

OPINION 116

Bulinus SCOPOLI, 1777, vs. *Bulinus* MUELLER, 1781, vs.
Bulinus BRUGUIÈRE, 1792

SUMMARY.—The Commission does not interpret *Bulinus* Scopoli, 1777, as an obvious typographical error; the premises do not show that the genotype (which must be selected from the four originally included species) has been definitely and properly designated. *Bulinus* Mueller, 1781, has for its type *Bulinus senegalensis*, and is not invalidated by *Bulinus*, 1777. *Bulinus* Bruguière, 1792, type *haemastomus* seu *oblonga* is a dead homonym of *Bulinus*, 1777.

STATEMENT OF CASE.—Dr. H. A. Pilsbry, of Philadelphia, presents the following case for Opinion:

The questions the Commission is asked to decide are:

1. Can *Bulinus* Scopoli, 1777, be retained with its original orthography and restricted to one of the four Linnean species mentioned by Scopoli?
2. Will the use of *Bulinus* O. F. Mueller, 1781, be considered inadmissible on account of the prior *Bulinus*?¹
3. Can *B. senegalensis* O. F. Mueller, properly be considered type of *Bulinus* Mueller, thus preserving the traditional meaning of the term?

The name "Le Bulin, *Bulinus*" was introduced by Adanson in his *Histoire nat. du Sénégal, Coquillages*, 1757, p. 5, pl. 1. His work was pre-Linnean, but its nomenclature was in the main Linnean. He recognized genera and species, each denoted by single terms, but he did not use them in combination, and in the case of monotypic genera, such as *Bulinus*, *Corctus*, *Pedipes*, he did not name the species further, the generic term serving for both genus and species.

The first post-Linnean author to take up the matter was Scopoli, *Introductio ad Historiam Naturalium*, 1777, who on p. 392 introduces:

"64. *Bulinus*. Adans. Testa univalvis, non umbilicata; apertura ovali. Mollusculum tentaculis binis, basi appendiculatis; puncto ophthalmoides distincto aut radicali Swammerdam. Tab. IX. Fig. 4.

"*Helix putris* Linn., 1758a, 774, *fragilis* Linn., 1758a, 774, *stagnalis* Linn., 1758a, 774, *tentaculata* Linn., 1758a, 774, nec non aliae non paucae terrestres Cl. Müllerii.

"*Pedipes* Adanson, diversus Testae apertura dentata."

The generic characters given apply well to the species he mentioned, which belong to three modern genera:

Helix putris to *Succinea*.

Helix fragilis and *stagnalis* to *Lymnaea*.

Helix tentaculata to *Bithynia*.

Scopoli did not refer to Adanson's species except so far as may be implied by adopting a modification of his name. [His differential diagnosis, as respects *Pedipes*, is in harmony with Adanson, 1757, pp. 6, 12.—C. W. S.]

¹ The names *Bulinus* and *Bulimus* have been in common use, without confusion, for about a century, for different genera of mollusks.

Scopoli subsequently used *Bulinus* for a land snail similar in general shape to the species he had formerly included, but afterward found to be generically distinct. The name *Bulinus* remained in universal use for this last group until quite recent times.

Dall, 1892, Trans. Wagner Free Inst. Sci., vol. 3 (2), pp. 334-335, thought that *Bulinus* would have to be restricted to *Helix tentaculata*, though he did not expressly name that as its type.

A similar view was taken by Pilsbry, 1895-96, Manual of Conchology (2nd ser.), vol. 10, p. 3, who wrote:

"As Scopoli quotes the name as of Adanson, it has been surmised that '*Bulinus*' was a typographical error for '*Bulinus*.' Whether this was the case or not would have absolutely no effect upon our use of the name, for (1) Scopoli's group does not rest upon Adanson for its elucidation, nor does he refer to Adanson's page or plate; (2) that it was a typographical error cannot be proven; it may have been an emendation on etymological grounds and Scopoli's subsequent use of the same orthography would show it to have been a deliberate change; and finally (3) Adanson being pre-Linnean cannot prejudice properly proposed post-Linnean names.

"It would appear that *Bulinus* Scopoli, by process of elimination, must replace the generic name *Bithynia*."

Kennard and Woodward, Proc. Malacological Society of London, December, 1924, vol. 16, p. 126, have reviewed the several opinions on *Bulinus* Scopoli, concluding that "*Bulinus* was an obvious mistranscription for *Bulinus*; it must be treated as such, and discarded in future literature."

It may be remarked here that if *Bulinus* be synonymized with *Bulinus* Adanson, its type will become *Bulinus senegalensis* Mueller, and unless the name be emended, it will displace the genus *Bulinus* O. F. Mueller, 1781, a name very widely used in zoological and medical literature.

Bulinus O. F. Mueller

Bulinus "Adanson" O. F. Mueller, 1781, Der Naturforscher, vol. 15, pp. 5 and 6. For four species: *Bulinus perla* (= *Physa fontinalis* (Linnaeus)), *B. turritus*, *B. gelatinus*, and *B. senegalensis* (this last based upon Adanson's "le Bulin, *Bulinus*"). Type by tautonymy: *Bulinus senegalensis* O. F. Mueller, "le Bulin" of Adanson.

The name *Bulinus* was introduced into binomial nomenclature by O. F. Mueller. He states that his intention was to provide genera for the fresh-water snails with two bristle-shaped tentacles with eyes at their inner bases. He suggests that the "Tellerschnecken" keep the name *Planorbis* while Adanson's name *Bulinus* could be accepted for the "Eyförmigen."¹ Of the latter, four species were known to him. The *Bulinus perla* was fully described and figured, and is recognized to be *Physa fontinalis* (Linn.). This species was designated type of *Bulinus* by Hermannsen (1846, Index Gen. Malac., vol. 1, p. 140).

¹ "So kann doch bis dahin, den Schneckenliebhabern zu Gefallen, die den Begriff einer Tellerschnecke bey dem Eyförmigen nicht ausstehen können, der Name Tellerschnecke denen mit platter Schaale verbleiben, und die mit länglichen Schaalen den Adansonischen Namen *Bulinus* annehmen." (1781, Der Naturforscher, Halle, vol. 15, p. 6.)

Mueller's fourth species was *Bulinus senegalensis* defined by a reference to Adanson, 1757, Hist. Sénégal, Hist. des Coquillages, p. 5, pl. 1. He also states that "*Adanson erfand ihr einen neuen Geschlechtsnamen (Bulinus).*" Obviously, therefore, Adanson's *Bulinus* becomes type of *Bulinus* by absolute tautonymy¹ Otherwise the name *Bulinus* Mueller, 1781, would supersede *Physa* Draparnaud, 1801, a name very widely used and universally accepted.

The status of *Bulinus* Mueller has been discussed by Von Martens,² who accepted *Physa fontinalis* as its type, but refused to substitute *Bulinus* for *Physa*. Later, Dall³ went over the ground, reaching a conclusion which we accept without reserve. Finally Kennard and Woodward⁴ considered the question, concluding that Mueller's "adoption of Adanson's name (*Bulinus*) involves the acceptance of his shell as the type of the genus. Since, however, that is indeterminate, this post-Linnean revival of the name is rendered nugatory. But for that, *Bulinus* Mueller would have precedence of *Physa* Draparnaud, 1801."

This conclusion seems to us incorrect in at least two statements. Adanson's species has been determined. It was defined very well, and with specimens from the type locality, no zoologist should go astray in its identification. Its acceptance does not displace *Physa*, but on the contrary, if it were to be thrown out as indeterminate, then *Bulinus* would take the place of *Physa* having *Physa fontinalis* as its type. The International Rules expressly exclude indeterminate species [or, rather, species inquirendae from the standpoint of the author of the generic name at the time of its publication.—C. W. S.] from consideration in the selection of genotypes.

Bulinus came into general use for the group under consideration and is to be found in the most widely used systematic works on general conchology, such as H. and A. Adams, Genera of Recent Mollusca; Tryon, Structural and Systematic Conchology; Fischer, Manuel de Conchyliologie, and others.

The new name (or emended spelling) *Bullinus* originated with Oken, 1815, and in recent years has been taken up by several authors. Oken's work was a mere compilation from Mueller; only the same species were mentioned. The revival of Oken's name for the group was apparently due to the fact that Adanson, being pre-Linnean, could not properly be quoted for the genus, and to ignorance of the prior work of Mueller. *Bullinus* Oken, according to the Rules of the International Commission, is an absolute synonym of *Bulinus* Mueller.⁵

DISCUSSION.—The following facts (a, b) may be noted in regard to the derivation of the names:

(a) *Bulinus* Mueller, 1781.—Adanson, 1757, p. 5, states:

Le Bulin, *Bulinus*. Pl. 1. Je donne le nom de Bulin à un petit coquillage d'eau douce, qui vit communément sur la lentille de marais, et sur le lemma, dans les marais et les étangs de Podor. Cette dénomination m'a paru lui convenir par-

¹ This conclusion is based upon the International Code of Zoological Nomenclature, Art. 30d, and Opinions 16 and 18.

² 1898, in P. and F. Sarasin, Materialien z. Naturg. Insel Celebes, Die Süsswässer-Moll., p. 83.

³ 1905, Harriman Alaska Exped., Land and Fresh-Water Moll., p. 105.

⁴ 1920, Proc. Malac. Soc. Lond., vol. 14, pp. 86-88.

⁵ The combination "*Bullinus* Adanson" used by some authors is ruled out because it is erroneous—Adanson never used "*Bullinus*"—and because a pre-Linnean author is not quotable as authority for generic or specific names.

ceque l'animal pendant sa vie nage presque continuellement à fleur d'eau, et qu'après sa mort sa coquille flotte comme une petite bulle d'air transparente. Je n'ai observé qu'une espèce de ce genre, et elle n'est figurée ni décrite nulle part.

From this it seems clear that "Le Bulin, *Bulinus*" means a little bubble, namely, the diminutive of the French "la bulle," Latin, "*bulla*."

As Adanson uses the correct orthography of the word "la bulle" on page 5, and as he consistently uses "Le Bulin, *Bulinus*" in at least three different places, and the French word "bulin" in a fourth place also, it seems obvious that he intended to coin a new French masculine noun "le bulin" as name for this mollusk and that he made his Latin diminutive *Bulinus* agree with the French in form rather than adopt a Latin feminine noun, *bullina* based on the Latin feminine *bulia*. Accordingly, the word *Bulinus* is a relatively modern, 18th century, Latin name. It is to be noted that Adanson had rather advanced views on nomenclature and sought to use names which were not preoccupied. For instance, he says (p. XVIII): "J'agirai de même à l'égard des noms adjectifs, tels que la tuillée, la chambrée, la tanée, etc. Je leur substituerai un terme neuf, qui n'aura eu jusqu'ici aucune signification."

Agassiz, 1842-46a, 13, interprets *Bulinus* as a corrupted derivative of *Bulla*.

(b) *Bulinus*.—According to Agassiz, 1842-46a, 13, Herrmannsen, 1846, 147, and Leunis, 1883a, 887, *Bulinus* is derived from the Greek βούλιμος, meaning a ravenous hunger. Compare the medical terms bulimia, bulimiasis, bulimy, and bulimic, namely, an excessive or morbid hunger which sometimes occurs in idiots and insane persons and is also a symptom of diabetes mellitus and of certain cerebral lesions.

(c) The Secretary has examined the original documents with the following results:

(d) *Bulinus* Adanson, 1757, 5-7, pl. 1, is a pre-Linnean monotypic generic name without nomenclatorial status under the Code but available, of course, as bibliographic reference.

(e) *Bulinus* Scopoli, 1777, 392, is cited without philologic derivation and attributed to "Adans." The original species of Adanson's "Le Bulin" is not cited nor is any definite reference given to "Adans." It is entirely possible that *Bulinus*, 1777, is a mistranscription or a misprint for *Bulinus*, 1757, and in fact, Kennard and Woodward, 1924, Proc. Malac. Soc. Lond., p. 127, have made out a very strong case for this interpretation in reproducing on p. 127 the figures of Adanson and calling attention to the printing of *Bulinus* Adanson

and *Pedipes* Adanson. It would take an almost microscopic eye to read correctly *Bulinus* instead of *Bulimus*; this error would however not be so natural in reading the original text of Adanson and it is safeguarded against in the original illustration by use of the word "Le Bulin." While it seems very reasonable to conclude that *Bulimus*, 1777, is a mistranscription or a misprint for *Bulinus*, 1757, the fact remains that Scopoli, in 1786, pl. 25, again used the name consistently as *Bulimus* and that in 1777 he did not quote Adanson's species. The Secretary is inclined to believe that *Bulimus*, 1777, is either a misprint for or an emendation of *Bulinus*, 1757, but he is persuaded that the absence of Adanson's species from the list admitted by Scopoli is to be given serious consideration, thus excluding *B. senegalensis* as type of *Bulimus*, 1777.

Only four species come into consideration as type of *Bulimus*, 1777, namely, *Helix putris*, *H. fragilis*, *H. stagnalis*, *H. tentaculata*, all Linn., 1758a, p. 774. The citation of *Bulimus haemastomus* as type by Beck, 1837, (possibly based upon Bruguière, 1792a, 294) and the citation of *Helix oblonga* as type by Herrmannsen, 1846, are both irrelevant, as neither species was included in the original publication of *Bulimus*. It is to be added that Apstein, 1915a, p. 182, cites *oblongus* Mueller, 1774, as type of *Bulimus* and that this species is used by at least some authors as identical with *haemastomus* Scopoli.

Dall, 1892, clearly inclines to *tentaculata* as type, but as the Secretary reads his paper, Dall does not definitely designate this species as type under Article 309 of the Code, and he (Dall) thinks that no harm would be done if *Bulimus* is eventually suppressed.

The documents presented to the Secretary do not show that the type of *Bulimus*, 1777, has been correctly and definitely designated.

(f) *Bulinus* Mueller, 1781, Naturf., 5, is clearly based upon *Bulinus* Adanson, 1757, p. 5, pl. 1; it contains four species including (1) *B. perla* Muell., 1781, syn. *Planorbis bulla* Mueller, 1774, 167, and later considered synonymous with *Physa fontinalis* (Linn., 1758a, 727), (2) *B. turritus*, (3) *B. gelatinus*, and (4) *B. senegalensis*. The fourth species *senegalensis* is the original "Le Bulin" of Adanson. Mueller does not definitely designate a type and on basis of his publication two interpretations might be possible, namely, on page 5, referring to *Bulinus perla* he says "Adanson 1757, 5, pl. 1, 'Le Bulin,' *Bulinus* erfand ihr einen neuen Geschlechtsnamen (*Bulinus*)," and he includes "Le Bulin," as one of the species. Accordingly, one might argue that Mueller's type is *B. perla* syn. *bullata* on basis of the sentence just quoted; or one might argue that *B. senegalensis* is type by absolute tautonymy (cf. Opinion 16). The Secretary inclines distinctly

toward the latter interpretation unless this be contraindicated by data not contained in the statement of the case.

The statement of the case does not show that the designation of *Physa fontinalis* by Von Martens, 1898, as type of *Bulinus* is admissible, as Von Martens' premises are not submitted. Unless Von Martens recognized *perla* as objective synonym of *fontinalis*, this type designation is debatable.

(g) In nomenclatorial discussion of *Bulinus*, the point appears not to have been duly considered that Bruguière, 1792a [1789], pp. 286-367, proposed as a new molluscan genus "Bulime.—*Bulinus*; Nob.," with 113 species, and that as he uses *Bulinus* and bulime, in numerous places, the question of a typographical error appears to be excluded. On page 367, he cites "Bulin, (voyez) à l'article, Bulime des fontaines," namely (p. 306) "*Bulinus fontinalis*; Nob.," where he quotes "*Bulla fontinalis* Linn.," "*Planorbis bulla* Mueller," "*Die Wasser-blase; die Perlen-blase . . .*, La bulle aquatique" in synonymy; he also says (p. 307) "L'espèce que M. Adansson a observée dans les eaux marécageuses du Sénégal, & qu'il a nommée le bulin, est différente du Bulime des fontaines. . . . [p. 308] Je crois donc que ce sont trois espèces [cf. Bulin of Adanson; 'Bulime de la Virginie' of Lister and Petiver] bien distinctes qu'il faut encore examiner avec soin & comparer, les unes avec les autres, avant de les distinguer par des phrases caractéristiques; celle de M. Adansson ne me paroît bien douteuse, mais je ne pense pas de même de celle de Lister, . . ."

Accordingly, "le bulin" of Adanson is *sub judice* from the standpoint of Bruguière in establishing his genus *Bulinus*, and he seems definitely to exclude it from *Bulinus fontinalis*, but he does not appear to classify it definitely as a distinct species of *Bulinus*; however, he states (p. 307) that it "a tant d'analogie avec le Bulime des fontaines."

Thus, under Art. 30c, Adanson's species appears to be eliminated from consideration as type of *Bulinus* Brug., 1792.

Bruguière definitely states (p. 294) "le nom de *Bulime* que j'ai adopté pour ce genre, avoit déjà été employé par M. Scopoli pour le *Bulime oblong*; je l'ai conservé, parcequ'il indique son analogie avec celui de la *bulle*, à cause de l'ouverture entière, sans échancrure, qui est commune à tous les deux." This comes very close to being a designation of *oblongus* (cf. *haemastomus* Scopoli) as type species.

Accordingly, if the view advanced by Kennard and Woodward (1924, 126) be adopted (that "*Bulinus* [Scopoli, 1777] was an obvious mistranscription for *Bulinus* [1757; 1781]; it must be treated

as such, and discarded in future literature”), the generic name *Bulimus* Bruguière, 1792, comes up for consideration, since the question of a typographical error in Bruguière is obviously excluded.

The Secretary frankly admits that there are two sides to this case and that a decision in either direction might not be entirely free from the interpretation that it is in the light of settling a controversy rather than in the light of an argument based on unambiguous premises. Close decisions, more or less arbitrary and not entirely free from utilitarian influence, are sometimes necessary and the following recommendations are not entirely free from this construction.

On basis of the foregoing discussion the Secretary recommends that the Commission answer Doctor Pilsbry's questions as follows:

1. *Bulimus* Scopoli, 1777, may or may not be a typographical error for or an emendation of *Bulinus* Adanson, 1757; the question is not entirely free from doubt. If it be interpreted as a typographical error the problem at issue is not solved, for *Bulimus* Bruguière, 1792, is obviously not a typographical error.

2. The data submitted do not show that the type of *Bulimus*, 1777, has ever been properly and definitely designated.

3. *Bulimus haemastomus* seu *B. oblongus* is not available as type of *Bulimus*, 1777, so far as the premises show, but is available as type of *Bulimus*, 1792, and this designation is in harmony with Bruguière, 1792*a*, p. 294.

4. Under Opinion 16, *Bulinus* Mueller, 1781, has for its type *B. senegalensis*, and the Commission so rules.

5. As either of two rulings is possible in respect to *Bulimus*, 1777, the Commission here rules that this is not an obvious mistranscription or an obvious typographical error. This ruling is based upon the following premises:

a.—In case of difference of opinion, it seems best to give the benefit of doubt to the view which will be more in harmony with current nomenclature, and this interpretation is according to the premises submitted.

b.—The preponderance of evidence seems to be in favor of this view.

c.—The original *Bulinus*, le bulin, 1757, is not cited with *Bulimus*, 1781, hence this is not available as the type of the latter.

d.—If *Bulimus*, 1777, be interpreted as a typographical error, *Bulimus*, 1792, remains to be considered, and no reason has been advanced in the premises which shows the advisability of sacrificing the advantage of 15 years in priority.

e.—Under the premises submitted, not one of the species (*putris*, *fragilis*, *stagnalis*, *tentaculata*) cited under *Bulimus*, 1777, is available as type for *Bulimus*, 1781, and not one of the species (*perla*, *turritus*, *gelatinus*, *senegalensis*) cited under *Bulimus* in 1781 is available as type for *Bulimus*, 1777. Accordingly, it appears (under Art. 30c) that an objective identity of these two generic names is excluded.

In connection with the foregoing recommendations the Secretary states very frankly that there are phases of this case of nomenclature which are open to debate. In the recommendations that have been made and where he had the option of adopting either of two interpretations he has been influenced by the principle of endeavoring not to overturn existing nomenclature any more than is absolutely necessary. The generic name Le Bulin, *Bulinus* Mueller, 1781, as typified by *B. senegalensis*, belongs to the Order PULMONATA, subo. BASOMMATOPHORA.

Bulimus Scopoli, 1777, if *Helix tentaculata* be accepted as type, would belong to the Order PROSOBRANCHIATA.

Bulimus of Scopoli, 1786, if typified by *B. haemastomus* (syn. of *oblonga* Mueller), would belong to Order PULMONATA, subo. STYLOMMATOPHORA.

This species belongs to a modern family distinct from any family represented in the 1777 list of four species. It was the group represented by Scopoli's 1786 usage which Bruguière had mainly in mind, and which came into general use as *Bulimus* and continued under that name until about thirty years ago. From Scopoli's standpoint, his *Bulimi* of 1777 and 1786 were congeneric—he was merely forming a new genus for the *elongated* species of Linnean *Helix*—leaving the Linnean term for the depressed and discoidal forms. Dall's suggestion to restrict *Bulimus* Scopoli, 1777, to *Helix tentaculata* was to avoid displacing either of the old and universally used names *Succinea* or *Lymnaea*; the *H. tentaculata* group (*Bithynia*) being later and comprising relatively few species.

To interpret *Bulimus* as a misprint or as an error of transcription, as might easily be done, would call for the use of *Bulinus* in its place, thus bringing about a very regrettable instance of transfer of name in a genus which is reported to contain more than 1,200 species. When two theoretical interpretations are possible either of which seems justified, a practical point of this kind is surely to be given due consideration.

The case has caused such distinct differences of opinion among conchologists, that the Secretary submitted the foregoing data to Dr. Paul Bartsch, Dr. W. H. Dall, and Dr. H. A. Pilsbry (all of the

United States), and to Dr. B. B. Woodward of London, England, and to Commissioner Frederick Chapman of Melbourne, Australia, with request for comments.

The consultants have replied as follows:

Letter from Dr. Paul Bartsch of the United States National Museum:

Dr. Dall and I have both gone over your "pink sheets," which are herewith returned, and we both feel you have splendidly covered the field and there is nothing else to say.

Letters from Dr. H. A. Pilsbry of the Academy of Natural Sciences, Philadelphia:

I have read your opinion on *Bulinus* and *Bulinus* with great satisfaction. It appears to me to cover the ground in a wholly logical manner. I am of course the more pleased because the views you adopt disturb our current nomenclature far less than any other course which has been proposed.

Since *Bulinus* has entered medical literature (as a host of *Schistosoma* in Africa, etc.) it is doubly desirable to retain the name as wholly unconnected with the prior *Bulinus*, which has been used only in totally different senses. In my report on Congo mollusks (now, I hear, about to be printed) the type, *Bulinus senegalensis*, is to be figured from the original marsh in Senegal. Kennard and Woodward's failure to identify this species was doubtless due to lack of material from that particular place.

Thank you for letting me see the very full discussion of the case *Bulinus* versus *Bulinus*. As you say, the discussion by Bruguière is very important in this connection, though I had not recognized its bearing before. I think that the Opinion will prove generally acceptable to workers in Mollusca, and it seems to me by far the most logical solution of the questions at issue.

Letter from Dr. B. B. Woodward, malacologist:

The high compliment you pay of asking my opinion of your "Opinion" ere it goes before the Commissioners although you know how divergent our views are on the enforcement of the "Rules" is fully appreciated by me.

I take it that you invite remarks on the whole draft and not merely on the conclusions expressed in the initial "Summary." It appears to me then that your draft recommendation has been drawn up after the manner of judicial decisions solely on the somewhat involved statement laid before you by the appellant without regard to whether that statement is complete or not. Had you seen your way to make yourself really familiar with the complete arguments published by Kennard and Woodward in the Proc. Malac. Soc. Lond., vol. 14, 1920, pp. 86-88, and vol. 16, 1924, pp. 125-128, instead of relying on the fragmentary quotations of the appellant, you would have found all the points fully met, and would, I venture to think, in many respects have modified your recommendation and summary, which, if I may say so, rather suggests to the Commissioners how they should vote instead of giving them the information on which to base their own conclusions as they should be left to do. It is a pity the rival statements could not be given in parallel columns.

In the first place, as admitted in the "Discussion," Adanson was a pre-Linnean writer and therefore by the "Rules" his work and names cannot be entertained. The amazing statement on the top of fol. 4 [p. 8] of your draft, that his *Bulinus* "has been determined" and that "it was defined very well, and with specimens from the type locality no zoologist should go astray in its identification" is far removed from fact. No man from Adanson's day to this has seen the mollusc, and no specimens from the type locality, which is unknown, exist! It remains an indeterminate species and the bestowal of a trivial name on it does not alter that. A few details given of it show that both anatomically and conchologically it had nothing in common with forms, like *Isidora*, that have been placed with it by writers who should have known better. It was by following Fischer that the medicos were misled into using a wrong name, which does not apply to their molluscs and it is not for the systematic zoologists to pander to the errors of the misinformed.

In the next place there is no such thing as "*Bulinus* Scopoli, 1777" or that eccentric writer would not have attached Adanson's name as author. It should be quoted as "*Bulinus* Adans., of Scopoli." The error of transcription (not a typographical error) is only too obvious (see Kennard and Woodward, 1924, p. 126). Of course if Scopoli had looked twice or read the text as he manifestly did not do, he would have seen his error and rectified it. The argument that Scopoli did not cite Adanson's species is beside the mark for he evidently, as the context shows, thought he was doing so but misspelt the name. The suggested definite statement in the opening summary of the draft "Opinion" that "The Commission rules that *Bulinus* Scopoli, 1777, is not an obvious typographic error" is hardly consonant with the admissions and more guarded statements on fol. 5, sect. e [p. 9]. If you must suggest the verdict, why not put "do not consider," instead of "rules"? Scopoli's record of 1777 cannot be considered apart from his 1786 elaboration and extension of the name to the "nec non paucae terrestres cl. Müllerii," which puts the crown on his absurd group (see Kennard & Woodward, 1924, p. 128). The restoration of "*Bulinus* Adans." of Scopoli, 1777, would only make confusion worse confounded.

Mueller's adoption of Adanson's *Bulinus*, including his bestowal of a trivial name, which, of course, becomes the type of the genus, fails for the reasons carefully pointed out by Kennard and Woodward (1920, p. 87).

As to *Bulinus* of Bruguière, 1792, whatever may be said or thought of the "*Bulinus* Adans." of Scopoli, there is the name printed in 1777 and renewed in 1786; hence by the "Rules" it cannot be used again so that the argument advanced at the bottom of fol. 6 [p. 11] that the suppression of *Bulinus*, 1777, would resuscitate that of 1792 appears to me quite fallacious. Bruguière's *Bulinus*, therefore, goes out as a homonym as admitted in the initial "Summary" of the draft "Opinion" but not made as clear as it might be in the "Discussion."

Stiles to Woodward:

Referring to your letter on *Bulinus*, I had already examined your publications of 1920 and 1924, but will order them again to see whether I have overlooked any point. I shall also take pleasure in forwarding a copy of your letter to the Commission when a draft of the Opinion is forwarded.

You, of course, understand that the statement of case in any Opinion is the statement given by the appellant and that the discussion is the part written by the Commissioner who formulates the Opinion. It is customary to refer each

case to a Commissioner who makes a special study of the data and makes his recommendations to the Commission. As in any court of law the case has to be decided upon the evidence available. Appellants can hardly expect that the Commissioners will work up the literature for them though we have done this in several cases.

I am wondering whether confusion has not arisen in regard to your interpretation of *Bulimus*, 1792. If it be maintained that *Bulimus*, 1777, is a typographic error would you still maintain that it has status in nomenclature to the effect that it invalidates *Bulimus*, 1792, or would you maintain that as a typographic error it has no status in nomenclature? In the latter premise it could not invalidate *Bulimus*, 1792.

I will go over the data very carefully again in your publications of 1920 and 1924.

Woodward to Stiles:

You ask for an explicit statement as to my opinion on the status of Bruguière's *Bulimus*, 1792, in the event that *Bulimus*, 1777, should be decided to be a typographical error. I thought I had made it quite clear in my last letter that I regarded Scopoli's "*Bulimus* Adans." as an error of transcription and not as a typographical error, and I further wrote: "As to *Bulimus* of Bruguière, 1792, whatever may be said or thought of the "*Bulimus* Adans." of Scopoli, there is the name printed in 1777 and renewed in 1786; hence by the Rules it cannot be used again. . . . Bruguière's *Bulimus*, therefore goes out as a homonym." Of course had the "*Bulimus* Adans." of Scopoli been a *nom. nud.* that would have been a different matter: it was not.

By the way, as a matter of fact, which I had forgotten, Bruguière's *Bulimus* was published in the first part of the Ency. méthod., Vers, i, which appeared in 1789 (see Sherborn & Woodward: *Aun. & Mag. Nat. Hist. Ser. 7*, vol. 17, p. 579) and not in 1792.

Your statement as to the method of procedure of the Commission is illuminating. It seems that unless the appellant, who is naturally biased, happens to have given a complete statement of facts it is nobody's business to see that a full case is placed before the Commission, who may, therefore, be called upon solemnly to adjudicate on imperfect evidence.

Letter from Commissioner Frederick Chapman, A. L. S.:

My conclusions on the evidence and discussion regarding the validity or otherwise of *Bulimus* Adanson are as follows:

- 1.—*Bulimus* Adanson is pre-Linnean and therefore has no status.
- 2.—*Bulimus* Scopoli may or may not be an error of transcription by that author, for Adanson's name, but is not to be considered since Adanson is pre-Linnean. But *Bulimus* Scopoli would also go by the board had he not further defined it in 1786. *Bulimus* Scopoli therefore stands.
- 3.—*Bulimus* of Bruguière, 1792, goes out as a homonym.
- 4.—*Bulimus* having been ruled out by No. 1, cannot be used again for the pulmonate forms related to *Isidora*, but Oken's name, *Bullinus*, 1815 (though apparently suggested by Adanson's name), is sufficiently different to be retained, and in this sense has been used by Hedley (*Rec. Austr. Mus.* 1917, vol. 12, no. 1) for the sinistral forms like *Physa* so common in the Australian region, and which I have shown to belong to the Planorbidae.

Bartsch writes:

Your letter and the enclosures from B. B. Woodward are at hand.

Dr. Dall and I have both been interested in them. We are in accord with you.

The foregoing Opinion with the above comments was submitted to the Commission for informal vote and discussion. In accordance with the expressed opinion of the Commission, the Secretary has the honor to recommend that the Commission adopt as its Opinion the following:

SUMMARY.—The Commission does not interpret *Bulinus* Scopoli, 1777, as an obvious typographical error; the premises do not show that the genotype (which must be selected from the four originally included species) has been definitely and properly designated. *Bulinus* Mueller, 1781, has for its type *Bulinus senegalensis*, and is not invalidated by *Bulinus*, 1777. *Bulinus* Bruguière, 1792, type *haemastomus* seu *oblonga* is a dead homonym of *Bulinus*, 1777.

Opinion prepared by Stiles.

Opinion concurred in by eleven (11) Commissioners: Apstein, Chapman (with reservation), Dabbene, Handlirsch, Horvath, Ishikawa, Jordan (D. S.), Jordan (K.), Silvestri, Stiles, Warren.

Opinion dissented from by one (1) Commissioner: Bather.

Not voting six (6) Commissioners: Bolivar, Hartert, Kolbe, Neveu-Lemaire, Stejneger, Stone.

Commissioner Chapman attaches the following reservation to his vote:

As regards the re-consideration of vote on Circular Letter No. 130, *Bulinus* vs. *Bulinus*, I would concur with the Opinion that both *Bulinus* Scopoli, 1777, and *Bulinus* Mueller, 1781, be retained, on the proviso that *Bulinus* Oken, 1815, be regarded as the type genus for our Australian freshwater *Physa*-like molluscs (see Hedley, 1917, Rec. Austr. Mus., vol. 12, no. 1, p. 3). The shell from Senegal cannot be compared with the Australian, since, as Hedley remarks, the type has not been again recognized.