 1874a, xlix-liii, pl. 18 figs. 1-5 (at Messina).

Appendicula Bartsch, 1915a, 145, tod. *Appendicularia sicula*. New name for *Appendicularia* Fol.

²⁴ The exact date, 1820 or 1821, cannot be definitely determined from the copy consulted by the Secretary, but the Appellants give it as 1820.

sidered a synonym of *Appendicularia* 1820, and *O. chamissonis* 1831 an absolute synonym of *A. flagellum* 1820.

Fol (1872a, 469) states that *Oik. chamissonis* is one of the three species of *Oikopleura* that is recognizably described and he adopts the generic name *Oikopleura*, but as shown above (footnote 6), he (1872a, 460) states that the description of *A. flagellum* is so vague that he considers himself justified in using *Appendicularia* in any way he may wish, and he adopts the French vernacular *Appendiculaires* as the family name.

Further, as shown above (footnote 6), Fol (1874a, xlix) persists in his view that he may use *Appendicularia* in any way he desires, and he applies it to a new genus ("un nouveau genre") for which he cites "Cham." as author, and in which he mentions only one form, *Appendicularia sicula* n. sp.

Accordingly, Fol recognized *Oikopleura*, monotype *O. chamissonis*, but could not recognize its absolute synonym, *Appendicularia*, monotype *flagellum*, further than that it belonged to the same family, so he uses *Appendicularia* for a new genus, which Chamisso never described, and he attributes this new genus of 1874 to Chamisso 1820. It is clear, therefore, (1) that nomenclatorially *Appendicularia* 1874 is to be considered monotypic, (2) that it is to be attributed to Fol, and (3) that it is preoccupied by *Appendicularia* 1820 (syn. *Oikopleura* 1831).

The names *Appendicularia* 1820 and *A. flagellum* 1820 have found their way into certain standard text-books,²⁵ and a family name *Appendiculariidae* exists which is based upon *Appendicularia* 1820.

Apstein (1915a, 186) cites *A. sicula* as type of *Appendicularia* Fol, 1874, and Bartsch (1915a, 145) proposes the name *Appendicula*, type *sicula*, for *Appendicularia* 1874, because it is preoccupied by *Appendicularia* 1820 [syn. *Oikopleura*].

The Appellants submit that *Ap. flagellum* 1820 is unrecognizable, but they do not discuss the facts that Mertens recognized it and renamed it, and that Fol considers that *Oikopleura chamissonis*

²⁵ Leunis (1883a, 813) recognizes the family *Appendiculariidae*, with the genus "*Appendicularia* Cham." and the species "*A. flagellum* Cham."

Claus (1885a, 586) recognizes the family *Appendiculariidae*, and the genus "*Oikopleura* Mertens (*Appendicularia* Cham.)."

Knauer (1887a, 46) recognizes *Appendiculariidae*, with "*Appendicularia* Cham. *Fritillaria* Fol, etc."

Parker and Haswell (1901a, 24) recognize "*Appendicularia* (*Oikopleura*)," but (p. 22) they cite *Appendicularia* and *Oikopleura* as distinct genera in *Appendiculariidae* and they do not quote the author of the generic names.

[namely *Ap. flagellum*] was, up to 1872, one of the three species of *Oikopleura* [namely *Appendicularia* 1820] recognizably described, and they request that the Rules be suspended in order to validate *Appendicularia* Fol, 1874a, which otherwise would have to be renamed, and, they add, "Der Name der Ordnung *Appendicularidæ* würde verschwinden."

Appendicularia Fol, 1874a, and *Fritillaria* Fol, 1872a," may be taken as samples of several cases of nomenclature that have come to the attention of the Secretary, and in considering them it will be well to hold in mind that they by no means represent isolated or unique cases. In fact, the decision on these two cases will constitute a precedent upon basis of which a number of cases may depend.

It seems clear that this represents a case in which, if the Rules are enforced, a generic name used by some authors for one group (*Appendicularia* Fol, 1874, type *sicula*) will be transferred back to another group (*Appendicularia* Cham. and Eysenh., type *flagellum*) mentioned under this same name in standard text-books as late as Claus (1885a) and Leunis (1886a), and this action would suppress the name *Oikopleura* 1831 (which is an absolute synonym of *Appendicularia* 1820): but the premise of the petitioners, that the family [not ordinal] name *Appendiculari[i]dæ* would disappear, is not clear. From the standpoint that the Rules would require a transfer of the generic name from one genus to another, the Appellants seem to have a stronger case than they appear to have recognized, but it would seem that they have presented only part of the facts, and that they are in error as to the required change of *Appendiculari[i]dæ*.

Again, what will be the effect of admitting to special privilege a case like this, in which an author claims the right to use in any way he wishes a name which is obscure to him (Fol), but which another author (Mertens) claims to have identified correctly with a given animal collected in the original type locality, especially when the name in question belongs to a group which even its leading authors of modern times have not yet brought to the nomenclatorial status of a genotype basis?

The case of *Appendicula* 1915 vs. *Appendicularia* 1874 (pre-occupied) is a very simple case of the application of the law of Priority to one and the same genus, and would not produce much confusion. But the Appellants have presented their case so incompletely that it is not clear to the Secretary whether it would be wiser to supplant *Oikopleura* 1831 by *Appendicularia* 1820 or to suppress *Appendicularia* entirely. In view of the danger involved in validating

nomenclatorial work based upon the principle advanced by Fol, it is not at all impossible, though it is not yet clear, that the most far-sighted course might perhaps be to suspend the Rules by validating *Oikopleura* 1831, in spite of the fact that it is antedated by *Appendicularia* 1820, and at the same time to suppress *Appendicularia* 1872 in favor of *Appendicula* 1915 in order not to admit nomenclatorial practices of this nature.

On basis of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) *Appendicularia* Chamisso and Eysenhardt, 1820, has priority over *Oikopleura* Mertens, 1831.

(2) *Appendicularia* Fol, 1874, is a homonym of *Appendicularia* 1820, and should be suppressed unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity. If suppressed, the name *Appendicula* 1915 is available as substitute.

(3) The contention of the Appellants that a change of the ordinal [read family] name *Appendiculari*[i]dæ is involved is not made clear to the Commission in the premises contained in the presentation of the case.

(4) See also proposition to table, page 69.

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 2 Commissioners, who vote to retain *Appendicularia* Fol under Suspension of Rules: Apstein, Kolbe.

Not voting, 5 Commissioners: Dautzenberg, Handlirsch, Horváth, Roule, Simon.

CASE²⁸ OF *DOLIOLUM* 1823, *PYROSOMA* 1804, *DOLIOLUM* 1834, *DOLIOLETTA* 1894, AND *DOLIOLIDÆ*

Otto (1823a, 313) describes "*Doliolum mediterraneum*" (type specimen deposited in Zool. Museum, Breslau), an animal collected, free swimming on the surface, Gulf of Naples.

²⁸ *Doliolum* Otto, 1823a, 313, mt. *mediterraneum* 1823a, 313-314, pl. 42 fig. 4.

Doliolum Quoy and Gaimard, 1834a, 599, contains *denticulatum* 1834a, 599-601, pl. 89 figs. 25-28 (from "la côte de l'île Vankiro") and *caudatum* 1834a, 601-602, pl. 89 figs. 29-30.—Apstein, 1915a, 186 (cites *denticulatum* as type).

Dolioletta Borgert, 1894a, 14 (subg. of *Doliolum*) contains *Doliolum gegenbauri*, *tritonis*, *nationalis*, *challengeri*, *denticulatum* 1834, *affine*, *ehrenbergi*.

Doliolina Borgert, 1894a, 14-18 (subg. of *Doliolum*) contains *Doliolum mülleri*, *krohni*, *rarum*.

Quoy and Gaimard (1834a, 599) proposed *Doliolum* as a name for a new genus to contain *D. denticulatum* (sur la côte de l'île Vankiro) and *D. caudatum* (La Nouvelle-Holland et Nouvelle-Zéland). They had full knowledge of the existence of *Doliolum* Otto, 1832, as is shown by their statement quoted in footnote 6 (see above, p. 44).

The Appellants (see Statement of Case) consider that *Doliolum* 1823 is a "wohl durch *Phronima* ausgefressene *Pyrosoma*," but they do not state whether this opinion is based upon a re-examination of the type specimen that was deposited at Breslau.

One of the Appellants (Borgert, 1894a, 14-18) has divided *Doliolum* 1834 into two subgenera, *Dolioletta* and *Doliolina*. He designates genotypes for neither, but includes in *Dolioletta* the genotype of *Doliolum* 1834, and thus uses a new subgeneric name for what he apparently considers the typical subgenus of *Doliolum* 1834, a subgenus for which, on his own premises, he should have used *Doliolum* s. str. instead of proposing the new name *Dolioletta*. This latter point has apparently remained unnoticed by all his colleagues. Bartsch has brought it to the attention of the Commission.

On basis of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) According to the premises presented by the Appellants, *Doliolum* Otto, 1823, type *mediterraneum*, is a synonym of *Pyrosoma* 1804.

(2) *Doliolum* Quoy and Gaimard, 1834, is a homonym of *Doliolum* 1823, and as such should be rejected, unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity.

(3) The presentation of the case by the Appellants is incomplete, as it fails to consider *Dolioletta* Borgert, 1894.

(4) The premise that a new name will have to be proposed for *Doliolum* 1834 is incorrect, for one of the Appellants has already proposed *Dolioletta* for the typical subgenus of *Doliolum* 1834, which presumably will supplant *Doliolum* 1834.

(5) If the Rules were suspended in order to validate *Doliolum* 1834, *Dolioletta* 1894 would fall into synonymy unless its genotype (apparently undesignated at present) is shown to belong in a genus or a subgenus other than that which contains *Dol. denticulatum* 1834. Accordingly, so far as data are available, *Doliolum* 1834 must be suppressed if the Rules are applied and *Dolioletta* 1894 must be suppressed if the Rules are suspended.

(6) If *Doliolum* 1834 is suppressed, *Dolioletta* 1894 can best be taken as the name of the genus (so far as the foregoing data show) and a new family name should then be based upon it. This is a

very simple and clear application of the Rules, and the evidence thus far presented does not carry with it a conviction that greater confusion than uniformity would thereby result.

(7) See also motion to table, page 69.

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 3 Commissioners, who vote to retain *Doliolum* Quoy and Gaimard, 1834, under Suspension of Rules: Apstein, Handlirsch, Kolbe.

Not voting, 4 Commissioners: Dautzenberg, Horváth, Roule, Simon.

CASE²⁷ OF *FRETILLARIA* 1842, *FRITILLARIA* 1851, *FRITILLARIA* 1872, AND *FRITILLUM* 1915

Quoy and Gaimard's (1833a, 10) original reference is to "notre genre Fretillaire que nous avons rencontré dans plusieurs mers, notamment aux environ du cap de Bonne-Espérance, ou il donnait à l'eau une teinte rouge brun, bien que chaque individu n'eût qu'une ligne de longueur." In a footnote on the same page they add: "C'est probablement le genre *Oikopleura* de Mertens," 1830.

In the same publication, Quoy and Gaimard (1833a, 304-306, pl. 26 figs. 4-7) discuss the new species *Oikopleura bifurcata* which presumably is the same form referred to on page 10 as "notre genre Fretillaire," although the name Fretillaire is not mentioned on pp. 304-306. Regarding *Oikopleura bifurcata* they say (page 304):

étant sur les sondes de banc des Aiguilles, en vue de terre, et vis-à-vis la baie d'Algoa, nous vîmes—par intervalle, dans d'assez grands espaces, et par zones, la mer devenir rouge brun. En y plongeant un filet d'étamins nous reconnûmes que cette couleur était due à une énorme quantité de petits animaux, longs d'une ligne or deux, etc.

²⁷ *Fretillaire* Quoy and Gaimard, 1833a, 10, mt. *Oikopleura bifurcata* 1833a, 304-306, pl. 26 figs. 4-7 (Cape of Good Hope and Algoa Bay).

Fretillaria Agassiz, 1842a, *Acalaphæ*, 4, (for *Fretillaire* 1833, hence) mt. *Oikopleura bifurcata* 1833.

Fritillaria Huxley, 1851a, 595 (for *Fretillaire* 1833, hence) mt. *Oikopleura bifurcata* 1833.

Appendiculaires Fol, 1872a, 460, 492, family contains *Oikopleura*, *Fritillaria*, *Kowalewskaja*; 1874a, xlix, adds *Appendicularia* n. g.

Fritillaria Fol, 1872a, 473-481, contains *furcata* (syn. *Eurycercus pellucidus* Busch, 1851), *megachile*, *aplostoma*, *formica*, *urticans*, (type not designated).—Apstein, 1915a, 186 cites *pellucida*, 1851, as type.

Fritillum Bartsch, 1915a, 145-146, tod. *Fritillaria megachile* 1872. (New name for *Fritillaria* 1872 not 1851.)

From the foregoing it is clear that, nomenclatorially, Quoy and Gaimard never proposed the genus *Fritillaria*, but that they used a provisional French name "Fretillaire," for a genus, and that they recognized this, prior to publication, as probably identical with *Oikopleura* Mertens, 1831.

The genus *Oikopleura* (see footnote 7) was published by Mertens (1831a, 205-220) as a monotypic genus based upon *O. chamissonis*, which Mertens considered identical with Chamisso's *Appendicularia flagellum* and which he therefore deliberately renamed.

Agassiz (1842a, 4) quotes the Latin name "*Fritillaria* Quoy et G. Zool. de l'Astr. Fretum, Beroidæ." Although he does not give page reference to Quoy and Gaimard it seems legitimate to conclude that he refers to Fretillaire 1833, p. 10, hence the type species of *Fritillaria* 1842 is *Oikopleura bifurcata* 1833.

Huxley (1851a, 595) refers to the genus "*Fritillaria* Quoy and Gaimard," for which he accepts the name *Oikopleura bifurcata*. Thus, *Fritillaria* 1851 equals *Fritillaria* 1842, with identical type species.

As shown above (footnote 6) Fol (1872a, 460) considered that since *Fritillaria* 1851 [Fretillaire 1833] was described in a manner that he considered vague, he had a right to use it in any way he desired, and he applied it to the species *F. furcata* (Vogt), and four new species; and later Fol (1874a, xlix), reaffirming his right to use, in any way he desires, names which he considers unrecognizable in their original application, continues to use *Fritillaria* in the sense he proposed in 1872.

Accordingly, *Fritillaria* 1872 should be construed as a new generic name that is preoccupied by *Fritillaria* 1851. The name *Fritillaria* 1872 has found its way into certain text books, such as Leunis (1883a), Claus (1885a), etc.

Apstein (1915a, 186) designates *F. pellucida*²⁸ Busch, 1851, as type of *Fritillaria* 1872.

Bartsch (1915a, 146) proposes the name *Fritillum* (tod. *Fritillaria megachile*) as substitute for *Fritillaria* Fol, 1872.

According to the premises presented by the Appellants:

(1) *Fritillaria* Huxley, 1851, would become synonym of *Oikopleura* Mertens, 1831 and (2) a new name would have to be given to *Fritillaria* Fol, 1872, in case the Rules are applied.

²⁸ Fol (1872a, 476) gives *Eurycerus pellucidus* Busch 1851, as synonym of his first species *F. furcata*.

In regard to the first premise, it may be pointed out that *Oikopleura* Mertens, 1831, is a monotypic genus based upon *Oik. chamissonis*, and further that *Oikopleura* is a deliberate renaming of *Appendicularia* Chamisso and Eysenhardt, monotype *Ap. flagellum* (renamed *Oikopleura chamissonis* with same type locality). The Appellants claim (see case of *Appendicularia*) that the type of this genus (*Ap. flagellum* [= *Oikopleura chamissonis*]) is not recognizable. Fol (1872a, p. 469) claims that *Oik. chamissonis* (= *Ap. flagellum* renamed) is one of the three species of *Oikopleura* [i. e., *Appendicularia*] that is recognizable.

Accordingly, the Appellants' presentation of the case is not sufficiently clear to serve as final premises for decision.

If *Oikopleura bifurcata* is a true *Oikopleura*, *Fritillaria* 1851 becomes a synonym of *Appendicularia* 1820, since *Oikopleura* 1831 is *Appendicularia* 1820 renamed. Accordingly, under this premise, *Fritillaria* 1851 can become valid only in case its type species is placed in some genus or subgenus other than that to which *chamissonis* = *flagellum* is assigned.

The statement that another name would have to be used for *Fritillaria* 1872 was, on basis of the premises, correct, and Bartsch (1915a) has proposed such a name (*Fritillum*).

On basis of the presentation by the Appellants, supplemented by the foregoing data, the Secretary finds that:

(1) The presentation of the case is incomplete;

(2) If all of the essential facts are now before us, *Fritillaria* 1872 presents a very simple case that calls for the application of the Rule of Homonyms and the Law of Priority;

(3) The Appellants have not yet shown that an application of the Rules in this case will result in greater confusion than uniformity, especially since a suspension of the Rules would tend to validate Fol's principle that when an author considers as obscure the description upon which a name is based, he is at liberty to use this name in any way he may desire.

On basis of the foregoing data, the Secretary recommends that the Commission adopt as its Opinion the following:

(1) As *Fritillaria* Huxley, 1851 (= *Fretillaria* Agassiz, 1842) is based upon an animal (*Oikopleura bifurcata*) with known type locality and said to occur in large numbers, it would appear possible to determine definitely what this organism is.

(2) If *Oikopleura bifurcata* is a true *Oikopleura*, *Fritillaria* 1851 becomes a synonym of *Appendicularia* 1820 (syn. *Oikopleura* 1831).

(3) *Fritillaria* Fol, 1872, is a homonym of *Fritillaria* Huxley, 1851, and should be suppressed unless it can be shown that a strict application of the Rules will result in greater confusion than uniformity. If suppressed, *Fritillum* 1915 is available as a substitute.

(4) See also recommendation to table, page 69 (below).

Opinion written by Stiles.

Opinion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Opinion dissented from by 2 Commissioners, who vote to retain *Fritillaria* Fol, 1874, under Suspension of Rules: Apstein, Kolbe.

Not voting, 5 Commissioners: Dautzenberg, Handlirsch, Horváth, Roule, Simon.

MOTION TO TABLE THE CASES OF *APPENDICULARIA*, *DOLIOLUM*, *FRITILLARIA*, AND *SALPA*

Referring further to the cases of *Appendicularia* 1874, *Doliolum* 1834, *Fritillaria* 1851, and *Salpa* 1775, the Secretary recommends, on basis of reasons given below, that the Commission adopt as its Opinion the following:

(1) The Appellants have not presented evidence that convinces the Commission that the strict application of the Rules in these cases will result in greater confusion than uniformity, hence the Commission does not at present see its way clear to suspend the Rules.

(2) The cases in question are herewith laid upon the table indefinitely, but without prejudice, in order to give to the Appellants an opportunity to present more satisfactory and convincing evidence in support of their position.

(3) The Commission is of the opinion that the complaints in respect to confusion in the nomenclature of the Tunicates are due to two causes in particular, namely (a) the principle of genotypes does not appear to have been consistently applied, and (b) rules available to authors of new names have not been adopted by said authors.

(4) The Commission urgently recommends that specialists in the tunicates determine without unnecessary delay the proper genotypes, in accordance with Article 30 of the Rules, as a prerequisite to a satisfactory basis for an intelligent consideration of the nomenclature of the group.

REASONS FOR THE FOREGOING RECOMMENDATION.—The foregoing recommendation is based upon the following premises:

(1) If any serious attempt has been made to apply the Rules consistently to the tunicate generic names by designating the genotypes in accord with Article 30, this fact has not been brought to the attention of the Commission, accordingly, specialists in this group do not appear to have brought their subject to the point where it seems wise to set an example that might inhibit or handicap thorough nomenclatorial work of that kind.

(2) The presentation of the cases as submitted by the Appellants has been shown to contain a number of errors, and to be very incomplete.

(3) Only four of the Commissioners (one of these is also one of the Appellants) in their preliminary expression of opinions, appear to be inclined to the view that more than one of the six cases submitted call for a possible suspension of the Rules, accordingly, if these cases come to final vote at present, they are doomed to rejection.

(4) As these are the first cases brought forward for action under the Plenary Power, the Appellants were at a disadvantage in not having precedents upon which they might judge the policy of the Commission, hence they had no way of knowing how complete or convincing an argument might be necessary to induce the Commission to suspend the Rules.

(5) By laying these cases on the table, instead of rejecting them, the Commission will not only establish the precedent that suspension will not be looked upon favorably on basis of incomplete data, but it will escape the possible misinterpretation of doing an injustice to a group of men by rejecting their proposition before they had any way of knowing the policy the Commission would adopt in construing its duty under the Plenary Power resolutions.

(6) Finally, if the cases are tabled instead of being rejected, the Commission can act upon them without further public notice.

Motion concurred in by 11 Commissioners: Allen, Bather, Blanchard, Hartert, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stejneger, Stiles.

Not voting, 7 Commissioners: Apstein, Dautzenberg, Handlirsch, Horváth, Kolbe, Roule, Simon.

The final results are as follows: The cases of *Appendicularia* 1874, *Doliolum* 1834, *Fritillaria* 1851, and *Salpa* 1775, are tabled without prejudice in order to give the Appellants an opportunity to present more satisfactory and convincing evidence in support of their position.

The case of *Pyrosoma* is decided in harmony with the Code, and the result is identical with what the Appellants desired to obtain under Suspension.

OPINION 77

THIRTY-FIVE GENERIC NAMES IN PROTOZOA, COELENTERATA,
TREMATODA, CESTODA, CIRRIPIEDIA, TUNICATA, AND PISCES
PLACED IN THE OFFICIAL LIST OF GENERIC NAMES

SUMMARY.—The following names are hereby placed in the Official List of Generic Names: PROTOZOA: *Arcella*. COELENTERATA: *Hydra*. TREMATODA: *Hemiurus*, *Schistosoma*. CESTODA: *Anoplocephala*, *Hymenolepis*, *Moniezia*, *Stilesia*, *Thysanosoma*. CIRRIPIEDIA: *Lepas*. TUNICATA: *Pyrosoma*. PISCES: *Acipenser*, *Callionymus*, *Chimæra*, *Clupea*, *Coryphæna*, *Cottus*, *Cyclopterus*, *Cyprinus*, *Diodon*, *Gadus*, *Gasterosteus*, *Gobius*, *Lophius*, *Mormyrus*, *Mullus*, *Muræna*, *Osmerus*, *Perca*, *Salmo*, *Scomber*, *Scorpiæna*, *Silurus*, *Syngnathus*, *Zeus*.

STATEMENT OF CASE.—A list of 39 generic names, submitted for inclusion in the Official List of Generic Names, was issued in the Secretary's Circular Letter no. 35 (March, 1917), which was mailed to about 350 zoologists and zoological institutions, and was published by Monticelli in the *Monitore zoologico*. In the replies received questions have been raised in respect to 4 of these names to wit, *Esox*, *Exocoetus*, *Ophidion*, and *Platessa*, and although it is thought that the points can be easily settled these four have been tabled, without prejudice, for further consideration. No objection of any kind has been raised to any of the remaining 35 names.

ABBREVIATIONS

- A. = Proposed for Official List by Apstein, 1915a. [See Opinion 74, p. 32.]
 HSW. = Case has been studied by a Committee from the Helminthological Society of Washington, D. C., is guaranteed and recommended to the Commission by said Society.
 J. = Case has been studied for the Commission by Commissioner David Starr Jordan, and the name recommended by him with the genotype cited.
 mt. = Monotypic.
 S. = Secretary of the Commission has verified original generic and specific references, considers the generic name available and valid under the Rules, and considers the type designation correct.
 tod. = Type by original designation.
 tsd. = Type by subsequent designation.
 Bibliographic abbreviations taken from Stiles & Hassall's Index Catalog of Medical and Veterinary Zoology.

PROTOZOA

Arcella Ehrenberg, 1830a (1832a), 60, 73, (40, 53); tod. *A. vulgaris* Ehrenb., 1830a (1832a), 60, 73, 81, 89, 90, 95 (40, 53, 61, 69, 70, 75), pl. 1 fig. 6. [A; S.]

COELENTERATA

Hydra Linn., 1758a, 816; tsd. *H. polyopus* Linn., 1758a, 816, (syn. *vulgaris*, *viridis*). [A; S.]

TREMATODA

Hemiurus Rud., 1809a, 38; tsd. *Fasciola appendiculata* Rud., 1802, 78 (type host *Clupea alosa*; Europe). [A; HSW; S.] [Not *Hemiurus* Gerv., 1855, mammal; *Hemiura* Ridgway, 1888, bird.]
Schistosoma Weinland, 1858a [prior to Sep. 30], 87; mt. *Distoma hæmatobium* Bilharz, 1852a, 72 (type host *Homo*; Egypt). [HSW; S.] [Absolute synonyms: *Gynæcophorus* Dies., 1858 (type *hæmatobius*); *Bilharzia* Cobbold, 1859 (type *hæmatobia*); *Thecosoma* Moquin-Tandon, 1860 (type *hæmatobium*); *Schistosomum* R. Blanch., 1895 (type *hæmatobium*).] [Not *Schistosoma* Brady, 1877, arach.]

CESTODA

Anoplocephala E. Blanchard, 1848e, 344-345; tsd. *Tænia perfoliata* Gœze, 1782a, 43, 353 (type host *Equus caballus*; Europe). [HSW; S.] [Not *Anoplocephala* Stal, 1870, hemipteron.]
Hymenolepis Weinland, 1858a, 52; tsd. *Tænia diminuta* Rud., 1819a, 689 (type host *Mus rattus*; Brazil). [HSW; S.]
Moniezia R. Blanchard, 1891l, 187, 194, 195 (2, 9, 10); tod. *Tænia expansa* Rud., 1805a, 38 (type host *Ovis aries*; Alfort Museum, France). [HSW; S.]
Stilesia Rail., 1893a, 277-278; tod. *Tænia globipunctata* Rivolta, 1874 (type host *Ovis aries*). [HSW; Secretary of Commission has been unable to verify original publication for *T. globipunctata*, but except for this one point he agrees; Railliet dates *T. globipunctata* as 1877, but Monticelli gives it as 1874.]
Thysanosoma Dies., 1835a, 105; mt. *T. actinioides* Dies., 1835a, 106 (type host *Cervus dichotomus*; Brazil). [HSW; S.]

CIRRIPIEDIA

Lepas Linn., 1758a, 667; tsd. *L. anatifera* Linn., 1758a, 668. [A; Case guaranteed to Commission by H. A. Pilsbry; S.]

TUNICATA

Pyrosoma Peron, 1804, 437, 440, pl. 72, mt. *P. atlanticum* Peron 1804, 440, pl. 72. [Aug. 18 or earlier, 1804.] [A; S.] [See Opinion No. 76, p. 47.]

PISCES

Acipenser Linn., 1758a, 237; tsd. *A. sturio* Linn., 1758a, 237. [A; J; S.]
Callionymus Linn., 1758a, 249; tsd. *C. lyra* Linn., 1758a, 249. [A; J; S.]

- Chimæra* Linn., 1758a, 236; tsd. *C. monstrosa* Linn., 1758a, 236. [A; J; S.]
Clupea Linn., 1758a, 317; tsd. *C. harengus* Linn., 1758a, 317. [A; J; S.]
Coryhæna Linn., 1758a, 261; tsd. *C. hippurus* Linn., 1758a, 261. [A; J; S.]
Cottus Linn., 1758a, 264; tsd. *C. gobio* Linn., 1758a, 265. [A; J; S.]
Cyclopterus Linn., 1758a, 260; tsd. *C. lumpus* Linn., 1758a, 260. [A; J; S.]
Cyprinus Linn., 1758a, 320; tsd. *C. carpio* Linn., 1758a, 320. [A; J; Leunis:
 mt.; S.]
Diodon Linn., 1758a, 334; tsd. *D. hystrix* Linn., 1758a, 335. [A; J; S.]
Gadus Linn., 1758a, 251; tsd. *G. morhua* Linn., 1758a, 252. [A; J; S.] [Not
Gadus Dejean, 1821, coleopt.]
Gasterosteus Linn., 1758a, 295; tsd. *G. aculeatus* Linn., 1758a, 295. [A; J; S.]
Gobius Linn., 1758a, 262; tsd. *G. niger* Linn., 1758a, 262. [A; J; S.]
Lophius Linn., 1758a, 236; tsd. *L. piscatorius* Linn., 1758a, 236. [A; J; S.]
Mormyrus Linn., 1758a, 327; tsd. *M. cyprinoides* Linn., 1758a, 327. [A; J; S.]
Mullus Linn., 1758a, 299; tsd. *M. barbatus* Linn., 1758a, 299. [A; J; S.]
Muraena Linn., 1758a, 244; tsd. *M. helena* Linn., 1758a, 244. [A; J; S.]
Osmerus Linn., 1758a, 310; tsd. *Salmo eperlanus* Linn., 1758a, 310. [A; J; S.]
Perca Linn., 1758a, 289; tsd. *P. fluviatilis* Linn., 1758a, 289. [A; J; S.]
Salmo Linn., 1758a, 308; tsd. *S. salar* Linn., 1758a, 308. [A; J; S.]
Scomber Linn., 1758a, 297; tsd. *S. scombrus* Linn., 1758a, 297. [A; J; S.]
Scorpaena Linn., 1758a, 266; tsd. *S. porcus* Linn., 1758a, 266. [A; J; S.]
Silurus Linn., 1758a, 304; tsd. *S. glanis* Linn., 1758a, 304. [A; J; S.]
Syngnathus Linn., 1758a, 336; tsd. *S. acus* Linn., 1758a, 337. [A; J; S.]
Zeus Linn., 1758a, 266; tsd. *Z. faber* Linn., 1758a, 267. [A; J; S.]

DISCUSSION.—In view of the foregoing premises, the Secretary recommends that the 4 names *Esox*, *Exocoetus*, *Ophidion*, and *Platessa*, be tabled, without prejudice, for further consideration, and that the remaining 35 names be included in the Official List of Generic Names.

Opinion written by Stiles.

Opinion concurred in by 14 Commissioners: Allen, Apstein, Bather, Blanchard, Dautzenberg, Handlirsch (part), Hartert, Horváth, Hoyle, Jordan (D. S.), Jordan (K.), Monticelli, Skinner, Stiles.

Opinion dissented from by no Commissioner.

Not voting, 4 Commissioners: Kolbe, Roule, Simon, Stejneger. Handlirsch not voting on the 2 Trematode and 4 Cestode names.