TAXON 30(1): 95–293. FEBRUARY 1981

SYNOPSIS OF PROPOSALS ON BOTANICAL NOMENCLATURE SYDNEY 1981

A review of the proposals concerning the International Code of Botanical Nomenclature submitted to the 13th International Botanical Congress at Sydney 1981, by Edward G. Voss (Rapporteur-général) and Werner Greuter (Vice-rapporteur).

Notice

Each personal member of the International Association for Plant Taxonomy is entitled to participate in the Preliminary Mail Vote on nomenclature proposals, as stated in Division III of the Code. (There are no *institutional* votes allowed in the mail ballot.) Authors of nomenclature proposals and members of nomenclature committees are also entitled to participate; any such persons not receiving a ballot (enclosed herewith in *Taxon* for all members of IAPT) may reproduce a member's ballot if available to them or request one (and a Synopsis, if needed) from R. S. Cowan, Department of Botany, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

The voting forms (ballots) should be returned to the Vice-rapporteur (W. Greuter) by June 15, 1981 (use the enclosed airmail envelope), so that they may be included in the tabulation which will be made available as a merely advisory document to the members of the Nomenclature Section.

The sessions of the Nomenclature Section, which will take final action on proposals, will be held in the Carslaw Building at the University of Sydney from Monday, 17 August (10:00 a.m.) to Thursday, 20 August 1981.

Each registered member of the Nomenclature Section is entitled to one personal vote in the sessions. Personal votes can be neither transferred nor accumulated. A single person never receives more than one personal vote. Official delegates of institutions, or their vice-delegates, may also cast the votes of their respective institutions, but no single person is allowed more than 15 votes (including his personal vote). Institutions will soon be advised of their votes, in accordance with Division III of the Code. Institutional delegates and personal members are invited to collect personally their voting cards at registration for the Nomenclature Section on August 16.

Contents

LIST OF PROPOSALS

1	Terrell	Taxon 26: 131
2–4	Nicolson	Taxon 26: 571
5–6	Laundon	Taxon 26: 575
8–9	Lowry & Jones	Taxon 26: 568
9 bis	Lewin & Fogg	Taxon 27: 121
10	Bold, Cronquist, Jeffrey, Johnson, Margulis, Merxmüller, Raven & Takhtajan	Taxon 27: 121
—	Hughes	Taxon 27: 501
11–32	IMC[2] (Nomenclature Secretariat of the International Mycological Association)	Taxon 28: 425–430
33–35	Darwin	Taxon 28: 584
36	Meyen & Traverse	Taxon 28: 597
37	Boulter	Taxon 28: 598
38	Meikle	Taxon 28: 601
39	Darwin	Taxon 28: 602
40–41	Leach	Taxon 28: 603
42	Isely & Polhill	Taxon 29: 105
43–50	Rowley	Taxon 29: 341–342
51–59	Silva	Taxon 29: 343–346
60–62	McNeill	Taxon 29: 475
63–64	Brummitt	Taxon 29: 483
65	Brummitt & Hara	Taxon 29: 483
66	Malyshev	Taxon 29: 515
67	Hara & Eichler	Taxon 29: 516
68	Kerguélen	Taxon 29: 516
69	Adolphi & Nicolson	Taxon 29: 517
70	Filgueiras	Taxon 29: 697
71	Marais & Brummitt	Taxon 29: 700
72–75	Yeo	Taxon 29: 700–701
76–85	Comm. Spermatophyta	Taxon 30: 156–161
86	Comm. Romanization	Taxon 30: 179
87–110	Comm. Autonyms	Taxon 30: 191–198
111–115	Comm. Generic Typification	Taxon 30: 205–206
116	Veldkamp	Taxon 30: 208
117	Storch	Taxon 30: 213
118	Fosberg	Taxon 30: 226
119–121	Tjaden	Taxon 30: 227
122	Leach	Taxon 30: 229
123	Linczevski & Gubanov	Taxon 30: 229
124–126	Johnson, Briggs & Blaxell	Taxon 30: 230–232
127–137	Demoulin	Taxon 30: 238–246
138–145	Eichler	Taxon 30: 248–250
146–147	Brummitt & Meikle	Taxon 30: 250–251
148–152	Stirton, Field, Brummitt & McNeill	Taxon 30: 254–255
153–155	Brummitt	Taxon 30: 256–257
156–163	Greuter, McNeill & Nicolson	Taxon 30: 258–260
164–188	Yeo	Taxon 30: 263–273
189–191	Killick	Taxon 30: 273–274
192–199	Parkinson	Taxon 30: 275–284
200–202	McNeill	Taxon 30: 285–286
203–204	Eichler & Kanis	Taxon 30: 287
205	Greuter & McNeill	Taxon 30: 288
206–207	Greuter	Taxon 30: 289
208–210	Demoulin	Taxon 30: 292

INTERNATIONAL CODE OF BOTANICAL NOMENCLATURE:
SYNOPSIS OF PROPOSALS

Principle IV

Prop. A (96 – Brummitt & Chater, Comm. Autonyms, Taxon 30: 194): Reword as follows:

"Each taxonomic group with a particular circumscription and rank can, in any one taxonomic situation, bear only one correct name, the earliest that is in accordance with the rules, except in specified cases."

Comments Rapporteurs.—Prop. A is a slight rewording of a proposal made at Leningrad and there overwhelmingly defeated along with other suggested amendments in the Principles. The point was then raised that if changes are made in Art. 19, from which this proposal is derived, the Editorial Committee can adjust the wording if the existing "except in specified cases" is not adequate. The proposal can in any event be considered at Sydney after decisions are made on the basic autonym proposals.

Article 3

Prop. A (10 – Bold et al., Taxon 27: 121): It is proposed that the term 'divisio' be replaced by the term 'phylum' throughout the ICBN. This would necessitate the following changes: In Article 3, substitute the word 'phylum' for 'division'; in Article 4, substitute the word 'phylum' for 'division,' and 'subphylum' for 'subdivision.' The Editorial Committee is instructed to make comparable substitutions of 'phylum' and 'subphylum' for 'division' and 'subdivision' elsewhere in the Code, as for example in Recommendation 16A. Add a new Note 1 to Article 3: 'Names originally published as divisions or subdivisions should be treated as if they had been published as phyla or subphyla, respectively.'

Prop. B (11 – IMC², Taxon 28: 425): Add after existing Note 1:

"In fungi, the anatomical nomenclatural system for asexual forms (anamorphs) provides for form-taxa at any level (see Art. 59)."

Prop. C (36 – Meyen & Traverse, Taxon 28: 597): Revise to read:

"The principal ranks . . . . Thus, each species belongs (is to be assigned) to a genus, each genus to a family, except that for some fossil plants, genera may be unassignable to higher taxa.

Note 1. The names of species, and consequently of many higher taxa, of fossil plants are often based on fragmentary, dispersed specimens. When an organic connection between parts ascribed to different taxa is shown to exist, the names associated with the dispersed parts may still continue to be used for those parts.

"(Delete the rest of Article 3, with instructions to the Editorial Committee to seek suitable examples.)"

Prop. D (37 – Boulter, Taxon 28: 598): Delete Art. 3.2 and substitute:

"Since the names of taxa of fossil plants are usually based on fragmentary specimens, fossil-genera are distinguished as taxa which may be given names according to this Code. If they are not assignable to a family they may be referable to a taxon of higher rank."

Comments Rapporteurs.—Prop. A is the same proposal, designed to bring botanical terminology into accord with zoological usage, that was thoroughly considered at Leningrad and defeated on a card vote which was closer (199 no, 172 yes) than the preliminary mail vote (182 no, 50 yes). The Bacteriological Code avoids the issue by recognizing no rank between class and kingdom (it does *not* use either "phylum" or "division"). One beneficial effect of accepting the proposal would be to remove ambiguity in usage of the terms "subdivision of a genus" and "subdivisional epithet" already in the Code.

Prop. B would be a new Note. It is dependent upon the rewriting of Art. 59, and should

likewise be considered by the Committee for Fungi and Lichens. It might be advisable to transfer the entire Art. 3.2 to Art. 59, replacing it with a cross reference.

Props. C & D are to be referred to the Committee for Fossil Plants. The first sentence of Prop. C is a welcome improvement in wording but the "Note" is more than a Note. It should be recognized that the only reason why Art. 3.2 is necessary is to authorize the exception stated in Art. 3.1, i.e. that unlike non-fossil taxa, fossil genera need not be assignable to a family or higher taxon for the name to be acceptable. Names of these genera ("some fossil plants" of Art. 3.2) thus have a special status—whether the genera are called "form-genera," "fossil-genera," etc. The status of names of other genera of fossil plants is perfectly clear: they are covered by Art. 3.1 if they are assignable to a family. The matter of *circumscription* of fossil taxa is of course a question of taxonomy, not nomenclature.

New Recommendation 4A

Prop. A (43 – Rowley, Taxon 29: 341): New Recommendation 4A:

"The non-Latin words, 'group,' 'sort' and 'kind' (and their equivalents in other languages) are best reserved for general use and not assigned special rank in the hierarchy."

Comments Rapporteurs.—The intention of the proposal is to reserve such neutral words for general use in order to discourage popular misuse of words like "family" for categories for which they are botanically incorrect. The translation of these terms into other modern languages could be a problem, but the Code need not rule on them.

Article 6

Prop. A (85 – Committee for Spermatophyta, Taxon 30: 161): Add after Article 6.4 (or any other place the Editorial Committee may consider more appropriate) the following: "Note: A name which was illegitimate when published cannot become legitimate later, unless it is conserved."

Prop. B (138 – Eichler, Taxon 30: 248): Replace Art. 6.4 to read as follows:

"An illegitimate name or epithet is one that is defined as such in Art. 18.3, Art. 21. Note 1, Art. 24. Note 1 and Arts. 63–67."

Prop. C (99 – Brummitt & Chater, Comm. Autonyms, Taxon 30: 195): Add a new paragraph 6.8 as follows:

"An *autonym* below the rank of genus is a name in which the final epithet is the same as that of the next higher taxon, or is the same as the generic name if the next higher taxon is a genus; above the rank of genus it is a name based on the same generic name as is the name of the next higher taxon."

In Arts. 19.4, 22.2, and 26.2 delete the phrase "(automatically established names)."

Prop. D (100 – Greuter, Comm. Autonyms, Taxon 30: 195): Add a new paragraph 6.8:

"Autonyms are names such as can be established automatically under Arts. 19.4, 22.2, and 26.2, irrespective of whether they were in reality formally created or not."

Prop. E (101 – Greuter, Comm. Autonyms, Taxon 30: 195): Reword Art. 6.6 as follows:

"In this Code the word *name* means a name that has been validly published, whether it is legitimate or illegitimate (see Art. 12), unless the contrary is specified or unless the name is an autonym (Art. 19.4, 22.2, 26.2)."

Comments Rapporteurs.—Prop. A intends to make clear that illegitimacy of a name occurs at its birth and the name remains illegitimate unless conserved, even if operation of some other rule might be considered retroactively to remove the original cause of illegitimacy. The principle "once illegitimate, always illegitimate" is implicitly contained in the present Code. It results, in particular, from interaction of Art. 63 and 64 with 45.3. It is not, however, concretely

spelled out, and since it is an important principle it may be stated either following Art. 6.4, as suggested, or in Art. 72.

Prop. B can be referred to the Editorial Committee.

Props. C, D, & E have the merit of bringing *autonym* into the Article dealing with definitions. Action on Arts. 19, 22, 26, etc., thus depends on the fundamental decision made by the Section on these proposals in Art. 6, and all should be considered together. Props. C & D could accommodate the position that autonyms *are* validly published. Prop. C could accommodate a "universal autonym" rule but would need rewording if Art. 19 Prop. E [to rescind "Wood & Webster"] is defeated. Prop. D could accommodate either the "universal autonym" rule or the "restricted autonym" rule. Prop. E is in conflict with any form of priorabilty of autonyms. It (along with Art. 12 Prop. A) would affirm what the Rapporteurs believe to be the present condition and the intent of the Seattle Congress: autonyms are not to be considered as validly published. Unfortunately, the Nomenclature Section and the Editorial Committee allowed autonyms to be referred to as "names" in the Seattle Code, without clearly indicating that they do not conform to the definition of *name* in Art. 6.

Article 7

Prop. A (12 – IMC², Taxon 28: 424): Art. 7.16 to read:

"The typification of names of genera based on plant megafossils and plant microfossils (form- and organ-genera), *form*-genera of *anamorphs* of fungi, and any other analogous genera or lower taxa does not differ from that indicated above. *But see Art. 59 for specification regarding types for the names of designated pleomorphic fungi.*"

Prop. B (51 – Silva, Taxon 29: 343): Change Art. 7.9 as follows:

Insert 'illegitimate' between 'older' and 'name' (the first time only) and add to sentence 'unless the author of the substitute name initially designated a different type.' In the cross references, change 'Art. 33 Note 1' to 'Art. 33.3 Notes 1 and 2.'

Prop. C (53 – Silva, Taxon 29: 343): Change Art. 7.11 as follows:

Delete 'automatically' and 'unless the author of the superfluous name or epithet had indicated a definite type.'

Prop. D (194 – Parkinson, Taxon 30: 280): Corollary changes necessitated if Art. 14 Prop. C and Art. 63 Prop. D are adopted. [Full text in this Synopsis, pp. 280–281.]

Prop. E (114A – Comm. Gen. Typ., Taxon 30: 206): Amend Art. 7.3 to read:

"A holotype is the one specimen or other element designated by the author as the nomenclatural type. As long as . . ."

Comments Rapporteurs.—Prop. A. The Committee for Fungi and Lichens will report on this proposal in connection with changes in Art. 59. The Committee for Fossil Plants presumably will not support re-introduction of "organ-genera," a concept removed from the Code at Leningrad.

Prop. B would restrict *nomen novum* to replacement of an illegitimate name and intends to allow for a *nomen novum* an alternative similar to that now provided for a superfluous name (Art. 7.11), namely that the author of the name is to be followed if a definite type is designated. Such a name would then not be called a *nomen novum* but would be called a substitute name (cf. Art. 33 Prop. D, which is intimately related). The proposer apparently overlooks that a legitimate *nomen novum* can be proposed to replace an older legitimate name, too.

Prop. C. The word "automatically" may indeed be somewhat unnecessary, although it is hardly misleading. Deletion of the qualifying clause is dependent on Art. 63 Prop. A, and the proposal can be referred to the Editorial Committee for appropriate action depending on Art. 63.

Prop. D is a package to cover changes in Arts. 7.2, 7.9, and 7.11 said to be necessary if the complete new versions of Arts. 14 and 63 by the same author are adopted, and hence this

proposal should be considered in connection with the others. 7.2 seems to be based on a misconception of the term *taxon* as used for nomenclatural purposes. 7.9 aims at introducing a new expanded definition of *nomen novum*, which would be at variance with the currently accepted notion.

Prop. E has been separated by the Rapporteurs from Art. 10 Prop. E, since its effects exceed the question of generic typification. The proposal would restrict a holotype to an element designated by the author and not merely used by him, meaning that the mere listing of a single species under a new genus or taxon between genus and species would *not* constitute holotypification.

Recommendation 7A

Prop. A (24 – IMC², Taxon 28: 428): Add new paragraph 7A.2:

"When living material is designated as a nomenclatural type appropriate cultures must be immediately preserved (e.g. by lyophilization) in a major culture collection and subcultures (isotypes) sent to at least one other such collection."

Comments Rapporteurs.—The proposal would be relevant only if Art. 9 Prop. C were accepted; the Committee for Fungi and Lichens will report on these and related proposals. If this is to be a Recommendation, "must" ought to be replaced by "should."

Recommendation 7B

Prop. A (149 – Stirton, Field, Brummitt, & McNeill, Taxon 30: 254): Transfer the present wording, preceding by "Other things being equal," to the Guide for the Determination of Types.

Comments Rapporteurs.—The proposers are right in stating that similar and partly conflicting items of guidance in matters of lectotypification are now placed in the Guide. If it is accepted, the Editorial Committee can amend the cross references in 4e to Rec. 7B, which now appear designed to avert conflict.

New Recommendation 7C

Prop. A (9 bis – Lewin & Fogg, Taxon 27: 121): New Recommendation 7C:

"For microorganisms, type material should preferably be of a pure clone, preserved so as to conserve as many taxonomically important features as possible. In cases where taxonomically important microscopic or physiological features cannot be retained in dead and preserved specimens, every effort should be made to isolate, designate and conserve, in an established culture collection, viable material of a single pure type culture, if technically possible in a state (e.g. freeze-dried or under liquid nitrogen) which can be expected to minimize mutation or other change with time."

Comments Rapporteurs.—The proposal is an anachronism, since the Leningrad Congress deleted the possibility of living types. However, if Art. 9 Prop. C is accepted, then this proposal becomes relevant, and the Committees for Algae and Fungi and Lichens should consider it along with Rec. 7A Prop. A, and suggest the best place for such material, as well as the definition of "microorganism." The committees reporting to IMC² have already stated that the new Rec. 7C "does not meet the requirements of mycologists" (Taxon 28: 428).

Article 8

Prop. A (122 – Leach, Taxon 30: 229): Change the wording of Article 8.1 to read:

"The author who first designates a lectotype, either directly or indirectly, must be followed unless his choice conflicts with the evidence contained in the protologue, description, or diagnosis included in the validating publication of the name."

Prop. B (148 – Stirton, Field, Brummitt, & McNeill, Taxon 30: 254): Add a Note:

"Designation of a lectotype requires explicit citation of the type by use of the words 'lectotype,' 'type,' 'standard species,' or an equivalent term. It is not achieved merely by the exclusion from the taxon of all save one of the original elements." The example of *Stapelia* or *Psoralea* given in the argument may be added.

Prop. C (150 – Stirton, Field, Brummitt, & McNeill, Taxon 30: 255): Replace the words "made arbitrarily" by "based on a largely mechanical system." In the Example delete the last sentence, and insert instead "All these choices of lectotypes by Britton & Brown are thus based on a largely mechanical system and so may be superseded."

Prop. D (151 – Stirton, Field, Brummitt, & McNeill, Taxon 30: 255): Add a second example: "The first designation of a lectotype of the name *Vaccinium* Linnaeus, applied to a genus assigned by its author to Octandria Monogynia and described as having a 4-partite corolla, was that of *V. myrtillus* Linnaeus by A. S. Hitchcock in A. S. Hitchcock & M. L. Green, Proposals by British Botanists, 150 (1929). Because the species always has a pentamerous perianth and 10 stamens its choice is considered to represent a misinterpretation of the protologue, and is correctly superseded by Vander Kloet's designation of *V. uliginosum* Linnaeus as lectotype in Taxon 30 (in press)."

Prop. E (152 – Stirton, Field, Brummitt, & McNeill, Taxon 30: 255): After "misinterpretation of the protologue" insert "or is contrary to Art. 9.2."

Comments Rapporteurs.—The sole effect of the clarification intended by *Prop. A* is said by its proposer to be "to restrict the evidence to be used for typification purposes to that contained in the validating publication in the event of previous typification"; the aim is to prevent unnecessary nomenclatural upsets based on new interpretations or discovery of additional pre-starting-point publications. However, it is not clear whether the new wording accommodates the idea introduced at Seattle (Report, Reg. Veg. 81: 14, 25–28), permitting a lectotype to be superseded if it was selected arbitrarily. The intent of the Seattle rewording of this Article was to avoid the very broad previous statement, "based on misinterpretation of the original description"; the present Prop. A makes more precise the importance of the "validating publication," but otherwise appears close to the very wide pre-Seattle wording. Furthermore, the proposal also omits the whole ruling on neotypes. Even if this proposal is rejected, its aims could be considered by a special committee set up as an alternative to Art. 8 Prop. B.

Prop. B is designed to rule in favor of explicit citation of a type over the "residue method" which is emphasized in the Guide for the Determination of Types. The point is an important one, more fundamental than a Note. The present wording admittedly requires clarification, but caution is advised against any hasty decision on a matter of such basic import as lectotypification. The proposers suggest that a special committee on lectotypification could be appointed, and a "sp. comm." vote would support this alternative. In using the word "citation," the proposers presumably intend to refer to *published* designations and not to mere herbarium annotations—a point not now covered in the Code.

Prop. C would avoid the unsatisfactory word "arbitrary" and, via the example, suggest the potential of a more complete rejection of Britton and Brown lectotypifications than was contemplated in the original proposal at Seattle. But an example is perhaps not the best place for such a ruling. The proposal could be referred to a special committee if such is established.

Prop. D is editorial.

Prop. E would add to Art. 8 reference to the grounds for rejecting a lectotypification already in Art. 9.2, which requires selection, from a mixed gathering, of a lectotype best fitting the original description. This is a purely editorial matter. An alternative suggested by the proposers would be to move Art. 9.2 to the Guide for the Determination of Types, and this would reduce its status to that of a Recommendation.

Article 9

Prop. A (25 – IMC², Taxon 28: 428): Art. 9.3 to read:

"If it is impossible to preserve a specimen as the type of a name of a species or infraspecific taxon of recent plants, *where Article 9.6 does not apply,* or if such a name is without a type specimen, the type may be a description or figure."

Prop. B (26 – IMC², Taxon 28: 428): Art. 9.5 to read:

"Type specimens of names of taxa must be preserved permanently and cannot be living plants or cultures, *with the exception of certain fungi and other microorganisms (see Art. 9.6).*"

Prop. C (27 – IMC², Taxon 28: 428): Add new Art. 9.6:

"In those fungi where a non-living specimen cannot, in the describing author's opinion, satisfactorily show the characters diagnostic for the species or infraspecific taxon, permanently maintained living cultures are acceptable as nomenclatural types for those names. In cases foreseen where such a living culture loses its diagnostic characters with time, it is to be treated as lost in the sense of Art. 7.4; a lectotype or neotype living culture may then be designated as nomenclatural type for such names as prescribed in Art. 7."

Prop. D (44 – Rowley, Taxon 29: 341): Reword Art. 9.3 as follows:

"If it is impossible to preserve a specimen in such a way that the diagnostic features remain recognisable . . ."

Prop. E (208 – Demoulin, Taxon 30: 292): Change the end of Art. 9.1 to: ". . .which ought to be conserved permanently on one herbarium sheet (or in its equivalent, bag, box, or jar) or in one preparation."

Comments Rapporteurs.—Props. A and B are dependent on Prop. C, and all these proposals should be considered at least by the Committee for Fungi and Lichens. Prop. C would restore, for fungi, a provision for "living types," deleted from the Code at Leningrad because it applied only to bacteria, which are covered by another Code. It is not clear why Prop. C refers only to fungi but the cross reference in Prop. B refers also to "other microorganisms"; the Committee for Algae may also wish to comment on these proposals (including Rec. 7A Prop. A). The phrase "in the describing author's opinion" should be reconsidered.

Prop. D pretends to offer a clarification of the phrase "impossible to preserve"; however, it might result in an undesirable extension of the privilege to designate a description or figure as a nomenclatural type.

Prop. E. The existing phrase "or in one preparation" is designed to cover what it is proposed to insert in parentheses, but the word has different meanings and the proposal may be referred to the Editorial Committee.

New Recommendation 9A

Prop. A (28 – IMC², Taxon 28: 428): Add new Rec. 9A:

"In cases where Art. 9.6 applies, it is strongly recommended that a dried-down culture also be prepared and deposited in a responsible institution. If both living and non-living material of a fungus are preserved, the latter automatically becomes the holotype as long as the fungus is recognizable on it."

Prop. B (66 – Malyshev, Taxon 29: 515): Add:

"Vivo-type: The living specimen from which the type material was taken or, if no specimens were taken, which was described in the original publication.

"Emergento-type: Any herbarium specimen taken from the vivo-type after publication of the taxon name.

"Clono-type: Any herbarium specimen taken from a vegetatively propagated part of the vivo-type.

"Substituto-type: Any emergento-type or clono-type nominated as the lectotype."

Comments Rapporteurs.—Prop. A depends upon Art. 9 Prop. C and related proposals to be considered by the Committee for Fungi and Lichens. The second sentence seems out of place in a Recommendation. (And it would be interesting to have a requirement that certain fungi be "recognizable" to serve as holotypes, when there is no requirement that any other types be recognizable!)

Prop. B is for a new Recommendation on a quite different subject than Prop. A, although it does not state what is recommended, consisting solely of definitions. If thought useful, these perhaps belong in the Guide for the Determination of Types, although previous Congresses have consistently rejected proposals to define officially any new kinds of types. There is no doubt that the circumstances exist to which these—and countless other—proposed terms for types would apply; the only question is whether there can be general acceptance of the terms. What is here called an "emergento-type" has been called a "merotype" by some authors; and at least one well known text states that "it is accepted generally that a *cotype* is a second specimen from the same plant from which the holotype was collected." The terms proposed here are linguistically objectionable.

New Recommendation 9B

Prop. A (29 – IMC², Taxon 28: 428): Insert a new Rec. 9B:

"Whenever practical in addition to the non-living holotype, living cultures of newly proposed fungus taxa should be deposited with a reputable culture collection."

Comments Rapporteurs.—Even if the Section declines to accept living types (Art. 9 Prop. C), this Recommendation could be desirable. It should be considered by the Committee for Fungi and Lichens (and extended to other groups as well).

Article 10

Prop. A (199 – Parkinson, Taxon 30: 284): Replace the present Article. [Full text in this Synopsis, pp. 284–285.]

Prop. B (111 – Comm. Gen. Typ., Taxon 30: 205): Clarify by amending Art. 10.1 and 10.3, and make consequent editorial changes in 7.14, 22.1, 22.4, 22.5, 52.1, and 52 *Aesculus* example. [Full text elsewhere in this Synopsis.]

Prop. C (112 – Comm. Gen. Typ., Taxon 30: 205): Consequent on the acceptance of Prop. A, establish what is meant by an "included species," restricting this to species named in the protologue (if any such exist). [Full text elsewhere in this Synopsis.]

Prop. D (113 – Comm. Gen. Typ., Taxon 30: 205): Consequent on the acceptance of Props. B & C, provide, through conservation, for the retention of the usage of a generic name in a sense that does not include the type of an included species name. [Full text, including new Rec. 10A, elsewhere in this Synopsis.]

Prop. E (114 – Comm. Gen. Typ., Taxon 30: 206): Consequent on the acceptance of Prop. B, establish what is meant by an "included species," allowing, in the absence of a holotype, lectotypification by the type of the name of any species judged to have been included by the author, whether cited by him or not. [Full text elsewhere in this Synopsis.]

Prop. F (115 – Comm. Gen. Typ., Taxon 30: 207): Clarify Art. 10 by providing for the designation of specimens and other elements as the types of names of taxa above the rank of species. [Full text and suggested examples elsewhere in this Synopsis.]

Comments Rapporteurs.—Since the proposals (or packages of proposals) are relatively long, arrived at the very deadline, appear in full detail elsewhere in the Synopsis in convenient

orderly fashion, and are not intermingled with miscellaneous proposals on the Article, they are not repeated here.

An earlier version of *Prop. A* was supplied to the Committee on Generic Typification, which agreed that in the absence of support, further consideration of it was unjustified. In the present version, the first three paragraphs have exactly the same effect as Prop. B except for a more complicated wording and underlying philosophy. The proposal also (10.5) would enforce a rule invalidating most early generic names in the presently accepted place of validation, thereby overthrowing completely their priority and typification as presently understood. This would introduce considerable chaos into nomenclature.

Props. B–F are the work of the committee appointed by direction of the Nomenclature Section at Leningrad to study the typification of generic names, particularly the problem of a name based on material which the author "misidentified" (i.e., to which he applied a name that actually applies, as determined by its type, to a different species). One may take the point of view that a genus is an aggregation of species, not of specimens, and hence the type of a generic name ought to be an example of what is included in the genus, namely a species, which does not even have to be named, much less bear the right name, but it is up to the taxonomist to determine what species the author really had and on the basis of which he therefore determined that he had a new genus. The committee discards the point of view that the type of a generic name ought to be a species. As a consequence it has reached agreement on a new definition of type at ranks higher than genus (but not higher than family). This is *Prop. B*, typifying a generic name by the type of a name of an included species. (Current practice of citing such types could be maintained and past lectotypifications would stand, with the understanding that the type of the generic name is really the type of the cited species name.)

After a great deal of work, the committee, in its admirably clear report, favors what it terms a "pragmatic" approach, giving precedence to species explicitly cited by the author of a generic name—even if not actually corresponding to the species he had before him. This procedure is apparently not felt to be a mechanical one opposed to the spirit of Art. 8 for lectotypification, and it has the merit of avoiding any appearance of dealing with taxonomic, as opposed to nomenclatural, considerations. This "pragmatic" approach is expressed by *Prop. C*, defining what is meant by an "included species": a species, if any, named in the protologue.

Prop. D then allows for the designation, as generic type, of a specimen other than the type of a name of an included species, by conservation. In the case of misapplied type species names, this will permit conservation of the generic name in agreement with the taxonomic intent of the original author without loss of priority. Prop. D is compatible with either Prop. C or E.

Prop. E, favored by a minority of the committee, is an alternative to Prop. C, and while also not denying the possibility of conservation, offers increased flexibility through lectotypification by the type of the name of any species, cited or not, if no holotype was cited. This is achieved at the price of a somewhat greater amount of uncertainty in the application. If the proposal is accepted, "holotype" should presumably be replaced by "type (holotype)" to make it clear that the actual term *holotype* need not be employed as long as the action results in holotypification (see Art. 7 Prop. E for accomplishing this). Finally, if Prop. E should be preferred to Prop. C, the second sentence of 10.3 as proposed in Prop. C might usefully be added.

Prop. F is an alternative to Props. B plus C, and corresponds to the "idealistic" approach. It stresses even more than Prop. B that the type of a generic name is a specimen (not a species nor even necessarily the type of a species name), and allows lectotypification via a specimen misidentified by the author if the named species appears to conflict with his intentions. Adoption of this proposal would apparently render ineffective all former lectotypifications of generic names. This difficulty could be overcome by combining the wording of Prop. B with the thrust of Prop. F. This "idealistic" approach has received support by a minority of the committee, while a majority objects to the subjective element of determining an author's intention.

In studying the very thorough yet concise report of this committee, one should consider the actual provisions and not be distracted by the paragraph numbers, which can be confusing. (The Editorial Committee is always charged with numbering and arrangement.) It may also be noted that neither these proposals nor the present Code really makes explicit what is the type of an "automatically typified" name above the rank of family. The existing Art. 10.2 may

imply that it is a genus, but this is not the interpretation which results in publication of a name such as Zingiberidae, subclass. nov., with "Type: Zingiberales." The Section may wish to make a simple clarification on this point.

Article 11

Prop. A (13 – IMC², Taxon 28: 426): Art. 11.1 to read:

"Each family or taxon of lower tank with a particular circumscription, position, and rank can bear only one correct name, special exceptions being made for 9 families for which alternative names are permitted (see Art. 18). *The provisions of this article shall not be construed as preventing the use of separate names for the form-taxa of fungi and fossil plants (see Arts. 3 and 59).*"

Prop. B (124 – Johnson, Briggs, & Blaxell, Taxon 30: 230): Change the Article to read as follows:

"11.1 [first line] Each family, genus, species, and subspecies with a particular circumscription, position . . .

"11.2 [first line] For any family or genus, the correct name is the earliest . . .

"11.3 [first line] For any species or subspecies, the correct name is the combination . . .

"11.4 The principle of priority is not mandatory for names of taxa above the rank of family, between the ranks of family and genus, between the ranks of genus and species, or below the rank of subspecies."

Prop. C (125 – Johnson, Briggs, & Blaxell, Taxon 30: 232): Change the Article to read as follows:

"11.1 [first line] Each family, genus, species, and subdivision of a species with a particular circumscription, position . . .

"11.2 [first line] For any family or genus, the correct name is the earliest . . .

"11.3 [first line] For any species or subdivision of a species, the correct name is the combination . . .

"11.4 The principle of priority is not mandatory for names of taxa above the rank of family, between those of family and genus, or between those of genus and species."

Comments Rapporteurs.—Prop. A in effect merely adds Art. 3 to the references at the end. The advantage of the other rewording is not clear, but the proposal could be referred to the Editorial Committee.

The intention of *Prop. B* is clear in the proposed rewording of 11.4. If adopted, it would restrict the principle of priority and, by consequence, the nomenclatural rulings of the Code, to four ranks considered as basic. Names in all other ranks could be chosen or created arbitrarily by anyone. The proposers argue that 11.4 already recognizes an important departure from a mandatory principle of priority and that removing additional ranks from the priority rule would not seriously affect stability of names. This would represent quite the opposite trend from *expanding* the principle of priority as shown by Rec. 16B, accepted at Leningrad, and Art. 61 Prop. C of this Synopsis.

Prop. C differs from Prop. B in continuing the operation of priority at all infraspecific ranks, but would still permit arbitrary selection and creation of names at ranks between family and genus and between genus and species. Botanists with experience at these levels should be prepared at Sydney to offer concrete examples as to whether Props. B and C would promote efficiency, as the proposers believe, or lead to an undesirable amount of instability. These proposals are indeed radical, as suggested by the proposers themselves. Note: The authors call the attention of the Editorial Committee to a long list (ca. 40) of other passages in the Code which may require adjustment depending on action on Prop. B or C, and a formal vote on each of these is not solicited.

Article 12

Prop. A (102 – Greuter, Comm. Autonyms, Taxon 30: 195): Reword to read:

"A name of a taxon, autonyms excepted, has no status under this Code unless it is validly published (see Arts. 32–45)."

Ask the Editorial Committee to consider adding references to the autonym articles under Art. 60.1.

Comments Rapporteurs.—This proposal is incompatible with proposals that would ascribe validity to autonyms, and is related to Art. 6 Prop. E, both affirming that autonyms are not validly published—which is implicit in the present wording of the autonym rules.

Article 13

Prop. A (14 – IMC², Taxon 28: 426): Add new paragraph 13.6:

"*For fungi governed by Art. 59, the priority of nomina anamorphosia is limited, effective only among names typified by similar anamorphs. They do not compete for priority with nomina holomorphosia.*"

Prop. B (31 – IMC², Taxon 28: 430): Art. 13.1f to read:

"f. Fungi Caeteri. 1 Jan. 1821. No starting point book is named, but Fries, *Systema Mycologicum* Vol. 1, is considered to have been published on 1 Jan. 1821."

Prop. C (32 – IMC², Taxon 28: 430): Substitute for Art. 13.1d, e, f, h:

"Fungi (including lichen-forming fungi): Linnaeus, *Species Plantarum*, ed. 1 (1 May 1753). Names in the Uredinales, Ustilaginales and Gasteromycetes adopted by Persoon (*Synopsis Methodica Fungorum*, 31 Dec. 1801) and names of Fungi Caeteri (excluding Myxomycetes) adopted by Fries (*Systema Mycologicum*, vols. 1 (1 Jan. 1821) to 3, and *Elenchus Fungorum*, vols. 1–2), are not affected by, and take priority over, homonymous and synonymous names published earlier. For nomenclatural purposes names given to lichens shall be considered as applying to their fungal component. 'g.' Renumber 'g' as 'e'."

Prop. D (117 – Storch, Taxon 30: 213): Replace Article 13.1(i) with the following new wording:

"ALLE GRUPPEN, 1. Januar 1820 (Schlotheim, *Petrefactenkunde*). Alle anderen Veröffentlichungen des Jahres 1820 werden als nach dem 1. Januar 1820 veröffentlicht angesehen."

Comments Rapporteurs.—*Prop. A* is dependent on the proposed new text for Art. 59. *Props. B and C* offer alternative ways of dealing with starting-point dates in the fungi (as discussed in Taxon 28: 429–431). The Committee for Fungi and Lichens will consider all these proposals, and mycologists should make their opinion known on this important issue of starting-points, as Demoulin, Hawksworth, Korf, and Pouzar have done in support of Prop. C (Taxon 30: 52–63).

Prop. D should be referred to the Committee for Fossils for consideration.

Article 14

Prop. A (147 – Brummitt & Meikle, Taxon 30: 251): In Art. 14.1 insert "species," after "nomenclature of" and delete "generic" in line 6.

Prop. B (156 – Greuter, McNeill, & Nicolson, Taxon 30: 258): Add a new paragraph:

"A name may be conserved with a different type from that designated by the author or determined by application of the Code. A name with a type so conserved (*typ. cons.*) is legitimate even if it would otherwise be illegitimate under Art. 63."

Prop. C (192 – Parkinson, Taxon 30: 275): Replace the Article. [Full text in this Synopsis, pp. 275–277.]

Prop. D (205 – Greuter & McNeill, Taxon 30: 288): Modify Art. 14 to allow for conservation of specific names:

(a) Change the beginning of Art. 14.1 to read: "In order to avoid disadvantageous changes in the nomenclature of species, genera, and families entailed by . . ." Delete the word "generic" in line 6.
(b) Change the beginning of Art. 14.2 to read: "A conserved name of a family or genus . . ." Add a sentence: "A conserved name of a species is conserved against all names listed as rejected, and against all combinations based on the rejected names."
(c) Change the beginning of Art. 14.4 to read: "A rejected name, or a combination based on a rejected name, . . ."
(d) Change Art. 14.6 to read at the beginning: "When a name of a taxon . . . ;" and in line 3: ". . . the name of a taxon in the same rank . . ."

Comments Rapporteurs.—Prop. A, by insertion of a single word, would provide for *nomina Specifica conservanda*—long a cause célèbre. *Prop. D* is a more complete one, including Prop. A in its section (a). A special committee appointed to consider this issue has not, as of the date of Synopsis publication, submitted a report, so that these proposals may be the only ones on the subject. Prop. A was offered "for those who prefer the more radical approach to stability of specific names" than Art. 69, and no arguments were advanced in its favor. Prop. D was offered with the thought that the principle of *nomina conservanda* at all principal ranks for which priority is mandatory was to be commended as the least complex route to stability. Arguments pro and con have been repeated in the past; we refrain from rehashing the old ones here. Even if these proposals as a whole should not be accepted, the second item in them (deletion of "generic") might be advisable.

Prop. B is foreseen in Art. 6 Prop. A and is needed to make clear that conservation is a means for overcoming illegitimacy as well as undesirable typification.

Prop. C is a complete rewriting of the entire Article; because of its length and since it appears elsewhere in this Synopsis, it is not repeated here. A number of terms (if not ideas) new to the Code are introduced, such as *usus conservandus,* rectotypification, parahomonymy. The provision for "rectotypification" would go farther than Prop. B (which also makes clear that a name may be conserved to conserve a particular type and hence usage), for it would give to the General Committee the authority for a "binding and final declaration" on typification of names. Furthermore, Prop. C extends the idea of conservation of usage to the specific level, allowing "rectotypification" of names of species "by decree of the General Committee" (see also Art. 55 Prop. B). At present, the General Committee is only a facilitator, not a court; giving it the right to issue "decrees"—particularly on typification of species—would be a very major establishment of precedent, apart from the practical matter of getting the Committee to function on such matters when most of its members are *ex officio.* (See Art. 75 Prop. F.)

The welcome distinction which Prop. C makes between orthographic variants and homonyms is also covered by other proposals, under Art. 75. The idea that the lists now comprising Appendices II and III of the Code might be separately published may merit serious discussion as a separate issue, although the Section is not in a position to direct any particular form other than in the Code itself.

Article 16

Prop. A (110 – Greuter, Comm. Autonyms, Taxon 30: 198): Delete the second half of Art. 16.1 (after the semi-colon) and Art. 19.3 including the examples and Note 1.

Comments Rapporteurs.—The proposal would exclude the names of taxa between the ranks of genus and family from the autonym rules. Another alternative for the problem of single-item names would be to consider the names of subfamilies, tribes, and subtribes as binary combinations of which the first element would be the family name. (However, a proposal to that effect [Art. 19 Prop. E] was rejected at Seattle, on grounds that such "combinations" were seldom formally made and there are no rules on making them.) The kind of problem which the proposal would solve is illustrated by the tribal names Lactuceae and Cichorieae, which can be correct names for exactly the same taxon, depending on whether it is attributed to the Compositae (Asteraceae) or a segregate family, Cichoriaceae. Worse, cases can be found where

the use of an autonym at these ranks, mandatory under the Code, is prevented by the existence of an earlier homonym.

Recommendation 16A

Prop. A (57 – Silva, Taxon 29: 344): Change Rec. 16A as follows: Insert "legitimate" before "name of an included genus."

Comments Rapporteurs.—The proposal extends above the rank of order the principle of Art. 17 Prop. A, which, if adopted, would make this relevant. However, adoption of the proposal would mean recommending not to use names such as Caryophyllidae, based on the conserved family name Caryophyllaceae, which is in turn based on the illegitimate generic name *Caryophyllus*.

Article 17

Prop. A (55 – Silva, Taxon 29: 344): Replace present wording of Art. 17.1 with the following:

"The name of an order or suborder is taken either from distinctive characters of the taxon (descriptive name) or from a legitimate name of an included family (automatically typified name). An ordinal name of the second category is formed by adding the termination *-ales* to the stem of the name of the family. A subordinal name of the second category is similarly formed, with the termination *-ineae*. Descriptive ordinal and subordinal names published after 1 Jan. 1983 are invalid."

Prop. B (59 – Silva, Taxon 29: 346): In Arts. 17.3, 18.4, and 32.4, insert "or date of publication" after "author's name."

Comments Rapporteurs.—The historical background of *Prop. A* is summarized with its publication, and notes irregularities never fully clarified after the Montreal Congress of 1959. The proposal is a step toward extending to the ordinal level the principle of names at ranks above genus based on legitimate family names and automatically typified. It also clarifies the alternative to the "If" of the present Art. 17.1. However, the wording is defective, and adoption in its present form would lead to names such as Leguminosales, Umbelliferales, etc., not acceptable to everyone. It would, furthermore, lead to the chimaeric Fabaceales, Apiaceales, etc. It would also add yet another new date limit to the Code.

Prop. B would add to the three Articles the same clarification regarding date of publication which was added to Rec. 16A at Leningrad, and can be referred to the Editorial Committee.

Article 18

Prop. A (45 – Rowley, Taxon 29: 341): Art. 18.1 to read:

"The name of a family is a plural adjective used as a substantive and treated as a plural noun . . ."

Prop. B (132 – Demoulin, Taxon 30: 243): Here and everywhere in the Code, replace "stem" by "radical."

Prop. C (133 – Demoulin, Taxon 30: 243): Replace Art. 18.1 as follows:

"The name of a family is a plural adjective used as a substantive; it is formed by adding the termination *-aceae* to the radical appearing in the genitive of a legitimate name of an included genus (see also Art. 10). (For the treatment of final vowels of radicals in composition, see Rec. 73G.) In case alternative genitives exist for a name the one used by the original author must be maintained.

"Botanical names in *-is* with a genitive similar to the nominative are also considered to have an alternative genitive in *-idis*. Example: *Orchidaceae* is not to be altered to *Orchaceae* despite the fact that the genitive *Orchis* is more classical."

Add to the examples: "*Berberidaceae* (from *Berberis*), *Sclerodermataceae* (from *Scleroderma*), *Rhodophyllaceae* (an illegitimate name, from *Rhodophyllus*), *Rhodophyllidaceae* (from *Rhodophyllis*)."

"*Note.* One should beware of the existence, beside feminine names in *-a,* genitive *-ae,* of neuter names in *-a* of Greek origin with the genitive in *-atis.* Similarly, names ending in *-on* are derived from Greek terminations in *-ον* or *-ων.* Names in *-ον* have a genitive in *-ου* latinized in *-i;* those in *-ων* in *-ονος* latinized *-onis* hence *Aextoxicaceae* (*Aextoxicon* from *τοξικον, -ου*) and *Aponogetonaceae* (*Aponogeton* from *γειτων, -ονος*). Cf. also dendrology and demonology.

In application of new Art. 18.1, change in the list of conserved family names: Bataceae to Batidaceae ("Batideae") and Capparaceae to Capparidaceae ("Capparides").

Comments Rapporteurs.—Prop. A. It is quite obvious from the present text (and well known to anyone familiar with Latin) that family names are grammatically plural nouns. The fact that they are often treated as singular when referred to in the English language is a regrettable barbarism, that should be fought by scientific editors, but is no business for this Code.

Prop. B may be considered independently of other proposals on orthography, but it is more than a mere substitution of a word. Because of differing definitions of "stem," the proposer argues that one may not always reach the orthographic conclusions intended by the Code, and "radical" is offered as being "not so precise" but as a word that "cannot be erroneously interpreted" (see arguments associated with Rec. 73G, Taxon 30: 134). Would the change to "radical" be made in Art. 16.2?

Prop. C. The proposed expansion of the first paragraph of this Article is intended to call "attention to the fact that different genitives may exist for a single name, in which case the choice of the original author is to be respected." A detailed text on the stems of generic names, to serve as compounding forms for family names, is inappropriate in Art. 18. One might wish to introduce some guidance of this kind into Art. 73; it might be useful for those forming the names of subdivisions of families, too. The last paragraph of the proposal deals with names already adopted through conservation—a procedure designed to retain names that are contrary to the rules; change in a rule does not automatically permit change in conserved names, which would have to be considered by the appropriate committees.

Article 19

Prop. A (33 – Darwin, Taxon 28: 584): Delete second sentence of Art. 19.6: "However, when the rank . . ."

Add as last sentence of text: "For author citation when the rank of a suprageneric taxon is changed, see Art. 61."

Delete second sentence of the example: "If it is held necessary . . ."

Prop. B (42 – Isely and Polhill, Taxon 29: 105): Add Note 2:

"When the Papilionaceae are included in the family Leguminosae (alt. name Fabaceae) as a subfamily, the name Papilionoideae may be used as an alternative to Faboideae (see Art. 18.5 and 18.6)."

Prop. C (87 – Brummitt & Chater, Comm. Autonyms, Taxon 30: 191): In Arts. 19.4, 22.2, and 26.2 delete the word "not" preceding the words "to be taken into consideration for the purposes of priority" and delete the sentence following this phrase. Add to each Article the sentence "An autonym is accepted as dating from the first valid publication of a name of another taxon at the same rank under the next higher taxon, whether or not the autonym appeared in print at that time." Delete the *Phyllanthus* example in Art. 22 and the *Campanula* example in Art. 26. Add an example to Art. 26: "*Heracleum sibiricum* L. (1753) includes *H. sibiricum* subsp. *lecokii* (Godron & Gren.) Nyman (1879) and *H. sibiricum* subsp. *sibiricum* automatically established by Nyman at the same time. When *H. sibiricum* was sunk into *H. sphondylium* L. (1753) as a subspecies by Simonkai (1887) a choice was available between the two subspecific epithets *sibiricum* and *lecokii* and the former was chosen. The correct name for the taxon is now *H. sphondylium* subsp. *sibiricum* (L.) Simonkai (1887)."

Prop. D (89 – Greuter, Comm. Autonyms, Taxon 30: 191): Replace Art. 19.3 to 19.5 and the Note 1 by the following:
"19.3 The first valid publication of a name of a family automatically establishes the name of a subfamily, of a tribe, and of a subtribe of that family, based on the same type and derived from the same generic name as the family name. Such names are termed autonyms (automatically established names). They are treated as having been validly published on the same date as the corresponding family name, even though they may not have been effectively published.
"19.4 The correct name of the subfamily, tribe, or subtribe that includes the type of the correct name of family is the correct name of family is the corresponding autonym, irrespective of the possible existence of other competing names. If a name coinciding with an autonym had been validly published earlier than the corresponding family name, the earlier version, with its appropriate date and author citation, takes the place and rights of the autonym.
"Note 1. If a legitimate name of a family is no longer considered to be correct, the corresponding autonyms compete for priority with any other legitimate names of the same rank that apply to the same taxon.
"19.5 The autonyms corresponding to the conserved name of a family are, by implication, similarly conserved."

Prop. E (95 – Brummitt & Chater, Comm. Autonyms, Taxon 30: 194): Amend Articles 19.4, 22.2, and 26.2 to eliminate the changes brought about by the acceptance of proposals 181–188 at the Seattle Congress. This would mean a return to the position of having compulsory autonyms throughout the nomenclatural hierarchy below the rank of family, but excluding subsections and lower divisions of genera (Art. 22), for all taxa which include the type of the correct name of the next higher taxon.

Comments Rapporteurs.—Prop. A restricts the wording in Art. 19, as in Art. 18, to the *formation* of names, deferring to Art. 61 the provisions governing change in rank. The Editorial Committee can be instructed to make this appropriate placement. See also comments on Art. 61.

Prop. B results from the unique situation in which two "irregular" family names (Papilionaceae and Leguminosae) are both conserved, with the same alternative name (Fabaceae). The proposal when published was accompanied by extraordinarily thorough documentation on usage regarding subfamily names. The provision should probably be a full paragraph, if accepted, not a mere Note. One may question, however, the wisdom of inserting yet another provision into the Code dealing with the application of a single name.

Prop. C represents in essence the position that autonyms should be considered as validly published, in contrast to the position taken at Seattle, that such names have no priority and are not, as such, transferable. Action on Prop. C (as well as Prop. D) thus has to be in agreement with action taken on Arts. 6 and 12 regarding the status of autonyms as "names." The same proposal was rejected on a card vote at Leningrad, but a special committee to consider autonyms was authorized; the committee is evenly divided on the proposal. Props. C and D and that portion of Art. 16 Prop. A relating to Art. 19 are mutually exclusive alternatives, while Art. 19 Prop. E is an independent issue. A practical argument of considerable weight is that priorability of autonyms would, in a large majority of cases, lead to the simultaneous validation of names with equal priority, where Art. 57.2 would eventually apply, i.e. the first author to unite the two taxa, choosing one of them, must be followed.

Prop. D is part of a four-part package including Art. 22 Prop. A, Art. 26 Prop. A, and Art. 32 Prop. C (see also Art. 46 Props. A & B). Full arguments accompany the original proposals elsewhere in this Synopsis. In contrast to Prop. C, this package would for nomenclatural purposes establish autonyms as validly published at the same time as valid publication of the name of a family, genus, or species, respectively. When voting on this proposal, one will have to consider the advantages of a clear, easy-to-handle, intrinsically logical nomenclatural system, and to weigh them against the disadvantages of considerable nomenclatural change that it will make necessary. Those maintaining, with the proposer, that the state of nomenclature at the ranks between family and genus (and at the ranks between genus and species, and at infraspecific ranks) is highly unsatisfactory, and that a major amount of change would also result from enforcement of the present rules, may favor this proposal. Those who believe that,

presently, the state of nomenclature at the ranks concerned is generally satisfactory, will presumably oppose the proposal.

Prop. E is the same as Prop. F to the Leningrad Congress, which was there tabled pending study by a special committee (the ad hoc one at the Congress being equally divided on the merits of the proposal). The special committee now recommends (4 to 1) that the Seattle action (Wood & Webster) be rescinded. However, this would by necessity require the adoption of Art. 21 Prop. B, since the so-called "universal autonym" rule cannot work under the current definition and use of names at the categories concerned. The Rapporteurs stated in the Leningrad Synopsis that the matters covered in what are now Props. C and E "should be carefully considered . . . for if action taken at the previous Congress has indeed proved to be ill-advised, then no further delay should occur in rescinding it before taxonomy or taxonomists become further confused. On the other hand, if the Seattle actions are reaffirmed at Leningrad, it will give them a firm status for future practice." Six more years have passed and the issues are before us again. Let us make a decision at Sydney and abide by it.

Note: Suggestions, explicitly said not to be formal proposals, regarding autonyms in Arts. 19, 22, & 26 were made by Reveal and Broome in Taxon 29: 498, for consideration by the Special Committee on Autonyms—which unanimously opposed them (the only unanimous opinion they expressed). Since no one has formally offered these "proposals" they are not included on the mail ballot.

Article 21

Prop. A (70 – Filgueiras, Taxon 29: 697): Revise Art. 21.3 to read:

"The epithet of a subgenus or section is inadmissible if it repeats the name of the genus to which it belongs with the prefix *Eu-*."

Prop. B (97 – Brummitt & Chater, Comm. Autonyms, Taxon 30: 194): Alter Art. 21.1 to read:

"The name of a subdivision of a genus is a combination of a generic name and one or more epithets connected by a term or terms (subgenus, section, series, etc.) denoting their rank. However, when one such epithet is transferred from one higher subdivision of a genus to another under the same generic name it is not necessary to alter the author citation."

Alter Art. 24.1 to read:

"The name of an infraspecific taxon is a combination of the name of a species and one or more infraspecific epithets connected by a term or terms denoting their rank. However, when one such epithet is transferred from one higher subdivision of a species to another under the same specific name it is not necessary to alter the author citation."

Prop. C (107 – Greuter, Comm. Autonyms, Taxon 30: 197): In Art. 21.3 delete the words "the terminations *-oides* and *-opsis*, or"

Comments Rapporteurs.—Props. A and C are in effect identical and would remove the prohibition against forming the epithet of a subgenus or section by adding *-opsis* or *-oides* to the name of a genus. The present provision prevents transfer of, e.g., a generic name like *Cenchropsis* as a subgenus or section of *Cenchrus*—if one considers the epithet to have been formed by "adding the termination" to the name of the genus [or would that have to be *Cenchrusopsis*?]. Are there arguments for retaining this provision? Or is it like the tautonym rule, often considered a mistake, but too well established to abandon with retroactive effect? The Committee on Autonyms favors the deletion.

Prop. B is necessary if Art. 19 Prop. E is accepted, and what it would do is to upset the position now in Arts. 21.1 and 24.1, and in accordance with the definition of a combination in Art. 6.7. If the proposal is nevertheless accepted it needs some editorial attention. In stating that it is "not necessary" to alter the author citation on change within a genus or species respectively, the new paragraphs imply that it is nevertheless permissible to alter the author citation—an undesirable option; and presumably the intent is to refer to citation *if the rank is not changed*—e.g., a variety assigned to a different subspecies of the same species requires no change in author citation; but a form under one subspecies when elevated to a variety under

a different subspecies (or the same) does require a formal new combination with change of author citation. Prop. B would effectively rule that, e.g., *Vicia sativa* subsp. *nigra* var. *cordata, V. sativa* subsp. *angustifolia* var. *cordata,* and *V. sativa* var. *cordata* are to be treated as three different names (while at present they are one name, *V. sativa* var. *cordata,* placed in different contexts of infraspecific classification and nomenclature). Validation of each of these names would have to occur separately, and each would lead to the establishment of a different autonym.

Article 22

Prop. A (90 – Greuter, Comm. Autonyms, Taxon 30: 192): Replace Art. 22.1 to 22.3 by the following:
"22.1 The first valid publication of a name of a genus automatically establishes the name of a subgenus and of a section [optional addition: of a subsection, of a series, of a subseries] of that genus, based on the same type as the generic name and bearing as epithet the generic name unaltered. Such names are termed autonyms (automatically established names). They are treated as having been validly published on the same date as the corresponding generic name, even though they may not have been effectively published.
"22.2 The correct name of the subgenus or section [optional addition: subsection, series, subseries] that includes the type of the correct name of a genus is the autonym based on that name, irrespective of the possible existence of other competing names and epithets.
"Note 1. The epithets of legitimate autonyms are available for transfer under other generic names, where they compete for priority with any legitimate epithets of the same rank that apply to the same taxon.
"22.3 The autonyms based on a conserved generic name are, by implication, conserved against the autonyms of the rejected generic name(s). The autonyms based on a rejected generic name are similarly rejected."

Prop. B (104 – Greuter, Comm. Autonyms, Taxon 30: 196): Alter Art. 22 by strict analogy with Art. 26 Prop. B as modified by Art. 26 Prop. C to cover names of subdivisions of genera.

Prop. C (109 – McNeill, Comm. Autonyms, Taxon 30: 197): Amend Art. 22.1 to allow the autonym rules to be extended to cover all subdivisions of a genus, including subsection and lower subdivisions."

Comments Rapporteurs.—Prop. A is part of the package beginning with Art. 19 Prop. D, but can also be accepted if Art. 16 Prop. A is preferred to Art. 19 Prop. D. The optional insertion in Prop. A would extend the rule to other recognized ranks between genus and species not presently covered by the autonym rule.

Prop. B, as Art. 26 Prop. B, aims at maintenance of the status quo but provides an improved wording. Props. B and C can be combined if both are accepted.

Prop. C would extend the present autonym rule to all infrageneric ranks. Similar to Art. 26 Prop. C, it aims at attaining consistency in the range of application of the autonym rules. Contrary to Art. 26 Prop. C, it would generalize the use of autonyms at all ranks between genus and species, rather than by restricting it to two ranks at the infraspecific level. The Committee on Autonyms did not receive this proposal in time to vote upon it. One consequence of extending the autonym rule here would be to prohibit such names as are now acceptable like *Oenothera* subsection *Euoenothera.*

Article 23

Prop. A (1 – Terrell, Taxon 26: 131): Replace Art. 23.4 as follows:
"Binomials regarded as tautonyms must be rejected. A binomial is regarded as a tautonym if the generic name and specific epithet are identical, with or without the addition of a transcribed symbol, or are orthographic variants as defined in Art. 75. Examples: *Linaria linaria, Nasturtium nasturtium-aquaticum, Inga ynga. Lycopersicon lycopersicum* has the orthographic variants *Lycopersicon lycopersicon, Lycopersicum lycopersicum,* and *Lycopersicum lyco-*

persicon. However, *Cajanus cajan, Samanea saman, Sesbania sesban,* and *Timonius timon,* which have uninflected specific epithets, are not likely to be confused. *Centaurea centaurium* is not likely to be confused."

Prop. B (46 – Rowley, Taxon 29: 341): Alter Art. 23.6 to:

"Words or symbols not intended as names."

Add as a further example:

"*Parodia pluricentralis* Backeb. & Brandt var. H-2 Brandt in Kakt. Orch. Rundschau 1975/76 (6): 85."

Under (c) Examples, line 7, alter "are" to "is".

Prop. C (118 – Fosberg, Taxon 30: 226): Add a Note to Article 23.6(c):

"The names published in the left-hand column in Stickman's Dissertation on the Herbarium Amboinense (1754) are not, for the purposes of this Code, considered as validly published, even though they are generally regarded as the work of, and ascribed to, Linnaeus."

Comments Rapporteurs.—As the author of *Prop. A* noted at the end of his original discussion, Art. 75, regarding orthographic variants, is in need of clarification. The present text of Art. 75 does *not* clearly define such variants, which are elucidated by example. Unless Art. 75 is made more precise, expanding the problem into Art. 23 via Prop. A might be a risk.

Prop. B. Although the example is not explicitly covered by the Code as it stands, some may think that explicit ruling on this is superfluous.

Prop. C. Few will disagree on the desirability of not regarding the Rumphius names quoted in the lefthand column of the Linnaeus/Stickman thesis as validly published. However, most will regard these names as invalid under Art. 34.1(a), since they were not accepted by Linnaeus upon publication. Since the proposed Note (really an example) is anyhow out of place under Art. 23 (dealing with specific names only), it is suggested that the Editorial Committee might be instructed to include the Rumphius names in the *Herbarium Amboinense* as an example under Art. 34.1(a).

Article 25

Prop. A (15 – IMC², Taxon 28: 426): Art. 25.1 to read:

"For nomenclatural purposes, a species or any taxon below the rank of species is regarded as the sum of its subordinate taxa, if any. *This applies also to a taxon of holomorphic fungi governed by Art. 59, which is regarded as including its correlated form-taxa.*"

Comments Rapporteurs.—The wording depends on the terms to be used in Art. 59 and should similarly be considered by the Committee for Fungi and Lichens.

Article 26

Prop. A (91 – Greuter, Comm. Autonyms, Taxon 30: 193): Replace Art. 26.1, 26.2, and 27.1 by the following:

"26.1 The first valid publication of a name of a species automatically establishes the name of a subspecies and of a variety [optional addition: of a subvariety, of a forma, of a subforma] of that species, based on the same type as the specific name and bearing as final epithet[1] [footnote unchanged] the specific epithet unchanged. Such names are termed autonyms (automatically established names). They are treated as having been validly published on the same date as the corresponding specific name, even though they may not have been effectively published.

"26.2 The correct name of the subspecies or variety [optional addition: subvariety, forma, subforma] that includes the type of the correct name of a species is the autonym based on that name, irrespective of the possible existence of other competing names and epithets.

"Note 1. The epithets of legitimate autonyms are available for transfer under other specific names where they compete for priority with any legitimate epithets of the same rank that apply to the same taxon."

Prop. B (103 – Greuter, Comm. Autonyms, Taxon 30: 196): Change Art. 26.1 to read as follows after the first sentence: "Such a name is termed an autonym (automatically established name). It need not be validly nor even effectively published but is available any time it is needed. Its type is the same as that of the correct name of the species. It is not to be taken into consideration for purposes of priority.

"Note 1. This provision does not apply to the names of infraspecific taxa that do not include the type of the correct name of the species, although they may include the type of the correct name of a higher ranking infraspecific taxon. The names of such taxa are subject to the rule of priority; they may repeat the name of the corresponding higher ranking infraspecific taxon, followed by an appropriate author citation, if there is no obstacle under the rules."

Prop. C (108 – Greuter, Comm. Autonyms, Taxon 30: 197): Change the first sentence to read "The name of a subspecies or variety which includes . . ." and add a Note:

"This provision does not apply to the names of taxa of lower rank than variety, nor to the names of varieties that do not include the type of the correct name of the species, although they may include the type of the correct name of a recognized subspecies. The names of such varieties are subject to the rule of priority; they may repeat the name of the subspecies, followed by an appropriate author citation, if there is no obstacle under the rules."

Comments Rapporteurs.—Prop. A is analogous to Art. 19 Prop. D and Art. 22 Prop. A and is part of the same package. Omission of the optional insertions would restrict application of autonyms to the ranks of subspecies and variety, in contrast to the present rule, which requires them at all infraspecific levels.

Prop. B is not intended to change the present rules. It parallels Art. 22 Prop. B (especially if combined with Prop. C), and makes clear, among other things, when repetition of an epithet is permissible with appropriate author citation under the usual conditions of valid publication. It includes the definition of *autonym* that has been separately proposed (Art. 6 Prop. D).

Prop. C parallels Art. 22 Prop. B (without amendment through Prop. C). It restricts the obligatory use of autonyms to the principal infraspecific ranks of subspecies and variety.

Article 28

Prop. A (119 – Tjaden, Taxon 30: 227): Add to the Examples:

"Cultivar epithets may also be preceded by the abbreviation 'cv.,' in which case the epithet is not placed in quotation marks, e.g. *Taxus baccata* cv. Variegata, etc."

Comments Rapporteurs.—This can be referred to the Editorial Committee, to provide examples of both acceptable ways of citing cultivar names.

Article 29

Prop. A (60 – McNeill, Taxon 29: 475): Add new paragraphs 29.6 and Note 1:

"On or after 1 Jan. 1982, publication in (i) a separately issued work (e.g. a book, thesis, pamphlet or separate from a periodical or other work), (ii) one of the first five issues of a new periodical or indefinitely continuing serial or one of the issues during its first two years of publication (whichever covers the longer period) or (iii) any privately published work, is only effective if each separately issued part contains (i) an explicit statement that it is intended to be effectively published under the International Code of Botanical Nomenclature, (ii) a list of at least three botanical institutions in at least three different continents to which copies of the publication have been distributed and (iii) the date on which this distribution was made.

"*Note 1,* Art. 29.6 applies whether the work concerned is traditionally printed, xerographed from microfilm or produced in any other way that satisfies the other requirements of Arts. 29 and 31."

Add a new paragraph to Rec. 29A:

"For distribution of works covered by Art. 29.6, authors are urged to select botanical institutions likely to ensure that their publication is made known and available to botanists

generally; the authorities of institutions receiving these works should ensure that new taxa, new names and new combinations included therein are made known to appropriate, internationally distributed, abstracting and indexing media."

Add the following at the end of Art. 31 Note 1: "provided it meets the requirements of Art. 29.6."

Prop. B (61 – McNeill, Taxon 29: 475): A special committee be set up to consider (i) the status of publications distributed prior to 1 Jan. 1982 either by exchange or gift or in a form other than that produced by traditional printing processes, (ii) the preparation and maintenance of a list of periodicals and serials that represent the normal media for effective publication and hence could be exempted from the specific requirements of the new Art. 29.6 and (iii) any other problems relating to effective publication.

Prop. C (62 – McNeill, Taxon 29: 475): Amend Art. 29.5 to ensure that it covers all taxonomic novelties, either (i) by making the first line read: "29.5 Publication on or after 1 Jan. 1953 of a new taxon, a new name or a new combination in tradesmen's catalogues . . ." or else: (ii) by deleting "of a new name" in line 1.

Prop. D (63 – Brummitt, Taxon 29: 483): In Art. 29.1, before the word "communication" insert "verbal," and after "public" insert "or private."

Prop. E (64 – Brummitt, Taxon 29: 483): Delete the last phrase of Art. 29.1 from "or by the issue of microfilm . . ." and replace Art. 29.4 by the following: "Printed matter is here interpreted as any non-autographic matter reproduced in multiple identical copies by a mechanical process, including offset lithography, mimeographing, xerox copying, photocopying and production of multiple top copies by an automatic typewriter. It does not include handwritten material reproduced by a mechanical or graphic process after 1 Jan. 1953, or a single top copy plus carbon copies produced by a nonautomatic typewriter, or microfilm."

Prop. F (65 – Brummitt and Hara, Taxon 29: 483): A Special Committee on Effective Publication shall be set up to consider the possibility of introducing into Arts. 29–31 certain restrictions on effective publication. The Committee should pay particular attention to theses, symposium hand-outs and other printed matter with very restricted circulation or inadequate bibliographical documentation."

Prop. G (67 – Hara and Eichler, Taxon 29: 515): Add to Art. 29.1:

"Publication on or after Jan. 1982 of any new names in independently issued theses for degrees does not constitute effective publication.

"Note. New names included in a thesis which is effectively published by its inclusion in a journal or book meeting the requirement implied in Recommendation 29A are validated at the date of issue of the journal or book and not at the date of independent distribution of the thesis."

Comments Rapporteurs.—It is clear that modern technology has long since passed far beyond the simple concept of "printed matter" in Art. 29. The history of the problem and the urgent need for settling the status of matter produced in multiple copies are well covered in the discussions accompanying publication of Props. A–F.

Prop. A offers the greatest amount of detail in defining effective publication. The last stated requirement might prove very difficult, for problems with editorial, printing, and mailing schedules of journals (especially new ones!) often make it impossible to know the exact date of mailing early enough to have it printed in the publication itself. Also difficult could be the definition of a "botanical" institution in association with such specific requirements (e.g., the British Museum or Smithsonian Institution might appear not to qualify). It may be felt that the matter is too complex for immediate decision and should be referred to a special committee for study.

Props. B & F actually propose the establishment of such a committee. A *yes* vote will favor

such a committee. If established, this committee could deal with all aspects specified in these proposals and with any other proposals on effective publication referred to it by the Section.

Prop. C appears to be superfluous. The present "a new name" covers a name at any rank, whether a combination or not.

In *Prop. D*, "oral" might be better than "verbal" which really means "in words" and does not clearly address the issue (despite much usage as a synonym of "oral"), but the proposal can be referred to the Editorial Committee.

Prop. E would provide a clearer definition of printed matter than we now have. It could also be referred to a committee if established under Props. B and F.

The aim of *Prop. G* is to rule that theses for degrees are not effectively published unless they are in a journal or book. But what then is a book? Should not Art. 29 deal with effectiveness of publication and not the purpose for which a manuscript was produced? The question of whether or not theses should be given special treatment with respect to effective publication might also be referred to a special committee.

It might be noted that none of the proposals on Art. 29 clearly address the apparent conflict between Art. 29.1, which defines effective publication as "only by *distribution*" of printed matter, and Art. 29.2, which implies that mere "offer for sale" rather than actual distribution constitutes publication.

Article 32

Prop. A (38 – Meikle, Taxon 28: 601): Art. 32 to read:

"32.1 In order to be validly published, a name of a taxon must (a) be effectively published (see Art. 29); (b) have a form which complies with the provisions of Arts. 16–27 and Art. H.7; (c) be accompanied by a description or diagnosis or by a reference (direct or indirect) to a previously and effectively published description or diagnosis (except as provided in Art. H.9); and (d) comply with the special provisions of Arts. 33–45.

"32.2 A name validly published by reference to a previously and effectively published description or diagnosis is to be typified by an element incorporated in the protologue which includes the validating description or diagnosis."

[32.2 of Leningrad Code becomes 32.3]

32.3 of Leningrad Code becomes 32.4 and reads: "An indirect reference is a clear indication, by the citation of an author's name or in some other way, of the existence of a previously and effectively published description or diagnosis."

[Art. 32.4 of Leningrad Code becomes Art. 32.5]

Prop. B (126 – Johnson, Briggs, & Blaxell, Taxon 30: 232): Change the first line of Art. 32.1 to read: "In order to be validly published, a name of a family, genus, species, or subspecies must (a) be effectively . . ." Change the first line of Art. 34.1 to read: "A name of a family, genus, species, or subspecies is not validly published (a) . . ."

Prop. C (92 – Greuter, Comm. Autonyms, Taxon 30: 193): Add a parenthesis to the first line of Art. 32.1, to read: ". . . a name of a taxon (autonyms excepted) . . .". Add a new sentence at the end of 32.1 (or a new 32.5) to read: "The sole requirement for autonyms (see Art. 16.1, 19.3–5, 22.1–3, 26) to be validly published is that the corresponding family, genus, or species name must be validly published."

Comments Rapporteurs.—The intention of *Prop. A* is to "rescue" names, such as the detailed example in the proposal, which are validated by reference to a previous description that does not apply to the taxon in the hands of the validating author. The proposed changes are deletion of "of it" in 32.1, the new 32.2, and a change in 32.3 from the present requirement that the previous description or diagnosis "applies to the taxon." The first of these changes, however, might have far-reaching consequences, especially at the suprageneric level, where no provision analagous to the present Art. 41.1 exists. Also, the proposed wording of the new 32.2 and the modified 32.3 would require editorial attention, if the proposal is adopted.

Prop. B is really dependent on action on Art. 11 Prop. B or C, the argument being that the

concept of validity "is of little importance except in relation to priority" and if certain ranks are removed from the priority principle, then the requirement of valid publication may be removed for the same ranks. (Should Art. 11 Prop. C be accepted, the Editorial Committee will assuredly adjust the wording of Art. 32 Prop. B accordingly.)

Prop. C is part of the package including Art. 19 Prop. D, Art. 22 Prop. A, and Art. 26 Prop. A, and fits into the existing regulations the new principle that would be established regarding valid publication of autonyms.

Article 33

Prop. A (47 – Rowley, Taxon 29: 341): Art. 33.2 in line 6 alter: "page or plate reference and date." to "page or pages or plate reference, as appropriate, and date."

Prop. B (48 – Rowley, Taxon 29: 342): A further refinement in Art. 33.2: "In lines 4–5, alter 'indicated' to 'cited.' "

Prop. C (49 – Rowley, Taxon 29: 342): Alter the last sentence of Art. 33.2 to read:

"Bibliographic errors of citation, and citation of a later synonym in place of the earliest basionym, do not invalidate the publication of a new combination."

Then add to the examples:

"*Sulcorebutia ambigua* (Hildm. ex K. Schum.) F. Brandt was founded upon *Weingartia ambigua* (Hildm. ex K. Schum.) Backeb., whereas the basionym of both names is *Echinocactus ambiguus* Hildm. ex K. Schum."

Prop. D (52 – Silva, Taxon 29: 343): Add note (Note 2) to Art. 33.3:

"When the author of a legitimate substitute name has designated a type different from the type of the replaced name, the substitute is to be considered the name of a new taxon rather than a *nomen novum*.

"Example: *Iridophycus* Setch. & Gardn. (Proc. Natl. Acad. Sci. U.S.A. 22: 469. 1936), although intended as a substitute for the later homonym *Iridaea* Bory (Dict. Class. Hist. Nat. 9: 15. 1826), is to be considered a new genus since its authors designated *Iridaea capensis* J. Agardh as type instead of *Fucus cordatus* D. Turner, the lectotype of *Iridaea*."

Comments Rapporteurs.—Prop. A is designed to avoid any unnecessarily restrictive interpretation that only a single page must be cited lest a basionym reference be invalid (a seeming contradiction to the phrase "full and direct reference"); furthermore, some works lack page numbers completely, depending, e.g., on an alphabetical arrangement for reference. The present requirement of "page . . . reference" is presumably intended simply to require reference to the appropriate page or pages and not to an entire volume; "page" in this phrase is an adjective, not a noun and does not connote any number of pages.

Prop. B is a definite improvement in wording. (On a similar matter of "indicate" vs. "cite" vs. "designate" see Silva in Taxon 29: 343 sub Prop. 54; see also Art. 37 Prop. A.)

Prop. C would make explicit what appears in fact to be common practice although it is not apparently stated in the Code. It would be especially useful if "indicated" were changed to "cited" as envisaged in Prop. B.

Prop. D is confusing, like Art. 7 Prop. B, because it introduces the term "substitute name" in a sense that is different from the currently accepted term "avowed substitute" (=*nomen novum*). The proposal appears to be superfluous because a name for which a definite type is indicated cannot be a *nomen novum* as defined in Art. 7.9.

Article 34

Prop. A (8 – Lowry & Jones, Taxon 26: 568): Add the following paragraph:

"Such names published before 1 Jan. 1953 are validly published. The first author to make a definite choice of one name from among those proposed simultaneously, thus rejecting the others, must be followed."

[N.B. Prop. 9 by the same authors was withdrawn (Taxon 27: 550).]

Prop. B (16 – IMC², Taxon 28: 426): Renumber Art. 34.3 as 34.4, and add the following new 34.3:

"Provision 34.3 [sic = 34.1b?] does not apply to names for anamorphs of fungi published in holomorphic genera in anticipation of the discovery of a particular kind of teleomorph [see Art. 59, Ex. (b)]."

Prop. C (17 – IMC², Taxon 28: 426): Renumber Art. 34.4 as 34.5, delete "(but see Art. 59.2)", and place full stop after "validly published".

Prop. D (18 – IMC², Taxon 28: 426): Add new paragraph 34.6:

"Names for form species of holomorphic fungi regulated by Art. 59 are not alternative names in the sense of this Article and are not proscribed by this regulation. Although form-species etc. may be parts of the life cycle of holomorphic fungi, form-taxa and holomorphic taxa differ in circumscription so that they are not 'the same taxon'.

"Example, *Lasiophaeria elinorae* Linder 1929, is a nomen holomorphosis, published simultaneously with the nomen anamorphosis, *Helicosporium elinorae* Linder, for what Linder considered to be a correlated form species. Both are validly published and legitimate, with a different type and circumscription, the circumscription of the former taxon considered to include the latter, but not vice versa."

Prop. E [not assigned]

Prop. F (155 – Brummitt, Taxon 30: 257): In Art. 34.1, delete "(c) when it is merely mentioned incidentally," and delete 34.3 which attempts to define "incidental mention."

Prop. G (88 – Brummitt & Chater, Comm. Autonyms, Taxon 30: 191): Add a ruling, perhaps under Art. 34, that autonyms can only be established by the valid publication of a new name or combination for a taxon at the same rank which does not include the type of the name of the next higher taxon; they are not established by publication of a contraction of a name involving more than two ranks. Example: Publication of the name *Saxifraga aizoon* subforma *surculosa* Engler & Irmscher as a contraction of *S. aizoon* var. *aizoon* subvar. *brevifolia* forma *multicaulis* subforma *surculosa* Engler & Irmscher, as allowed in Art. 24.1, does not establish the name *S. aizoon* subforma *aizoon*.

Prop. H (98 – Brummitt & Chater, Comm. Autonyms, Taxon 30: 195): Add a ruling, perhaps under Art. 34, that establishment of an autonym for a taxon below generic rank which does not include the type of the name of a genus or species does not constitute valid publication of a new combination of the genus or species name with the final epithet of the autonym. Example: When Hitchcock (Univ. Wash. Publ. Biol. 17(2): 132. 1964) established the autonym *Eriogonum strictum* Benth. subsp. *proliferum* (Torr. & Gray) Stokes var. *proliferum* he did not thereby validly publish the combination *E. strictum* var. *proliferum*.

Prop. I (105 – Greuter, Comm. Autonyms, Taxon 30: 196): Change Art. 34.4 to read after the first sentence: "This rule does not apply in those cases where the same combination is simultaneously used at different ranks, either for an infraspecific taxon within a species or for a subdivision of a genus within a genus (see Rec. 22A.1–2, 26A.1–3)."

Comments Rapporteurs.—Prop. A correctly concludes that alternative names published before 1 Jan 1953 are validly published, but to state that the first author to make a choice "must be followed" would legislate taxonomic opinion unless the position and rank of the names were the same; note the examples to Art. 34.4, which involve alternative names in different genera, or cases of alternative names at different ranks, such as subspecies and variety.

Props. B–D are associated with the proposed revision of Art. 59, and all will be considered

by the Committee for Fungi and Lichens. However, Props. B and D may be superfluous, while C is purely editorial.

Prop. F was published with a renewed plea for an example of a name to be rejected *solely* because it is mentioned "incidentally" and which cannot be rejected on failure to fulfill one or more other requirements of Arts. 32–34. The Code nowhere states how good a description must be to validate a name; many supposed examples of incidental mention are merely nomina nuda, but those accompanied by descriptive matter can be considered like any other name with possibly inadequate description. Concerning the examples on which the proposer solicits our comments, all published "incidentally" in the usual sense of the word, all appear to meet the other requirements of valid publication—however sketchily—and are currently accepted. The provision as it stands can be dangerous and at best is useless, so far as anyone has thus far been able to document. The same proposal was discussed at Leningrad (Report, pp. 151–152) and defeated (not overwhelmingly) on a card vote paralleling the mail vote. It has the sympathy of the Editorial Committee!

Prop. G presupposes adoption of Art. 21 Prop. B and the correlated Art. 19 Prop. E. As the Code now stands, in the example the autonymous "subforma *aizoon*" was created when "subforma *surculosa*" (or any other subforma) was *first* validly published, regardless of whether other infraspecific ranks were intercalated.

Prop. H presupposes the adoption of Art. 19 Prop. E and the correlated Art. 21 Prop. B. It illustrates the complexities to which those proposals must lead us.

Prop. I is intended to avoid an apparent conflict of Art. 34.4 with the cited Recommendation (and with current practice).

Article 35

Prop. A (39 – Darwin, Taxon 28: 602): Change the first sentence of 35.2 to read:

"A new combination published before 1 Jan. 1953 without a clear indication of rank . . . ."

Add the following paragraph: "New names published before 1 Jan. 1953 for taxa with an intended rank evidently higher than genus, but the exact rank not given, are not validly published. Valid publication of such names, provided that all other requirements for valid publication have been fulfilled, is accomplished by the first author to assign a definite rank (see Art. 45.1). Such names have priority from the time of rank assignment and are attributed solely to the rank-assigning author."

Add the following example: "Under the family *Asclepiadaceae,* Reichenbach (Handb. Nat. Pflanzensyst. 208. 1837) published the name *Stapelieae,* based on the genus *Stapelia* L., for a taxon of unspecified rank above genus. Reichenbach's name has no priority over Endlicher's (Gen. Pl. 595. 1838) tribe *Pergularieae,* based on the genus *Pergularia* L. and including *Stapelia* L. The date of publication for the tribal name *Stapelieae* Bentham is 1868 (Fl. Austral. 4: 325); for the subtribal name *Stapeliinae* G. Don the date is 1838 (Gen. Hist. Dichl. Pl. 4: 106)."

Comments Rapporteurs.—The proposal was intended to supplement the revisions made in Art. 35 at Leningrad, which are appropriate only at ranks below that of genus, where Art. 64.3 covers homonymy. However, it overlooked the fact that the terminations indicate the rank of suprageneric names and it is not necessary to add a term denoting rank.

Article 37

Prop. A (201 – McNeill, Taxon 30: 286): In line 2 of Art. 37.1 replace "family" by "genus" and "indicated" by "designated." In line 1 of Rec. 37A.1 replace "indication" by "designation."

Comments Rapporteurs.—The proposal results from the fact that under the present Code typification of a suprageneric name is automatic and formal designation of a type is unnecessary. It is therefore justified to exclude mention of these names under this Article. This would furthermore permit replacing the vague words "indication of a type" by the more precise

"designation" (which is appropriate at the lower ranks). (Surely requiring citation of a type to validate a family name is one of the "archaic provisions" contemplated by Proskauer, Taxon 17: 584, in his general proposal to the Seattle Congress!)

Recommendation 37B

Prop. A (30 – IMC², Taxon 28: 429): Recommendation 37B to become Article 37A.

Comments Rapporteurs.—Acceptance of this proposal would retroactively invalidate thousands of names.

Article 41

Prop. A (79 – Committee for Spermatophyta, Taxon 30: 159): Add at the end of Art. 41.1 the following: "or if the conditions specified in Art. 42 apply."

Comments Rapporteurs.—This would remove any apparent contradiction with the special provisions of Art. 42, and could be referred to the Editorial Committee.

Article 42

Prop. A (78 – Committee for Spermatophyta, Taxon 30: 159): Replace Art. 42.1, 42.2, 42.3, and 42.4 by the following:

"The names of a genus and a species may be simultaneously validated by provision of a single description (*descriptio generico-specifica*) or diagnosis, even though this may have been intended as only generic or specific, if all of the following conditions obtain: (1) the genus is at that time monotypic—see note below; (2) no other names (at any rank) have previously been validly published based on the same types; and (3) the names of the genus and species otherwise fulfil the requirements for valid publication. Reference back to an earlier description or diagnosis may not be accepted as provision of such a description or diagnosis. Prior to 1 January 1908 the provision of an illustration with analysis, or for microscopic plants a single figure showing details aiding identification, may be accepted in place of a written description or diagnosis.

Examples: [Existing examples of *Strophioblachia, Piptolepis,* and *Philgamia.*] In publishing the name *Phaelypea* without a generic description P. Browne (Hist. Jamaica 269. 1756) included and described a single species, but he gave the species a phrase-name and did not provide a valid binomial. Art. 42 cannot therefore be applied and the name *Phaelypea* is a nomen nudum and so is not validly published.

Note 1. In this context a monotypic genus is one for which a single binomial is validly published, even though the author may indicate that other species are attributable to the genus.

Note 2. An analysis in this context is a figure or group of figures, commonly separate from the main illustration of the plant (though usually on the same page or plate), showing details aiding identification, with or without a separate caption."

Prop. B (209 – Demoulin, Taxon 30: 292): In Art. 42.4 and 44.2 replace "microscopic" by "non-vascular."

Comments Rapporteurs (see also Art. 44 Prop. A).—*Prop. A* results from extensive deliberations by the Committee for Spermatophyta, based on actual cases of *nomina conservanda proposita* to come before it. (See discussion in the Committee report in this Synopsis.) The proposal is designed to clarify and make more precise the application of Art. 42, not to incorporate significant changes, although admittedly the effect on names already rejected under the present wording is not certain. At least the new text would help to remove existing ambiguities for the future. The proposed Note 2, not really a Note, would be more appropriately placed under Art. 44, with a cross reference here; this, however, is an editorial matter.

Prop. B extends the coverage of the relevant provisions to all non-vascular plants, not merely

"microscopic" ones; the special committees for these groups may wish to offer opinions as to whether the provision would be helpful. Are there names of non-vascular, non-microscopic plants which have been rejected in the past but which would be resurrected if this proposal is accepted? It can well be argued that the illustration of analytical details, such as e.g. basidia, spores, or the peristome of musci, is just as essential a feature for validation as is the illustration of e.g. flowers or flower organs.

Article 44

Prop. A (80 – Committee for Spermatophyta, Taxon 30: 159): In Article 44.1 and 44.2 delete "showing essential characters" and insert instead "(see Art. 42, Note 2)."

Comments Rapporteurs.—The wording of the last sentence of Art. 42 (Prop. A) will depend on action on this proposal, with which the proposed text of Art. 42 is in agreement. The issues are deleting the qualification regarding "essential characters," which depends on personal judgment, and the definition of "analysis."

Article 45

Prop. A (58 – Silva, Taxon 29: 345): Replace present wording of Art. 45.4 and the example with the following:

"If a taxon originally assigned to a group not covered by this Code is transferred to a group of plants other than algae, the authorship and date of any of its names is determined by the first publication that satisfies the requirements for valid publication under this Code. If the taxon is tranferred to the algae, any of its names need satisfy only the requirements of the pertinent non-botanical code for status equivalent to valid publication under the botanical Code. (But see Art. 65, regarding homonymy.)

"Examples: *Petalodinium* J. Cachon et M. Cachon (Protistologica 5: 16. 1969) was properly published under the International Code of Zoological Nomenclature as the name of a genus of dinoflagellates. When the taxon is transferred to the algae within the plant kingdom, its name retains its original authorship and date even though the original publication lacked a Latin diagnosis.

"*Labyrinthodyction* Valkanov (Progr. Protozool. 3: 373. 1969), although properly published under the International Code of Zoological Nomenclature as the name of a genus of rhizopods, is not valid when the taxon is transferred to the fungi within the plant kingdom because the original publication lacked a Latin diagnosis.

"*Protodiniferidae* Kofoid et Swezy (Mem. Univ. Calif. 5: 111. 1921), properly published under the International Code of Zoological Nomenclature, is acceptable as a name of a family of algae with its original authorship and date but with the termination changed to *-aceae* (in accordance with Arts. 18.4 and 32.4)."

Prop. B (206 – Greuter, Taxon 30: 289): Add a new sentence at the end of Art. 45.1: "However, the name must always be explicitly accepted in the place of its validation."

Prop. C (297 – Greuter, Taxon 30: 289): In Art. 45.1, change "1973" to "1953."

Comments Rapporteurs.—Prop. A modernizes the awkward rewriting of this paragraph following the Leningrad Congress, removing the obsolete reference to the "form" of a name, removing reference to words (which could change) used in other Codes, adopting wording consistent with the definition of validity in the Botanical Code, and recognizing that there is more than one non-botanical Code. The whole proposal could be referred to the Editorial Committee.

Prop. B is designed to eliminate the possibility of validation of a name not accepted by the validating author, or not even cited by that author. Under the present wording of the Code it would, e.g., be possible to validate a formerly invalid name while citing it in synonymy, which would be in conflict with Art. 34.1 (a) and (d).

Prop. C would employ the same date requiring "full and direct reference" as already is required in Art. 33.2 to validate a *comb. nov.* or *nom. nov.*

Article 46

Prop. A (93 – Greuter, Comm. Autonyms, Taxon 30: 194): Delete the last portion ("unless the provisions for autonyms apply") and the cross-reference.

Prop. B (94 – Greuter, Comm. Autonyms, Taxon 30: 194): Add a new Art. 46.2:

"The names of authors to be cited for autonyms are the same as for the name of the corresponding higher ranking taxon under which they are placed. However, authors' names need not be repeated after an autonym, at an infrageneric rank, if they are cited after the name of the higher ranking taxon. "Example: *Quercus perennis* subsp. *perennis* (L.) Tutin, Tea Phytologist (Sonderheft):5 (1977), may also be cited as *Quercus perennis* (L.) Tutin subsp. *perennis*.

Comments Rapporteurs.—Props. A and B deal with the question of author citation if the status of validly published is granted to autonyms. Although proposed along with the package beginning with Art. 19 Prop. D, they (or a similar provision) would deserve consideration if *any* proposal to alter the status of autonyms is accepted. Prop. B offers some flexibility which may be welcome, as the alternatives are not fundamentally different.

New Recommendation 46A.bis

Prop. A (86 – Special Committee, Taxon 30: 179):

"1. In citing the author of the scientific name of a taxon, the romanization of the author's name(s) given in the original publication should normally be accepted. Where an author failed to give a romanization, or where an author has at different times used different romanizations, then the romanization known to be preferred by the author or that most frequently adopted by the author should be accepted. In the absence of such information the author's name should be romanized in accordance with an internationally available standard.

"2. Authors of scientific names whose personal names are not written in Roman letters should romanize their names, preferably (but not necessarily) in accordance with an internationally available standard and, as a matter of typographic convenience, without diacritic marks. Once authors have selected the romanization of their personal names, they should use it consistently thereafter. Whenever possible, authors should not permit editors or publishers to change the romanization of their personal names."

Comments Rapporteurs.—This proposal is the concise result of the extensive deliberations of a special committee appointed on direction of the Nomenclature Section at the Leningrad Congress. The entire report of the committee explains and documents at length why legislation on the matter of authors' names is not feasible, the present proposal being only a Recommendation—but one endorsed by a diverse committee which gave a great deal of study to the subject. Basically, the Recommendation asks authors to be consistent in the romanization of their names and asks others to accept such authors' decisions. It should be noted that, like the rest of the Code, the Recommendation is restricted to scientific names of plants and their citation—not to romanization of place names, titles, or data processing. The Recommendation could be a new one, 46G, for more regular numbering.

Article 48

Prop. A (2 – Nicolson, Taxon 26: 570): Revise the text and example of Art. 48.1 to read:

"When a later author refers to and adopts an existing name but explicitly excludes the original type of the name, he is considered to have published a later homonym that must be ascribed solely to him. Explicit exclusion may be accomplished by explicit inclusion of the type in another taxon by the same author.

"Example: Sirodot (1872) placed the type of *Lemanea* Bory (1808) in *Sacheria* Sirodot (1872), hence *Lemanea*, as treated by Sirodot (1872), is to be cited as *Lemanea* Sirodot and not *Lemanea* Bory *emend.* Sirodot."

Prop. B (3 – Nicolson, Taxon 26: 571): Transfer the revised text of 48.1 and its example to Article 64.

Prop. C (4 – Nicolson, Taxon 26: 571): Transfer the text of Art. 48.2 with its example and use it to replace the present text of Article 14, Note 6.

Prop. D (153 – Brummitt, Taxon 30: 256): Reword Art. 48.1 to read:
"When an author circumscribes a taxon in such a way as to exclude the original type of the name or apparent basionym he applies to it, he is considered to have published a new name which must be ascribed solely to him. If this is identical with the original name it is a later homonym."

Comments Rapporteurs.—Prop. A offers no change in principle, but avoids referring to circumscription in favor of stress on typification of names; it also seeks to avoid any interpretation that a simple misapplication should be treated as creating a homonym.

Prop. B would transfer 48.1 from the section on citation of authors' names to the Article on homonyms in the section on rejection of names. A cross reference could be added in Art. 47.

Prop. C would transfer 48.2 to replace Art. 14 Note 1 [not 6], in the provisions for conservation. Adoption of Props. B & C would therefore leave nothing in Art. 48. Both are really editorial.

Prop. D extends Art. 48.1 to cover an intended new combination or change in rank, and sharpens the statement of what constitutes a homonym. This is already implicit in the Code. The proposal does not stress, as does Prop. A, the *explicit* exclusion of the type, and although the respective proposers had different emphases in mind, features of Props. A and D might well be combined by the Editorial Committee into an effective rewording of the paragraph. The argument for Prop. D suggests an example in *Amorphophallus*.

Article 49

Prop. A (34 – Darwin, Taxon 28: 584): Add the following sentence to the text: "Parenthetical author citation is not used after names of suprageneric taxa (see Art. 61)."

Comments Rapporteurs.—This proposal seeks to establish the position that citation of parenthetical authorities after suprageneric names is needed neither for typification (which is automatic) nor determination of priority (which does not always apply); such names are not combinations as defined in Art. 6.7, and when a change in rank or position is made, there is no true basionym. In the case of names of a rank not higher than family, however, the parenthetical authority citation may be thought useful when it refers to the source of the validating description. The Code nowhere states that parenthetical authorities are to be used under these conditions, although they appear in the examples to Art. 61. If this proposal is not accepted, then presumably parenthetical authorities *are* to be cited after suprageneric names, and an explicit addition to Art. 49 might be considered, to provide for citation of the author of the original name (in parentheses) followed by the name of the author who effects the alteration by providing the correct termination.

Article 55

Prop. A (121 – Tjaden, Taxon 30: 227): Reword the first line of Article 55.2 as follows: "When a species has been transferred to another genus and the specific epithet has been applied . . ."

Prop. B (195 – Parkinson, Taxon 30: 281): Add the following to Art. 55.2: "Useful exceptions to this rule are to be tolerated if rectotypified (Art. 14.4)."

Comments Rapporteurs.—Prop. A may be referred to the Editorial Committee by those who feel that the present wording is unsatisfactory.

Prop. B would be a logical addition if the procedure for "rectotypification" included in Art. 14 Prop. C were to be accepted. It is, of course, a radical change in the long-standing rule that a new combination and its basionym have the same type.

Article 57

Prop. A (68 – Kerguélen, Taxon 29: 516): Remplacer la première partie de l'exemple donné sous l'Art. 57.2 (*Triticum*) par:

"Mérat (Nouv. Fl. Env. Paris, ed. 2, 2: 36. 1821) a réuni *Triticum aestivum* L. (Sp. Pl.: 85. 1753) et *T. hybernum* L. (Sp. Pl.: 85. 1753) en une seule espèce en choisissant un des deux noms, *T. hybernum* L."

Prop. B (196 – Parkinson, Taxon 30: 281): In the *Verbesina* example change "*Eclipta erecta*, a superfluous name because *V. alba* . . ." to read "*Eclipta erecta*, the epithet of which was superfluous because *V. alba* . . .". Add the following example:

"The epithet in *Agrostis radiata* L. (Syst. Nat. ed. 10. 2: 873 1759) was correct, but when *Agrostis radiata* L. and *Andropogon fasciculatum* L. (Sp. Pl. 1047. 1753) are treated as conspecific, as under the combination *Chloris radiata* (L.) Sw. (Prodr. 26. 1788) the epithet *radiata* is incorrect, contravening Art. 57.1. When *Agrostis radiata* and *Andropogon fasciculatum* are treated as different species under *Chloris*, as was done by Hackel (in A. & C. DC. Monog. Phan. 6: 177 1889), *Chloris radiata* is a correct name."

Comments Rapporteurs.—Prop. A corrects an existing example and can be referred to the Editorial Committee. (Examples such as this can be a strong argument for *nomina specifica conservanda*!) *Prop. B*, including transfer of the added example from Art. 63, can also be referred to the Editorial Committee; although intended to point to the possibility of "rectotypification" as proposed in Art. 14 Prop. C, there may be elements in the proposed examples that the Editorial Committee will wish to consider regardless of action on other proposals.

Article 59

Prop. A (5 – Laundon, Taxon 26: 574): Add new Note and Example:

"Note. A combination which would otherwise be invalidated by this Article shall be treated as a bibliographic error and corrected accordingly.

"Example: *Pucciniastrum polypodii* (Pers.) Dietel (Hedwigia 38 beiblatt: 260. 1899), syn. '*Uredo polypodii* (Pers.) DC.' (=*Uredo linearis β. polypodii* Persoon, Syn. Meth. Fung.: 217. 1801), published with a description of the perfect state is considered not validly published as a new combination (since the type of the basionym does not bear the perfect state) but validly published as a new name of a new taxon which is cited as *Pucciniastrum polypodii* Dietel. The subsequent combination '*Hyalospora polypodii* (Pers.) Magn.' (Deutsch. Bot. Ges. 19: 582. 1901) placed in a genus characterized by the perfect state would also be considered not validly published but under this Note is treated as a bibliographic error in citation and is corrected to *H. polypodii* (Dietel) Magn. even though the basionym and publication by Dietel were not cited by Magnus (see also Article 33, Note 2)."

Prop. B (19 – IMC², Taxon 28: 426): Replace Art. 59.1–.5 by the following Article 59.1–.7:

"59.1. In ascomycetous and basidiomycetous fungi (including Ustilaginales) with mitotic asexual forms of propagation (anamorphs) as well as a meiotic sexual form (teleomorph), the correct name covering the holomorph (i.e., the species in all its forms) is—except for lichen-forming fungi—the earliest legitimate name typified by the teleomorph, i.e. the form characterized by the production of asci/ascospores, basidia/basidiospores, teliospores, or other basidium-bearing organs.

"59.2. For a binary name to qualify as a nomen holomorphosis, not only must its type specimen be teleomorphic, but also the protologue must include a diagnosis or description of this form (or be so phrased that the possibility of reference to the teleomorph cannot be excluded).

"59.3. If these requirements are not fulfilled, the name is that of a form-taxon, applicable only to the anamorph described or referred to in the protologue and represented by its type. The accepted taxonomic disposition of the type of the name determines application of the name, no matter whether the genus to which the infra-generic taxon is assigned by the author(s) is holomorphic or anamorphic.

"59.4. The priority of nomina holomorphosia (of genera, species, etc.) is not affected by the earlier publication of nomina anamorphosia (of form-genera, form-species, etc. judged to be correlated morphs of the holomorph).

"59.5. The provisions of this Article shall not be construed as preventing the publication and use of binary names for form-taxa when it is thought necessary or desirable to refer to anamorphs alone. When not already available, binary nomina anamorphosia may be proposed separately or at the time of publication of the nomen holomorphosis. The epithets may, if desired, be identical, but not in combinations which are later homonyms.

"59.6. If a binomial is published as a comb. nov. from a holomorphic genus into a form-genus or vice versa, it remains, in accordance with Art. 55, typified by the type of its basionym.

"Examples (a) The name *Penicillium brefeldianum* Dodge, based on teleomorphic and anamorphic material, is a valid and legitimate nomen holomorphosis, in spite of the attribution of the species to a form-genus. It is legitimately combined in a holomorphic genus as *Eupenicillium brefeldianum* (Dodge) Stolk & Scott. *P. brefeldianum* is not available for use in a restricted sense for the anamorph alone.

"(b) The name *Ravenelia cubensis* Arth. & Johnston, based on a specimen bearing only uredinia (an anamorph), is a valid and legitimate nomen anamorphosis, in spite of the attribution of the species to a holomorphic genus. It is legitimately combined in a form genus as *Uredo cubensis* (Arth. & Johnston) Cummins. *R. cubensis* is not available for use inclusive of the teleomorph.

"(c) Although a Latin diagnosis of the teleomorph accompanied the publication of *Mycosphaerella aleuritidis* (Miyake) Ou comb. nov., syn. *Cercospora aleuritidis* Miyake, the new combination remains, in accordance with Art. 55, based on the anamorphic type of its basionym. *M. aleuritidis* is, therefore, not available for use as a name for the holomorph.

"(d) *Corticium microsclerotium* (Matz) Weber, published in 1939 as a new combination with *Rhizoctonia microsclerotia* Matz in synonymy, was accompanied by an English description of the teleomorph. It is nevertheless a validly published new combination based on the anamorphic type of its basionym. When, in 1951, *C. microsclerotium* Weber was validly published as a new species with a Latin description and teleomorphic type, it was a later holomorphic homonym of the 1939 anamorphic combination.

"59.7. As in the case of pleomorphic fungi, the provisions of the Code shall not be construed as preventing the use of names of form-genera of fossils in works referring to such taxa."

Prop. C (19 bis – IMC², Taxon 28: 427): Alternative to 59.6 of Prop. B:

"As long as there is direct and unambiguous evidence for the deliberate introduction of a new form judged by the author(s) to be correlated with the form typifying a purported basionym, and this evidence is strengthened by fulfillment of all requirements in Arts. 32–45 for valid publication of a new taxon, any indication of a comb. nov. or nom. nov. is regarded as a formal error, and the name introduced is treated as that of a new taxon, and attributed solely to the author(s) thereof. When only the requirements for publication of a comb. nov. (Arts. 33, 34) have been fulfilled, the name is accepted as such and based, in accordance with Art. 55, on the type of the declared or implicit basionym."

Examples illustrating the alternative 59.6:

Examples (a) and (b) above would be unchanged.

"(c) *Mycosphaerella aleuritidis* was published as '(Miyake) Ou comb. nov., syn. *Cercospora aleuritidis* Miyake' but with a Latin diagnosis of the teleomorph. The indication of a 'comb. nov.' is taken as a formal error, and *M. aleuritidis* Ou is accepted as a validly published sp. nov. for the holomorph, and typified by the teleomorphic material described by Ou.

"(d) *Corticum microsclerotium* was published in 1939 as '(Matz) Weber, comb. nov., syn. *Rhizoctonia microsclerotia* Matz' with a description, only in English, of the teleomorph. Because of Art. 36, this may not be considered as the publication of a sp. nov., and so *C.*

microsclerotium (Matz) Weber must be considered a validly published and legitimate new combination based on the anamorph that typifies its basionym. When *C. microsclerotium* Weber was published in 1951 with a Latin description and teleomorphic type, it became a later holomorphic homonym of the 1939 anamorphic combination.

"(e) *Hypomyces chrysospermus* Tul. published in 1865 without indication 'comb. nov.' but with explicit reference to *Sepedonium chrysospermum* Bull. ex Fr. as its anamorph, is not to be considered as a new combination but a newly described taxon."

Prop. D (20 – IMC², Taxon 28: 427): Delete sentences 2 and 3 of the new Article 59.5 and replace by a new Rec. 59A to read:

"When not already available, specific or infraspecific names for the anamorphoses may be proposed at the time of publication of the name for the holomorphic fungus or later. The epithets may, if desired, be identical, as long as they are not in homonymous combinations."

Prop. E (200 – McNeill, Taxon 30: 285): In the event of the acceptance of Prop. B, insert the italicized words in Art. 59.6, so that it reads as follows:

"If a binomial is published as a comb. nov. from a holomorphic genus into a form-genus or vice-versa, *or from a form-genus applicable to one anamorph to a form-genus applicable to another,* it remains, in accordance with Art. 55, typified by the type of its basionym."

Comments Rapporteurs.—The Leningrad Congress referred all proposals for Art. 59 back to the Committee for Fungi and Lichens. The matter was investigated by the Nomenclature Secretariat of the International Mycological Association, constituted in 1971, and the reports of its subcommittees were accepted at the second International Mycological Congress in 1977 (IMC²). *Props. B–D* resulted (note that C and D are partial alternatives to B)—as well as other proposals. The Committee for Fungi and Lichens should report on all proposals for Art. 59. The committee might try to eliminate redundant passages, replace unnecessarily technical terms, and avoid lengthy definitions. The proposed 59.6 is superfluous (or could be a Note), while the alternative (Prop. C) is excessively complicated. Prop. D is not really a Recommendation, but may be considered a Note under the proposed 59.5. *Prop. E* is an amendment to 59.6 as offered in Prop. B. *Prop. A* was published earlier; it is not really a Note, the reference to Art. 33 Note 2 should be to 33.2, and the terminology of the proposal would need to be brought into accord with any other changes adopted in Art. 59.

New Recommendation 59B

Prop. A (21 – IMC², Taxon 28: 427): Insert a new Rec. 59B:

"If a new form of propagation of a previously known fungus is described, it should be published as a new species (sp. nov.) with a teleomorphic type, or a new form (anam. nov.) with an anamorphic type, and not as a 'comb. nov.' of the earlier name."

Comments Rapporteurs.—Like other proposals on the subject (cf. Art. 59), this is to be referred to the Committee for Fungi and Lichens for their opinion. [Note that Art. 59 Prop. D, if adopted, would result in a new Rec. 59A.]

Article 61

Prop. A (35 – Darwin, Taxon 28: 584): Delete parenthetical authorities from the example.

Prop. B (56 – Silva, Taxon 29: 344): Add paragraph (61.2):

"When an order is reduced to the rank of suborder or a suborder is elevated to the rank of order, the stem of the name is to be retained and only the termination altered (*-ineae, -ales*).

"Example: The order *Cladophorales* Haeckel (1894) when reduced to the rank of suborder becomes *Cladophorineae* (Haeckel) Schussnig (1935)."

Prop. C (71 – Marais & Brummitt, Taxon 29: 700): In Art. 61.1 delete "is to" and substitute

"may." Or as an alternative, read: "When a taxon at the rank of family or lower is changed to another such rank, the correct name is the earliest legitimate one available in the new rank."

Comments Rapporteurs.—Prop. A can be referred to the Editorial Committee for action if Art. 49 Prop. A is accepted.

Prop. B, like Art. 17 Prop. A by the same author, seeks to extend "current practice" to the rank of order. Current practice (or rule), however, exempts ranks above family from the operation of priority. Therefore, the proposal can at most be a Recommendation—and could be given that form by the Editorial Committee if it is so instructed.

Prop. C results from the discovery (new to most taxonomists!) that under Art. 61 the rule of priority does not operate in the usual way at ranks above genus and through family. In a sense, stems have priority. The proposal firmly establishes priority within these ranks. The two alternative wordings could *both* be included, the second to be stated first, paralleling Art. 60, and the other added as a Note to make clear that one *may* retain a stem and apply a new termination. This fuller wording would have one advantage in making clear (as the present text does not) that the option to change only the termination applies when there is a change to another *such rank* (not to *any* rank whatsoever, e.g. family to order). The Rapporteurs have been advised that enforcement of the present wording would lead to most undesirable effects in practice.

Article 62

Prop. A (22 – IMC², Taxon 28: 428): Art. 62.1 to read:

"A legitimate name or epithet must not be rejected merely because it is inappropriate or disagreeable, or because another is preferable or better known, or because it has lost its original meaning, *or (in pleomorphic fungi governed by Art. 59) the generic name does not accord with the form represented by its type.*"

Comments Rapporteurs.—Can be referred to the Committee for Fungi and Lichens.

Article 63

Prop. A (54 – Silva, Taxon 29: 343): Add note (Note 1) to Art. 63.1:

"A name is not to be considered superfluous, regardless of its protologue, if its author designated a type or if the name is automatically typified by a type upon which no legitimate name had previously been based.

"Examples: *Falklandiella* Kylin (Gatt. Rhodophyc. 391. 1956) is typified by *Ptilota harveyi* J. D. Hooker, as designated by its author, and is legitimate despite the initial inclusion in that genus of *P. pellucida* W. H. Harvey, the type of the legitimate generic name *Dasyptilon* G. Feldmann 1950. When the two genera are considered distinct, both names are available, but when they are combined, *Dasyptilon* is the correct name.

"Gracilariaceae Nägeli (Neue Denkschr. Allg. Schweiz. Ges. Gesammten Naturwiss. 9(2): 240, 254. 1847), automatically typified by *Gracilaria* Grev. 1830, is legitimate even though the family to which it was applied initially included *Dumontia* Lamour. 1813, the type of Dumontiaceae Bory 1828."

Prop. B (154 – Brummitt, Taxon 30: 257): In Art. 63.1 after "A name" insert "of a genus or lower taxon."

Prop. C (157 – Greuter, McNeill, & Nicolson, Taxon 30: 259): Add the following after the first sentence of Art. 63.3: "The same holds true for names of suprageneric taxa based on the stem of a legitimate generic name." Replace the final sentence as follows: "Such names are incorrect when published but they may become correct later."

Prop. D (193 – Parkinson, Taxon 30: 277): Replace the Article. [Full text in this Synopsis, pp. 277–280.]

Comments Rapporteurs.—Props. A, B, & C cover common ground where they refer to the status of suprageneric names. The scope of *Prop. A*, however, is much wider in that it also refers to names in all lower ranks. It is more fundamental than a Note, and while appearing logical might result in the necessary resurrection of a number of names of genera and lower taxa which have been rejected under the present wording.

Props. B & C, if accepted, would achieve exactly the same effect. Both would remove illegitimacy from suprageneric names based on a legitimate generic name. Prop. B achieves this by restricting the general principle of Art. 63.1 to the lower ranks, while Prop. C would generalize the principle of Art. 63.3, presently limited to the lower ranks, to all taxonomic levels. The second example under Prop. A would be appropriate if either Prop. B or C were accepted. Prop. A (on which Art. 7 Prop. B depends) would have the effect of altering what little action was taken at Seattle on the report of the Committee on Superfluous Names (C. V. Morton, chairman). That committee's Prop. E of the Seattle Synopsis (p. 94) called for the same deletion in Art. 7 and was supported by Morton, Silva, and others, but for different reasons; it had received only a slight majority of the preliminary mail vote and was not considered at Seattle.

Prop. D is a complete rewriting of the Article and appears elsewhere in this Synopsis; it is not repeated here because of its length. The proposal is intended by its author to solve the problems that other students of Art. 63 have wrestled with, by making more clear the distinction "between the status of a name (superfluous therefore illegitimate) and its consequential illogical mistypification." However, while abolishing the principle of automatic typification of illegitimate names, it would replace it by a procedure widely open to diverging interpretations in individual cases. It would introduce a distinction between illegitimate names which are typified by the type of the name that ought to have been adopted and merely superfluous names that have their own type and are treated as incorrect upon publication.

Article 64

Prop. A (139 – Eichler, Taxon 30: 248): Replace Art. 64.2 to read:

"Legitimate names which are based on different types and are so similar that they are likely to be confused are treated as homonyms. The criteria for confusing similarity are defined in Art. 75.1."

Prop. B (140 – Eichler, Taxon 30: 248): Add under Art. 64.2 the following Note:

"In contrast to the case for true homonyms (Art. 64.1), illegitimate names do not qualify as similar names to be treated as homonyms. Being illegitimate, their existence will not lead to confusion with the legitimate similar names, regardless of the degree of similarity in orthography."

Prop. C (197 – Parkinson, Taxon 30: 282): Replace the present Article. [Full text in this Synopsis, pp. 282–283.]

Comments Rapporteurs.—*Prop. A* is designed to omit the term "orthographic variant" (a concept often restricted to different names based on the same type and hence not homonyms—see Art. 75 Prop. D). It also omits reference to homonyms in expectation that the matter will be covered in Art. 75 Prop. D. As presently worded, it also presupposes acceptance of Art. 75 Prop. E. The second sentence in the proposal assumes that the extended version of Art. 75.1 (Prop. C) offered by the Committee for Spermatophyta is accepted. (Cf. also Art. 23 Prop. A.) Altogether, it may be referred to the Editorial Committee for action in accord with other proposals on Art. 64.2 and Art. 75.

Prop. B explains the status of similar illegitimate names, Prop. A being restricted to legitimate ones. Like Prop. A, it is basically editorial, depending on solution of the issues addressed under Art. 75, especially.

Prop. C is not repeated here in view of its length. It aims, according to its author, to tidy up the Article in accordance with present practice and his proposed recodification of Art. 14 (Prop. C). In wording, the text reflects the author's conviction that a homonym is *one* name

(with two types), not two names (of identical spelling), and it is corollary to his development of the idea of "parahomonyms" in Art. 75 (Prop. L). While this position can indeed be maintained, the result of its application to the wording of Art. 64 is widely at variance with the current usage of terms.

Article 66

Prop. A (106 – Greuter, Comm. Autonyms, Taxon 30: 196): Delete Art. 66.1(b).

Comments Rapporteurs.—The proposal would eliminate the contradiction between Art. 32.1(b), which declares names published in contravention of Art. 22.1 to be invalid, and Art. 66.1(b), which declares them illegitimate. The conflict exists only at ranks of subdivisions of genera, and it is better that the names be invalid than illegitimate.

Article 67

Prop. A (23 – IMC², Taxon 28: 428): Delete the last sentence of Art. 67.1:
"Such an epithet is also illegitimate if it was published in contravention of Art. 59."

Prop. B (141 – Eichler, Taxon 30: 249): Add as Art. 67.2:
"An infraspecific epithet is illegitimate and is to be rejected if it contravenes Art. 26.1."

Comments Rapporteurs.—Prop. A presumably depends on the rewriting of Art. 59, and will be considered by the Committee for Fungi and Lichens.

Prop. B would declare to be illegitimate an infraspecific epithet used instead of an autonym which ought to have been adopted under Art. 26. At present, such usage would be called invalid under Art. 32.1(b). Adoption of this proposal would introduce the same kind of contradiction into the Code that Art. 66 Prop. A would eliminate. The present proposal would also set an unusual precedent in declaring names at infraspecific rank to be illegitimate depending on a particular classification which requires the relatively recent practice of using autonyms—i.e., a name legitimate when published, later becomes illegitimate if it *antedates* an autonym.

Article 69

Prop. A (116 – Veldkamp, Taxon 30: 208): Delete the Article and add the following paragraph to Art. 48:
"A specific epithet must be rejected if it has been widely and persistently used for a taxon not including its type. All combinations and replacing names based on it (and therefore on its type) are also to be rejected. The original combination shall be placed on a list of *nomina specifica rejicienda.* The same epithet based on a different type used for a different taxon is not affected by this Article."

Prop. B (81 – Committee for Spermatophyta, Taxon 30: 160): Add a new paragraph analogous to Art. 14.9 explaining procedure for adding names to the list of rejected names of species.

Prop. C (146 – Brummitt & Meikle, Taxon 30: 250): Amend the Article to read:
"A name must be rejected if it has been widely and persistently used for a taxon or taxa not including its type. The basionym of a rejected name (if it has one), and all combinations based either on a rejected name or on the basionym of a rejected name, are automatically also rejected. Of all such rejected names based on any one type, the earliest shall be placed on a list of *nomina rejicienda.*"

Prop. D (203 – Eichler & Kanis, Taxon 30: 287): Delete the Article (and the list of *nomina rejicienda* envisaged therein not to be implemented).

Prop. E (204 – Eichler & Kanis, Taxon 30: 287): The wording to be amended as follows:

"A name may be rejected if it has been widely and persistently used for a taxon not including its type and if its correct application would give rise to confusion. Names thus rejected shall be placed on a list of *nomina rejicienda*."

Comments Rapporteurs.—Prop. A would rule that epithets, not names, must be rejected. This would mean that if, e.g., *Ulmus campestris* is regarded as a confused name, the epithet *campestris* would have to be rejected and would no longer be available for any combination (as, e.g., *Luzula campestris*). The last two sentences of the proposal attempt to avoid such a problem, but the resulting text is a much less satisfactory wording than Prop. C, which clearly makes no erroneous assumption that epithets have types; only names have types.

Prop. B would offer official endorsement to the interim procedure described in the footnote to Art. 69, and is not dependent on either Props. A, C, or E although it would obviously be irrelevant if Prop. D is accepted.

Prop. C is a careful rewriting of the Article, based on deliberations of the Committee for Spermatophyta, some of whose members simply preferred deleting the Article. Since the Article has often been a useful "escape" from unpleasant nomenclatural consequences, those who wish to retain it may welcome a more efficient wording. Alternatively, the point has been made that conservation of (specific) names offers a more adequate solution for dealing with confused names than their simple rejection.

Prop. D does away completely with the Article. While this solution has been repeatedly rejected at previous Congresses, it might certainly win more support if the principle of nomina specifica conservanda were adopted in the Code. The proposers point out that this is the last chance to eliminate the requirement of a list, before it is begun (parallel to the list envisaged in 1930 and abandoned in 1935).

Prop. E retains the present wording except by making it less mandatory. Props. C and E are complementary and can be usefully combined if both are accepted. If retained with "may," the Article would still provide the "escape" sometimes thought necessary.

The 36 proposals to reject under Art. 69, during the past 6 years, have largely been new discoveries, not names that botanists have rejected in the past under the old Art. 69 (even though many of them would qualify under the new text). A list and the documentation accompanying it could become cumbersome if taken seriously and under compulsion.

Article 70

Prop. A (210 – Demoulin, Taxon 30: 292): Reintroduce this Article with the following formulation:

"A name of a taxon must be rejected if the characters of that taxon were derived from two or more entirely discordant elements, none of which can be selected as a satisfactory type."

Comments Rapporteurs.—This proposal is based on a misconception that a type in order to be satisfactory must fit all details of the protologue, or at least the original description. This is of course not so (if it were, very many names could not be "satisfactorily typified"). Selection of one element of a mixed gathering as a type, if that gathering was definitely included in the taxon upon publication, is always possible. The intent of the proposal is clear, but interpretation of "entirely" discordant and "satisfactory" type may be very subjective.

Article 72

Prop. A (6 – Laundon, Taxon 26: 575): Add to Note:

"The citation of the illegitimate name as basionym in subsequent combinations is treated as a bibliographic error and corrected accordingly.

"Example: The names *Panicum muricatum* Retz. (1786) and *P. muricatum* Michx. (1803) are homonyms. The later name is therefore illegitimate and its subsequent combination *Setaria muricata* (Michx.) Beauvois (Ess. Agrost. 51: 170, 178. 1812) would be illegitimate also but under the provisions of the first sentence of this Note is treated as a new name *S. muricata* Beauv., dating from 1812 (but note that its type remains that of *P. muricatum* Michx. 1803).

Similarly, the combination *Echinochloa muricata* (Michx.) Fernald (Rhodora 17: 106. 1915) would be illegitimate but under the provisions of the second sentence of this Note is corrected to *E. muricata* (Beauv.) Fernald, even though the basionym and publication by Beauvois were not cited by Fernald."

Prop. B (72 – Yeo, Taxon 29: 700): Add an additional Note, as follows:
"The publication of a new name (*nomen novum*) based on the same type as the rejected name is not appropriate for the replacement of superfluous names."

Comments Rapporteurs.—Prop. A may be thought rather confusing if placed in Art. 72, but it might usefully be combined with Art. 33 Prop. C, to make a more complete list of kinds of "bibliographic errors" which have traditionally been treated as such. If the proposal is accepted, the Editorial Committee can consider placement of it, as well as restoring the example, which was omitted from the Leningrad Code (Art. 33) in favor of a simpler one.

Prop. B is a cautionary note based on the fact that a *nomen novum* is typified by the type of the older name (Art. 7.9) and would therefore also be superfluous. However, it should not be necessary to reiterate that one ought not publish illegitimate names.

Article 73

Prop. A (40 – Leach, Taxon 28: 603): If it is intended that the provisions of Art. 73.1 and 73.7 should take precedence over Art. 73.10 when in conflict with the latter, Art. 73.10 should be amended by the addition of the words: "unless this would conflict with the provisions of Art. 73.1 and Art. 73.7."

Prop. B (41 – Leach, Taxon 28: 603): If it is intended that Art. 73.10 should override Art. 73.1 or 73.7 when in conflict with either of these, Art. 73.10 should be amended by the addition of the words: "the provisions of Art. 73.1 and 73.7 notwithstanding."

Prop. C (82 – Committee for Spermatophyta, Taxon 30: 160): Reword Art. 73.7 as follows:
"Names and epithets derived from personal, geographic, or vernacular names, the spelling of which differs from that of the names from which they were derived, are regarded as intentional latinizations and are to be retained."

Prop. D (83 – Committee for Spermatophyta, Taxon 30: 160): If Prop. A is accepted, add an example under Art. 73.7: "*Zygophyllum billardierii* DC.; De Candolle consistently latinized the name of La Billardière as 'Billardierius'"; but if Prop. B is accepted add an example under Art. 73.10: "*Zygophyllum billardierii* DC. is an orthographic error for *Z. billardierei*."

Prop. E (84 – Committee for Spermatophyta, Taxon 30: 160): If Prop. B is accepted, add to Art. 73.7 the following: "(For terminations see Art. 73.10)."

Prop. F (127 – Demoulin, Taxon 30: 238): Replace Art. 73.5 as follows:
"When a name or epithet has been published in a work where the letters *u, v, i, j* are used interchangeably or in any other way incompatible with modern practices (one of those letters is not used or only in capitals), those letters should be transcribed in conformity with modern usage."

Prop. G (128 – Demoulin, Taxon 30: 238): Add the following paragraph to Art. 73.5 (Prop. F):
"In most cases, this implies to only use *v* and *j* when placed between two vowels and at the beginning of a word (or a part of a compound, ex. *Benjaminus*) when followed by a vowel (*Satureja, Jujuba, Jalappa, Evax, evolutus, Vulpia, Iberis, Iria, Jonquilla, Uredo, citrinus, cernuus, quadrifidus*). Exceptions can occur with names adopted in Latin from another language, including Greek (*Ionia, iowensis, Svensonia, Lefebvrea*) and with *v* at the beginning of a syllable (*Minerva, servus, Salvia, arvensis*), the letter group—*qui*—(*reliquiae, quietus*) and in very few other cases (*iisdem*).

Examples: *Geastrum coronatvm* Pers., Syn. Fung. 132 (1801); *Vredo*, ibid. 214; *Pvccinia ivniperi*, ibid. 228, should be written respectively *Geastrum coronatum*, *Uredo*, *Puccinia juniperi*. *Bromus iaponicus* Thunberg, Fl. Jap. 52 (1784) should be written *Bromus japonicus*. While Linnaeus' Species Plantarum uses *i* and *j* in a way that is not entirely modern (there are considered two forms of the same letter joined in the index) this use is not incompatible with current practice (for example *Satureja juliana* L., Sp. Pl. II, 567) and should not be modified."

Prop. H (137 – Demoulin, Taxon 30: 246): Delete Art. 73.8.

Prop. I (136 – Demoulin, Taxon 30: 246): Delete Art. 73.10.

Prop. J (142 – Eichler, Taxon 30: 249): Extend in Art. 73.5 the obviously arbitrary closing date of "before 1800" to "before 1900."

Prop. K (143 – Eichler, Taxon 30: 249): The Editorial Committee is requested to transfer the examples in Art. 73.5 and 73.6 from the text to "Examples" in small print at the end in the established manner.

Comments Rapporteurs.—Props. A & B are alternative ways of dealing with an alleged conflict between paragraphs. Prop. A would in effect make 73.10 meaningless, since any "wrong use" could be declared an "intentional latinization" and no correction made. Art. 73.10 refers only to terminations and Art. 73.7 refers to variant latinizations, none of the examples (all generic names, incidentally) involving terminations. *Prop. B* seems to reflect the current situation and the matter could be dealt with more simply, if necessary, by adding to 73.7 "(except for terminations covered in Art. 73.10)," or a similar phrase (see Prop. E). In any event, there is likely to be argument on whether, in certain cases, a vowel (for example) is the end of the stem or the beginning of the termination.

Prop. C removes the subjective element of the present text, which requires one to decide whether an "intentional" latinization has been used, and declares instead that *any* variation is intentional in a name or epithet derived from personal, geographic, or vernacular names. This would have to be interpreted to include even printing errors. To make clear that the obligatory terminations are not involved, an addition such as in Prop. E or suggested in the comments under Prop. B would be helpful.

Props. D & K can be referred to the Editorial Committee.

Prop. F stresses "modern practice" and removes the 1800 date, adopted at Leningrad, prior to which usage was unsettled and authors were indifferent to the distinctions between these letters (see Leningrad Report, p. 136). The new wording proposed here is flexible and at the same time practicable, and removes an arbitrary and unnecessary date limitation from the Code. In contrast, *Prop. J* would substitute 1900 as an equally arbitrary date.

Prop. G is a combination of examples and advice, offered as an addition to the new text of Prop. F. This may be felt to be too complex a ruling. Even if it is not favored, the useful examples can still be considered by the Editorial Committee.

Props. H & I would eliminate the mandatory correction of incorrect compounding forms and terminations, respectively, as specified in Recs. 73G and 73C.1. Since the Recommendations are not themselves obligatory, and there is no authority to change a name or epithet contrary to a Recommendation (cf. Preamble, 5), if Props. H and I are accepted botanists will be obligated to use original spellings (e.g., *-i* vs. *-ii*); whether this would simplify nomenclature or add a bibliographic burden may be debated. It would certainly lead to considerable change in orthography compared to present practice.

Recommendation 73B

Prop. A (129 – Demoulin, Taxon 30: 238): Replace (b) as follows:

"When the name of the person ends in a consonant the letters *ia* are added. In Latin or latinized names ending in *-us*, this termination is dropped and the name formed according to Rec. 73B.1(a) when *-us* followed a vowel and by adding *-ia* when it followed a consonant

(*Linnaea* after *Linnaeus, Dillenia* after *Dillenius, Bauhinia* after *Bauhinus*; *Theophrasta* L. after *Theophrastus* is not an example to follow but should not be corrected)."

Comments Rapporteurs.—The thrust here is to eliminate the part of the Recommendation specifically dealing with names ending in *-er*. It is argued that *Sesleria* is a better example than *Kernera*. However this may be, the Recommendations on generic names should not deviate from those on epithets, where the spellings *kerneri* and *kerneranus* are presently mandatory. In this respect, the proposal parallels Rec. 73C Prop. C and should be acted on in the same way. The other aspects of the proposal are less controversial. They relate to the fact that the present text seemingly recommends spellings like *Linnaeia* and *Dodonaeia* rather than *Linnaea* and *Dodonaea*.

Recommendation 73C

Prop. A (50 – Rowley, Taxon 29: 342): Promote Rec. 73C.1 and 73C.2 (excepting the last sentence) to the status of Article, with appropriate editing: alteration of "may be latinised" to "are latinised," etc.

Recommendation 73C.2 last sentence, and 73C.3 and 73C.4, can be retained as Recommendations.

Prop. B (74 – Yeo, Taxon 29: 700): Replace "may be latinized" in line 1 of Rec. 73C.1 by "may be given latinized endings."

Prop. C (130 – Demoulin, Taxon 30: 239): In Rec. 73C.1(b) and (d), reestablish the wording approved by the mail vote (186:26) before Leningrad and modified by an amendment from the floor (i.e., recommend *Ranunculus sprunerianus* not *spruneranus*).

Prop. D (131 – Demoulin, Taxon 30: 240): In Rec. 73C.2, start with: "Personal names already in Greek or Latin or possessing a well established latinized form . . ." Add to the examples *alberti* from Albert, *alexandri* from Alexander and Alexandre, *beatricis* from Beatrix or Beatrice, *bauhini* from Bauhinus, universal latinization of Bauhin.

Comments Rapporteurs.—Prop. A would presumably replace Art. 73.10, which really converts the Recommendation on terminations to the status of an Article, with a more direct statement. This may be thought a more honest way of presenting the present mandatory status of the forms prescribed in Rec. 73C.1, as reaffirmed at Leningrad. (Note that Rec. 73C.2 is not now converted to mandatory status.) Unlike Art. 73 Prop. I, the status quo would be preserved and the numerous floras, monographs, and lists of names that have tried to follow Art. 73 would not be rendered incorrect. However, one may also hold that users of the Code have by now become accustomed to the admittedly somewhat twisted ruling and that straightening it now might cause confusion rather than avoid it. Even if the proposal is accepted, the same twisted situation will persist in the case of Rec. 73G.1 and the correlated Art. 73.8.

Prop. B is a clarification that can be referred to the Editorial Committee; indeed the paragraph does apply only to terminations.

Prop. C is *Verbena hassleriana rediviva*. A proposal to the same effect by W. T. Stearn has been received shortly after the deadline and need not be considered separately here. There was extended discussion on this matter at Leningrad, a card vote (201:135) approving retention of *-anus* (not *-ianus*), as it has been in the Code since 1905. (See Leningrad Report, pp. 136–137.) It was then felt that it was too late to make a change; one might feel that it is even later now. [Incidentally, it is not correct to say that a wording was "approved" by the mail vote, which is strictly advisory and cannot approve anything.]

Prop. D adds "or possessing a well established latinized form" to the present text, thus considerably expanding the coverage from names "already in Latin or Greek" but perhaps offering more uniformity in treating names from other languages, as demonstrated by the example of Alexandre and Alexander. The proposal would presumably be less controversial if restricted to given names.

Recommendation 73F

Prop. A (75 – Yeo, Taxon 29: 701): Delete the word "former" in the last line.

Comments Rapporteurs.—The argument is that some "current genus names" are used as specific epithets, but a change in the Recommendation is needed only if one assumes "former" to mean "no longer in use." If "former" merely means "previously published," there is no problem. On the other hand, deletion of "former" could be interpreted to mean that if a specific epithet should coincide with a generic name published *later,* one may from that point capitalize the prior epithet; this seems neither a necessary nor a desirable option.

Recommendation 73G

Prop. A (134 – Demoulin, Taxon 30: 243): Replace the Recommendation as follows:

"When forming a new compound, a name or adjective in non-final position should appear as a radical without case ending. The final vowel of this radical, if any, normally falls before a vowel, with the exception of Greek *y* and *i*. Before a consonant *i* in Latin and *o* in Greek is added, or used in place of the final vowel. A general rule cannot, however, be established for *y, i, e, au, eu, ou* in Greek.

"In case of choice for a new taxon of an epithet for which orthographic variants exist, the one conforming to those rules should be selected. Examples: Latin *Chrys-anthemum, mult-angulus, multi-color, menthi-folius, salvii-folius, cruci-formis, cordi-folius.* Greek: *Hemero-callis, Leonto-podium, Acantho-panax, Limno-charis, Cyclo-surus, Ophio-glossum, Hydro-phyllum.*

"Other ways of forming compounds as a use of *e* instead of *o* in Greek (*Corynephorus*) or *o* instead of *i* in Latin (*aenobarbus, Gallograecia, atropurpureus*) or the use of a case ending (*Myos-otis* (gen.), *Pelopon-nesus* (gen. with assimilation of *s* into *n*), *albo-marginatus* (ablative), *cannae-folius* (genitive)) should be avoided for creating a new compound but must be respected in pre-existing ones. It should also be noted that compounds where the first part is a verb form, an adverb, or a preposition (usual prefixes like *syn-, epi-, hypo-, dis-, eu-, para-, ob-, de-, e-, pro-, sub-* as well as adverbs standing on their own like *chamae*) can also be formed and are not covered by this recommendation."

Prop. B (144 – Eichler, Taxon 30: 249): The Editorial Committee is requested to improve the wording of 73G.1(a) by simplifying it and by:

(i) defining "stem" or giving a reference to an acceptable definition (e.g., W. T. Stearn, Botanical Latin, pp. 60–63. 1966); and

(ii) eliminating the apparent contradiction between 73G.1(a) (2) and (3).

Comments Rapporteurs.—Prop. A is a major part of a number of proposals intended to "simplify" the orthographic section of the Code, which was thoroughly remodelled at Leningrad by acceptance of a package of proposals by Nicolson et al. It presupposes deletion of Art. 73.8 (as in Art. 73 Prop. H). If accepted in spite of rejection of Art. 73 Prop. H, the text would need severe editorial attention and presumably reincorporation of at least some statements from the present Rec. 73G (e.g., the need for an etymological distinction between *tubiflorus* and *tubaeflorus*). The proposal would presumably take care, together with Art. 18 Prop. E, of Eichler's general request (Prop. B).

Prop. B apparently arises from a concern that Rec. 73G as reworded at Leningrad is a step toward transforming the Code into a textbook of classics. However, the Editorial Committee would not feel authorized to "simplify" so detailed a paragraph without some more explicit instructions from the Section; a definition of "stem"—or "radical"—could be included if the Section directs.

Article 74

Prop. A (135 – Demoulin, Taxon 30: 244): Delete Art. 74 and add the following to Art. 13.4:

"The spelling of generic names introduced in the *Species Plantarum* ed. 1 should not be altered because a different spelling has been used in the *Genera Plantarum* ed. 5."

Comments Rapporteurs.—Besides transferring to Art. 13, the proposal would replace the several provisions with a simple ruling that one always accepts the spelling of a generic name "introduced" in *Species Plantarum* (what of names introduced earlier, but dated from 1753?). The number of names involved is small. Three of them are now cited as examples in Art. 74, but their spelling could presumably be maintained through conservation. Rescinding the admittedly bulky present Article, which has been unchanged for over half a century, would therefore be of little consequence.

Article 75

Prop. A (73 – Yeo, Taxon 29: 700): Alter Art. 75.1 to read as follows:

"When two or more generic names are so similar that they are likely to be confused, they are to be treated as variants, which are homonyms when they are based on different types. In judging the degree of likelihood that names will be confused, the relationship of the taxa concerned and other relevant factors may be taken into account."

Prop. B (120 – Tjaden, Taxon 30: 227): Delete the asterisk (*) after "confused" in line two of Art. 75.1 and the footnote, and add after "types" in line four:

"When it is held that names are sufficiently alike to be confused, they should be referred to the General Committee. Normally this should only occur if the names are in related taxa."

Prop. C (76 – Committee for Spermatophyta, Taxon 30: 156): Reword Article 75.1 as follows:

"When two or more names which are based on different types are so similar that they are likely to be confused, they are treated as homonyms (see Art. 64.2). The degree of similarity required for names to be confused is determined by the following criteria:

(a) Names differing in an interchange between the terminal inflections *-us*, *-a*, and *-um* cannot be considered likely to be confused.

Examples: *Peltophorus* and *Peltophorum*, *Peponia* and *Peponium*, *Limonia* and *Limonium*, and *Physocarpus* and *Physocarpa* respectively, are not likely to be confused and cannot be regarded as homonyms.

(b) Names differing only in interchange of the terminal inflections *-on* and *-um*, or *-e* and *-a*, or *-os*, *-us*, and *-as*, or *-us*, *-es*, and *-e* respectively, must be considered likely to be confused.

Examples: *Ceramium* and *Ceramion*, *Symphyogyne* and *Symphyogyna*, *Cephalotos* and *Cephalotus*, *Pentaceras* and *Pentaceros*, *Byrsanthus* and *Byrsanthes*, *Codonanthus* and *Codonanthe* are based on different types and to be treated as homonyms, while *Clerodendrum* and *Clerodendron* are based on the same type and are orthographic variants of the same name.

(c) Names differing only in presence or absence of a connecting vowel, or in having a different connecting vowel, or in substitution of more than one connecting vowel or diphthong for a single vowel, between two syllables must be considered likely to be confused. The same does not necessarily apply to vowel changes in the middle of a syllable.

Examples: *Columella* and *Columellia*, *Thamnia* and *Thamnea*, *Dichopetalum* and *Dichapetalum*, *Peltiphyllum* and *Peltophyllum*, *Piliocalyx* and *Pileocalyx*, *Correia* and *Correa*, *Bivonaea* and *Bivonea*, and *Symphyostemon* and *Symphostemon*, are based on different types and to be treated as homonyms, while *Lagascea* and *Lagasca* are based on the same type and are orthographic variants of one name. However, *Vaseyochloa* and *Veseyochloa* are not homonyms.

(d) Names differing only in having either a single or a double consonant must be considered likely to be confused.

Examples: *Rottboellia* and *Rottboelia*, *Wolffia* and *Wolfia*, *Cummingia* and *Cumingia*, and *Vaupellia* and *Vaupelia*, are based on different types and to be treated as homonyms, while *Matthiola* and *Mathiola*, and *Tourretia* and *Tourrettia* are based on the same types and are orthographic variants of the same name respectively.

(e) Names differing only in presence or absence of the letter 'h' must be considered likely to be confused, except when the 'h' immediately follows 's.'

Examples: *Ceterach* and *Ceterac*, *Burchardia* and *Burcardia*, and *Sorghum* and *Sorgum*, are based on different types and to be treated as homonyms, while *Rhynchospora* and *Rynchospora*, and *Helichrysum* and *Elichrysum* are based on the same types and are not to be treated as homonyms.

(f) Names differing only in interchange of 'c' with 'k,' 'v' with 'u' or 'w,' 'i' with 'j,' or 'y' with 'i,' 'j,' or 'u' must be considered likely to be confused.

Examples: *Scytanthus* and *Skytanthus*, *Wiborgia* and *Viborgia*, *Helwingia* and *Helvingia*, *Willughbeia* and *Willughbeja*, *Kyllinga* and *Killinga*, *Syzygium* and *Suzygium*, *Mackaya* and *Mackaia*, and *Bradburya* and *Bradburia* are based on different types and to be regarded as homonyms, while *Euonymus* and *Evonymus*, *Buddleia* and *Buddleja*, *Pernettya* and *Pernettia*, *Phaylopsis* and *Phaulopsis*, and *Berrya* and *Berria* are based on the same types and are orthographic variants of the same name respectively.

(g) Names differing only in the presence or absence of 'c' before 'k,' or 't' before 'z,' or 'e' after a consonant and before 'r,' must be considered likely to be confused.

Examples: *Schrankia* and *Schranckia*, *Schulzia* and *Schultzia*, and *Astrostemma* and *Asterostemma*, are based on different types and to be considered homonyms, while *Lamarkia* and *Lamarckia*, and *Wikstroemia* and *Wickstroemia* are based on the same type and are orthographic variants of the same name respectively.

(h) Names differing only in interchange of the suffixes *-ites* and *-itis*, or *-opis* and *-opsis*, or *-oides* and *-odes*, must be considered likely to be confused.

Examples: *Arachnitis* and *Arachnites*, *Rhodopis* and *Rhodopsis*, and *Santalodes* and *Santaloides* are heterotypic and to be regarded as homonyms, while *Nymphoides* and *Nymphodes* are based on the same type and are orthographic variants of the same name.

(i) Cases of similar names based on different types and not covered by the above rules should be judged individually according to the likelihood of confusion, bearing in mind such considerations as current usage and acceptance, whether the names apply to closely related plants, whether they occur in the same geographical area, and the etymological derivation of the word. When it is doubtful whether names of genera, families, and intermediate taxa seem sufficiently alike to be confused, guidance by the nomenclatural committee or committees for the appropriate group or groups (see Division III) may be obtained.

Examples of names likely to be confused: *Bradlea*, *Bradleja*, and *Braddleya* (all named after Richard Bradley); *Simarouba* and *Simaruba*; *Bourreria* and *Beureria*; *Harrisonia* and *Harissona*; *Reboulia* and *Rebouillia*; *Coccocypselum* and *Coccocipsilum*; *Bougainvillea* and *Buginvillaea*; *Pleospora* and *Pleiospora*.

Examples of names not likely to be confused: *Rubia* and *Rubus*; *Iria* and *Iris*; *Urvillea* and *Durvillea*; *Acanthococcus* (an alga) and *Acanthococos* (a palm); *Hydrochloa* (a N. American grass) and *Hygrochloa* (an Australian grass)."

Prop. D (77 – Committee for Spermatophyta, Taxon 30: 158): Add a new paragraph 75.3:

"All orthographic variants (different spellings of a name based on one type), except the original and possibly existing later legitimate spelling (i.e., that corrected in accordance with the provisions of the Code, including that rendered legitimate by conservation) are not to be taken into consideration for the purpose of homonymy."

Prop. E (145 – Eichler, Taxon 30: 250): Insert in the rewording of Art. 75.1 proposed by the Committee for Spermatophyta (Prop. C) the word "legitimate" before "names," the Article to read: "When two or more legitimate names . . ." and add at the end of the sentence a reference to Art. 64.2 Note 1.

Prop. F (158 – Greuter, McNeill, & Nicolson, Taxon 30: 259): Replace the present footnote with the following:

"When it is doubtful whether names are sufficiently alike to be confused, they should be referred to the General Committee. The decisions of the General Committee will, after ratification by an International Botanical Congress, be listed in an Appendix to the Code."

Prop. G (159 – Greuter, McNeill, & Nicolson, Taxon 30: 259): Add the following definition: "Orthographic variants are the various spelling, compounding, and inflectional forms of a name or epithet (including typographic errors), only one type being involved."

Prop. H (160 – Greuter, McNeill, & Nicolson, Taxon 30: 259): Add the following provisions to Art. 75: "Only one orthographic variant of any one name is treated as validly published, the form which appears in the original publication, except as provided in Art. 73 (orthographic and typographic errors), Art. 14.8 (conserved spellings), and Arts. 21, 23, and 24 (incorrect gender or number in adjectival epithets)."

Prop. I (161 – Greuter, McNeill, & Nicolson, Taxon 30: 260): Add the following provision: "If orthographic variants of a name appear in the original publication the one that conforms to the rules and best suits the recommendations of Art. 73 is to be retained; otherwise the first author who explicitly adopts one of the variants, rejecting the other(s), must be followed (see also Art. 74)."

Prop. J (162 – Greuter, McNeill, & Nicolson, Taxon 30: 260): Add the following provision: "The orthographic variants of a name are to be automatically corrected to the validly published form of that name. Whenever such a variant to be corrected appears in print, it is to be treated as if it was printed in its corrected form."

Prop. K (163 – Greuter, McNeill, & Nicolson, Taxon 30: 260): The Editorial Committee be empowered to transfer the provisions concerning similar names based on different types from Art. 75 to Art. 64, replacing the present Art. 64.2, so that Art. 75 would deal exclusively with variants of the same name based on the same type."

Prop. L (198 – Parkinson, Taxon 30: 283): Replace the present Article and add new Rec. 75C. [Full text in this Synopsis, pp. 283–284.]

Prop. M (202 – McNeill, Taxon 30: 286): Replace the present footnote to Art. 75 by the following:

"When it is doubtful whether names are sufficiently alike to be confused, a request for a decision may be submitted to the General Committee (see Division III) which will refer it for examination to the committee or committees for the appropriate taxonomic group or groups. A recommendation may then be put forward to an International Botanical Congress, and, if ratified, will become a binding decision."

Comments Rapporteurs.—Prop. A is little more than an editorial improvement on the present text, which gives similarity of names as the reason for confusion but then follows with a less than logical "because" clause. The footnote is omitted (intentionally?), but this is a separate issue considered in the context of other proposals, below.

Prop. B confers no status on any opinion of the General Committee, and is very ambiguous in referring to "related taxa"; to suggest that taxonomic (and geographic) considerations be employed in addition to strict orthographic similarity is useful, but "related taxa" can mean two genera in the same family . . . or in the same order . . . or in the same class . . . or in the same kingdom. According to its wording, the proposal would if anything be a Recommendation and not an Article.

Prop. C results from long and active deliberations by the Committee for Spermatophyta, which has often had to consider the issue when deciding whether conservation of an alleged later homonym is necessary. It spells out in considerable detail what is meant by "confusing"—a highly subjective concept, and one colored by a person's own linguistic background. This proposal, supported by a majority of the Committee, provides detailed guidelines. Although the intent is good, the inclusion of such bulky prescriptions in the Code may be a matter of some concern, especially since the Committee report admits that there may be some danger in accepting the proposal without really knowing in detail the effect it might have. Questions of homonymy often require considerable evaluation of each individual case, e.g. with respect

to affinity and geographical overlap, while the proposal aims at a purely mechanical system. As an example, *Rhaponticum* and *Rhapontica* were recently considered as likely to be confused, and therefore homonyms, by the General Committee, while adoption of this proposal would rule them to be non-homonyms. Another feature of the proposal is that in case of doubt about similarity, names would be referred for "guidance" (not a decision) to the appropriate special committee(s) (not the General Committee).

Props. D & H would make clear that orthographic variants have no standing in questions of homonymy (i.e. they are not validly published)—a point on which the Code has thus far been silent. This has the unanimous support of the Committee for Spermatophyta. (The Rapporteurs have been privy to the voluminous and spirited correspondence of this Committee, whose final recommendations (all supported by at least ⅔ of its members—as are all of its actions) deserve very serious consideration.) Prop. H was developed to further improve the wording offered in Prop. D.

Prop. E (and the correlated Art. 64 Prop. B) aims at excluding confusingly similar illegitimate names from being treated as homonyms, hoping to avoid many needs for conservation, especially if the more rigid guidelines of the proposed new Art. 75.1 (Prop. C) are accepted. Since, however, illegitimate names have often been widely used (and indeed many still are), the taking up of a later confusingly similar legitimate name may still be undesirable. Furthermore, the acceptance of this proposal might have undesirable consequences in those cases where the present rule has been applied in order to reject later "quasi-homonyms."

Prop. F is supported by a majority (but not ⅔) of the Committee for Spermatophyta. It is, however, definitely not supported by the Secretary of the General Committee, who has had great difficulty getting members to vote on Art. 75 questions put before it. (Some members have not voted on any question since Leningrad, and others on only a single case.) At most half the members can usually be induced to vote on these names, and if the vote is more or less evenly divided, as it often is, a majority of votes cast may represent only a fourth of the committee members. It should be remembered, too, that over half of the members of the General Committee are *ex officio*. Prop. C(i) calls for reference to the appropriate special committee(s), a procedure allowing for deletion of the footnote. Prop. M offers a useful combination of both.

Prop. G offers a definition of the term "orthographic variant," which is more explicit than in the first part of Prop. D. It is complementary to Prop. H and could also be combined with Prop. D if desired. *Prop. H* has a clearer wording. *Props. I & J* are supplementary to earlier proposals, and Prop. J especially is necessary to make clear that correction of a variant implies no loss of priority or validity and involves no "new combination."

Prop. K restricts Art. 75 to variants as defined (names based on the same type), the rest of the material belonging more appropriately with other provisions regarding homonyms.

Prop. L is a complete new text, not repeated here because of its length and ready availability elsewhere in this Synopsis. It brings the Article in line with the author's proposed revisions of Art. 64 (Prop. C) and Art. 14 (Prop. C) and would result in a quite different organization than Prop. K, which restricts Art. 75 to a full treatment of orthographic variants; Prop. L restricts the Article to "parahomonyms" (similar but not identical names) and would give absolute authority to General Committee "decisions" on such names. The proposal contains several confusing passages and it is unnecessary to discuss them here in detail.

Prop. M combines features of section (i) of Prop. C (study by Special Committee) with Prop. F (ratification by a Congress); it does not include the requirement of Prop. F that decisions be listed in an Appendix. Overall, it may be the most generally acceptable solution on this matter.

Recommendation 75A

Prop. A (69 – Adolphi & Nicolson, Taxon 29: 517): Delete the last two sentences of Rec. 75A.1 and substitute:

"The following names, however, should be treated as feminine in accordance with botanical custom, irrespective of classical usage or the author's original usage: *Adonis, Diospyros, Hemerocallis, Orchis, Stachys,* and *Strychnos.*"

Comments Rapporteurs.—The proposal offers a more direct wording and avoids the discourse on *Hemerocallis,* which Linnaeus may indeed have considered feminine. It can be referred to the Editorial Committee.

Appendix I

Prop. A (164 – Yeo, Taxon 30: 263): Rewrite Appendix I and amend Art. 50. [Full text in this Synopsis, pp. 263–267.]

Comments Rapporteurs.—The text of the complete rewriting of Appendix I is elsewhere in this Synopsis and is not repeated here because of its length. The background of it is clearly presented, and marginal references provide ready comparison with the present text. The Committee for Hybrids has not formally made this proposal, presented by its secretary, who cites other endorsements. Normal procedure would be for the Committee for Hybrids to report its opinions regarding all proposals relating to hybrids at (or before) the Nomenclature Section.

In addition to the rewriting of Prop. A, a number of other proposals for improvement have been suggested and could be acted upon regardless of action on Prop. A. Since there are no other proposals on Appendix I, and these appear in order elsewhere in this Synopsis, they are identified merely by brief references below.

Prop. B (165 – p. 267): Changes in H.2.1 and H.2.2.

Prop. C (166 – p. 267): Delete part of first sentence of H.2.2.

Prop. D (167 – p. 267): Delete last sentence of H.2.2 and alter Rec. H.2A.

Prop. E (168 – p. 267): Alternative to Prop. D.

Prop. F (169 – p. 268): Delete last sentence of H.3.2 and substitute.

Prop. G (170 – p. 268): Add a new Rec. H.3A.

Prop. H (171 – p. 268): Add paragraph to H.4.

Prop. I (172 – p. 268): Add paragraph after H.6.2.

Prop. J (173 – p. 268): Change last line of H.6.1.

Prop. K (174 – p. 268): Changes in H.7.3. & H.7.7, "combining the names."

Prop. L (175 – p. 269): Alter H.7.3 and H.7.7, "generic name."

Prop. M (176 – p. 269): Change in H.7.3, last line, and transfer example.

Prop. N (177 – p. 269): Change in H.7.3 and H.7.7.

Prop. O (178 – p. 270): Change H.7.7, line 3.

Prop. P (179 – p. 270): Substitute in H.7.3.

Prop. Q (180 – p. 270): Add example to H.7.6.

Prop. R (181 – p. 271): Add to H.7.

Prop. S (182 – p. 271): Add a new Rec. H.7A.

Prop. T (183 – p. 271): Replace examples in H.8.1.

Prop. U (184 – p. 271): Add example in H.9.1 and rewrite H.8.

Prop. V (185 – p. 272): Substitute examples.

Prop. W (186 – p. 272): Alter second sentence of Art. 50.1.

Prop. X (187 – p. 272): Add to Art. 50.

Prop. Y (188 – p. 273): Deletion in examples to H.4.1.

Comments Rapporteurs.—Props. Q, T, U, & Y deal strictly with examples and can be referred to the Editorial Committee (which, incidentally, was asked to *include* the data which Prop. Y asks to delete).

Props. B, C, I, J, K, & V are incorporated in Prop. A and would not have to be considered by the Section if the latter were adopted. *Prop. W* is an alternative to the provisions of Prop. A. *Props. M, N, & O* are incorporated in *Prop. L* and in the latter form can be voted upon together.

In deliberating on these proposals, especially Props. L–P, the Committee for Hybrids can be sure to compare critically the 1980 revision of the Cultivated Code.

New Appendix 4

Prop. A. (— – Hughes, Taxon 27: 501):

"Fossil materials are distinct in being always incomplete both in parts and in preservation. Taxa are not composed of natural populations. Taxa have a time dimension, which is not a natural attribute. Nomenclature of these taxa must therefore allow for these differences of study from those of living plants.

Art. P1. A taxon of fossils circumscribes only the remains of a single plant organ; to make this point clear the name of the taxon must be referred to at least once formally in any publication as an organ-species or organ-genus as appropriate.

Art. P2. A taxon of fossils has geologic time limits selected by an author, and although it may not be possible to state these in all cases initially, allowance must be made for formal addition of the information as soon as any kind of evolutionary sequence of taxa is suggested and before it can be used in stratigraphic work.

Art. P3. Description of a named organ-species of fossils should be in English and should include the precise number of specimens used, the precise geographic and stratigraphic position of each specimen, information on the variation of characters within the whole range of specimens included in the organ-species, and geological time limits of the organ-species. Note: In cases in which the fossils are stated to come from one sample or from a limited depth range in a borehole, this can be accepted also to cover geological time limits.

Art. P4. Emendments to either description or geological time limits or both must be formally quoted in any subsequent use of the name of the organ-species, in order to show what the meaning is at that time.

Art. P5. Names of organ taxa should be placed in synonymy only with extreme caution, and only when the materials both come from the same rock samples.

Art. P6. Information on whole organism species of past time may be approached by summing data on various organ-species taken from the same strata. In such cases when a conclusion is reached, a new whole-organism name is required and the description must give all occurrence details. The name is required and the description must give all occurrence details. The named organ-taxa concerned would also continue to be used separately.

Art. P7. Named organ-taxa above the organ-genus should be used sparingly and only when numbers of subordinate taxa necessitate these as filing arrangements.

Art. P8. When fossils are placed in any taxon of living plants, the description of the extant

taxon must be formally emended to indicate a time-range, and to indicate which organ-characters of the plant are proven to have existed through the time-range.

Art. P9. Otherwise fossils and taxa of fossils should be treated under the provisions of the Code except that Appendix 4 cannot be considered retroactive in accordance with Principle 6. Taxa of fossils published before 1 January 1982 should be emended only as they are required for use, in accordance with Art. P4."

Comments Rapporteurs.—This proposal will be considered by the Committee for Fossil Plants, together with the remarks of Schopf (Taxon 27: 505–512) and Hughes (Taxon 28: 386–387). The proposal does, as noted by Schopf, overstress the differences between fossil specimens and modern specimens (which, too, are often incomplete) and also overstresses taxonomic procedures (such as circumscription), saying little of truly nomenclatural matters. Under the proposed P8, for example, the placing of any fossil in a taxon such as Spermatophyta or Osmundales would require formal emendation of "the description" of the latter—a highly burdensome and unnecessary procedure.

Guide for the Determination of Types

Prop. A (123 – Linczevski & Gubanov, Taxon 30: 229): Add to the footnote on paragraph 4c: "But if one of the syntypes was chosen as the lectotype, the remaining syntypes will be [must be/may be] designated as *lectoparatypes.*"

Prop. B (189 – Killick, Taxon 30: 273): Add at the end of paragraph 4c: "A neotype may also be designated if specimens seen by the author but not cited, and their duplicates, are lost or destroyed." Substitute the following for the third sentence of paragraph 5: "A neotype may be designated only when all of the originally cited material or material seen by the author but not cited, and its duplicates, are believed lost or destroyed; a neotype may be selected from any material that is not original material (Art. 7.8)."

Prop. C (190 – Killick, Taxon 30: 273): Substitute "holotype" for "type" in the second line of paragraph 3.

Prop. D (191 – Killick, Taxon 30: 274): Omit the last five words of paragraph 4a.

Comments Rapporteurs.—Prop. A refers to standard practice and the term is self-explanatory. Other proposals tor new words for kinds of types have however consistently been rejected in the past. If the Section accepts this one, it can select one of the alternative wordings offered; the mail vote will be advice on adopting the word *lectoparatype,* not the precise phrasing. (See also New Rec. 9a Prop. B.)

Prop. B is intended to bring the Guide into accord with Art. 7.8, which does not require that only *cited* material be destroyed before a neotype can be designated. The second half of the proposal expresses this intent clearly, and if the proposal is adopted, the Editorial Committee will bring the first half into appropriate form. *Prop. D* is related, removing what can appear to be a requirement in the Guide that only *cited* material is eligible to serve as lectotype. (For example, some authors have, in fact, designated new lectotypes and promoted instability of names on the grounds that Kalm specimens were ineligible for lectotypification of Linnaean names if Linnaeus did not explicitly cite Kalm—a procedure which would be in apparent conflict with Art. 7.5.) One ought, however, to consider whether the scope of paragraph 4(a) is not unduly widened by the proposed deletion, unless "taxon" is substituted for "protologue."

Prop. C appears to bring the paragraph into accord with Art. 7.4. However, it is superfluous because "type" always means the *one* element to which a name is permanently attached, and not all the type material as the proposer suggests.

Appendix A.

REPORT ON THE STATUS OF NOMINA CONSERVANDA ET REJICIENDA PROPOSITA

NOTE: The previous comprehensive report on Nomina Conservanda Proposita appeared as Appendix A of the Leningrad Synopsis (Taxon 24: 238–243. 1975) and listed proposals throught no. 381. The Nomenclature Section of the XII International Botanical Congress, Leningrad 1975, approved all names recommended for conservation by the General Committee, as listed in Appendix A of the Synopsis (and cf. p. 244). Names approved for conservation by the General Committee through early 1976 (see report in Taxon 25: 511. 1976) were included in Appendices II and III of the Leningrad Code with an asterisk, indicating they may be used under Art. 15, but they must still be formally acted upon by the Sydney Congress; these names are indicated with an asterisk by the proposal number below.

The lists below include all proposals on which Committee action was not completed prior to the Leningrad Congress, as well as all proposals made subsequently. Proposal numbers 382–453 here follow (insofar as possible) the corrected listing in Taxon 27: 546–548 (Nov. 1978), with the number under which it was originally published, if different, in square brackets. A plus sign (+) indicates *acceptance* of a proposal or recommendation for conservation; a minus sign (−) indicates *rejection*. Action reported but not yet published is listed by + or − without a reference. In the columns for References, numbers below 31 indicate volumes of Taxon; higher numbers indicate volumes of Regnum Vegetabile.

For the first time, this Appendix includes a list of nomina rejicienda proposita (under Art. 69 as revised at Leningrad), with indications of status similar to those for nomina conservanda proposita—although there is no formal requirement in the Code that these be acted upon by a Congress. Proposal numbers not found in the list of nomina generica conservanda proposita should be sought in the lists of nomina familiarum conservanda and nomina rejicienda proposita.

NOMINA FAMILIARUM CONSERVANDA PROPOSITA

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References* *Sp. Comm.*	*Gen. Comm.*
(—)	Sp.	Greyiaceae Hutchinson [emend.]	Paclt	20: 822	−24: 250	−25: 511
(—)	Sp.	Saurauiaceae J. G. Agardh. [emend.]	Paclt	20: 822	−24: 250	−25: 511
(—)	Sp.	Najadaceae A. L. Jussieu [emend.]	Paclt	20: 822	−24: 250	−25: 511
*(343)	Bry.	Porellaceae Cavers	Grolle	21: 708	+24: 248	+25: 511
(—)	Sp.	Asteraceae Dumortier [emend.]	Rauschert	21: 719	−24: 250	−25: 511
(—)	Sp.	Cichoriaceae A. L. Jussieu [emend.]	Rauschert	21: 719	−24: 250	−25: 511
(—)	Sp.	Compositae Giseke [emend.]	Rauschert	21: 719	−24: 250	−25: 511
(—)	Sp.	Circaeasteraceae Hutchinson [emend.]	Rauschert	21: 720		

NOMINA FAMILIARUM CONSERVANDA PROPOSITA—Continued

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
*(359)	Bry.	Lejeuneaceae Casares-Gil	Grolle	22: 504	+24: 248	+25: 511
*(364)	Bry.	Bryoxiphiaceae Bescherelle	Crosby & Margadant	22: 508	+24: 248	+25: 511
*(365)	Bry.	Eustichiaceae Brotherus	Crosby & Margadant	22: 508	+24: 249	+25: 511
(428)	Sp.	Salsolaceae Moq.-Tand.	Scott	26: 246		
(437)	Bry.	Ditrichaceae Limpricht	Magill	26: 597		
(438)	Bry.	Pottiaceae Schimper	Magill	26: 597		
(439)	Bry.	Sematophyllaceae Brotherus	Magill	26: 598		
(440)	Bry.	Entodontaceae Kindberg	Magill	26: 598, 27: 593		
(453)	Algae	Rhodomelaceae Harvey	Guiry	27: 193		
(455)	Pt.	Dicksoniaceae Bower	Tryon	27: 554	+30: 163	
(465)	Bry.	Lophoziaceae (Joerg.) Vanden Berghen	Grolle	28: 423		
(518)	Pt.	Pteridaceae Reichenb.	Tryon	29: 161	−30: 163	
(543)	Pt.	Adiantaceae Ching	Pichi Sermolli	30: 320	+30: 164	
(544)	Pt.	Aspidiaceae Frank	Pichi Sermolli	30: 320	+30: 164	
(545)	Pt.	Dryopteridaceae Ching	Pichi Sermolli	30: 321	+30: 165	
(546)	Pt.	Peranemataceae Ching	Pichi Sermolli	30: 321	+30: 167	

NOTE: For additional family names see "Report of the Subcommittee for Family Names of Pteridophyta," (in Appendix B of this Synopsis (pp. 163–168).

NOMINA GENERICA CONSERVANDA PROPOSITA

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(110)	Fungi	*Phloeospora* Wallr.	Donk	34: 10	−24: 534	−25: 511
*(123)	Fungi	*Collybia* (Fr.) Staude	Donk	34: 33	+24: 534	+25: 511

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
*(188)	Lich.	*Cetraria* Ach.	Culberson	15: 316	+24: 534	+25: 511
(201)	Algae	*Cyclococcolithus* Kamptner	Hay	16: 240	−24: 690	−25: 511
(231)	Algae	*Hormidium* Klebs	Mattox	17: 442	withdrawn—see Taxon 21: 642	
*(232)	Bry.	*Daltonia* Brid.	Crosby	17:443	[Rep. Leningrad]	+25: 511
(262)	Algae	*Dactylococcopsis* R. & F. Chodat	Komárek	18: 342	−24: 690	−25: 511
*(305)	Bry.	*Muelleriella* Dusén	Vitt	19: 298	+24: 248	+25: 511
*(312)	Bry.	*Chiloscyphus* Corda	Grolle	19: 646	+24: 248	+25: 511
(317—see 397)						
(320)	Fungi	*Centrospora* Neergaard	Deighton	19: 948	−24: 534	−25: 511
*(327)	Algae	*Chloromonas* Gobi	Silva	21: 201	+24: 690	+25: 511
(333)	Bry.	*Pterygophyllum* Brid.	Margadant et al.	21: 536	−24: 248	−25: 511
(348)	Sp.	*Zexmenia* A. Gray	Becker	21: 712	−24: 245	−25: 511
*(351)	Sp.	*Digitaria* Haller	Rauschert	22: 159	+24: 245	+25: 511
(352)	Sp.	*Rhaponticum* Hill	Dittrich	22: 314	−25: 174	−25: 511
(353)	Foss.	*Haplostigma* Seward	Pacltl	22: 315	−24: 387	−25: 511
(354)	Foss.	*Cyclostigma* Haughton	Pacltl	22: 315	−24: 387	−25: 511
(355)	Foss.	*Cladotheca* Halle	Pacltl	22: 316	−24: 387	−25: 511
(356)	Foss.	*Klukia* Raciborski	Pacltl	22: 316	−24: 690	25: 511
(357)	Foss.	*Hymenotheca* Potonié	Pacltl	22: 316	−24: 387	−25: 511
*(358)	Lich.	*Gymnoderma* Nyl.	Hawksworth & Yoshimura	22: 503	+24: 534	+25: 511
(360)	Sp.	*Dietes* Salisb. [see also 385]	Goldblatt	22: 504	−27: 285	−29: 689
(361)	Sp.	*Oryctanthus* Eichler	Kuijt	22: 506	−27: 285	−29: 689
*(363)	Bry.	*Bryoxiphium* Mitten	Crosby & Margadant	22: 507	+24: 249	+25: 511
*(366)	Bry.	*Lejeunea* Libert	Grolle	22: 689	+24: 249	+25: 511
*(368)	Bry.	*Pleuridium* Rabenh.	Snider & Margadant	22: 691	+24: 249	+25: 511
*(369)	Sp.	*Androstachys* Prain	Shaw	22: 694	+24: 249	+25: 511
*(370)	Sp.	*Idesia* Maximowicz	Meikle	22: 694	+24: 246	+25: 511
*(371)	Fungi	*Oidium* Link	Weresub	22: 699	+24: 534	+25: 511

NOMINA GENERICA CONSERVANDA PROPOSITA—Continued

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(372)	Fungi	*Oidium* (Pers.) Link	Weresub	22: 699	−24: 534	−25: 511
*(373)	Fungi	*Peridermium* (Link) Schmidt & Kunze [typ. cons.]	Hiratsuka	23: 428	+24: 534	+25: 511
*(374)	Algae	*Cystophora* J. Agardh	Womersley	23: 430	+24: 690	+25: 511
(375)	Sp.	*Struthanthus* Martius [repeats Prop. 268—already in App. III; see Taxon 25: 176]	Kuijt	23: 431	+24: 246	+25: 511
*(376)	Sp.	*Brunia* Lamarck	Powrie	23: 432	+24: 246	+25: 511
*(377)	Sp.	*Hoffmannseggia* Cav.	Brummitt & Ross	23: 433	+24: 247	+25: 511
(379)	Sp.	*Dichosciadium* Domin	Eichler	23: 437	−27: 285	−29: 689
(380)	Sp.	*Hippomarathrum* Link	Gruenberg-Fertig et al.	23: 438	−27: 286	−29: 689
*(381)	Sp.	*Isoglossa* Örsted	Brummitt	23: 440	+24: 247	+25: 511
(382)	Sp.	*Acampe* Lindl.	Seidenfaden	25: 190	+27: 543	+29: 689
(383)	Sp.	*Aptosimum* Benth.	Codd	25: 190	+27: 544	+29: 689
(384)	Sp.	*Desmodium* Desv. [emend.]	Panigrahi	25: 191	+27: 286	+29: 689
(385[360])	Sp.	*Dietes* Salisb. ex Klatt [emend. prop.]	Seidenfaden	25: 190	+27: 285	+29: 689
(386[412])	Fungi	*Epidermophyton* Sabourand [see 583]	Loeffler	25: 208	−29: 148	
(387)	Sp.	*Gentianella* Moench	Rauschert	25: 192	+27: 286	+29: 689
(388)	Sp.	*Ipomoea* L. [typ. cons.]	Manitz	25: 193	+27: 286	+29: 689
(389)	Sp.	*Oplismenus* Beauv.	Smith	25: 194	+27: 287	+29: 689
(389bis)	Sp.	*Oplismenus* Beauv.	Kerguélen	25: 195	+27: 287	+29: 689
(390[410])	Bry.	*Pellia* Raddi	Grolle	24: 693		
(391)	Fungi	*Peridermium* (Link) Schmidt & Kunze	Laundon	24: 389		
(392)	Sp.	*Phthirusa* Eichler	Kuijt	25: 196	−27: 287	−29: 689
(393)	Sp.	*Ptychotis* Thellung	Gutermann	25: 197	−27: 287	−29: 689
(394[411])	Sp.	*Sansevieria* Thunb. [emend.]	Marais	25: 208	+27: 288	+29: 689
(395)	Fungi	*Sclerotinia* Fuckel	Buchwald & Neergaard	25: 199	+27: 543	+29: 689
(396)	Algae	*Sphaerozosma* Ralfs	Gerloff	25: 200		
(397[317])	Algae	*Tetraëdriella* Pascher	Kováčik & Komárek	25: 202		
(398)	Algae	*Tetraëdron* Koršikov [cf. also 424bis]	Kováčik & Komárek	25: 201		

NOMINA GENERICA CONSERVANDA PROPOSITA—Continued

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(399)	Pt.	*Trichomanes* L.	Holttum	25: 203	+30: 161	
(400)	Fungi	*Dothiora* Fr.	Holm	24: 486	+29: 148	
(401)	Fungi	*Leptosphaeria* Ces. & De Not.	Holm	24: 486	+29: 148	
(402)	Fungi	*Lophiostoma* Ces. & De Not.	Holm	24: 486	+29: 148	
(403)	Fungi	*Phyllachora* Fuckel [cf. also 406]	Holm	24: 486	+29: 148	
(404)	Sp.	*Lepistemon* Blume	Manitz	25: 204	−27: 288	−29: 689
(405)	Sp.	*Chomelia* Jacq.	Skog	25: 205	+27: 288	+29: 689
(406[403])	Sp.	*Relhania* L'Hérit.	Bremer	25: 207	−27: 287	−29: 689
(407)	Sp.	*Phelypaea* L.	Nicolson	24: 653, 691		
(408)	Sp.	*Phragmipedium* Rolfe	Dressler & Williams	24: 691	+27: 287	+29: 689
(409)	Sp.	*Oncidium* Swartz [typ. cons.]	Dressler & Williams	24: 692	−27: 544	−29: 689
(410—see 390)						
(411—see 394)						
(412—see 386)						
(413)	Sp.	*Eurotia* Adans.	Grubov	25: 362	−27: 288	−29: 689
(414)	Sp.	*Lophochloa* Reichenb.	Kerguélen	25: 362	−27: 289	−29: 689
(415)	Sp.	*Leptochloa* Beauv.	Kerguélen	25: 363	−27: 289	−29: 689
(416)	Sp.	*Echinochloa* Beauv.	Veldkamp	25: 363	+27: 289	+29: 689
(417—not assigned)						
(418)	Fungi	*Tomentella* Pat. [emend.]	Stalpers	25: 364	+29: 148	
(419)	Foss.	*Czekanowskia* Heer	Kiritchkova & Samylina	25: 515		
(420)	Fungi	*Hydnum* Fr.	Petersen	26: 144	+29: 148	
(420bis)	Fungi	*Penicillium* S. F. Gray	Hawksworth, Pitt, & Sutton	25: 670	−29: 148	
(421)	Sp.	*Moraea* P. Miller [emend. typ. cons.]	Goldblatt	25: 593	+27: 544	+29: 689
(422)	Sp.	*Toona* (Endl.) Roem.	Styles	25: 673	−29: 489	
(423)	Sp.	*Didymocarpus* Wallich [emend. typ. cons.]	Hara	26: 146	+27: 544	+29: 689
(424)	Sp.	*Talinum* Adans.	McNeill	26: 147	+27: 545	+29: 689
(424bis)	Algae	*Tetraëdon* Kützing [typ. cons.]	Compère	26: 331		

NOMINA GENERICA CONSERVANDA PROPOSITA—Continued

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(425)	Sp.	*Saurauia* Willd.	Hoogland, Schultes, & Soejarto	26: 147	+27: 545	+29: 689
(426)	Sp.	*Malvastrum* (DC.) Gray [emend.]	Fryxell & Hill	26: 336	−27: 545	−29: 689
(427)	Fungi	*Racodium* Fr.	Hawksworth & Riedl	26: 208	+29: 148	
(—A)	Fungi	*Hypoderma* St. Amans	Darker	—	−29: 148	
(—B)	Fungi	*Lophodermium* Chev.	Darker	—	+29: 148	
(—C)	Fungi	*Scutellinia* (Cooke) Lamb	Rifai	—	+29: 148	
(429)	Sp.	*Amorphophallus* Decne. [emend. typ. cons.]	Nicolson	26: 337	+27: 545	+29: 689
(430)	Sp.	*Pinellia* Tenore	Nicolson & Bogner	26: 338	+27: 545	+29: 689
(431)	Fungi	*Drechslera* Ito	Sutton	26: 591		
(432)	Sp.	*Banisteriopsis* Small [typ. cons.]	Gates	26: 593		
(433)	Sp.	*Eustylis* Engelm. & Gray	Ravenna	26: 593	−29: 489	
(434)	Sp.	*Griselinia* G. Forster	Edgar & Philipson	26: 594	−29: 490	
(435)	Sp.	*Peltiphyllum* (Engler) Engler [repeated as Prop. 444, 27: 304]	Raven	26: 595	−29: 490	
(436)	Bry.	*Pleurozium* Mitt.	Crosby & Crum	26: 596		
(438bis)	Sp.	*Bystropogon* L'Hérit.	Harley	27: 122	+29: 490	
(439bis)	Algae	*Coscinodiscus* Ehrenb. [typ. cons.]	Fryxell	27: 122		
(440bis)	Bry.	*Jubula* Dumort.	Guerke	27: 125		
(442)	Bry.	*Heteroscyphus* Schiffn.	Grolle	27: 127		
(444 = 435)						
(445)	Sp.	*Peyrousea* DC. [emend. typ. cons.]	Bremer	27: 305	+29: 491	
(446)	Fungi	*Debaryomyces* Lodder & Kreger-van Rij	Lodder & Kreger-van Rij	27: 306		
(447)	Sp.	*Fittonia* Coemans	Brummitt	27: 307	+29: 491	
(448)	Fungi	*Encoelia* (Fr.) Karst.	Eckblad, Holm, Nannfelt, & Müller	27: 309		
(450)	Sp.	*Triguera* Cav. [emend.]	Hansen & Hansen	27: 314	−29: 491	
(451)	Sp.	*Vigna* Savi	Verdcourt	27: 220	+29: 491	

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(452)	Sp.	*Macrotyloma* (Wight & Arn.) Verdc.	Verdcourt	27: 221	+29: 492	
(454)	Fungi	*Ceratocystis* Ell. & Halst.	Upadhyay	27: 553		
(458)	Sp.	*Chamaedorea* Willd.	Moore	27: 555		
(459)	Sp.	*Cytisus* Desf. [typ. cons.]	Polhill et al.	27: 556		
(460)	Sp.	*Glycine* Willd. [emend.]	Lackey	27: 560		
(461A)	Sp.	*Cochlospermum* Kunth [emend. typ.]	Nicolson	28: 369		
(461B)	Sp.	*Bombax* L. [typ. cons.]	Nicolson	28: 371		
(461C)	Sp.	*Dendrobium* Sw. [emend. typ.]	Holttum, Brieger, & Cribb	28: 409		
(462)	Sp.	*Calanthe* R. Br. [emend. typ.]	Panigrahi & Das	28: 419		
(463)	Sp.	*Agalinis* Raf. [emend.]	D'Arcy	28: 419		
(464)	Sp.	*Asperula* L. [typ. cons.]	Adema & Rauschert	28: 422		
(466)	Algae	*Grateloupia* C. A. Ag. [See also 29: 133 & 30: 315]	Dixon & Irvine	28: 605		
(467)	Fungi	*Helminthosporium* Fr. [emend.]	Weresub & Hughes	28: 605		
(468)	Bry.	*Calypogeia* Raddi [typ. cons.]	Grolle	28: 607		
(469)	Pt.	*Doryopteris* J. Sm.	Tryon	28: 609	+30: 162	
(470)	Sp.	*Bouteloua* Lag.	Gould	28: 609		
(471)	Sp.	*Tapinanthus* (Blume) Reichenb.	Tölken & Wiens	28: 610		
(477)	Algae	*Abedinium* Loeblich & Loeblich	Silva	29: 121		
(478)	Algae	*Amphilothus* Poche	Silva	29: 122		
(479)	Algae	*Anabena* Bornet & Flahault	Silva	29: 122		
(480)	Algae	*Anadyomene* Lamouroux	Silva	29: 123		
(481)	Algae	*Anthophysa* Bory	Silva	29: 123		
(482)	Algae	*Audouinella* Bory	Silva	29: 123		
(483)	Algae	*Botrydiopsis* Borzi	Silva	29: 123		
(484)	Algae	*Botryocladia* (J. Agardh) Kylin	Silva	29: 124		
(485)	Algae	*Centritractus* Lemmermann	Silva	29: 125		
(486)	Algae	*Charcotia* M. Peragallo	Silva	29: 125		

NOMINA GENERICA CONSERVANDA PROPOSITA—Continued

No.	Group	Nom. Cons. Prop.	Prop. by	Orig.	References Sp. Comm.	Gen. Comm.
(487)	Algae	*Chilomastix* Alexeieff	Silva	29: 125		
(488)	Algae	*Chlamydomonas* Ehrenberg	Silva	29: 125		
(489)	Algae	*Cladophora* Kützing	Silva	29: 130		
(490)	Algae	*Corynomorpha* J. Agardh	Silva	29: 130		
(491)	Algae	*Debarya* Wittr.	Silva	29: 131		
(492)	Algae	*Dinamoebidium* Pascher	Silva	29: 131		
(493)	Algae	*Dogelodinium* Loeblich & Loeblich	Silva	29: 131		
(494)	Algae	*Falklandiella* Kylin	Silva	29: 131		
(495)	Algae	*Gloeococcus* Braun	Silva	29: 132		
(496)	Algae	*Griffithsia* C. Agardh	Silva	29: 134		
(497)	Algae	*Gyrodinium* Kofoid & Swezey	Silva	29: 135		
(498)	Algae	*Haematococcus* C. Agardh [emend. typ.]	Silva	29: 136		
(499)	Algae	*Halymenia* C. Agardh [See 30: 314]	Silva	29: 136		
(500)	Algae	*Hildenbrandia* Nardo	Silva	29: 137		
(501)	Algae	*Karotomorpha* Travis	Silva	29: 137		
(502)	Algae	*Keppenodinium* Travis	Silva	29: 137		
(503)	Algae	*Latifascia* Loeblich & Loeblich	Silva	29: 137		
(504)	Algae	*Leptonematella* Silva	Silva	29: 138		
(505)	Algae	*Monodus* R. Chodat	Silva	29: 138		
(506)	Algae	*Nemastoma* J. Agardh	Silva	29: 139		
(507)	Algae	*Neurocaulon* Kützing	Silva	29: 139		
(508)	Algae	*Prasiola* (C. Agardh) Meneghini	Silva	29: 141		
(509)	Algae	*Schizogonium* Kützing	Silva	29: 141		
(510)	Algae	*Rivularia* Bornet & Flahault	Silva	29: 141		
(511)	Algae	*Schizymenia* J. Agardh [See 30: 317]	Silva	29: 142		
(512)	Algae	*Sphacelaria* Lyngbye	Silva	29: 142		
(513)	Algae	*Sphaeripara* Poche	Silva	29: 143		
(514)	Algae	*Trentepohlia* Martius [emend.]	Silva	29: 143		
(515)	Algae	*Urospora* Areschoug	Silva	29: 144		

NOMINA GENERICA CONSERVANDA PROPOSITA—Continued

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(516)	Sp.	*Rhagadiolus* Juss.	Meikle	29: 159		
(517)	Pt.	*Notholaena* R. Br. [typ. cons.]	Tryon & Tryon	29: 160	–30: 162	
(520)	Sp.	*Notodanthonia* Zotov	Veldkamp	29: 293		
(521)	Sp.	*Bignonia* L. [typ. cons.]	Wilbur	29: 303		
(522)	Algae	*Pseudobryopsis* Berthold	Chihara, Diaz-Piferrer, & Papenfuss	29: 329		
(523)	Algae	*Pocockiella* Papenfuss	Papenfuss	29: 330		
(524)	Sp.	*Freesia* Klatt	Goldblatt	29: 331		
(525)	Sp.	*Cunila* L.	Reveal & Strachan	29: 332		
(526)	Sp.	*Odontonema* Kuntze	Baum & McNeill	29: 334		
(529)	Sp.	*Petalacte* D. Don	Hilliard & Burtt	29: 507		
(530)	Sp.	*Picrodendron* Griseb.	Hayden & Reveal	29: 507		
(531)	Sp.	*Hagenia* J. F. Gmelin	Jansen, Hepper & Friis	29: 511		
(532)	Pt.	*Dennstaedtia* T. Moore	Tryon & Tryon	29: 512		
(533)	Sp.	*Rottboellia* L. f. [emend.]	Clayton	29: 691		
(534)	Sp.	*Rottboellia* L. f. [emend. typ.]	Clayton	29: 692		
(535)	Lich.	*Melanelia* Essl.	Esslinger	29: 692		
(536)	Sp.	*Stelis* Sw. [emend. typ.]	Garay	29: 692		
(537)	Sp.	*Lampranthus* N. E. Br.	Glen	29: 693		
(538)	Lich.	*Caloplaca* T. Fries [emend.]	Hafellner	29: 694		
(541)	Foss.	*Cordaites* Unger	Storch	30: 213		
(542)	Foss.	*Calamites* Brongn. [emend. typ.]	Storch	30: 215		
(547)	Sp.	*Cordialis* DC. [emend. typ.]	Lidén	30: 323		
(548)	Sp.	*Xanthostemon* F. Mueller	Wilson & Dawson	30: 326		
(549)	Sp.	*Millettia* Wight & Arnott	Geesink	30: 328		
(550)	Sp.	*Pongamia* Vent. [emend.]	Geesink	30: 328		
(551)	Fungi	*Hypholoma* (Fr.) Kummer	Farr & Farr	30: 332		
(552)	Fungi	*Nematoloma* Karst.	Farr & Farr	30: 332		
(553)	Fungi	*Psathyrella* (Fr.) Quél.	Farr & Farr	30: 333		

NOMINA GENERICA CONSERVANDA PROPOSITA—Continued

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(554)	Bry.	*Nothothylas* Sull.	Grolle	30: 334		
(555)	Sp.	*Kohautia* Cham. & Schlecht.	Mabberley	30: 335		
(556)	Fungi	*Pythium* Pringsh. [emend.]	van der Plaats-Niterink	30: 336		
(557)	Fungi	*Laetinaevia* Nannf.	Hein	30: 336		
(558)	Sp.	*Aspidosperma* Mart. [emend.]	Fallen	30: 337		
(559)	Fungi	*Amphisphaeria* Ces. & de Not. [emend. typ.]	Hawksworth & Sherwood	30: 338		
(560)	Lich.	*Anisomeridium* (Müll. Arg.) M. Choisy	Hawksworth & Sherwood	30: 339		
(561)	Fungi	*Chlorociboria* Ramam., Korf, & Batra	Hawksworth & Sherwood	30: 340		
(562)	Lich.	*Phaeotrema* Müll. Arg. [emend.]	Hawksworth & Sherwood	30: 340		
(563)	Lich.	*Graphina* Müll. Arg.	Hawksworth & Sherwood	30: 340		
(564)	Fungi	*Karstenia* Fr.	Hawksworth & Sherwood	30: 341		
(565)	Lich.	*Mycoporum* Nyl.	Hawksworth & Sherwood	30: 342		
(566)	Fungi	*Phacidium* Fr. [typ. cons.]	Hawksworth & Sherwood	30: 342		
(567)	Lich.	*Phaeographina* Müll. Arg.	Hawksworth & Sherwood	30: 343		
(568)	Lich.	*Phaeographis* Müll. Arg.	Hawksworth & Sherwood	30: 343		
(569)	Fungi	*Phaeostoma* v. Arx & E. Müller	Hawksworth & Sherwood	30: 344		
(570)	Fungi	*Phillipsia* Berk.	Hawksworth & Sherwood	30: 344		
(571)	Lich.	*Phlyctis* Wallr.	Hawksworth & Sherwood	30: 345		
(572)	Lich.	*Physconia* Poelt	Hawksworth & Sherwood	30: 345		
(573)	Lich.	*Psora* Hoffm.	Hawksworth & Sherwood	30: 346		
(574)	Lich.	*Pyrenula* Massal.	Hawksworth & Sherwood	30: 346		
(575)	Fungi	*Spilomela* (Sacc.) Keissler	Hawksworth & Sherwood	30: 347		
(576)	Fungi	*Winteria* (Rehm) Sacc.	Hawksworth & Sherwood	30: 347		
(580)	Sp.	*Centotheca* Desv.	Reeder	30: 348		
(581)	Pt.	*Stigmatopteris* C. Chr.	Tryon & Tryon	30: 349		
(582)	Sp.	*Kunzea* Reichb.	Tölken	30: 350		
(583)	Fungi	*Epidermophyton* Sabouraud [See also 386]	McGinnis et al.	30: 350		

NOMINA GENERICA CONSERVANDA PROPOSITA—Continued

No.	*Group*	*Nom. Cons. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(584)	Fungi	*Triplosporium* (Thaxter) Batko	Humber et al.	30: 353		
(585)	Fungi	*Stemonitis* Roth	Farr & Alexopoulos	30: 357		
(586)	Sp.	*Curcuma* Roxb.	Burtt	30: 360		
(587)	Sp.	*Nicolaia* Horan.	Burtt	30: 361		

NOMINA REJICIENDA PROPOSITA (sub Art. 69)

No.	*Group*	*Nom. Rej. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(—)	Sp.	*Bromus purgans* L.	McNeill	25: 614	+27: 546	+29: 689
(441)	Fungi	*Phialea* (Pers.) Gillet	Dumont & Korf	26: 598		
(441bis)	Sp.	*Nonea echioides* (L.) R. & S.	Edmondson	27: 126	−29: 492	
(443)	Sp.	*Limonia acidissima* L.	Panigrahi	26: 576		
(443bis)	Sp.	*Orchis latifolia* L.	Vermeulen	26: 600	−29: 493	
(449)	Sp.	*Alternanthera ficoidea* (L.) Beauv.	Veldkamp	27: 310		
(456)	Sp.	*Solanum indicum* L.	Hepper	27: 555		
(457)	Sp.	*Solanum sodemeum* L.	Hepper	27: 555		
(461)	Sp.	*Scabiosa papposa* L.	Meikle	27: 560		
(472)	Sp.	*Carex rosea* Willd.	Webber & Ball	28: 614		
(473)	Sp.	*Carex radiata* (Wahlenb.) Small	Webber & Ball	28: 614		
(474)	Sp.	*Lupinus varius* L.	Lee & Gladstones	28: 616		
(475)	Sp.	*Lupinus hirsutus* L.	Lee & Gladstones	28: 618		
(476)	Sp.	*Stipa columbiana* Macoun	Barkworth & Maze	28: 624		
(519)	Sp.	*Rotala decussata* DC.	Cook	29: 161		
(527)	Bry.	*Grimmia alpicola* Hedw.	Bremer	29: 337		
(527)	Bry.	*Schistidium alpicola* (Hedw.) Limpr.	Bremer	29: 337		
(528)	Sp.	*Paspalum distichum* L.	Renvoize & Clayton	29: 339		
(539)	Sp.	*Pulicaria undulata* (L.) C. A. Meyer	Jeffrey et al.	29: 694		
(540)	Sp.	*Amaranthus blitum* L.	Brenan & Townsend	29: 695		
(577)	Lich.	*Lichen jubatus* L.	Hawksworth & Sherwood	30: 347		
(578)	Lich.	*Arthonia lurida* Ach.	Hawksworth & Sherwood	30: 348		
(579)	Fungi	*Phacidium musae* Lév.	Hawksworth & Sherwood	30: 348		
(588)	Sp.	*Aegilops ovata* L.	Lambinon	30: 361		
(589)	Sp.	*Bromus hordeaceus* L.	Lambinon	30: 362		
(590)	Sp.	*Carex muricata* L.	Lambinon	30: 362		
(591)	Sp.	*Crataegus* ×*media* Bechst.	Lambinon	30: 362		
(592)	Sp.	*Crataegus oxyacantha* L.	Lambinon	30: 362		
(593)	Sp.	*Dipsacus fullonum* L.	Lambinon	30: 362		

NOMINA REJICIENDA PROPOSITA (sub Art. 69)—Continued

No.	*Group*	*Nom. Rej. Prop.*	*Prop. by*	*Orig.*	*References Sp. Comm.*	*Gen. Comm.*
(594)	Sp.	*Euphorbia verrucosa* L.	Lambinon	30: 363		
(595)	Sp.	*Medicago polymorpha* L.	Lambinon	30: 363		
(596)	Sp.	*Phleum exaratum* Hochst. ex Griseb.	Lambinon	30: 363		
(597)	Sp.	*Potamogeton pusillus* L.	Lambinon	30: 363		
(598)	Sp.	*Salix* ×*smithiana* Willd.	Lambinon	30: 364		
(599)	Sp.	*Spergularia media* (L.) C. Presl	Lambinon	30: 364		
(600)	Sp.	*Vulpia membranacea* (L.) Dum.	Lambinon	30: 364		

Appendix B

REPORTS OF COMMITTEES

Review of Post-Leningrad Reports

Committee	Publication (Taxon)	Report General Committee
Spermatophyta 19	25: 174–176	25: 511
Spermatophyta 20	27: 285–289	29: 689
Spermatophyta 21	27: 543–546	29: 689
Spermatophyta 22	29: 489–493	
Spermatophyta 23	30: 155–161	not required
Pteridophyta	25: 176	25: 511
Pteridophyta	30: 161–163	
Subcommittee, Family Names of Pteridophyta	30: 163–168	
Fossil Plants	24: 690 [supplements pre-Leningrad report of 24: 387–389]	25: 511
Fungi & Lichens	27: 543	29: 689
Fungi & Lichens	29: 148–149	
Bryophyta	awaited	
Stabilization	awaited	not required
Romanization	30: 168–183	not required
Autonyms	30: 183–200	not required
Generic Typification	30: 200–207	not required
Nom. Sp. Cons. Rej.	awaited	not required
General	25: 511–512	—
General	29: 689	

REPORT OF THE COMMITTEE FOR SPERMATOPHYTA: 23 PROPOSALS TO THE SYDNEY CONGRESS

The present report is somewhat different from previous ones in that it contains only proposals to modify the International Code. The Committee's recommendations on proposals for conservation or rejection of names will continue in the next report. The membership of the Committee during preparation of the present proposals to the Sydney Congress was as follows:

I. A. Linczevski (USSR), Chairman
R. K. Brummitt (Gt. Britain), Secretary
G. Buchheim (USA)
H. -J. Eichler (Australia)
F. R. Fosberg (USA)
W. Greuter (Germany)
H. Hara (Japan)
B. Jonsell (Sweden)
D. J. B. Killick (South Africa)
J. McNeill (Canada)
R. McVaugh (USA)
D. H. Nicolson (USA)

On his appointment as Vice-Rapporteur to the Sydney Congress, Greuter has now resigned from the Committee and has been replaced by W. Lack (Berlin).

During consideration of proposals for conservation or rejection of names the Committee has frequently come up against problems of interpretation of the International Code. In many instances vigorous debate has been pursued in correspondence of the Committee, and often

a large measure of agreement has eventually been reached where there was originally broad disagreement. Suggestions made in the Committee that proposals for clarification or modification of the Code should be put forward by the Committee itself have resulted in the present report.

All matters discussed were put to a vote, and only those proposals which received at least 8 votes in favour (as is usual in this Committee) have been put forward below for consideration by the Sydney Congress. At least two other important decisions received 7 votes in favour and 5 against and so have not been put forward here, and numerous other possibilities were considered and rejected. All proposals made below come from the Committee for Spermatophyta as a whole.

1. Definition of 'similar names' in Art. 75

In recent years several conservation proposals have depended on a judgment of whether two generic names are so similar that they are likely to be confused. Examples are *Rhapontica* vs. *Rhaponticum*, *Dichopetalum* vs. *Dichapetalum* and *Peltiphyllum* vs. *Peltophyllum*. Art. 75.1 gives no guidance on how the likelihood of confusion is to be determined apart from giving a number of somewhat random examples. The acceptability of some of these examples may reasonably be questioned. Independently of each other, two members of the Committee, Brummitt and Nicolson, undertook a survey of the lists of conserved and rejected names in Appendix III of the Code to see if established practice here could be analysed to reveal any general principles. Both came up with very similar ideas, and the following proposal has resulted. It is divided into nine parts, a–i, and since some of these may prove more acceptable than others it is suggested that the Rapporteurs might ask for a postal vote on each part separately. Part *a*, for example, has been queried by some members of the Committee, but seems to reflect current practice (*Peltophorus* and *Peltophorum*, and *Peponia* and *Peponium*, are already listed in Art. 75 as not confusable, and *Limonia* and *Limonium*, *Centaurea* and *Centaurium*, etc., are currently in common use) and has received sufficient support for it to be put forward for consideration. Most of the examples in the proposal below are taken from the present Code, either from Art. 75 or Appendix III.

Proposal (76). Re-word Art. 75.1 as follows:

"When two or more names which are based on different types are so similar that they are likely to be confused, they are treated as homonyms (see Art. 64.2). The degree of similarity required for names to be confused is determined by the following criteria:

a. Names differing in an interchange between the terminal inflections *-us*, *-a* and *-um* cannot be considered likely to be confused.

Examples: *Peltophorus* and *Peltophorum*, *Peponia* and *Peponium*, *Limonia* and *Limonium*, and *Physocarpus* and *Physocarpa* respectively, are not likely to be confused and cannot be regarded as homonyms.

b. Names differing only in interchange of the terminal inflections *-on* and *-um*, or *-e* and *-a*, or *-os*, *-us* and *-as*, or *-us*, *-es* and *-e* respectively, must be considered likely to be confused.

Examples: *Ceramium* and *Ceramion*, *Symphyogyne* and *Symphyogyna*, *Cephalotos* and *Cephalotus*, *Pentaceras* and *Pentaceros*, *Byrsanthus* and *Byrsanthes*, *Codonanthus* and *Codonanthe* are based on different types and to be treated as homonyms, while *Clerodendrum* and *Clerodendron* are based on the same type and are orthographic variants of the same name.

c. Names differing only in presence or absence of a connecting vowel, or in having a different connecting vowel, or in substitution of more than one connecting vowel or diphthong for a single vowel, between two syllables must be considered likely to be confused. The same does not necessarily apply to vowel changes in the middle of a syllable.

Examples: *Columella* and *Columellia*, *Thamnia* and *Thamnea*, *Dichopetalum* and *Dichapetalum*, *Peltiphyllum* and *Peltophyllum*, *Piliocalyx* and *Pileocalyx*, *Correia* and *Correa*, *Bivonaea* and *Bivonea*, and *Symphyostemon* and *Symphostemon*, are based on different types and to be treated as homonyms, while *Lagascea* and *Lagasca* are based on the same type and are

orthographic variants of one name. However, *Vaseyochloa* and *Veseyochloa* are not homonyms.

d. Names differing only in having either a single or a double consonant must be considered likely to be confused.

Examples: *Rottboellia* and *Rottboelia*, *Wolffia* and *Wolfia*, *Cummingia* and *Cumingia*, and *Vaupellia* and *Vaupelia*, are based on different types and to be treated as homonyms, while *Matthiola* and *Mathiola*, and *Tourretia* and *Tourrettia* are based on the same types and are orthographic variants of the same name respectively.

e. Names differing only in presence or absence of the letter 'h' must be considered likely to be confused, except when the 'h' immediately follows 's'.

Examples: *Ceterach* and *Ceterac*, *Burchardia* and *Burcardia*, and *Sorghum* and *Sorgum*, are based on different types and to be treated as homonyms, while *Rhynchospora* and *Rynchospora*, and *Helichrysum* and *Elichrysum* are based on the same types and are orthographic variants of the same name respectively. However, *Shuteria* and *Suteria* are based on different types and are not to be treated as homonyms.

f. Names differing only in interchange of 'c' with 'k', 'v' with 'u' or 'w', 'i' with 'j', or 'y' with 'i', 'j' or 'u' must be considered likely to be confused.

Examples: *Scytanthus* and *Skytanthus*, *Wiborgia* and *Viborgia*, *Helwingia* and *Helvingia*, *Willughbeia* and *Willughbeja*, *Kyllinga* and *Killinga*, *Syzygium* and *Suzygium*, *Mackaya* and *Mackaia*, and *Bradburya* and *Bradburia* are based on different types and to be regarded as homonyms, while *Euonymus* and *Evonymus*, *Buddleia* and *Buddleja*, *Pernettya* and *Pernettia*, *Phaylopsis* and *Phaulopsis*, and *Berrya* and *Berria* are based on the same types and are orthographic variants of the same name respectively.

g. Names differing only in the presence or absence of 'c' before 'k', or 't' before 'z', or 'e' after a consonant and before 'r', must be considered likely to be confused.

Examples: *Schrankia* and *Schranckia*, *Schulzia* and *Schultzia*, and *Astrostemma* and *Asterostemma*, are based on different types and to be considered homonyms, while *Lamarkia* and *Lamarckia*, and *Wikstroemia* and *Wickstroemia* are based on the same type and are orthographic variants of the same name respectively.

h. Names differing only in interchange of the suffixes *-ites* and *-itis*, or *-opis* and *-opsis*, or *-oides* and *-odes*, must be considered likely to be confused.

Examples: *Arachnitis* and *Arachnites*, *Rhodopis* and *Rhodopsis*, and *Santalodes* and *Santaloides* are heterotypic and to be regarded as homonyms, while *Nymphoides* and *Nymphodes* are based on the same type and are orthographic variants of the same name.

i. Cases of similar names based on different types and not covered by the above rules should be judged individually according to the likelihood of confusion, bearing in mind such considerations as current usage and acceptance, whether the names apply to closely related plants, whether they occur in the same geographical area, and the etymological derivation of the word. When it is doubtful whether names of genera, families and intermediate taxa seem sufficiently alike to be confused, guidance by the nomenclatural committee or committees for the appropriate group or groups (see Division III) may be obtained.

Examples of names likely to be confused: *Bradlea*, *Bradleja* and *Braddleya* (all named after Richard Bradley): *Simarouba* and *Simaruba*; *Bourreria* and *Beureria*; *Harrisonia* and *Harissona*; *Reboulia* and *Rebouillia*; *Coccocypselum* and *Coccocipsilum*; *Bougainvillea* and *Buginvillaea*; *Pleospora* and *Pleiospora*.

Examples of names not likely to be confused: *Rubia* and *Rubus*; *Iria* and *Iris*; *Urvillea* and *Durvillea*; *Acanthococcus* (an alga) and *Acanthococos* (a palm); *Hydrochloa* (a N. American grass) and *Hygrochloa* (an Australian grass)."

A majority of the Committee believe that provisions a–h in the above proposal would give a clear ruling in most cases of doubtful homonymy. Provision *i* seems necessary to cover the small minority of cases not covered by a–h. The second sentence of provision *i* recommends that problem cases may be referred to special group committees, a procedure which is considered preferable to referral to the General Committee which is recommended in the existing Art. 75.

The Committee is aware that there may be some danger in accepting the above proposal without really knowing in detail the effects it might have, though most of the provisions are thought to reflect what is already current practice. Publication of I.N.G. last year, where for the first time generic names in all major groups are listed in one place, may throw up previously unsuspected cases of near homonymy, and there has been little opportunity to assess how the present proposal will affect such cases. Nonetheless, the Committee as a whole feels that clear guidance in the Code is long overdue, and asks the Sydney Congress to consider the suggested new clarification.

2. Orthographic variants in relation to homonymy

Proposal (77). Add to Art. 75 a new paragraph 75.3:

"All orthographic variants (different spellings of a name based on one type), except the original and possibly existing later legitimate spelling (i.e. that corrected in accordance with the provisions of the Code, including that rendered legitimate by conservation) are not to be taken into consideration for the purpose of homonymy."

The Code at present gives no indication of whether orthographic variants of a name can be earlier homonyms of other names and make the latter illegitimate. An example came before the Committee recently in a conservation proposal on *Lepistemon* Blume 1825. This name was changed by Hasskarl in 1844 to *Lepidostemon*, an orthographic variant of the original name of Blume and applied to the same genus of Convolvulaceae. In 1861 the name *Lepidostemon* was used by Hooker f. & Thomson for a genus of Cruciferae. The question then arises as to whether Hasskarl's orthographic variant of Blume's spelling makes the name published in 1861 a later homonym. The above proposal would make it clear that it does not. The same problem was discussed by Proskauer in Taxon 10: 155–156 (1961), by Bullock in Taxon 10: 240–242 (1961), by Bullock again in Taxon 12: 289–290 (1965) and by McVaugh & Bullock in Taxon 17: 55–57 (1968), but no decision has ever been taken to clarify the Code on this point. This Committee now feels that a decision must be taken to put an end to doubts, and unanimously recommends acceptance of the above proposal. The case of *Lepidostemon* may be given as an example.

3. Clarification of Article 42.

Art. 42 refers to certain conditions for valid publication of a name of a "monotypic new genus based on a new species." This raises the questions of what is a "monotypic genus," what is a "new genus" and what is a "new species." Having become involved in trying to sort out these problems the Committee has proceeded to consider other parts of the wording of the Article, including the meaning of the word "analysis" which is nowhere explained. Eventually a completely new wording for the Article has been found desirable in which the ambiguous word "new" does not appear, "monotypic" is defined for this context, and "analysis" is explained. It is believed that this new wording will eliminate the present considerable doubts as to when the Article applies and when it does not, and will dispense with the rather repetitive wording of the present 42.2 and 42.3.

It has been noted in the Committee that one cannot be certain how the new wording will affect names already rejected under Art. 42. However, there seems to be no way of ever ascertaining this, and meanwhile there is a clear need to clarify existing ambiguities, and a clear majority of the Committee are in favour of the new wording.

The problems of applying this Article became very evident to the Committee in consideration of the proposal on conservation of the name *Stemodia* published in Taxon 24: 653 (1975). This depends on whether or not the name *Phaelypea* was validly published by P. Browne, Hist. Jamaica: 269 (1756). Browne gave no generic description, but included one species which had a specific description, and the question thus arises as to whether Art. 42 may be applied to allow validation of the generic name by a *descriptio generico-specifica*. Browne did not adopt binomial nomenclature and his species was given only a phrase name, and doubt therefore arises as to whether he described a "new species." Furthermore Browne referred back to a

pre-Linnaean phrase name published by Sloane, so again doubts arise as to whether the species was "new." The Committee was at first divided, some arguing that the species was not new because Sloane had already described it, some arguing that Sloane was irrelevant but the species was not new because Browne did not give it a binomial, and others arguing that the species was new in 1756 and continued to be a "new species" until it was first given a valid binomial in 1759. After much discussion in the Committee the view eventually prevailed that in a nomenclatural context "new" should be defined in strictly nomenclatural terms, and that Art. 42 should require simultaneous publication of single generic and specific names. However, rather than introduce a definition of "new" in this Article which might conflict with usage of the word elsewhere in the Code, a wording was devised which eliminated the word altogether.

In the question of "monotypic genus" the Committee has opted for a definition based on valid publication of a single binomial, which should always be easy to apply. This would exclude genera under which no binomial was published (as in the case of P. Browne above) as well as those in which more than one binomial was given. The alternative would be to define "monotypic" as including only one species irrespective of how many species names are validly published. This might involve subjective interpretation of comments by the author on other related species for which he did not publish new specific names, perhaps, for example, because they did not occur in the geographical locality which the author was dealing with.

In definition of "analysis" the words "essential characters" have been dropped since this involves subjective judgment. What is essential to one botanist may not be essential to another. This necessitates editorial changes also in Art. 44 which also refers at present to an "analysis showing essential characters," see separate proposal below.

The question of whether a name may be validated under Art. 42 by reference back to a previously published *descriptio generico-specifica* has been raised before in the Committee, as for example in a proposal on the conservation of *Pterolobium*, and it seems necessary to add a clarifying sentence to the Article.

Proposal (78). Replace Art. 42.1, 42.2, 42.3 and 42.4 by the following:

"The names of a genus and a species may be simultaneously validated by provision of a single description (*descriptio generico-specifica*) or diagnosis, even though this may have been intended as only generic or specific, if all the following conditions obtain: (1) the genus is at that time monotypic—see note below; (2) no other names (at any rank) have previously been validly published based on the same types; and (3) the names of the genus and species otherwise fulfil the requirements for valid publication. Reference back to an earlier description or diagnosis may not be accepted as provision of such a description or diagnosis. Prior to 1 January 1908 the provision of an illustration with analysis, or for microscopic plants a single figure showing details aiding identification, may be accepted in place of a written description or diagnosis.

Examples: [Existing examples of *Strophioblachia*, *Piptolepis* and *Philgamia*]. In publishing the name *Phaelypea* without a generic description P. Browne (Hist. Jamaica: 269. 1756) included and described a single species, but he gave the species a phrase-name and did not provide a valid binomial. Art. 42 cannot therefore be applied and the name *Phaelypea* is a *nomen nudum* and so is not validly published.

Note 1. In this context a monotypic genus is one for which a single binomial is validly published, even though the author may indicate that other species are attributable to the genus.

Note 2. An analysis in this context is a figure or group of figures, commonly separate from the main illustration of the plant (though usually on the same page or plate), showing details aiding identification, with or without a separate caption."

Proposal (79). Add at the end of Art. 41.1 the following: "or if the conditions specified in Art. 42 apply."

This seems to be a simple but necessary editorial correction to avoid a contradiction between Art. 42 and Art. 41.

Proposal (80). In Art. 44.1 and 44.2 delete "showing essential characters" and insert instead "(see Art. 42, Note 2)."

The need for this change, consistent with the proposed new Art. 42, is discussed above.

4. An editorial addition to Art. 69

Art. 14.9 explains the procedure necessary for making additions to the list of conserved names. The Leningrad Congress amended Art. 69 to allow creation of a list of rejected specific names, but failed to make any comparable provision explaining the procedure involved. The following proposal should rectify this omission.

Proposal (81). Add to Art. 69 a new paragraph analogous to Art. 14.9 explaining procedure for adding names to the list of rejected names of species.

5. On latinization of personal epithets

In correspondence circulated within the Committee in 1979 Eichler asked other members for their views on whether De Candolle's repeated use, in different genera, of the spelling *billardierii* commemorating the botanist La Billardière should be 'corrected' to *billardieri* or to *billardierei* or should be left in its original form. This correspondence coincided almost exactly with publication by L. C. Leach in Taxon 28: 602–604 (1979) of a consideration of whether the epithet *monteiri,* commemorating Monteiro, should be 'corrected' to *monteiroi* or not, with two opposing proposals submitted for consideration by the Sydney Congress in order to achieve some clarification of the Code. In the ensuing discussion in the Committee it became apparent that two totally different interpretations were possible of Art. 73.7 which reads "when changes made in orthography by earlier authors who adopt personal, geographic or vernacular names in nomenclature are intentional latinizations, they are to be preserved." One school took "earlier authors" to mean botanists in the early part of the history of nomenclature, say up to 1800 or 1850, while the other school took "orthography by earlier authors" to mean the orthography originally adopted before the change was made, at any date. Complete ambiguity seems to exist. A further objection to the paragraph is that determination of "intentional latinizations" is a very subjective decision. There may also be amibiguity over whether "changes in orthography" refers to orthography of the name of the botanist commemorated or of the epithet so derived. The following proposal is an attempt at overcoming these difficulties, though it may be open to criticism on the grounds that any changes, such as for example printers' errors, are apparently to be regarded as intentional latinizations.

Proposal (82). Re-word Art. 73.7 as follows:

"Names and epithets derived from personal, geographic or vernacular names, the spelling of which differs from that of the names from which they were derived, are regarded as intentional latinizations and are to be retained."

In discussion in the Committee both of Leach's proposals 40 and 41 received some support, and the question of 'correction' of *billardierii* was thought to offer a useful example of the problem. The following allows for either possibility in consideration of the Leach proposals.

Proposal (83). If Leach's proposal 40 is accepted, add an example under Art. 73.7 "*Zygophyllum billardierii* DC.; De Candolle consistently latinized the name of La Billardière as 'Billardierius'," but if Leach's proposal 41 is accepted add an example under Art. 73.10 "*Zygophyllum billardierii* DC. is an orthographic error for *Z. billardierei*."

The following is a minor editorial requirement also dependent on the voting on Leach's proposals.

Proposal (84). If Leach's proposal 41 is accepted, add to Art. 73.7 the following: "(For terminations see Art. 73.10)."

6. Can an illegitimate name become legitimate?

This rather fundamental question has arisen in the Committee's consideration of certain

conservation proposals. Reference may be made to relevant comments by Nicolson in Taxon 24: 461–466 (1975) and Taxon 27: 365–370 (1978) and by Darwin in Taxon 25: 596 (1976). The conservation proposal on *Hoffmannseggia* in Taxon 23: 433–435 (1974) is also relevant. A majority of the Committee believe that a name illegitimate when published cannot become legitimate later unless it is conserved, even though the cause of original illegitimacy is later removed. As long as there is any doubt on such an important issue, the Code should make a clear ruling, and the proposal is made below.

Proposal (85). Add after Art. 6.4 (or any other place the Editorial Committee may consider more appropriate) the following: "Note: A name which was illegitimate when published cannot become legitimate later, unless it is conserved."

R. K. Brummitt (Secretary),
Royal Botanic Gardens,
Kew, Richmond, Surrey, U.K.

REPORT OF THE COMMITTEE FOR PTERIDOPHYTA

The Committee appointed by the XII International Botanical Congress held at Leningrad in 1975 consists of the following members: R. E. Holttum, K. Iwatsuki, F. M. Jarrett, R. E. G. Pichi Sermolli (Secretary), E. A. C. L. E. Schelpe, M. D. Tindale, R. M. Tryon (Chairman).

Three generic names have been proposed for conservation in the years following the Leningrad Congress: *Trichomanes* L., *Doryopteris* J. Smith, and *Notholaena* R. Br.

The Secretary has asked the Members of the Committee for comments on the above proposals. The comments have been circulated among the members in order to have a mail ballot on the proposals. Only four replies have been received within the day fixed as the deadline for the members' votes to be in the hands of the Secretary. In view of a possible delay due to the postal service replies have been waited for a further week and another voting has been received. Consequently the following result of the mail ballot is based only on the votes of five members out of seven.

Trichomanes Linnaeus, Sp. Pl. 2: 1097. 1753; Gen. Pl. ed. 5. 485. 1754. [T.: *T. scandens* Linnaeus] versus (=) *Vandenboschia* Copeland, Philipp. Journ. Sc.: 67: 51. 1938 [T.: *V. radicans* (Swartz) Copeland (*Trichomanes radicans* Swartz)].

Proposal no. 399 by R. E. Holttum, Taxon 25: 203–204. 1976.

Votes: in favour 4, against 1, not received 2.

The proposal, as formulated by Holttum, appears to be superfluous since *Trichomanes* has priority over *Vandenboschia*. Presumably, Holttum intended to propose the conservation of *Trichomanes* in order to conserve a particular type (*T. scandens* L.) but in this case the proposal had to be formulated in a different way. I do not know whether the Committee is entitled to change the proposal. The above-mentioned voting concerns the original proposal, pending a resolution by the General Committee.

Holttum's original proposal is erroneous as regards the type of the Linnaean genus; in no way can *T. scandens* be considered as the "holotype" of *Trichomanes*, as indicated by Holttum. This error has been corrected in the above-mentioned proposal which has been voted by the Committee.

Two opposite opinions have been expressed on the typification of *Trichomanes*. According to some authors, the genus must be lectotypified by *T. scandens* L., according to others the lectotype must be *T. crispum* L. These two opinions have been strongly supported by two members of the Committee in the above-mentioned comments and in previous publications.

In particular Holttum (Gard. Bull. Singapore 12: 304–305. 1949; Rev. Fl. Malaya, Ferns 86–87. 1955; Taxon 25: 203–204. 1976) bases his selection of *T. scandens* as the type of *Trichomanes* mainly on the first typification of the genus by J. Smith in 1875 and on the treatment by the botanists subsequent to the date of publication of the genus by Linnaeus.

The Secretary in previous publications (Pichi Sermolli, Webbia 12: 124–127. 1955; 28: 446–447. 1973; 31: 414. 1977) and in the detailed analysis of the problem presented in his comments designates *T. crispum* as the lectotype of *Trichomanes*. He bases his selection primarily on the elements which were studied by Linnaeus up to the time in which the genus was validly published and on the indications fit to ascertain the intent of Linnaeus in establishing the genus. Both of them afford good arguments in favour of an unquestionable typification by *T. crispum*. Accordingly, both the lectotypification by J. Smith and the treatment of the genus by later authors lose their importance, being based on an inadequate understanding of Linnaeus intent. Also, we must consider that J. Smith's typifications are sometimes arbitrary or unreliable for one reason or another. In some cases he selected as the type of a given genus a species not originally ascribed to it by its author.

The selection of either of these types has no nomenclatural consequence when the genus is circumscribed in a broad sense. On the contrary, when *Trichomanes* is split into various genera, the typification by one species or the other leads to nomenclatural changes of different entity. If *Trichomanes* is typified by *T. crispum* very few new combinations are necessary, since *T. scandens* and nearly all the species allied to *T. radicans* Swartz (the type of *Vandenboschia*) have already been transferred to *Vandenboschia* in the last forty years. If, on the contrary, *Trichomanes* is typified by *T. scandens*, the stability of the nomenclature of the group of genera derived from the splitting of *Trichomanes* is greatly compromised. No less than 25 new combinations need to be established since *T. crispum* and related species, should be transferred to the nearly unknown genus *Ragatelus*, while the name *Trichomanes* ought to replace either the well-known generic name *Vandenboschia*, if its type *T. radicans* and *T. scandens* are regarded as congeneric, or the name *Mortoniopteris* Pic. Ser., consisting of the single species *T. scandens*, if this is treated as generically distinct from *T. radicans*.

Doryopteris J. Smith, Journ. Bot. (Hooker) 3: 404; 4: 162. 1841. [T.: *D. palmata* (Willdenow) J. Smith (*Pteris palmata* Willdenow)] versus (=) *Cassebeera* Kaulfuss, Enum. Fil. 216. 1824 [T.: *C. triphylla* (Lamarck) Kaulfuss (*Adiantum triphyllum* Lamarck)].

Proposal no. 469 by R. M. Tryon, Taxon 28: 609. 1979.

Votes: in favour 5, against 0, not received 2.

In their comments all the members of the Committee agree that the conservation of *Doryopteris* is advisable in order to preserve the usage of this well-known generic name. No objection has been raised as regards the typification of both the conserved and rejected generic names.

The preventive rejection of *Cassebeera* in favour of *Pellaea* Link, suggested in the proposal, at present appears to be unadvisable.

Notholaena R. Brown, Prodr. Fl. Nov. Holl. 145. 1810 [T.: *N. trichomanoides* (Linnaeus) Desvaux (*Pteris trichomanoides* Linnaeus)] *typ. cons.*

Proposal no. 517 by R. M. Tryon, Taxon 29: 160–161. 1980.

Votes: in favour 3, against 2, not received 2.

The proposal to conserve *N. trichomanoides* as the type of *Notholaena* is based on the first typification of the genus by J. Smith in 1875.

There is a disagreement on the typification of *Notholaena* among the members of the Committee. Some of them agree with the proposal. On the contrary, M. D. Tindale is against it since R. Brown did not transfer *Pteris trichomanoides* to his genus *Notholaena*. She regards *N. distans* R. Brown as the type of the genus. Also the Secretary of the Committee is against the proposal. In his comment he maintains that J. Smith's lectotypification has to be superseded according to Art. 8 of the Code, since, in the same way as in *Trichomanes*, the choice was based upon a wrong understanding of the protologue. Following several previous authors (Christensen, Maxon, Weatherby, Ching, Tryon, Pichi Sermolli), the Secretary considers *N. marantae* as the type of the genus.

Contrary to the statement made in the proposal, the typification of the genus by *N. trichomanoides* can have serious consequences in the stability of nomenclature when *Notholaena* is treated as generically distinct both from *Cheilanthes* Swartz and from *Chrysochosma* (J. Smith) Kümmerle which represents the presently correct name for the genus consisting of *Pteris*

trichomanoides and allied species with farinose or smooth fronds. In this case the genus, including *N. marantae*, ought to bear the almost unknown name *Cosentinia* Todaro. It appears more logical, also for the sake of stability, to make the necessary new combinations in *Chrysochosma* rather than to adopt the name *Cosentinia* in place of the name *Notholaena*, which was unanimously and consistently used since its publication for *N. marantae* and related species.

R. E. G. Pichi Sermolli, Secretary,
Istituto Botanico dell'Università,
74 Borgo XX Giugno, 06100 Perugia, Italy

REPORT OF THE SUBCOMMITTEE FOR FAMILY NAMES OF PTERIDOPHYTA

In 1959, the Nomenclature Committee for Pteridophyta recommended to the IX International Botanical Congress held at Montreal the compilation of a list of family names of Pteridophyta (Taxon 8: 207. 1951). In agreement with this recommendation, as the Secretary of that Committee, I undertook the necessary bibliographical research and in 1970 I published a provisional catalogue of the family names of Pteridophyta (Webbia 25: 219–297. 1970) with the intent to providing a basis for the preparation of this list.

In 1975 the Nomenclatural Committee for Pteridophyta recommended to the XII International Botanical Congress held at Leningrad (Taxon 25: 176. 1976) the nomination of a Subcommittee for family names of Pteridophyta in order to prepare a list of *Nomina Familiarum Conservanda* of Pteridophyta, following the criteria adopted for the preparation of the list of family names of Spermatophyta, which is already included in Appendix II of the Code of Botanical Nomenclature (ed. 1978, pp. 238–257).

The Leningrad Congress accepted the recommendation and appointed a Subcommittee consisting of F. M. Jarrett, R. E. G. Pichi Sermolli (Secretary) and M. D. Tindale (Taxon 24: 689. 1975).

The main task of our Subcommittee was the preparation of the list of the family names of Pteridophyta for its inclusion in Appendix II (*Nomina Familiarum Conservanda*).

After the Leningrad Congress, as Secretary of this Subcommittee, I have prepared a list of all family names of Pteridophyta known to me. The list has been completed with some notes intended, contrary to the principle of priority, to preserve the use of some family names which have been widely and consistently adopted in botanical literature.

The list accompanied by 15 pages of comments on the conservation of some names and on other nomenclatural problems was forwarded (30 May 1980) to the members of the Subcommittee for voting and comments. July 10, 1980 was fixed as the deadline for the mail ballot to be in the hands of the Secretary of the Subcommittee. Within that day I received M. D. Tindale's voting but no communication from F. M. Jarrett. Accordingly the following result of the mail ballot of the Subcommittee for the family names of the Pteridophyta is based on the votes of two-thirds of its members only.

The result can be summarized as follows:

1) The proposal by R. Tryon for the conservation of the family names Dicksoniaceae and Pteridaceae (Taxon 27: 554–555. 1978; 29: 161. 1980) were duly considered. The conservation of Dicksoniaceae Bower versus Thyrsopteridaceae K. B. Presl was approved (2 votes in favour, 0 against, 1 not received). The proposal for the conservation of Pteridaceae Reichenbach versus Parkeriaceae Hooker was rejected (0 votes in favour, 2 against, 1 not received) since it is not feasible.

2) The Subcommittee approves the following list of the conserved family names of Pteridophyta (2 votes in favour, 0 against, 1 not received) and recommends that it be inserted in Appendix II (*Nomina Familiarum Conservanda*) of the International Code of Botanical Nomenclature:

Acrostichaceae Mettenius ex Frank in Leunis, Syn. Pflanzenk. ed. 2. 3: 1458. 1877.
T.: *Acrostichum* Linnaeus

Note: If this family is united with *Adiantaceae* Ching, Sunyatsenia 5: 229. 1940, the name *Acrostichaceae* is rejected in favour of *Adiantaceae*.

Actiniopteridaceae Pichi Sermolli, Webbia 17: 5. 1962.
T.: *Actiniopteris* Link

Adiantaceae Ching, Sunyatsenia 5: 229. 1940. [Prop. 543, see p. 320]
T.: *Adiantum* Linnaeus

Note: If this family is united either with *Parkeriaceae* W. J. Hooker, Exot. Fl. 2(20): t. 147. 1825, or with *Acrostichaceae* Mettenius ex Frank in Leunis, Syn. Pflanzenk. ed. 2. 3: 1458. 1877, or with *Sinopteridaceae* Koidzumi, Acta Phytotax. Geobot. 3: 50. 1934, the name *Adiantaceae* must be used.

Alsophilaceae K. B. Presl, Gefässb. Stip. Farrn 32. 1847.
T.: *Alsophila* R. Brown

Anemiaceae Link, Handb. Erken. Gew. 3: 8. 1833.
T.: *Anemia* Swartz, *nom. cons.*

Angiopteridaceae Fée ex Bommer, Bull. Soc. Roy. Bot. Belgique 5: 359. t. 1(6), 5(10). 1867 ('*Angiopterideae*'). [Fée, Mém. Soc. Mus. Hist. Nat. Strasbourg 4(1): 175. 1850 ('*Angyopteridées*')].
T.: *Angiopteris* Hoffman, *nom. cons.*

Antrophyaceae Ching, Acta Phytotax. Sin. 16(3): 11. 1978.
T.: *Antrophyum* Kaulfuss

Aspidiaceae Mettenius ex Frank in Leunis, Syn. Pflanzenk. ed. 2. 3: 1469. 1877. [Prop. 544, see p. 320.]
T.: *Aspidium* Swartz, *nom. illeg.* [≡*Tectaria* Cavanilles]

Aspleniaceae Mettenius ex Frank in Leunis, Syn. Pflanzenk. ed. 2. 3: 1465. 1877.
T.: *Asplenium* Linnaeus

Athyriaceae Ching, Acta Phytotax. Sin. 16(3): 12. 1978 [Alston, Taxon 5: 25. 1956, *nom. illeg.*].
T.: *Athyrium* Roth

Azollaceae Wettstein, Handb. Syst. Bot. 2: 77. 1903. [Payer, Bot. Crypt. 215. 1850 ('*Azollées*')].
T.: *Azolla* Lamarck

Blechnaceae Copeland, Gen. Fil. 155. 1947.
T.: *Blechnum* Linnaeus

Bolbitidaceae Ching, Acta Phytotax. Sin. 16(4): 16. 1978.
T.: *Bolbitis* Schott

Botrychiaceae Nakai, Journ. Jap. Bot. 24: 9. 1949.
T.: *Botrychium* Swartz

Cheiropleuriaceae Nakai, Bot. Mag. (Tokyo) 42: 210. 1928.
T.: *Cheiropleuria* K. B. Presl

Christenseniaceae Ching, Bull. Fan Mem. Inst. Biol. Bot. 10: 227. 1940.
T.: *Christensenia* Maxon

Cryptogrammaceae Pichi Sermolli, Webbia 17: 299. 1963.
T.: *Cryptogramma* R. Brown

Culcitaceae Pichi Sermolli, Webbia 24: 702. 1970.
T.: *Culcita* K. B. Presl

Cyatheaceae Kaulfuss, Wesen Farrenkr. 119. 1827.
T.: *Cyathea* J. E. Smith

Danaeaceae K. B. Presl, Suppl. Tent. Pterid. 33. 1845 [C. A. Agardh, Aphor. Bot. 8: 117. 1822, *nom illeg.*].
T.: *Danaea* J. E. Smith, *nom. cons.*

Davalliaceae Mettenius ex Frank in Leunis, Syn. Pflanzenk. ed. 2. 3: 1474. 1877.
T.: *Davallia* J. E. Smith

Dennstaedtiaceae Pichi Sermolli, Webbia 24: 704. 1970.
T.: *Dennstaedtia* Bernhardi

Dicksoniaceae Bower, Orig. Land Fl. 591. 1908 ('*Dicksonieae*').
T.: *Dicksonia* L'Heritier
Note: If this family is united with *Thyrsopteridaceae* K. B. Presl, Gefässb. Stip. Farrn 38. 1847, the name *Dicksoniaceae* must be used.

Dipteridaceae Seward et Dale, Philos. Trans. Roy. Soc. London ser. B. 194: 487, 499, 502. 1901 ('*Dipteridinae*').
T.: *Dipteris* Reinwardt

Drynariaceae Ching, Acta Phytotax. Sin. 16(4): 19. 1978.
T.: *Drynaria* (Bory) J. Smith, *nom. cons.*

Dryopteridaceae Ching, Acta Phytotax. Sin. 10: 1. 1965. [Prop. 545, see p. 321].
T.: *Dryopteris* Adanson, *nom. cons.*
Note: If this family is united with *Peranemataceae* Ching, Sunyatsenia 5: 246. 1940, the name *Dryopteridaceae* must be used.

Elaphoglossaceae Pichi Sermolli, Webbia 23: 209. 1968.
T.: *Elaphoglossum* Schott ex J. Smith, *nom. cons.*

Equisetaceae L. C. Richard ex A. P. de Candolle in Lamarck et A. P. de Candolle, Fl. Franç. ed. 3. 2: 580. 1805.
T.: *Equisetum* Linnaeus

Gleicheniaceae K. B. Presl, Rel. Haenk. 1(1): 70. 1825 ('*Gleicheniae*').
T.: *Gleichenia* J. E. Smith, *nom. cons.*

Grammitaceae Ching, Sunyatsenia 5: 264. 1940.
T.: *Grammitis* Swartz

Gymnogrammitidaceae Ching, Acta Phytotax. Sin. 11: 12. 1966.
T.: *Gymnogrammitis* Griffith

Helminthostachyaceae Ching, Bull. Fan Mem. Inst. Biol. Bot. 10: 235. 1941.
T.: *Helminthostachys* Kaulfuss

Hemionitidaceae Pichi Sermolli, Webbia 21: 487. 1966.
T.: *Hemionitis* Linnaeus

Huperziaceae Rothmaler, Feddes Repert. 66: 236. 1962.
T.: *Huperzia* Bernhardi

Hymenophyllaceae Link, Handb. Erken. Gew. 3: 36. 1833 ('*Hymenophylleae*'). [Bory, Dict. Class. Hist. Nat. 8: 457. 1825 ('*Hyménophyllées*')].
T.: *Hymenophyllum* J. E. Smith

Hymenophyllopsidaceae Pichi Sermolli, Webbia 24: 712. 1970.
T.: *Hymenophyllopsis* Goebel

Hypodematiaceae Ching, Acta Phytotax. Sin. 13: 96. 1975.
T.: *Hypodematium* Kunze

Hypolepidaceae Pichi Sermolli, Webbia 24: 705. 1970.
T.: *Hypolepis* Bernhardi

Isoëtaceae H. G. L. Reichenbach, Bot. Damen, Künstler und Freunde Pflanzenw. 309. 1828 ('*Isoëteae*').
T.: *Isoëtes* Linnaeus

Lindsaeaceae Pichi Sermolli, Webbia 24: 707. 1970.
T.: *Lindsaea* Dryander ex J. E. Smith

Lomariopsidaceae Alston, Taxon 5: 25. 1956.
T.: *Lomariopsis* Fée

Lophosoriaceae Pichi Sermolli, Webbia 24: 700. 1970.
T.: *Lophosoria* K. B. Presl

Loxogrammaceae Ching ex Pichi Sermolli, Webbia 29: 11. 1975 ('1974').
T.: *Loxogramme* (Blume) K. B. Presl

Loxsomataceae K. B. Presl, Gefässb. Stip. Farrn 31. 1847 ('*Loxsomaceae*').
T.: *Loxsoma* R. Brown ex A. Cunningham

Lycopodiaceae Beauvois ex Mirbel in Lamarck et Mirbel, Hist. Nat. Vég. 4: 293. 1802 ('1803') ('*Lycopodia*').
T.: *Lycopodium* Linnaeus

Lygodiaceae K. B. Presl, Suppl. Tent. Pterid. 98. 1845.
T.: *Lygodium* Swartz, *nom. cons.*

Marattiaceae Berchtold et J. S. Presl, Přirozen. Rostl. 1: 272. 1820 ('*Marattiae*').
T.: *Marattia* Swartz

Marsileaceae Mirbel in Lamarck et Mirbel, Hist. Nat. Vég. 5: 126. 1802 ('1803') ('*Marsileae*').
T.: *Marsilea* Linnaeus

Matoniaceae K. B. Presl, Gefässb. Stip. Farrn 32. 1847.
T.: *Matonia* R. Brown

Metaxyaceae Pichi Sermolli, Webbia 24: 701. 1970.
T.: *Metaxya* K. B. Presl

Mohriaceae C. F. Reed, Bol. Soc. Broter. ser. 2. 21: 168. 1948.
T.: *Mohria* Swartz

Monachosoraceae Ching, Acta Phytotax. Sin. 16(4): 17. 1978.
T.: *Monachosorum* Kunze

Negripteridaceae Pichi Sermolli, Nuov. Giorn. Bot. Ital. ser. 2. 53: 160. 1946.
T.: *Negripteris* Pichi Sermolli

Nephrolepidaceae Pichi Sermolli, Webbia 29: 8. 1975 ('1974').
T.: *Nephrolepis* Schott

Oleandraceae Ching ex Pichi Sermolli, Webbia 20: 745. 1965.
T.: *Oleandra* Cavanilles

Onocleaceae Pichi Sermolli, Webbia 24: 708. 1970.
T.: *Onoclea* Linnaeus

Ophioglossaceae C. A. Agardh, Aphor. Bot. 8: 113. 1822 ('*Ophioglosseae*').
T.: *Ophioglossum* Linnaeus

Osmundaceae Berchtold et J. S. Presl, Přirozen. Rostl. 1: 272. 1820.
T.: *Osmunda* Linnaeus

Parkeriaceae W. J. Hooker, Exot. Fl. 2(20): t. 147. 1825.
T.: *Parkeria* W. J. Hooker
Note: If this family is united with *Adiantaceae* Ching, Sunyatsenia 5: 229. 1940, the name *Parkeriaceae* is rejected in favour of *Adiantaceae*.

Peranemataceae Ching, Sunyatsenia 5: 246. 1940 ('*Perenemaceae*'). [Prop. 546, see p. 321.]
T.: *Peranema* D. Don.
Note: If this family is united with *Dryopteridaceae* Ching, Acta Phytotax. Sin. 10: 1. 1965, the name *Peranemataceae* is rejected in favour of *Dryopteridaceae*.

Phylloglossaceae Kunze, Bot. Zeit. 1: 722. 1843.
T.: *Phylloglossum* Kunze

Pilulariaceae Wettstein, Handb. Syst. Bot. 2: 81. 1903 [Berchtold et J. S. Presl, Přirozen. Rostl. 1: 272. 1820 ('*Pilulariae*'), *nom. illeg.*].
T.: *Pilularia* Linnaeus

Plagiogyriaceae Bower, Ann. of Bot. 40: 484. 1926.
T.: *Plagiogyria* (Kunze) Mettenius

Platyceriaceae Ching, Acta Phytotax. Sin. 16(3): 18. 1978.
T.: *Platycerium* Desvaux

Platyzomataceae Nakai, Bull. Nation. Sc. Mus. (Tokyo) 29: 4. 1950.
T.: *Platyzoma* R. Brown

Pleurosoriopsidaceae Kurita et Ikebe ex Ching, Acta Phytotax. Sin. 16(4): 17. 1978.
T.: *Pleurosoriopsis* Fomin

Polypodiaceae Berchtold et J. S. Presl, Přirozen. Rostl. 1: 272. 1820.
T.: *Polypodium* Linnaeus

Psilotaceae Kanitz, Növényrends. Áttek. 43. 1887.
T.: *Psilotum* Swartz

Pteridiaceae Ching, Acta Phytotax. Sin. 13: 96. 1975.
T.: *Pteridium* Gleditsch ex Scopoli, *nom. cons.*

Salviniaceae H. G. L. Reichenbach, Bot. Damen, Künstler und Freunde Pflanzenw. 255. 1828.
T.: *Salvinia* Séguier

Schizaeaceae Kaulfuss, Wesen Farrenkr. 119. 1827.
T.: *Schizaea* J. E. Smith, *nom. cons.*

Selaginellaceae Milde, Höher. Sporenpfl. Deutschl. 4, 136. 1865 ('*Selaginelleae*') [Willkomm in Willkomm et Lange, Prodr. Fl. Hisp. 1(1): 14. 1861, *nom. illeg.*].
T.: *Selaginella* Beauvois, *nom. cons.*

Sinopteridaceae Koidzumi, Acta Phytotax. Geobot. 3: 50. 1934.
T.: *Sinopteris* Christensen et Ching
Note: If this family is united with *Adiantaceae* Ching, Sunyatsenia 5: 229. 1940, the name *Sinopteridaceae* is rejected in favour of *Adiantaceae*.

Stenochlaenaceae Ching, Acta Phytotax. Sin. 16(4): 18. 1978.
T.: *Stenochlaena* J. Smith

Stromatopteridaceae Bierhorst, Phytomorphology 18: 263. 1968.
T.: *Stromatopteris* Mettenius

Taenitidaceae Pichi Sermolli, Webbia 29: 1. 1975 ('1974').
T.: *Taenitis* Willdenow ex Schkuhr

Thelypteridaceae Pichi Sermolli, Webbia 24: 709. 1970.
T.: *Thelypteris* Schmidel, *nom. cons.*

Thyrsopteridaceae K. B. Presl, Gefässb. Stip. Farrn 38. 1847 ('*Thyrsopterideae*').
T.: *Thyrsopteris* Kunze
Note: If this family is united with *Dicksoniaceae* Bower, Orig. Land Fl. 591. 1908, the name *Thyrsopteridaceae* is rejected in favour of *Dicksoniaceae*.

Tmesipteridaceae Nakai, Ord. Fam. Trib. Nov. 206. 1943.
T.: *Tmesipteris* Bernhardi

Trichomanaceae Kunkel, Feddes Repert. 70: 155. 1965 (*'Trichomanaeaceae' err. orthogr.*).
T.: *Trichomanes* Linnaeus

Vittariaceae Ching, Sunyatsenia 5: 232. 1940.
T.: *Vittaria* J. E. Smith

Woodsiaceae Herter, Rev. Sudamer. Bot. 9: 14. 1949.
T.: *Woodsia* R. Brown

3) In the above list the original intentional spelling Grammitaceae is retained instead of that of Grammitidaceae (prevailing in botanical Latin) with 1 vote in favour, 1 vote against, 1 vote not received).

4) The Subcommittee regrets that the well-known family name Pteridaceae is not included in the above list, but its conservation is not feasible, since the family name was nomenclaturally superfluous when published and no later author appears to have validly removed the original illegitimacy.

5) The Subcommittee recommends (2 votes in favour, 0 against, 1 not received) that the citation of the author of the originally illegitimate name and the place where this was published for the first time, followed by the indication *nom. illeg.*, is added in square brackets, after the data of the conserved family name (see, for instance, the name Athyriaceae).

Rodolfo E. G. Pichi Sermolli, Secretary,
Istituto Botanico dell'Università,
74 Borgo XX Giugno, 06100 Perugia, Italy

REPORT OF THE SPECIAL COMMITTEE ON ROMANIZATION OF AUTHORS' NAMES FROM NON-ROMAN SCRIPTS

The Committee, established by the XIIth International Botanical Congress (Leningrad), consists of the following members: Dr. D. H. Nicolson, Convener (Washington, D.C., U.S.A.), Dr. V. P. Botschantzev (Leningrad, U.S.S.R.), Mrs. A. Fox Maule (Copenhagen, Denmark), Dr. H. Hara (Tokyo, Japan), Dr. C. C. Heyn (Jerusalem, Israel), Dr. J. Holub (Průhonice, Czechoslovakia), Mr. R. D. Meikle (Kew, Great Britain), and Dr. N. N. Zabinkova (Leningrad, U.S.S.R.).

Table of Contents

1. Summary

A survey of information concerning script conversion in general, particular standards, and degrees of acceptance by world libraries for romanization of eight major scripts is given.

The major conclusion of the Committee is that it is undesirable to impose international standards on authors' names, at least not for the purpose of citing scientific names.

The Committee proposes a new Recommendation 46A.*bis* which intends (1) to permit authors to select the romanization of their own personal name preferably, but not necessarily, by an internationally available scheme and without diacritic marks, (2) to ask authors to consistently use their own romanization, (3) to discourage editors and publishers of the authors' works from changing an author's romanization, and (4) to encourage other workers, when citing a scientific name, to maintain the original author's romanization or the most frequently used form.

Other conclusions reached by the Committee are (1) authors' names are not part of scientific names but are added to them, (2) authors' names should not be latinized for one purpose but not for others, and (3) diacritic marks in authors' names should be maintained.

2. Recent History and Acknowledgments

Dr. V. P. Botschantzev submitted a proposal, at the Leningrad Congress (1975), to add a footnote to Article 48. The proposal was amended to a Recommendation and was voted upon in the following form: "The correct spelling of the name of the author is the spelling in Latin letters which was given by the author himself." A card vote was taken and the proposal was defeated (72 yes, 248 no). The General Committee was instructed to form a special committee to report to the next Congress.

The General Committee established the present Committee stating, "Important issues include dealing in principle with as many alphabets as possible and considering the schemes already established by the International Organization for Standardization and ratified by many governments. A major practical problem is retrieval of information from indices, libraries, etc., when authors' names are not spelled the way in which they themselves transliterated them; additional problems include authors whose names have been transliterated in more than one way and the relative merits of latinized vs. non-latinized forms (e.g., *Carolus* vs. Karl), as well as diacritical marks."

Dr. Botschantzev (1976) published his views and an English translation appeared (Botschantzev, 1977) presenting the view that "The manner of transliterating surnames into Latin letters is a personal matter for each worker and an internal matter for each nation and that nobody has a right to force his viewpoint on anybody else."

Dr. Faegri (1978) responded with the view that the International Organization for Standardization (ISO) standards, once they exist, should be used. He opposes permitting authors to establish transliterations of their own names.

The Committee is grateful to the following correspondents: Dr. A. O. Chater (BM) who supported Dr. Botschantzev's original proposal as maintaining status quo, Dr. R. H. Richens (Secretary of the International Commission for the Nomenclature of Cultivated Plants) who

suggested "that while an author citation is obligatory, the form in which it is cited is left discretionary," Dr. R. P. Korf (Ithaca, N.Y.) who agreed that an author's original decision on how to romanize his/her name should stand and compilation of botanical surnames should be undertaken with alternative spellings used and indication of the author's choice. Rothmaler (1962) also made a similar suggestion. Dr. D. B. Lellinger (US) supported Dr. Botschantzev's original proposal. Miss S. M. D. FitzGerald (Kew Library) submitted a very valuable commentary from the viewpoint of a librarian/indexer and, among other things, alerted us to Wellisch's statistical study of world libraries' script conversion practices.

3. Generalities Concerning Script Conversion

3.1 Writing Systems

There are three different writing systems, alphabetic, syllabic, and ideographic. Alphabetic writing emphasizes having a distinct character or cluster of characters for each phonetic element (consonant, vowel) of the language, for example, Russian (Cyrillic), Syrian (Arabic), English (Roman). Syllabic writing emphasizes having a distinct character or cluster of characters for each syllabic element used in the language, usually one for each vowel and one for each combination of a consonant and a vowel, for example, Japanese. Ideographic writing emphasizes having a distinct character for each idea (mental concept) in a language, for example, Chinese.

With ideographic writing, being based on symbolic or conventional representation of ideas rather than phonemes, there is no correlation between the written and the spoken language. An ideogram, be it a numeral (say, 3) or a Chinese character, tells nothing of its pronunciation and will be spoken differently according to the language of the speaker. Thus, a German speaker will read 3 as *drei,* a French speaker will read *trois,* and a Malay speaker will read *tiga.* By the same token, a Chinese will know what is meant by a Chinese character but will pronounce it differently according to the language (sometimes called dialect) spoken.

With alphabetic or syllabic writing, being based on conventions for representing phonemes, there should be high correlation between the written and spoken language. Ideally, if one can pronounce a word, there should be no ambiguity about spelling it or vice versa. Some languages have high spoken and written correlation (Italian, Hindi), others (English) do not. Unfortunately, for purposes of standardization of romanization, different Roman alphabet languages use different letters for the same phoneme and the same letters for different phonemes.

3.2 Conversion from One Script to Another

The following definitions are quoted from an introduction, entitled "General Principles for the Conversion of One Written Language into Another," in the International Organization for Standardization (ISO) Recommendation R 9, transliteration of Cyrillic (1968).

"The methods of conversion most commonly used are the following:

"*Transcription.* The operation of representing the elements of a language, either sounds or signs, however they may be written originally, in any other written system of letters or sound signs.

"*Transliteration.* The operation of representing the characters (letters or signs) of one alphabet by those of another, in principle letter by letter. This method of conversion is applied specifically when representing one purely literal alphabet, such as Cyrillic, by another purely literal alphabet, such as Roman.

"These methods are applicable to conversion from any alphabet to another resulting in romanization, arabization, cyrillization, etc.

"Romanization, for example, is a form of conversion in which letters of the Roman alphabet are made to represent languages using other characters."

These are perfectly standard definitions. Transliteration, literally cross-lettering (or letter input, letter output), is appropriate for converting letters of one alphabet into letters of another. Transcription, literally cross-writing (sound input, letter output), is appropriate for converting the sounds or signs of one language into the letters or sound signs of another. Romanization is a general term for writing the sounds, signs or letters of a non-Roman writing system in Roman letters.

The Committee was instructed to consider specifically "Transliteration of authors' names from non-Roman alphabets." The Committee feels justified in extending its purview to include transcription (romanization) of non-alphabetic writing as well as to the possibility of transcribing or transliterating authors' names from non-Roman alphabets. Raising the focus from transliteration to romanization ensures that all issues can be addressed.

The following letters comprise the Roman alphabet: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z. For purposes of romanization of authors' names from non-Roman writing, the Committee sees no objection to the use of any or all of these letters or combinations of these letters. The Committee sees no objection to the use of diacritic marks in romanization of authors' names but, as will be explained, cautions against simply omitting them.

3.3 Goals and Principles of Script Conversion

An ideal transliteration system, like any ideal writing system, should be simple, unambiguous and maintain a direct relationship between the original and its counterpart. An idealized alphabet or syllabary will have direct and unambiguous convertibility between the written signs and their phonetic counterparts. An idealized Roman transliteration system would, in principle, use a single Roman letter for each non-Roman original letter, minimize the use of diacritic marks or letter groups, and, to the extent that diacritic marks and/or letter clusters were used, use them in internally consistent patterns. This would be much easier to achieve and romanization would be much less a problem if Latin had not been such a phonemically poor language compared to modern languages.

A simplified linguistic review indicates how this happened and its effect on modern romanization problems. The proto-Indo-European language was apparently extremely rich phonetically, evidenced by Sanskrit which used 62 characters, and the phonemes involved are still mostly extant in modern north Indian languages. Greek evolved, simplifying and abandoning much of the original phonetic complexity, and Latin went even further. The alphabets stabilized for these classical languages were reasonably unambiguous expressions of the Greek and Latin phonemes retained by those languages.

The other (non-classical) languages evolved more or less independently and, commonly, retained many of the original phonemes abandoned by the classical languages. The problem was how to transcribe these phonemes unambiguously within each language. There are three fundamentally different options: add new letters, add diacritic marks to existing letters, or combine existing letters in new ways. Cyrillic is an example of the first option, utilizing many Greek letters but adding many new letters. Czech emphasized the second option, utilizing single Roman letters and a diacritic mark (the inverted circumflex or háček) for differentiating the same phonemes for which Cyrillic invented new letters. The rest of the Western languages followed the third option, combining Roman letters (digraphs, trigraphs, etc.). Each language seemed, perhaps as a matter of national policy, to adopt different combinations of Roman letters for the same phoneme. These differences in national conventions mean that a reader, simply by looking at key combinations of letters, can guess the original language of a word. However, such differences make it very difficult for all the concerned nations to agree on an unambiguous international standard for transliteration of Cyrillic or any other non-Roman script.

The following quotation from Wellisch (1976, p. 55) summarizes the problem:

"It is well known that most libraries in the Western world and a large number of libraries in Asia and Africa use some form of script conversion (transliteration or transcription) in order to exercise bibliographic control over documents written in a script that is different from the one in which the majority of a library's documents are written. For most scripts other than Roman there exists, however, a large number of different and often mutually inconsistent conversion systems, and their application leads inevitably to a great diversity of practices and ensuing incompatibility of bibliographic entries. A search for, say, a certain Russian or Arabic author in several published library catalogues or bibliographies makes this obvious even to the most casual user of these reference tools: the name юшкевич, for example, appears in the catalogue of the Library of Congress in the form *Îushkevich,* the British Museum lists it as *Yushkevich,* in the French Bibliothèque Nationale it appears (before 1960) as *Iouchkevitch,*

and in German national bibliographies or in the bibliographical publications of the United Nations it is rendered *Juškevič*. Thus, some of the world's most widely used bibliographic control tools list this author not only in four different forms but also in four different alphabetical positions!"

In the above example, one can see the problems involved with transcribing three phonemes represented in Cyrillic by ю, ш, and ч, all three non-existent in classical Latin and Greek. Cyrillic adopted new letters for each phoneme. Anglo-American, French and German combined Roman letters to obtain for ю (*Iu-, Yu-, Iou-,* and *Ju-*), for ш (*-sh, -ch,* and usual German is *-sch*), and for ч (*-ch, -tch,* and usual German is *-tsch*), respectively. The UN form adopts the diacritic solution used by Czechs which is also the first option in the ISO and the third option in the Library of Congress (LC) standard for Cyrillic. It should be noted that under the second option in the ISO standard the transcription would be *Yushkevich*.

4. Romanization Standards for Various Scripts and Degree of Acceptance

Wellisch (1976, p. 55) went on to comment, "Most writers on this subject deplore this state of affairs and suggest as a remedy the adoption of one system (mostly that with which they themselves happen to be familiar) but no attempt has ever been made, so far as it is known, to ascertain the degree of diversity in script-conversion practices of libraries on a world-wide scale nor has it been found out which of the many existing conversion schemes has the largest following among libraries . . . ."

Wellisch (1976) explains how he selected eight major scripts, ranked them (according to book production in 1970), and tabulated the percentages of libraries using the reported romanization schemes for particular scripts. He warns that rank "is not necessarily to be considered as an indication of the relative merits of a scheme . . . ." This is because once a library has adopted a particular romanization scheme for a particular script, it is difficult for a library to change, particularly for libraries with large collections in non-Roman scripts which have already been catalogued.

Nonetheless, his data do reveal which romanization schemes have achieved significant international acceptance and which are serious contenders for a given script. The following summarizes his results.

In considering the results the Committee wishes it to be understood that it is, in principle, opposed to applying international standards for romanization to authors' names *when used in connection with scientific names of plants* and specifically recommends that for this purpose the author's original (personal) romanization be accepted.

4.1 According to Wellisch (1976, p. 59), Cyrillic romanization has two principal internationally used standards, the Library of Congress (LC) system (used by 37% of libraries reporting) and the International Organization for Standardization (ISO, 1968) system (31% of libraries reporting). The ISO system (1968) is not a single standard but has two fundamentally different options, one maximizing the number of diacritic marks and one maximizing the number of digraphs (ISO-2). The LC system is fundamentally a single system with a maximal number of digraphs and some diacritics (LC-1) but permitting an option (LC-2) omitting all diacritic marks. The options ISO-1, ISO-2, and LC-2 are compared in Appendix 1.

A more complete system, including additional letters used in Serbian, Ukrainian, Bulgarian and other Slavic languages and obsolete letters was published by Paclt (1953). It closely approximates the ISO-1 system. Comparisons of various transliterations of Russian Cyrillic are given by Litvin (1976). A major bibliography on transcription appears in Superanskaya (1978).

It has been noted that, to date, Russian botanists have not followed international schemes for transliterating their personal names. We have been advised by one of our Russian members (Dr. N. Zabinkova) that botanists use the romanization scheme published by Kirpicznikov (in Gornostaev et al. 1974, p. 78–79), but a comparison of it with the list of authors' names (romanized and transliterated) in the Flora of the USSR (Kirpicznikov, 1964) suggests that even this standard has not been widely followed.

It appears that Russians, particularly those with western European names, commonly do not transliterate their names but romanize them directly back to a form traditional to some western

European country such as Germany, Poland, Finland, Sweden, etc., thus Hoffmann (not Gofman), Lucé (not Liutse), Maximowicz (not Makhsimovich), etc. Even if the personal name is not, strictly speaking, a western European name, Russians will commonly romanize it in a traditional way. Also, it has been brought to our attention that Russian botanists sometimes accept a variant romanization of the same Russian name, thereby ensuring that their romanization does not duplicate another botanist's romanization.

4.2 According to Wellisch (1976, p. 60), Japanese romanization has one widely used international standard (91% of libraries), Hepburn, an integral part of the Library of Congress (LC) system (with some minor changes) as well as the International Organization for Standardization (ISO), British Standards Institution (BSI) and the American National Standards Institute (ANSI). However, the Japanese government officially adopted (1954) their own romanization scheme, permitting options (basically conforming with Hepburn) "only under the circumstances where it is difficult to adopt the newly authorized system at once, such as in international relations." A comment on romanization of Japanese was published by Paclt (1954a).

Our Japanese member, Dr. Hara, informs us that Japanese botanists freely fix their romanized author names by personal preference, not necessarily by Hepburn or the official Japanese scheme. "We feel that romanized authors' names, once fixed, can be considered as *proper nouns* and should not be changed by others' opinions."

It should be noted that Japanese personal names are almost always written in ideographic kanji (Chinese) characters. Until one knows how a Japanese name is pronounced by seeing a romanization or the name in kana (rarely published), there is no way to even consider an alternative romanization. For Japanese authors we should accept their own romanizations.

4.3 According to Wellisch (1976, p. 61), Devanagari romanization, including scripts evolved from Devanagari, most frequently follows Library of Congress (LC) systems (43% of libraries), presumably because it has the most comprehensive array of tables for the various Indic scripts.

Highly equivalent romanizations are difficult without a variety of diacritic marks. This is due to the large number of phonemes (characters), particularly the retroflex and aspirated phonemes, not used in Roman alphabet languages.

Indian correspondents and visitors repeatedly advise us that Indian authors do not romanize their names by any single standard but use traditional methods. They strongly view their personal romanizations as a personal matter which should not be subject to any imposed "international" standard. Most botanical (scientific) work by Indians is published in English or other Western languages. It is exceedingly difficult to discover from the literature what an Indian author's unromanized name is. Even if it is known, it requires a great deal of linguistic expertise to decide on a "standardized" romanization. The Committee agrees that Indian authors' personal romanizations should be accepted.

Hindu personal nomenclature frequently follows different conventions than Western conventions. A typical Hindu convention yields a trinomial in which the first name is a place (house) or family name, normally abbreviated as an initial. The second name is either the father's given name or (matrilineal groups) the mother's family name, normally abbreviated as an initial. The third name is the person's given name, normally spelled out. Sometimes a fourth name, the caste name, is given and is spelled out. Not all groups use all these elements, maintain the same sequence, follow the same abbreviation pattern, nor necessarily even use a single name in each position. Some groups (Christian, Muslim, etc.) use Western conventions. The point is, what appears to be a family name (according to Western conventions) in a Hindu personal name may very well be a given name. By usual Hindu conventions the Convener's name could be N. J. Dan [Nicolson (family name), John (father's given name), Dan (given name)].

4.4 According to Wellisch (1976, p. 62), Arabic romanization has not yet achieved an international standard, 38% of libraries used LC (or adaptations), 17% use their own unpublished system, 16% use International Standardization Organization (ISO, 1961).

Highly equivalent romanizations of Arabic are difficult to achieve without a wide variety of diacritic marks. This is due to the large number of letters for emphatics (tense consonants), as

well as velarized consonants unknown in Romanized languages. Other difficulties in romanization arise from a tradition of omitting short vowels (coupled with inflection by infixing). Phonemic complications (calling for transcriptions rather than transliterations) arise not only from the fact that the same consonants are used for different sounds in different Arabic languages (thus *djebel* in Lebanese and *gebel* in Egyptian for mountain), but there is a complicated system of assimilation affecting juxtaposed consonants (thus what is written Salah-al-din is invariably pronounced Salah-ad-din, thus the conventional romanization, Saladin).

It appears that we should be willing to accept Arabic authors' personal romanizations of their own names and be wary of imposing "standardization" on ourselves or them, particularly a highly equivalent transliteration standard used in international schemes.

4.5 Chinese romanization stands at a crossroad. Wellisch (1976, p. 62) reported that 82% of libraries use Wade-Giles, 10% used their own unpublished schemes, and 6% were using Pin-Yin (including two libraries which use Wade-Giles for older works and Pin-Yin for modern works). The Wade-Giles system is an integral part of the Library of Congress (LC) and the British Standards Institution (BSI). Nonetheless, the Peoples Republic of China has, after long study and deliberation, initiated major language reforms, not only involving simplification of ideograms, adoption of a Chinese phonetic alphabet for elementary teaching purposes, but adoption of Pin-Yin as the official scheme of romanization. They are actively publishing new maps, dictionaries, etc., which will make these language reforms more widely available. It is likely that Pin-Yin romanization will become an increasingly international standard for scientific purposes (as it has for the news media).

Chinese is written in ideographic characters, perhaps more correctly termed logographic. Each character expresses a meaning but little of its pronunciation, which varies by language (as the numeral 3 is pronounced differently, troi, drei, three, etc., in different languages). Chinese script is used by a number of languages (commonly miscalled dialects) such as Mandarin (Han or Modern Standard Chinese), Yüe (modern standard Cantonese), Min (used by Amoy and Fuchow), Kan (used by Hakka), Wu (used by Suchow and Shanghai), etc. The same character may be pronounced quite differently in different languages.

Romanization of Chinese depends on transcription (sound input-letter output). The only way Chinese can achieve standardization of romanization is by transcribing from single (standardized) language. Pin-Yin romanization is done from Modern Standard Chinese, now being taught to all Chinese. Of course, it is possible to transcribe (romanize) from other Chinese languages (Yüe, Min, etc.), but such romanizations are not considered as official romanization of Chinese, per se, by convention only possible from Mandarin (Modern Standard Chinese).

Through the news media we are becoming aware of many changes in spellings of Chinese personal and place names, attributed to adoption of Pin-Yin romanization. In some cases these changes are simply due to the official shift from Wade-Giles conventions to Pin-Yin conventions for transcribing Mandarin. In other cases the shift is due to a shift of underlying language. In some cases changes involve change of both the underlying language and transcription conventions.

This has an impact on what we may expect to see happen to Chinese authors' personal names. It has been reported that some Chinese botanists, particularly of the older generation, do not necessarily even know what the romanization of their personal names is in Pin-Yin, whether because of a shift of the underlying language or because of the shift from Wade-Giles to Pin-Yin transcriptions. Our Committee hopes botanists who have already published taxa will not be obliged to change the romanization of their personal names. Once an author has established a romanization of his name it is extremely desirable for it to be maintained and not to be changed for personal or political reasons. Indeed, the language of the second part of our proposal is aimed at encouraging such stability.

Appendix 2 cites the differences between Wade-Giles and Pin-Yin romanization to be found in consonants. The listing was restricted to the consonants only (and only the ones with transcriptional differences) in the interests of brevity. Much information is available in recent encyclopedias. Much valuable historical information was found in Hsia (1956). Paclt (1954b) discussed problems of Chinese romanization.

4.6 According to Wellisch (1976, p. 63), Korean is largely romanized (82% of libraries) by the McCune-Reischauer scheme, the next group being only 9% which used their own (unpublished) schemes. It appears that McCune-Reischauer has become the international scheme for romanizing Korean. McCune-Reischauer is an integral part of the Library of Congress (LC) and British Standards Institution (BSI) systems.

4.7 According to Wellisch (1976, p. 63), Greek is usually romanized by the Library of Congress (LC) scheme (45% of libraries), 19% use their own unpublished system, 18% use ISO, etc. The lack of unaminity is surprising, perhaps due to the fact that modern Greek is somewhat phonetically different from classical Greek. Thus *beta* has become *v* (as in *v*ictory), *gamma* approaches *y* (as in *y*es), *delta* has become voiced *th* (as in *th*ey), etc. An excellent discussion of transliteration of classical Greek is by Buchanan (1953).

In such a case (no international standard) it seems best to accept an author's romanization, leaving it to an author to decide whether he wants to use classical or modern conventions in romanizing his personal name from Greek.

4.8 According to Wellisch (1976, p. 64), Hebrew is most frequently romanized by the Library of Congress system (40% of libraries), followed by Preussiche Instruktionen (19%), unpublished schemes (18%), ISO (13%), etc. It appears that no internationally accepted scheme for romanizing Hebrew has evolved.

Israeli authors do not follow any standard schemes for romanization of their names from Hebrew script. In many cases Israelis do not perceive the romanized form of their names as a problem of transliteration from Hebrew but merely of reporting the traditionally used romanized form of their personal name. It would appear best to continue to accept authors' romanization of their personal names from Hebrew, be they modern transliterations, traditional renditions, or idiosyncratic.

Our Israeli member, Dr. C. C. Heyn, notes that she and her husband agreed on this romanization even though other members of her family write it as Chen. The family name is Hebrew and came via Russia, so it has Hebrew and Cyrillic spellings. Who would presume to "standardize" the Heyns' romanization?

5. Romanization of Authors' Names. Questions.

In the proceedings of the Committee four questions provided the most discussion. The first question was whether or not an author's name was part of a scientific name; the conclusion was no, it is added to a scientific name. The second question was whether the ultimate responsibility for romanization of an author's name be with the author or be with users of the author's name (standardized); the conclusion was that it is best left to the authors. The third question was whether or not an author's name be latinized; the conclusion was no. The fourth question was whether diacritic marks in authors' names should be suppressed; the conclusion was no.

5.1 Authors' Names, Part of or Added to a Scientific Name?

If an author's name is actually part of a scientific name it would be subject to various Articles of the Code concerning scientific names, particularly Art. 73 on orthography and specifically Art. 73.6 which states, "Diacritic signs are not used in Latin plant names."

Although several Committee members tried, somewhat unsuccessfully, to refute the position that authors' names are part of a scientific name, we are pleased to repeat the cogent marshalling of the Code by the Rapporteur-General, Dr. Edward Voss (letter of 11 January 1980):

"Names as defined in Art. 18.1, 19.1 and 20.1 certainly do not include authors. The 'name of a genus is . . . a word'—no more than one word. The examples of generic names are acceptable without authors. Names as combinations are clearly defined in Art. 21.1 without including authors. The examples in Art. 21 are surely not defective because of the absence of authors' names. The name of a species is very explicitly defined in Art. 23.1 as 'consisting of

the name of the genus followed by a single specific epithet'—nothing else is mentioned. Art. 46.1 refers to the *indication* of a name, not to a name; that is the point of bibliographic aid. It is *not* necessary to cite authors that a *name* [as opposed to the *indication* of a name] be accurate and complete! In fact, Rec. 46A.1 refers definitely to authors' names 'after names of plants'—*after* not part of! Art 73.6 is intended to refer only to names of plants, not to the names of authors placed after plant names, and the practice of the Code is exactly *this*: diacritic marks are *not* used in plant names, but they *are* used, when appropriate, in authors' names."

All members of the Committee (except J. Holub, see Minority Report) who commented on Dr. Voss' letter agreed that authors' names are not part of plant names. Voss also points out, "It follows, of course, that citation of authors is not obligatory when such precision is not necessary."

5.2 Responsibility for Romanization of an Author's Name

The Committee members are in agreement that stability in romanization of authors' names is necessary, i.e., whatever the romanization of an author's name is, it should not be casually changed. There are two fundamentally different ways to seek stability, one is to accept authors' romanizations and ignore applicable international standards, the other is to accept applicable international standards and ignore authors' own romanizations. The first approach places the responsibility for stabilization of romanization on the authors themselves, the second approach places the responsibility for stabilization of romanization on everyone else (users).

Imposition of international standards has one major theoretical advantage, it should permit everyone to obtain exactly the same romanization of every unromanized name, i.e., it stabilizes romanization. Unfortunately, this advantage is far more theoretical than real. In the first place an international standard for romanization of a particular non-Roman script is hard to find and hard to apply. For Russian Cyrillic (see Appendix I) there is no single international standard, there actually are four standards, two in ISO and two in LC. There are reasonably clear international standards for Japanese (Hepburn) and Korean (McCune-Reischauer). There are no clearly internationally accepted standards for Devanagari scripts. Even if we were to arbitrarily accept and impose a single standard for a given script there remain formidable problems. If the unromanized form of an author's name is given, it requires linguistic (non-botanical) expertise to apply the international standard, say, to read the Japanese or Chinese ideograms or Arabic, Korean, or Cyrillic original to determine, irrespective of the romanization used by the author, what the imposed standard romanization would have to be. It is common for many authors to publish scientific papers in a Western language, say Indians publishing in English or Japanese publishing in German or Lebanese (Arabic) publishing in French. In such cases the unromanized form of the author's name may not be given, making it exceedingly difficult to apply an international standard of romanization.

The Committee members agree that, despite the theoretical advantages of imposing standardized romanization, there is a value and reason to recognizing the romanization of an author's name as a conventionalized proper name, a *signum* or cartouche, no more to be tampered with than would be done with a Western name. The Convener's personal family name, Nicolson, exists in many different orthographies including MacNicail (Gaelic), MacNicol (Scot), Nicholson (English), Nickelson (American) in addition to the form, Nicolson, used by his ancestors from the Shetland Islands. For legal and bibliographic purposes it is desirable that these distinctions be maintained according to the wishes of the individual involved.

Bibliographically useful information is lost if standardized romanizations are imposed (instant homonymy). It is quite usual for authors whose names are in non-Roman scripts to deliberately select a romanization which avoids homonymy and possible confusion; Gollerbakh is a direct transliteration from Cyrillic of the German name Hollerbach. An author who selects Gollerbakh as his romanization thereby differentiates himself from another author who selects Hollerbach. Mukerjee, Mukherji, and Mookerjea are variant romanizations of the same Indian (Bengali) name and a given author will consistently use one, differentiating himself from the others. Imposition of standardized transliterations creates otherwise unnecessary homonymy.

One more consideration, diacritic marks, should be remembered in connection with romanization of authors' names. Many languages written in non-Roman alphabets have whole series

of letters for which transliteration to Roman letters is difficult without diacritic marks. For example, Arabic has two series of consonants, one the same as in most Western languages (s, d, t, z, etc.) and another series, called emphatics, commonly transliterated with a dot or line under or over the Roman letter. Indian languages have similar parallel series of consonants, one the same as in Western languages, another retroflexed, another aspirated, and another retroflexed and aspirated, resulting in say four kinds of d, t, k, etc., to be transliterated. The result immediately leads into problems of romanization involving a question of the purpose of the romanization. If the purpose is high equivalency (usual for international schemes, such as the ISO standard for Arabic), then a multiplicity of diacritic marks is necessary, guaranteed to give problems to printers. If the purpose is not high equivalency and the diacritic marks are to be omitted, then why not accept the author's romanization? Authors normally avoid unusual diacritic marks in romanizing their names.

The Committee concludes that in view of (1) the general absence of single internationally accepted schemes of romanization, (2) the non-botanical expertise in imposing any romanization scheme, (3) the undesirable homogenization of personal names due to standardized romanizations, (4) the fact that spelling of personal names is normally respected, and (5) the difficulties of dealing with unusual diacritic marks inherent in highly equivalent (standardized) romanizations schemes . . . it is recommended that authors' own romanizations of their personal names be respected and accepted. Also, it should be noted that the Code and this Committee's recommendations deal only with citation of authors' names in connection with scientific names of plants. For other purposes, such as bibliographies, cross reference of romanizations standardized to the authors' own romanizations can be considered.

5.3 Latinization of Authors' Names

This Committee was asked to consider "the relative merits of latinized vs. non-latinized forms, e.g., *Carolus* vs. Karl."

Latinization takes an author's name one step beyond its modern Roman alphabet form, normally involving such considerations as augmentation of the stem of the name, proper Latin inflection for case and gender and, sometimes, changes in letters or forms to conform with classical Latin conventions; thus, Markgraf is latinized as *Marcgravius,* Bock as *Tragus,* Karl as *Carolus*. The general subject of latinization of personal names was discussed by Nicolson (1974).

Vassilkov (1964) argued that all authors' names should be latinized for the purpose of publishing new taxa. The author's name is preceded by the Latin name of the taxon and is followed by a Latin description. It was argued that "the author's name as well should always be latinized, to avoid breaking this whole complex written in Latin." Linguistically, this is a reasonable argument but, for botanical purposes, this is contrary to all the examples of unlatinized author names cited throughout the Code. Authors should not be encouraged to spell their names one way (latinized) for one botanical purpose and another way (unlatinized) for other botanical purposes. This introduces uncertainty in how others should cite the author's name. However an author wishes to have his name used, he should use it consistently.

There is a problem in the citation of authors who latinized their names by translation, like *Tragus* for Bock and *Tabernaemontanus* for von Bergzabern, but these authors are few, references are easy to find in libraries and the alternative names can be cross-referenced or cited in parentheses. Latinizations by stem augmentation and inflection are easily understandable and it does not matter which form is used.

For citation of authors' names in connection with the name of a taxon, the Committee favors using the author's name as it was in the original publication of the taxon. For other purposes, such as bilbiographies, the Committee favors adoption of the unlatinized forms unless, in the case of a particular author's name, there is reason to do otherwise.

5.4 Diacritic Marks in Authors' Names

This Committee was asked to consider "the relative merits . . . [of using] diacritic marks." This is not an easy subject and it affects not only romanization (as discussed above, highly equivalent transliteration schemes, common for international purposes, often must use many

special diacritic marks), but affects the use of diacritic marks in modern Western languages with Roman alphabets.

One conclusion reached by the Committee (Section 5.1) is that an author's name is not part of a scientific name but is a required addition to the scientific name. Acceptance of this conclusion means that Art. 73.6, "Diacritic signs are not used in Latin plant names," does not apply to the author's name. The Committee also concluded that it was undesirable to apply Art. 73.6 to authors' names, specifically that diacritic marks (with the exception of the diaeresis *must* be suppressed or transliterated or, even more specifically, the *å* (Scandinavian) must be transliterated as *ao*. In authors' names diacritic marks should be maintained or, if suppressed, as an option . . . not as a requirement.

Diacritic (distinguishing) marks are, in general, special marks added to Roman letters. It is not easy to define a diacritically marked letter from a special (non-Roman) letter. Technically *å* and *ø* (Scandinavian) are separate special letters, not Roman letters with diacritic marks, because Scandinavian dictionaries do not list these letters under *a* or *o* but as separately alphabetized letters at the end of Scandinavian dictionaries listed after *z*. For purposes of this discussion these and other such special characters are regarded as Roman letters with diacritic marks, the former an *a* with a diacritic superscript and the latter an *o* with a diacritic overstroke.

Another conclusion reached by the Committee (Section 5.2) affects the use of diacritic marks by authors romanizing their personal names. The Committee is recommending that authors try to avoid diacritic marks in romanizing their personal names. The following discussion is aimed at suggesting options (and difficulties) for other workers dealing with personal names as published, be they romanizations or simply modern names in Roman alphabet languages.

The Committee finds that a great deal of information is carried in diacritic marks and that these marks, if at all possible, should be maintained as used by the original author. Avoidance of diacritic marks by either omission or transliteration is dangerous because the same or similar diacritic marks are used on the same or different letters for different purposes in different Western languages.

The following list of diacritically marked letters is given with their "usual" transliterations. The notes are added to indicate pitfalls where these "usual" transliterations are objectionable.

1. *ä, ö, ü = ae, oe, ue*. If one is dealing with an umlaut (usual in Teutonic languages, such as German) or such a diacritic mark in another language (Hungarian [two forms], Turkish, etc.) with the same phonetic value then transliteration is conventional, although maintenance of the diacritic mark is preferable. The umlaut is very similar to but should not be confused with the diaeresis (usual in French). The umlaut always appears on an isolated vowel while a diaeresis appears on the second vowel of a pair and signifies that the second vowel is pronounced separately from the first (*Cephaëlis*) and is not part of a diphthong (*Arisaema*). A similar mark is often used in transliterating the Russian letter Ë and should never be rendered as *ee* but can be given as *e*. In Finnish the letters *ö* and *ä* do not have the phonemic value of an umlaut and should not become *oe* and *ae* nor *o* and *a*. In Chinese romanization (Wade-Giles or Pin-Yin) a *ü* is used. Although it has the value of the German *ü*, it should not become *ue* since it commonly is used with other vowels (*üeh, üan*) and something like *ueeh* and *uean* are unacceptable and omission of the mark constitutes a change in romanization. In all cases maintenance of the original diacritic mark in authors' names is to be preferred.

2. *ø, å = oe, aa*. The letter *ø* is characteristic of Danish and Norwegian which do not use *ö* to which it is phonemically equivalent; its transliteration to *oe*, while conventional, obscures this clue to an author's probable nationality.

The letter *å* is characteristic of Danish, Norwegian and Swedish where its phonetic value approximates a long *o* ("Oh!" is written "å!" in these languages). Actually *å* is somewhere between a long *a* (as *aw* in law) and a long *o* (as *ow* in low). The letter is very old. A convention evolved for writing the letter as *aa* but recently efforts have been made to restore the old form. The issues are confused by occasional past usages (in latinization) or writing *å* as *ao, ah, oh* and sometimes simply *a*. This led to an amazing series of orthographic variations (based on Forsskål) such as *Forsskaolea, Forskahlea, Forskohlea, Forskalea*, etc. This disarray was

solved by passing what appears in Art. 73.6, "In names . . . drawn from words in which such [diacritic] signs appear . . . *å* becomes *ao* . . . ."

Paclt (1968) proposed that *å* be transliterated as *aa*, not *ao*, in plant names, citing *staali*, not *staoli* for *ståli* and arguing that *Forskohlea* could stand because the *å* (for Forsskål) did not appear in the original publication [obviously accepting publication by Linnaeus in the *Amoenitates*]. Hylander (1968) objected that the original publication was actually in an earlier thesis and pointed out that there Linnaeus consistently used *Forsskålea* which, under Paclt's proposal, would become *Forsskaalea*, "one of the few spellings which do not seem to have been used hitherto of this so often mistreated name." While it may be desirable to leave *ao* for *å* when it appears in plant names (if only to leave *Forsskaolea* undisturbed), it is definitely undesirable that this be done for authors' names.

The convention of simply dropping the diacritic mark appears in the generic name *Angstroemia* (Hepatic) named for the Swedish bryologist Ångström. The measuring unit, angstrom, named for the Swedish physicist Ångström, has become well known. While it is sometimes called an ångström, I do not find any mention of aangstrom or aongstrom.

There is substantial agreement that, except in plant names, *å* should not become *ao*. Transliteration as *aa* can be considered, as well as simply *a*, but it would be preferable to avoid the whole controversy by maintaining *å* if that is what the original author uses.

3. *č, š, ž, šč = ch, sh, zh, shch.* When the háček (an inverted circumflex) is used for transliteration of a personal name from Cyrillic, the Committee recommends it be accepted. If unavailable, further transliteration (as above) is probably preferable to omission. However, if the author is Czech further transcription should not be done. It should be noted that one of the objections to changing a *č* to *ch* in a Czech name is that *ch* is part of the Czech alphabet (with the value of the Greek *chi*), i.e., spelling a Czech personal name like Čelakovsky as Chelakovsky is a misspelling by Czech standards. Czech workers (Kotlaba and Pouzar, 1962) feel it is a lesser error "if diacritic marks are omitted than when names of authors become disfigured monstrosities by the addition of letters. . . ." [Thus Czech Šmarda = Smarda, not Shmarda.] As a matter of record Rigby and Dobrianskyj (1962) disagreed. In fairness to all concerned, Kotlaba and Pouzar (1962) were primarily proposing the use of Czech háček convention for romanizing Cyrillic and Rigby and Dobrianskyj (1962) were arguing against the háčěk convention for Cyrillic romanization. Although Kotlaba and Pouzar (1962) made their views clear about not modifying the háček convention *for Czech author names*, Rigby and Dobrianskyj (1962) did not specifically address this question and simply do not say how they would handle the háček in a Czech author's name.

Nonetheless, the Committee again concludes that it is better to maintain diacritic marks, such as the háček, used by an author than it is to get into the difficulties of deciding when transliteration (Cyrillic romanization) or omission (Czech) might be preferable.

Vassilkov (1960) made a proposal concerning authors' names, particularly that diacritic marks should not be used.

6. Proposal (86). A New Recommendation 46A.bis

"1. In citing the author of the scientific name of a taxon, the romanization of the author's name(s) given in the original publication should normally be accepted. Where an author failed to give a romanization, or where an author has at different times used different romanizations, then the romanization known to be preferred by the author or that most frequently adopted by the author should be accepted. In the absence of such information the author's name should be romanized in accordance with an internationally available standard."

"2. Authors of scientific names whose personal names are not written in Roman letters should romanize their names, preferably (but not necessarily) in accordance with an internationally available standard and, as a matter of typographic convenience, without diacritic marks. Once authors have selected the romanization of their personal names, they should use it consistently thereafter. Whenever possible, authors should not permit editors or publishers to change the romanization of their personal names."

The thrust and intention of the proposal is to encourage stability in romanization of personal

names (1) by asking authors, irrespective of what romanization they choose (preferably by an international scheme), to be consistent in using that romanization and (2) asking all others to accept such authors' decisions about romanization.

It should be noted that it is not the intention of this proposal to change past, present, or future romanizations of personal names. The user of a scientific name is asked to go to the place of original publication of the scientific name if he wants to know how the author's name is romanized. Authors who are romanizing their names are not being asked to conform to any standards. There is a hope that new authors will opt for standardized romanizations but it is not imposed nor required.

While these generalities do not solve all bibliographic problems for everyone, it should be remembered that this proposal (and the Code itself) is restricted to scientific names of plants and their citation, including authors' names when precision is necessary. These generalities do not pertain to romanization of place names, to journal titles, titles of books, to the spelling of epithets based on personal, vernacular or place names, nor to finding publications in libraries nor data processing. They pertain only and strictly to the citation of an author's name in connection with the scientific name of a plant.

While there is much that this proposal does not do, it does give some objective grounds (original publication) for deciding what to do. The Committee hopes that the proposal will be accepted in the belief that it will solve at least the problems of how to handle the romanized name of the author of a plant name. If it does not solve this problem or other problems, it still should reveal the reasons for and the nature of the changes needed.

7. Minority Report

Dr. Holub disagrees with this Committee Report in two respects. First, he feels that authors' names are part of a scientific name and proposes to set forth his arguments in a separate publication. Second, he feels that authors' names should be romanized in accordance with standard bibliographic practices, irrespective of an author's usage to the contrary. The following was extracted from a letter by Dr. Holub dated 21 March 1980.

"1. As the name of the author of a plant name represents a special (very abbreviated) type of the bibliographical reference, it should be given (concerning the romanization of authors' names from non-Roman scripts) according to the bibliographical manner.

"2. To be possible to find quickly the necessary publication place, the name of the author must be taken over from the title of the publication; this refers especially to the books without any summary or other texts in languages using Romanic alphabets. Here the name has to be romanized in a way used normally for the respective script. If a summary exists in the book, two cases may be found—with a romanized author's name or without it. In the first case the romanized author's name may be taken over from the subtitle or from the secondary title of the publication directly in the form as the name was used by the author himself. If the author's name is not given in the summary or in a foreign language title, it has to be romanized from the proper title according to some international standard.

"3. As authors' names are bibliographic references, they must be taken from titles (or from foreign language subtitles or secondary titles) in books and similar publications, not from the names given by the authors themselves directly to the plant names in the text (i.e., if they differ). Somewhat other situation may be in journals (and in journal-like publications) where the bibliographic quotation is direct to a page of the journal. In this case the proposed romanization by the author himself may be accepted. However, reprints need not to be found in cases when author's and librarian's modes of romanization differ.

"4. In some cases the same author used various types of his romanized name—Stojanov, Stojanoff, Stojanow or Tsvelev, Tzvelev. In my opinoin, the name has to be accepted from the publication (title or subtitle in books, the author's name attached to the name of the taxon in periodicals). This means that the same author may have two or rarely also several variants of his name."

More support for Dr. Holub's position would undoubtedly exist in the Committee if (1) it

was evident that librarians and bibliographers agreed on standardized transliteration of romanization schemes for various non-Roman scripts, and (2) our members whose names are written in non-Roman scripts (Botschantzev, Hara, Heyn, Zabinkova) were not unanimously opposed to imposition of standardization of romanization.

Bibliography [transliteration of Russian titles by ISO-2]

Botschantzev, V. P. 1976. Zamechaniya o "Mezhdunarodnom Kodekse Botanicheskoj Nomenklatury" [Some remarks on the "International Code of Botanical Nomenclature"]. *Botanicheskij Zhurnal* 61: 579–580.

———. 1977. Remarks on the International Code of Botanical Nomenclature [translation by George C. Steyskal of 1976 paper]. *Taxon* 26: 413–415 [Notes by Dan H. Nicolson appended, pp. 415–416]. [Corrections in *Taxon* 27: 144. 1978.]

Buchanan, R. E. 1953. Transliteration of Greek words for use in nomenclature in botany. *Taxon* 2: 93–96.

Faegri, K. 1978. Transliteration and the ICBN. *Taxon* 27: 303–304.

Gornostaev, G. N., N. N. Zabinkova, and N. N. Kadeh. 1974. *Latinskie nazvaniya zhivotnykh i rasteniy* [Latin names of animals and plants]. 147 pp. University of Moscow Press.

Hsia, Tao-Tai. 1956. China's language reforms. *Mirror Series A*, no. 21: 1–200 [Far Eastern Publications, Yale University].

Hylander, N. 1968. Various proposals. *Taxon* 17: 592–593.

International Organization for Standardization (ISO). 1968. *ISO Recommendation R 9. International system for the transliteration of Slavic Cyrillic characters*, ed. 1. 8 pp. [Obtained through national standards organizations; also published in French and Russian.]

———. 1961. *ISO Recommendation R 233. International system for the transliteration of Arabic characters*, ed. 1. 8 pp. [Obtained through the national standards organization; also published in French and Russian.]

Kirpicznikov, M. E. 1964. *Index alphabeticus auctorum ad taxa adductorum*, p. 229–259. *In: Indices alphabetici i–xxx, Flora URSS*. "Nauka," Mosqua, Leningrad.

Kotlaba, F., and Z. Pouzar. 1962. A proposal on the transliteration of Slavonic authors' names. *Taxon* 11: 113–115.

Litvin, I. P. 1976. *K probleme transliteratsii Russkikh slov znakami latinskogo alfabita* [On problems of transliteration of Russian words into letters of the Latin alphabet], p. 209–226. *In: Onomastika i norma* [Onomastics and norms]. [Publication of the Institute of Russian Language of the Academy of Sciences.] "Nauka," Moscow.

Nicolson, D. H. 1974. Orthography of names and epithets: latinization of personal names. *Taxon* 23: 549–561.

Paclt, J. 1953. Transliteration of Cyrillic for use in botanical nomenclature. *Taxon* 2: 159–166.

———. 1954a. Scientific romanization of Japanese. *Taxon* 3: 89–90.

———. 1954b. Scientific romanization of Chinese. *Taxon* 3: 90–91.

———. 1968. Nomenclature proposals to the Seattle Congress. *Taxon* 17: 333–334.

Rigby, J. F., and S. Dobrianskyj. 1962. Comments on "A proposal on the transliteration of Slavonic authors' names." *Taxon* 11: 214–215.

Rothmaler, W. 1962. Gibt es eine Regelung für die Schreibweise der Autornamen? *Taxon* 11: 40–41.

Superanskaya, A. V. 1978. *Teoreticheskie osnovy prakticheskoy transkriptsii* [Theoretical bases of practical transcription]. 283 pp. [Publication of the Institute of Linguistics.] "Nauka," Moscow.

Vassilkov, B. P. 1960. On the latinization of authors' names written after the names of taxa. *Taxon* 9: 199–200.

———. 1964. An addition to my article "On the latinization of authors' names written after the names of taxa." *Taxon* 13: 118–119.

Wellisch, H. H. 1976. Script conversion practices in the worlds' libraries. *International Librarians' Review* 8: 55–84.

Appendix 1. Transliteration of Russian Cyrillic, Comparison of LC and ISO Options.

		> Diacritics < Digraphs	< Diacritics > Digraphs	
		ISO# -1	ISO# -2	LC* -2
1.	Аа	a	a	a
2.	Бб	b	b	b
3.	Вв	v	v	v
4.	Гг	g	g	g
5.	Дд	d	d	d
6.	Ее	e	e	e
6a.	Ёё	ë	ë	e
7.	Жж	ž	zh	zh
8.	Зз	z	z	z
9.	Ии	i	i	i
10.	Йй	j	ĭ	i
11.	Кк	k	k	k
12.	Лл	l	l	l
13.	Мм	m	m	m
14.	Нн	n	n	n
15.	Оо	o	o	o
16.	Пп	p	p	p
17.	Рр	r	r	r
18.	Сс	s	s	s
19.	Тт	t	t	t
20.	Уу	u	u	u
21.	Фф	f	f	f
22.	Хх	h	kh	kh
23.	Цц	c	ts	ts
24.	Чч	č	ch	ch
25.	Шш	š	sh	sh
26.	Щщ	šč	shch	shch
27.	Ъъ	”	”	″
28.	Ыы	y	y	y
29.	Ьь	’	’	′
30.	Ээ	ė	ė	e
31.	Юю	ju	yu	iu
32.	Яя	ja	ya	ia

#ISO has two options, the standard option (ISO-1 in column 1) for international audiences and an option (ISO-2 in column 2) with nine variants permitted only as a group "in countries where tradition favors it." In ISO-2 it is stipulated that if the Russian letters *tc* occur together that the transliteration "t.s" must be used to differentiate this from the transliteration "ts" for Russian ц.

*LC has two options, the option without diacritic marks (LC-2 in column 3) and the standard option (LC-1, omitted here) with diacritic marks on the transliteration of five letters (two dots over 6a, one dot over 30, and a ligature over 23, 31, and 32).

Comment: Anyone wishing to consider adoption of an international standard for transliteration of Russian Cyrillic should use one of these columns in its entirety. In making a decision a choice should first be made between ISO-1 and ISO-2. If ISO-2 is preferred, then one should consider a choice between ISO-2 and LC-2.

Appendix 2. Transcription of Chinese Consonants, Comparing Differences between Wade-Giles and Pin-Yin.

Wade-Giles	Pin-Yin	Approximate Sound
p	b	*b*it, but unvoiced (unaspirated *p*)
p′	p	*p*it, aspirated
t	d	*d*o, but unvoiced (unaspirated *t*)
t′	t	*t*o, aspirated
k	g	*g*ot, but unvoiced (unaspirated *k*)
k′	k	*k*it, aspirated
ch	j	*dj* as in *dj*inn, but unvoiced (unaspirated *tch*), prepalatal
ch′	q	*tch* as in i*tch*y, aspirated, prepalatal
hs	x	*ch* as in German *ich* (palatal *sh*)
ts	z	*dz* as in a*dz*e, but unvoiced (unaspirated *ts*)
ts′	c	*ts* as in *ts*ar, aspirated
ch	zh	*dj* as in *dj*inn, but unvoiced (unaspirated *tch*), retroflex
ch′	ch	*tch* as in pi*tch*er, aspirated, retroflex
j	r	*z* as in a*z*ure, retroflex

Dan H. Nicolson, Department of Botany,
Smithsonian Institution, Washington, D.C. 20560

REPORT OF THE SPECIAL COMMITTEE ON AUTONYMS

The Nomenclature Section of the XII International Botanical Congress held in Leningrad in 1975 approved the setting up of a Special Committee on Autonyms to report back to the XIII Congress to be held in Sydney in 1981. Of the original six members nominated, one, who had been chosen to represent the cryptogamic groups, declined to serve, while one person not originally nominated expressed an interest in joining the Committee and was co-opted. Membership of the Committee was then as follows:

R. K. Brummitt (Kew) Secretary
W. Greuter (Berlin)
J. Holub (Prague)
I. A. Linczevski (Leningrad)
P. H. Raven (St. Louis)
C. E. Wood (Arnold Arboretum)

Unfortunately, one of the six members failed to respond to any correspondence or to cast any votes. In addition, however, comments submitted to the Committee by J. L. Reveal and C. Rose Broome (University of Maryland), E. G. Voss (Ann Arbor) and J. McNeill (Ottawa) were considered, while all views expressed by Brummitt represented a joint opinion with A. O. Chater (British Museum). Prior to drawing up of this report a correspondence of more than 80 pages had been generated.

1. Introduction

Autonyms, for anyone not familiar with the term, are names like *Silene vulgaris* subsp. *vulgaris* or *Clematis* sect. *Clematis,* which include repetition of a name or epithet, though the precise definition is a more complex matter as is discussed below.

1a) Early History of Autonyms

In the first two editions of the Code (1905 and 1912) the problem of what we now call autonyms was dealt with only at the level of subdivisions of genera, where, under Art. 25, Recommendation VIa recommended one to "Give, where possible, to the principal division

of a genus, a name which, by some modification or addition, calls the genus to mind (for instance, *Eu* placed at the beginning of the name, when it is of Greek origin; *-astrum, -ella* at the end of the name, when Latin, or any other modification consistent with the grammar and usages of the Latin language)."

In the third edition of the Code, 1935, this was repeated with slight re-wording as Recommendation XIa, and the matter was also dealt with at infraspecific rank by Recommendation XVIII which read "Botanists should avoid giving a new epithet to any subdivision of a species which includes the type either of a higher subdivisional name or of the specific name. They should either repeat that epithet, with or without a prefix, or use one of the customary epithets, *typicus, genuinus, originarius,* etc." The 1947 *Brittonia* Code was unchanged from the 1935 version.

Major changes were introduced into the 1952 Stockholm Code, where autonyms became compulsory at subgeneric rank (Art. 32) and at all infraspecific ranks (Art. 35). In the 1956 Paris Code this ruling was extended to include sections but not subsections or below, and at the same time the concept of automatic establishment of the name of the typical taxon was introduced (Arts. 22, 25, and 26), with some unfortunate confusion between nomenclature and taxonomy in the wording. The 1961 Montreal Code extended the autonym principle to the rank of subdivision of family (Art. 19), but otherwise changed little except to separate the last paragraph of Art. 26 as Art. 27. Minor changes in the 1966 Edinburgh Code were merely some of the necessary improvements in wording, the intentions remaining the same, and similar minor editorial changes in wording were made in the 1972 Seattle Code.

1b) Recent Background

Why has a Special Committee been convened?

Recent discussions were started with a rather short note by C. V. Morton (1968), in which only proposal 107, which concerned priority for autonyms, is relevant to the present discussion. This was soon followed by two rather more involved contributions published simultaneously, one by C. E. Wood & G. L. Webster (1968), and the other by R. K. Brummitt & A. O. Chater (1968). These three papers contained proposals for modification of Arts. 19, 22, 25, 26 and 27, and the comments of the Rapporteurs may be found on pp. 16–23 in the Synopsis of Proposals, Stafleu & Voss (1969).

Discussion of these proposals at Seattle, and the voting on them, may be found on pp. 45–60 in the Report on Botanical Nomenclature at Seattle, Stafleu & Voss (1972) where it can be seen that there was much argument and, in retrospect, confusion. There were in effect two issues at stake. The first was whether autonyms could or could not count in questions of priority, where the Morton proposal, which actually referred only to subspecific ranks, was opposed by the Brummitt & Chater proposals which covered all subdivisions of families, genera and species. This issue is important in cases involving only two taxonomic ranks (see below). The Brummitt & Chater view on this was accepted on the first day (Stafleu & Voss, 1972, p. 48, paragraph 2). The Wood & Webster proposals were independent of this priority question, and concerned whether or not use of autonyms should continue to be mandatory in all cases of subdivisions of families, genera and species, or whether in certain cases (under subdivisions of families, genera and species which do not include the types of the names at these ranks but which do include the type of the name of a different higher subdivision e.g. a variety including the type of a subspecific name but not the specific name) autonyms should compete with other names at the same rank. This question must implicitly involve three different taxonomic ranks, and was not covered by the Brummitt & Chater proposals, although in the discussion there was much confusion over this, and the two sets of proposals were wrongly thought to be opposed to each other. In the final voting on the second day the original acceptance of the Brummitt & Chater proposal on priority was reversed and the Morton proposal was accepted and extended to cover Arts. 19 and 22 as well as 26, and the Wood & Webster proposals were also accepted. Other proposals by Brummitt & Chater which were accepted were merely editorial matters to eliminate loose wording.

After the Seattle Congress a further relevant comment was made by Weresub (1970). Here she promoted the idea of "co-ordinate status" of names of families with those of all subdivisions of those families, names of genera with names of all their subdivisions, and the same at

specific rank and below, as is found in the Zoological Code. This would effectively mean that when one published a family name one automatically established names of all subdivisions of that family which include the same type, and similarly publication of a generic or specific name would automatically effect publication of names at all infrageneric and infraspecific ranks including the type of the generic or specific name concerned. This view had also been propounded by Lanjouw in the discussion at Seattle (see Stafleu & Voss 1972, pp. 52–53), and has been raised also in the deliberations of the present committee (see below).

Both the major issues on autonyms from the Seattle Congress were raised for reconsideration at the Leningrad Congress by Brummitt & Chater (1974). A further cyclostyled sheet by the same authors, Brummitt & Chater 1975, was distributed at the Leningrad Congress (copies still available from R.K.B. at Kew). At Leningrad discussion of these proposals arose on the second day. After rather little discussion an *ad hoc* committee of four (R. K. Brummitt, F. R. Fosberg, W. Greuter and R. Ross) was asked to meet that same evening and report back. Perhaps predictably, this committee was divided 2:2 on both major issues. Its report was presented on the fourth afternoon, and on the first issue, priorability of autonyms, the proposal before the Congress was rejected without discussion by 152 votes to 133. The second issue was deferred until the fifth day, but by this time attendance at the session was so poor that it was unlikely to be representative of broad opinion. The proposal on mandatory use of autonyms was therefore withdrawn in favour of a Special Committee which would consider fully all problems concerning autonyms and report back to the next Congress, which was accepted. The present report is the result.

2. The Issues

In the Committee's discussions two major issues have been identified, as in all discussions since the Seattle Congress. These are: a) priorability of autonyms (only two ranks involved), and b) universal versus partial use of autonyms when three ranks are involved—see below.

In addition five lesser issues have been discussed, the significance of which is dependent on the decisions taken on a) or b) above. These are: c) the definition of the term autonym, d) author citations of autonyms, e) date of publication of autonyms, f) the status of names published as autonyms not including the type of family, genus or species names before 1969, and g) avoidance of casual publication of autonyms.

Two further matters concern special issues independent of other matters: h) whether names of subdivisions of families, subdivisions of genera below section, and of subdivisions of species below variety should be subject to autonym rules, and i) status of names terminated by *-oides* or *-opsis*.

2a) Priorability of autonyms

The rather brief proposal by Morton (1968) was to add to Art. 26 the following "However, such typical subspecies are not to be taken into consideration for the purposes of priority", with the example that "If *Campanula gieseckiana* subsp. *groenlandica* Boc, 1960, and *Campanula gieseckiana* subsp. *gieseckiana* are united as a subspecies of *C. rotundifolia* L., the proper subspecific epithet will be *groenlandica*". The argument was that names such as *C. gieseckiana* subsp. *gieseckiana* are mere formulas or conventions which do not bear any author's name or date and so cannot be taken into consideration for purposes of priority.

It is clear that there is a principle involved which should apply not only at subspecific rank but in all subdivisions of families, genera and species. It is also important to note that, whatever group of names is concerned, only two ranks are involved—species and subspecies in the above example. The proposals of Wood & Webster (1968) are quite independent of this matter and concern a situation in which three ranks are involved in all cases under dispute.

The Morton proposal was opposed by Brummitt & Chater (1968, pp. 656–658). It was pointed out that although Morton regarded names such as *C. gieseckiana* subsp. *gieseckiana* as mere formulae, the Code referred to them as "names" and also in Art. 6 Note 1 ruled that "name" meant a *validly published* name. It was also argued that Morton's proposal forced one to adopt the epithet which, for all practical purposes, was the less desirable of the two epithets which might be considered available. Several examples were given to show that Morton's proposal

was contrary to common practice. By allowing priority for autonyms it would be possible to give a *choice* between two simultaneous epithets, so that, in Morton's example, when *C. gieseckiana* including its subsp. *groenlandica* is sunk into *C. rotundifolia* as one subspecies, that subspecies could be given either the epithet *gieseckiana* or *groenlandica,* both having priority dating from 1960. In most such cases the epithet which is enforced by the present Code is the one least likely to be chosen if a choice were possible.

As noted above, the Morton view was at first rejected at Seattle, but on the second day, after some confusion with the Wood & Webster proposals, this decision was reversed and the Morton principle was accepted and extended to all subdivisions of families, genera and species. After the case for allowing priority for autonyms had been re-argued by Brummitt & Chater (1974) retention of the Morton principle was again approved at Leningrad (see above).

Greuter has now raised a practical argument against the Brummitt & Chater position. Autonyms are 'established' simultaneously with the name of the other taxon (or taxa) at the same rank, and they will have equal priority. If these taxa are united the correct epithet will be that chosen when the taxa are first united (Art. 57.2), and no bibliographical indexes exist to record when taxa are first united. This would create problems in determining which is the correct name. In reply Brummitt points out that this will very seldom cause a problem in practice. For example, in 1879 Nyman published *Heracleum sibiricum* subsp. *lecokii* and automatically 'established' subsp. *sibiricum* simultaneously. If a later author had combined these subspecies under *H. sibiricum* he would have been obliged to call the combined taxon subsp. *sibiricum* if other subspecies were recognized. In 1887 Simonkai sank *H. sibiricum* as a subspecies of *H. sphondylium* and called it subsp. *sibiricum,* as surely would the great majority of botanists have done. This is in accordance with Art. 57.2 and is what the Brummitt & Chater proposals would allow him to do (but is now disallowed by acceptance of the Morton proposal). If Nyman's subspp. *sibiricum* and *lecokii* had been sunk together under any other species a new combination would have been necessary which should be reasonably traceable. The only way any difficulty could have arisen because of Art. 57.2 would have been if Simonkai had (perversely) called it *H. sphondylium* subsp. *lecokii,* when it is possible that it could be proven that the two subspecies of Nyman had been already sunk together as subsp. *sibiricum.*

In Committee discussion Holub and Greuter have preferred to regard autonyms as not true names and so not having priority (the Morton view), while Raven, Linczevski and Brummitt have emphasised the practical advantage of allowing priority, which Art. 6 Note 1 seems to permit, and so support Proposal 87 below. Outside the Committee, Reveal follows Holub and Greuter while McNeill follows Raven, Linczevski and Brummitt.

An alternative solution to priorability: the 'co-ordinate status' position

Having declined to support the Brummitt & Chater arguments on priorability, Greuter has revived the possibility of introducing an entirely new concept into the Code to rule that a) the name of a family is competing for priority at all ranks between family and genus (subject to an appropriate change of its ending), b) a name of a genus is at the same time an epithet competing for priority at the ranks of subgenus and section, and c) the epithet of a species competes for priority at the rank of subspecies and variety etc. This is the idea of 'co-ordinate status' promoted by Weresub (1970), and would effectively give priority to autonyms not from the date of their 'establishment' but from the date of publication of the family, genus or species name involved. It was rejected without serious consideration by Brummitt & Chater (1974, p. 852).

In support of this idea Greuter writes "Adoption of these proposals will admittedly bring about a good deal of change at the levels concerned. They are made because the nomenclature presently existing, and used, at these ranks is judged to be highly unsatisfactory and intrinsically unstable (as any "digging" into the older literature will demonstrate). Contrary to names at other ranks, the names of families, genera and species have been fully (and fairly reliably) indexed for the vast majority of organisms treated as plants. This confers to them an enormous practical advantage over other categories of names, and justifies their being given privilege status. Acceptance of these proposals implies the belief that the nomenclature changes ensuing will be amply outweighed by a speedier process towards a really stable nomenclature at the

ranks concerned, and also by the fact that nomenclatural work will be eased and unburdened from much tedious (and often chance-dependent) bibliographical research."

Brummitt recognises that if this position had been adopted from the start of nomenclature it would have been beneficial, but considers that to bring it in now would overthrow the well established principle that a name has no priority outside its own rank and would bring about very many changes of names which have been correct under present and previous Codes for many years. A rapid check of Flora Zambesiaca vol. 4 (1978) revealed that out of 83 infraspecific taxa recognised 11 would need to have their accepted names changed, all or nearly all to names which have not yet been published. Every accepted name of a subdivision of a family or genus or species published since 1753 would immediately be thrown into question, and the proportion of 13% name changes necessary in Flora Zambesiaca would probably be higher in temperate regions where synonyms are usually more abundant. Brummitt therefore considers this idea completely unacceptable.

In a preliminary consideration of this, before definite proposals had been drawn up, support for further consideration of the idea was given by Holub, Linczevski and Raven in the Committee and by Reveal and McNeill from outside, only Brummitt (and Chater) dissenting from this. On later consideration after proposals were drawn up (Proposals 89–94) Raven declined to vote for them and supported Brummitt's strong opposition instead. Later, Linczevski opposed these proposals. No further comments were available.

2b) Universal versus partial use of autonyms

Prior to 1972 it was obligatory to have an autonym for every infra-familial, infra-generic or infra-specific taxon which included the type of the name of the next higher taxon. Thus not only did the typical subspecies of *Dichrostachys cinerea* have to be called subsp. *cinerea* but under *D. cinerea* subsp. *africana* the typical variety had to be called var. *africana*. Again, the typical section under *Phyllanthus* subgen. *Kirganelia* had to be called sect. *Kirganelia*.

The adoption of the Wood & Webster proposals at Seattle in 1969 now means that an autonym is compulsory for taxa including the type of the name of the family, genus or species but is not necessarily adopted for subdivisions of infra-familial, infra-generic or infra-specific taxa which do not include the type of the family, genus or species name. In the latter situation names repeating the epithet of the higher taxon may be used only if validly published as an independent name, when they compete for priority with any other name available at the same rank. Thus, under *Dichrostachys cinerea* subsp. *africana,* the variety including the type of this name is not to be called var. *africana* (invalidly published in 1965) but has to be var. *leptostachys* since this epithet has priority from publication of *Cailliea dichrostachys* var. *leptostachys* in 1832. Similarly the typical section under *Phyllanthus* subgen. *Kirganelia* has now to be called sect. *Anisonema* and not sect. *Kirganelia*.

The arguments for the present ruling were fully discussed by Wood & Webster (1968) and may be summarised briefly here. Under the pre-Seattle Code the name of the lower taxon in examples like those in *Dichrostachys* and *Phyllanthus* above depended on whether an intermediate rank was recognised or not. Thus if no subspecies were recognised in *D. cinerea,* or no subgenera were recognised in *Phyllanthus,* the taxa concerned would be called *D. cinerea* var. *leptostachys* and *Phyllanthus* sect. *Anisonema,* whereas if the subspecies or subgenera were recognised the same taxa would be called *D. cinerea* var. *africana* and *Phyllanthus* sect. *Kirganelia*. This was held to be contrary to Principle IV and Art. 11 of the Code which state that a taxon of family rank or lower with a particular circumscription and rank can have only one correct name.

The opposing view was put forward by Brummitt & Chater (1974), and has been summarised by the following points: a) the main motivation for the change, the belief that Principle IV and Art. 11 are contradicted by these examples, is held to be questionable, since acceptance or non-acceptance of the intermediate rank affects the taxonomic position of the taxon, b) the changes introduced by Wood & Webster actually enforce name changes which were not necessary previously (*Senecio* example quoted), c) the change introduced what is considered to be a confusing dual system requiring use of autonyms in certain situations but not in other largely comparable situations, d) many names validly published as autonyms before 1969 were

retroactively made invalid (e.g. *D. cinerea* subsp. *africana* var. *africana* quoted above), and e) the new ruling was considered too difficult for many people to understand.

In correspondence of the present Committee a valid objection to the Brummitt & Chater view has been put forward by Greuter. He has pointed out that under Art. 21.1 a name of a subdivision of a genus is a combination of a generic name and a subdivisional epithet [singular], and similarly under 24.1 the name of an infraspecific taxon is a combination of the name of a species and an infraspecific epithet [singular]. This wording has been in the Code since 1961. *Dichrostachys cinerea* subsp. *africana* var. *africana* is thus not a name but a kind of formula representing the two separate names *D. cinerea* subsp. *africana* and *D. cinerea* var. *africana*. Therefore, Greuter argues, it will immediately be clear that the expanded autonym rule (i.e., the pre-Seattle position) does not and cannot work.

In reply to this argument by Greuter, Brummitt & Chater accept the theoretical case but hold that the system did work in practice before 1969. In popular parlance nearly all botanists and others confronted by '*Dichrostachys cinerea* subsp. *africana* var. *africana*' would say that this is the name of a plant. If the definition of 'name' in the Code is inadequate to cover general usage, then the Code should be changed, and proposal 97 below is made to cover the point. As a further argument in favour of this proposal Brummitt & Chater point out that, according to Greuter's correct interpretation of the present Code, when *Tephrosia purpurea* subsp. *leptostachys* var. *delagoensis* was published in 1968 it automatically established not *T. purpurea* subsp. *leptostachys* var. *leptostachys* but *T. purpurea* var. *purpurea*, a name for a taxon which did not exist in the classification adopted at the time. Automatic creation of names for taxa which do not exist seems unnecessary.

Holub also has always regarded a 'name' as including as many ranks as are recognised in the classification adopted, and points out that it is illogical to recognise a name including a subvarietal or subforma epithet, such as *Saxifaga aizoon* subf. *surculosa*, without any indication of the epithet of the variety or forma in the name. However, he has voted against proposal 97 below because he objects to the wording referring to author citations remaining the same on transference of a variety from one subspecies to another under the same species. This point was clarified in the 1972 Seattle Code by addition of the *Pulsatilla* example under Art. 49, and to change this ruling would require a complete new proposal.

Retroactive changes in the Code are generally undesirable if they bring about changes of names in common use. Changing the relevant rules in 1969 retroactively changed names which had been correct according to the Code from 1952 onwards. Now one may ask whether going back to the rules operative from 1952 to 1969 will cause more or less change than sticking to the rules which have operated from 1969 to 1981. In order to test outside opinions on whether the Seattle changes have been extensively followed or not, the Secretary circulated a letter to nine senior editors of leading taxonomic journals and major regional Floras produced in Great Britain, asking to what extent they had applied the new rules introduced in 1969. Of the 8 who replied, 5 said or implied that they were not aware that the rules had changed then, 6 did not feel they understood how the new rules worked and only 1 had ever tried to apply them, all 8 considered that the pre-1969 rules were simpler than the present ones, and only one (who had been unaware of the changes made) would like the present rules to remain. This may perhaps support the view that going back to the pre-Seattle position may cause fewer changes of names currently in use than enforcing the 1969 changes would, as well as making the Code easier to understand.

In discussion in correspondence a return to the pre-1969 position has been supported by Holub, Linczevski, Raven and Brummitt within the Committee and also by Reveal and McNeill in comments from outside, while the position in the present Code is supported by Greuter. The issue is covered by proposal 95 below.

2c) Definition of 'autonym'

Under the present Code autonyms are not to be considered in questions of priority. If this ruling should stay in the Code, the definition of 'autonym' is therefore of some importance. There are two possible interpretations of the term at present. Either one can define it as a name below generic rank in which a name or epithet is repeated or above generic rank which is based on the same stem as the name of a higher taxon (i.e. any name with the same form

as *Heracleum sibiricum* subsp. *sibiricum*, or *Phyllanthus* sect. *Phyllanthus*, or *Rosoideae* under the family *Rosaceae*) or one can define it as a name which is validated only because it has this form and does not otherwise fulfil the conditions for valid publication of a name. In the latter case a name such as *Heracleum sibiricum* subsp. *sibiricum* would not be an autonym if it was published with a description (in Latin since 1935) and type (since 1958), or validated as a new combination, and it would then not be excluded from consideration in questions of priority.

It is perhaps not too important which definition is adopted; the important thing is that the Code is made clear. Proposals 99 and 100 below would both seem to favour the first of the above definitions.

2d) Author citations of autonyms

Brummitt, as secretary, asked the Committee whether, under the present Code, in *Plantago coronopus* subsp. *commutata* (Guss.) Pilger the variety which includes the type of this subspecific name should be cited as var. *commutata* (Guss.) Béguinot or just var. *commutata* with no authority. Opinions were divided at first, some saying that no authority for var. *commutata* should be given, some saying that it must be given, and some saying it depends whether var. *commutata* was first published as an autonym or as a straight varietal combination.

The important point in this question of interpretation of the present Code is that made by Greuter, who, as noted above, points out that an infraspecific name is a combination of a specific name and a *single* epithet. There is then no such 'name' as *Plantago coronopus* subsp. *commutata* var. *commutata*; the name is only *Plantago coronopus* var. *commutata*, which is not an autonym and an authority must therefore be cited. This point had not been appreciated by any other members of the Committee or outside correspondents.

Proposal 97 below, which aims to alter this definition of 'name' in the Code, is part of a package deal which goes back to the pre-Seattle position, when it would be clear that var. *commutata* would have no author citation when it occurred under subsp. *commutata*.

2e) Date of publication of autonyms

Under the present Code autonyms have no standing in questions of priority and their date of publication is therefore irrelevant. The question only arises if the Brummitt & Chater argument for priorability of autonyms (see a above) is accepted. For those who support the Brummitt & Chater proposal for priorability of autonyms the *Heracleum* example under Proposal 87 below should explain how both author citations and dates of publication would be cited.

2f) Status of autonyms published validly before 1969 but contrary to the present Code ("pseudautonyms")

This question was raised by Reveal & Broome (1980), the text of which was circulated to the Committee before publication. *Eriogonum strictum* subsp. *proliferum* (Torr. & Gray) S. Stokes var. *proliferum* was proposed by Hitchcock in 1964 as an autonym under the Code in operation at the time. However, acceptance of the Wood & Webster proposals at Seattle retroactively excluded such 'names' from automatic establishment. In Committee correspondence Greuter has coined the word 'pseudautonym' for such a 'name'. The question arises as to whether these pseudautonyms can not be regarded as validly published. As Greuter points out, they are not *names* in the strict interpretation of the Code since *names* can include only one infraspecific epithet (see above), and the *name* used by Hitchcock was actually *E. strictum* var. *proliferum*.

Reveal & Broome observe that such names were not published by their authors as intentional new combinations, and were not indexed by bibliographical works. However, in many cases the requirements for valid publication of the new combination were in fact fulfilled and there is no reason in the present Code to say that many such 'pseudautonyms' are not now to be regarded as having been validly published as new combinations or as names for newly described taxa. The bibliographic problems retroactively so created would, however, be enormous. The suggestions 1–3 by Reveal & Broome below are designed to rule that all these 'pseudautonyms' published prior to 1969 are not to be regarded as valid new combinations, so overcoming the

bibliographic problems of going back over pre-1969 literature to sort out which are valid and which are not.

In Committee correspondence Greuter has opposed these proposals, and would allow all pseudautonyms which happen to have fulfilled the requirements of valid publication to be now regarded as validly published names (presumably either as new combinations or as newly described taxa). Holub, on the other hand, considers them all as invalidly published, even if accompanied by appropriate descriptions or other necessary data. Brummitt favours repeal of the Wood & Webster proposals, which would dispose of the problem and allow pseudautonyms to revert to being validly published autonyms again.

2g) Avoidance of casual publication of autonyms

This minor point was first discussed by Brummitt & Chater (1975), and involves only a clarification of the Code which becomes necessary if the Brummitt & Chater view on priorability of autonyms and the associated Proposal 97 below are both accepted.

If a name involving three ranks, such as *Tephrosia purpurea* subsp. *leptostachya* var. *delagoensis* were contracted in print, by omission of the intermediate rank, to *T. purpurea* var. *delagoensis,* it could be argued that this automatically established the name *T. purpurea* var. *purpurea* dating from that publication. Such a taxon might not exist, and such autonyms would be virtually impossible to trace bibliographically—they could simply appear, for example, in an ecological list of species with no taxonomic significance at all. Proposal 88 below makes it clear that such publications could not be accepted as valid publication of an autonym.

2h) Range of ranks to be covered by autonym rules

Greuter has queried in Committee correspondence whether the autonym rules should extend below the rank of variety. The autonym rules are based on a taxonomic philosophy which implies a hierarchical system in which the whole is successively subdivided into pieces of roughly equivalent size, but in practice the lower one goes down the hierarchy the more this concept becomes a fiction. He suggests that when one recognises a forma one is separating off one very small part and it is not sensible to regard all the rest of the species as constituting another single forma—it will in practice include a whole range of variants which do not possess the one character used to recognise the named forma. He therefore argues against creating autonyms below the rank of variety and puts forward Proposal 108 below. Holub has expressed opposition to the proposal.

By contrast McNeill has queried with the Committee why subdivisions of genera below the rank of section are excluded from the autonym rules (Art. 22.1, first line). This seems to be probably largely a historical accident. At Stockholm in 1952 subgenera were included, and at Paris in 1956 this was extended to cover sections, but lower subdivisions were never included. The suggestion came too late for comments to be received from members of the Committee, but Proposal 109 is put forward below to test opinion.

After the first vote on proposals had been made by the Committee, Greuter also suggested that, in view of the problems of principle related to the application of the autonym concept to single-element names, it may seem a reasonable option to exclude names of subdivisions of families from the autonym rules (Proposal 110 below). Greuter further suggested that another option would be to consider the names of subfamilies, tribes and subtribes as binary combinations of which the first element is the family name, but this may not be acceptable to many since it has already been proposed to the Seattle Congress and rejected. A third option, which would take care of most but not quite all difficulties of single-element names, is the co-ordinate status Proposal 89 below which is an alternative to Proposal 110. There was little opportunity to discuss these suggestions in the Committee before submission of this report.

2i) The terminations -oides *and* -opsis.

This proposal by Greuter has arisen rather incidentally in the correspondence on autonyms and is really rather a separate issue. Art. 21.3 at present disallows epithets for subdivisions of genera formed from the stem of the name of the genus with addition of the termination *-oides* or *-opsis*. Greuter points out that a number of such names are at present in use, such as *Valeriana* sect. *Valerianopsis* Wedd., and that the rule seems unnecessary. At specific and

infraspecific levels the terminations *-oides* and *-opsis* are admissible (e.g., *Phleum phleoides*) and the proposal therefore aims at introducing a consistent ruling at the different ranks. Linczevski comments that the rule has been in use rather a long time and to change it now retroactively would bring undesirable name changes, and Holub, while supporting the proposal, also admits that some authors have in fact applied Art. 21.3 and rejected names ending in *-oides* or *-opsis*. See Proposal 107 below.

3. Proposals to the Sydney Congress

Because of the number of proposals on autonyms and their complexity it is not always possible to predict the exact wording which would be necessary if a proposal is accepted. In many cases it would depend on which other proposals were also accepted. In some proposals below, therefore, the principle involved is stated without the resulting wording in the Code being stated.

3a) Proposals on priorability of autonyms

Proposal (87). In Arts. 19.4, 22.2 and 26.2 delete the word "not" preceding the words "to be taken into consideration for purposes of priority" and delete the sentence following this phrase. Add to each Article the sentence "An autonym is accepted as dating from the first valid publication of a name of another taxon at the same rank under the same next higher taxon, whether or not the autonym appeared in print at that time." Delete the *Phyllanthus* example in Art. 22 and the *Campanula* example in Art. 26. Add an example to Art. 26 "*Heracleum sibiricum* L. (1753) includes *H. sibiricum* subsp. *lecokii* (Godron & Gren.) Nyman (1879) and *H. sibiricum* subsp. *sibiricum* automatically established by Nyman at the same time. When *H. sibiricum* was sunk into *H. sphondylium* L. (1753) as a subspecies by Simonkai (1887) a choice was available between the two subspecific epithets *sibiricum* and *lecokii* and the former was chosen. The correct name for the taxon is now *H. sphondylium* subsp. *sibiricum* (L.) Simonkai (1887)."

This proposal is put forward by Brummitt & Chater (see discussion under 2a above). Votes received from Committee members are 3 in favour and 2 against.

Proposal (88). Add a ruling, perhaps under Art. 34, that autonyms can only be established by the valid publication of a new name or combination for a taxon at the same rank which does not include the type of the name of the next higher taxon; they are not established by publication of a contraction of a name involving more than two ranks. Example: "Publication of the name *Saxifraga aizoon* subforma *surculosa* Engler & Irmscher as a contraction of *S. aizoon* var. *aizoon* subvar. *brevifolia* forma *multicaulis* subforma *surculosa* Engler & Irmscher, as allowed in Art. 24.1, does not establish the name *S. aizoon* subforma *aizoon*.

This proposal by Brummitt & Chater is a clarification of a point which could have been unclear under pre-Seattle Code (see 2g above). It becomes relevant only if Proposal 87 above and Proposal 97 below are both accepted. Votes are 3 in favour and 2 against.

Proposals (89)–(94). These proposals were submitted by Greuter shortly before this report had to go to press and to the Rapporteurs for their comments, and there was unfortunately no time for discussion of the wording after it was circulated. However, preliminary discussion is reported under 2a (second part) above. Proposals 89–93 must be seen as a package (except that Proposal 110 below may be preferred to 89) while 94 may be considered as independent and additional. The proposals and comments are included here verbatim as submitted by Greuter. The Committee's votes, some of which were received after going to press, are 1 in favour and 3 against.

Proposal (89): Replace Art. 19.3 to 19.5 and the Note 1 by the following:

"19.3 The first valid publication of a name of a family automatically establishes the name of a subfamily, of a tribe and of a subtribe of that family, based on the same type and derived from the same generic name as the family name. Such names are termed autonyms (automat-

ically established names). They are treated as having been validly published on the same date as the corresponding family name, even though they may not have been effectively published.

19.4 The correct name of the subfamily, tribe or subtribe that includes the type of the correct name of family is the corresponding autonym, irrespective of the possible existence of other competing names. If a name coinciding with an autonym had been validly published earlier than the corresponding family name, the earlier version, with its appropriate date and author citation, takes the place and rights of the autonym.

Note 1. If a legitimate name of a family is no longer considered to be correct, the corresponding autonyms compete for priority with any other legitimate names of the same rank that apply to the same taxon.

19.5 The autonyms corresponding to the conserved name of a family are, by implication, similarly conserved."

Comments. This deals with autonyms subordinate to family names, basing on the assumption that these will, as before, be in the form of single-element names. An alternative proposal, to abandon the autonym concept at these ranks, is 110 below.

The note (also in the following two proposals) spells out procedure that is implicit from the general regulations elsewhere in the Code (that is why it is proposed as a simple "note"). In view of the fact that it constitutes a radical change with respect to the former autonym regulations, it seems fairly essential to spell this out explicitly.

The second sentence of 19.4 may need some explanation. It is made necessary because of the uninomial nature of the names here concerned. Contrary to the lower ranks, a name exactly coinciding in its form with a later autonym may be validly published even though the corresponding family name has not yet been validated. There is more than one possible solution to this; the one proposed here appears to be the simplest and most elegant.

One problem remains partly unsolved (it is *entirely* unsolved in the present Code): that of possible homonymy. It arises from the fact that two different, legitimate generic names may have the same stem and form identical names at the higher ranks. The only relevant example of this that has so far been produced are *Carex* (type of the *Caricoideae* and *Cariceae*) and *Carica* (type of the *Caricaceae*). This case is taken care of by the present proposed wording. It would not be covered if the *Caricoideae* and *Cariceae* (as based on *Carex*) had been validated earlier than the *Caricaceae* (as based on *Carica*). However, no example of the latter type is presently known to exist, and, if it indeed exists, it could be resolved by conservation (under the new proposed Art. 19.5) rather than by special ruling.

The examples under Art. 19 could presumably all stand with the one exception of the *Lactuceae* and *Hyoseridinae* that would now become *Cichorieae* and *Cichoriinae,* respectively (owing to the priority of the respective autonyms dating from the *Cichoriaceae* Juss. (1789), nom. cons.). This can be left to the care of the Editorial Committee.

Proposal (90): Replace Art. 22.1 to 22.3 by the following:

"22.1 The first valid publication of a name of a genus automatically establishes the name of a subgenus and of a section (optional addition: of a subsection, of a series, of a subseries) of that genus, based on the same type as the generic name and bearing as epithet the generic name unaltered. Such names are termed autonyms (automatically established names). They are treated as having been validly published on the same date as the corresponding generic name, even though they may not have been effectively published.

22.2 The correct name of the subgenus or section (optional addition: subsection, series, subseries) that includes the type of the correct name of a genus is the autonym based on that name, irrespective of the possible existence of other competing names and epithets.

Note 1. The epithets of legitimate autonyms are available for transfer under other generic names where they compete for priority with any legitimate epithets of the same rank that apply to the same taxon.

22.3 The autonyms based on a conserved generic name are, by implication, conserved against the autonyms of the rejected generic name(s). The autonyms based on a rejected generic name are similarly rejected."

Comments: Much of this proposal is self-explanatory. One may note that at present the autonym rule is restricted to the ranks of subgenus and section, although it extends to all infraspecific ranks. It might be a reasonable option to either extend it to all infrageneric ranks or limit it to subspecies and variety at the infraspecific ranks. Props. 90 and 91 allow for both options (as well as for maintenance of the present unbalanced state).

One may note that all autonyms of an illegitimate generic name (whether through homonymy or through inclusion of a type of a name that ought have been adopted) are by definition also illegitimate under the proposed rule.

The present examples could presumably be maintained subject to slight modifications in the wording. This, and the possible inclusion of other examples, can be left to the Editorial Committee.

Proposal (91): Replace Art. 26.1, 26.2 and 27.1 by the following:

"26.1 The first valid publication of a name of a speices automatically establishes the name of a subspecies and of a variety (optional addition: of a subvariety, of a forma, of a subforma) of that species, based on the same type as the specific name and bearing as final epithet[1]—footnote unchanged—the specific epithet unchanged. Such names are termed autonyms (automatically established names). They are treated as having been validly published on the same date as the corresponding specific name, even though they may not have been effectively published.

26.2 The correct name of the subspecies or variety (optional addition: subvariety, forma, subforma) that includes the type of the correct name of a species is the autonym based on that name, irrespective of the possible existence of other competing names and epithets.

Note 1. The epithets of legitmate autonyms are available for transfer under other specific names where they compete for priority with any legitimate epithets of the same rank that apply to the same taxon."

Comments: This proposal is designed in strict analogy with Prop. 89. The comments applicable to the former also apply here.

The place for Art. 27.1 may be usefully kept vacant waiting for the eventual adoption (at Sydney or later) of a proposal on "nomina specifica conservanda." In such an event, a new paragraph analogous to 22.3 as proposed above would have to be added.

The examples at present given under Art. 26 will need change, that on *Lycopodium* in wording, the other two in substance. This, and the possible introduction of new examples, can be left to the Editorial Committee.

Proposal (92): Add a parenthesis to the first line of Art. 32.1, to read . . . a name of a taxon (*autonyms excepted*) . . . Add a new sentence at the end of 32.1 (or a new § 32.5) to read:

"The sole requirement for autonyms (see Art. 16.1, 19.3–5, 22.1–3, 26) to be validly published is that the corresponding family, genus or species name must be validly published."

Comments: This simple statement suffices to fit the newly proposed principle into the body of the existing regulations of the Code. There is no need to declare a new principle of "priority of names outside their rank". The re-definition of valid publication for the special case of autonyms brings about the necessary link to the existing regulations (valid publication, elsewhere in the Code, is defined as publication in conformity with Art. 32–45).

One may note that the new principle of "valid publication without effective publication", for the case of autonyms, is also implicit in Prop. 87 on the "priorability of autonyms". The difference is that the "valid autonyms", under the present set of proposals, would come into existence in the same time as the corresponding higher ranking name, while under Proposal 87 they would be created, usually, at a later date (upon publication of another infraspecific name of the same rank). Also, with the present set of proposals, a single date and place of publication would be involved for the names at all ranks concerned, while under Proposal 87 there may (and usually will) be as many dates and places of publication as there are ranks.

Proposal (93): In Art. 46.1, delete the last portion "unless the provisions for autonyms apply" and the cross-references.

Proposal (94): Add a new §:

"46.2 The names of authors to be cited for autonyms are the same as for the name of the corresponding higher ranking taxon under which they are placed. However, authors' names need not be repeated after an autonym, at an infrageneric rank, if they are cited after the name of the higher ranking taxon.

Example: *Quercus perennis* subsp. *perennis* (L.) Tutin, Tea Phytologist (Sonderheft): 5(1977), may also be cited as *Quercus perennis* (L.) Tutin subsp. *perennis*."

Comments: The question of whether or not autonyms, if given priority, are to be followed by an author citation, is controversial. It may not, after all, be of a very fundamental importance. In view of this, it is proposed (a) to transfer the relevant rules from under the autonym rules (where they are presently placed) to Art. 46 where they really belong, and (b) to allow for a flexible solution where both the citation and non-citation of authorities for autonyms would be permissible.

An exception would be made for the single-element autonyms, because of their very nature. One has to realize that it must not necessarily be clear, in a given context, to which family a subordinate taxon is (is to be) assigned so that there can be doubt of whether or not its name is an autonym.

Other solutions for authors' citation are also envisageable, and might be acceptable in the proposers' mind. Therefore, Proposal 94 is not considered to belong to the package of Proposals 89–93.

3b. Proposals to eliminate the effects of the Wood & Webster Seattle proposals

Proposal (95). Amend Articles 19.4, 22.2 and 26.2 to eliminate the changes brought about by the acceptance of proposals 181–188 at the Seattle Congress. This would mean a return to the position of having compulsory autonyms throughout the nomenclatural hierarchy below the rank of family, but excluding subsections and lower divisions of genera (Art. 22), for all taxa which include the type of the correct name of the next higher taxon. The proposal is put forward by Brummitt & Chater. For discussion see 2b above.

Committee votes are 4 in favour and 1 against.

Proposal (96). Re-word Principle IV as follows:

"Each taxonomic group with a particular circumscription and rank can, in any one taxonomic situation, bear only one correct name, the earliest that is in accordance with the rules, except in specified cases."

This is an adjustment of the wording suggested by Brummitt & Chater to satisfy those who find the existing wording unsatisfactory in relation to the autonym rules as they stood before the Seattle Congress. It is of little practical consequence. Committee votes are 3 in favour and 2 against.

Proposal (97). Alter Art. 21.1 to read:

"The name of a subdivision of a genus is a combination of a generic name and one or more epithets connected by a term or terms (subgenus, section, series, etc.) denoting their rank. However, when one such epithet is transferred from one higher subdivision of a genus to another under the same generic name it is not necessary to alter the author citation." Also alter Art. 24.1 to read "The name of an infraspecific taxon is a combination of the name of a species and one or more infraspecific epithets connected by a term or terms denoting their rank. However, when one such epithet is transferred from one higher subdivision of a species to another under the same specific name it is not necessary to alter the author citation."

This proposal is also by Brummitt & Chater and would be necessary if Proposal 95 above is accepted. The present wording of these Articles, which indicates that infrageneric and infra-

specific names can include only a single infrageneric or infraspecific epithet, is incompatible with the pre-Seattle autonym rules. Discussion is given in the fifth to seventh paragraphs of 2b above. Committee votes are 3 in favour and 2 against (but see 2b, para. 7).

Proposal (98). Add a ruling, perhaps under Art. 34, that establishment of an autonym for a taxon below generic rank which does not include the type of the name of a genus or species does not constitute valid publication of a new combination of the genus or species name with the final epithet of the autonym. Example: When Hitchcock (Univ. Wash. Publ. Biol. 17(2): 132. 1964) established the autonym *Eriogonum strictum* Benth. subsp. *proliferum* (Torr. & Gray) Stokes var. *proliferum* he did not thereby validly publish the combination *E. strictum* var. *proliferum*.

The above proposal by Brummitt & Chater clarifies a point raised by Reveal & Broome which might have been ambiguous even under pre-Seattle Codes. If the Wood & Webster proposals are rescinded by acceptance of Proposal 95 above, the complications of dates, which Reveal & Broome had to introduce to their suggestions 1–3 below, become unnecessary. Committee votes are 3 in favour and 2 against.

3c. Proposals related to definition of the term 'autonym' under the present Code

Proposal (99). Add to Art. 6 a new paragraph 6.8 as follows:

"An *autonym* below the rank of genus is a name in which the final epithet is the same as that of the next higher taxon, or is the same as the generic name if the next higher taxon is a genus; above the rank of genus it is a name based on the same generic name as is the name of the next higher taxon", and in Arts. 19.4, 22.2 and 26.2 delete the phrase in brackets "(automatically established names)."

This suggested wording by Brummitt & Chater would provide one possible solution to the question posed under 2c above. Like Proposals 9 and 10 below it would become superfluous if Proposal 95 above were accepted. Committee votes are 3 in favour and 2 against.

Proposal (100). Add to Art. 6 a new paragraph 6.8:

"Autonyms are names such as can be established automatically under Arts. 19.4, 22.2 and 26.2, irrespective of whether they were in reality formally created or not."

This wording by Greuter amounts effectively to the same definition as Proposal 99 above, differing only in the way of expression. It is also implicit in the wording of Proposals 103 and 104 below, and may be superfluous if these are accepted. Committee votes are 2 in favour, 3 against.

3d. Minor or editorial changes to the present Code

Proposals 101–106 may be considered as a package, the purpose of which is clarification of the ruling of the Code as it stands regarding autonyms. Proposals 101 and 102 make it clear that autonyms are *names* in the sense of the Code although they need not be validly published, and would be in conflict with either Proposals 87 or 89–94 if these were accepted.

Proposal (101). Re-word Art. 6.6 to read:

"In this Code the word *name* means a name that has been validly published, whether it is legitimate or illegitimate (see Art. 12), unless the contrary is specified or unless the name is an autonym (Art. 19.4, 22.2, 26.2)."

This proposal is by Greuter, and counters the arguments by Brummitt & Chater in favour of Proposal 87 above that autonyms are validly published names. It cannot be accepted if Proposal 87 is accepted. Committee votes are 2 in favour and 3 against.

Proposal (102). Re-word Art. 12.1 to read:

"A name of a taxon, autonyms excepted, has no status under this Code unless it is validly

published (see Arts. 32–45).'' Then ask the Editorial Committee to consider adding references to the autonym articles under Art. 60.1.

This proposal by Greuter is similar to 101 above. The words ''autonyms excepted'' are added to the existing wording. Committee votes are 2 in favour, 3 against.

Proposal (103). Change Art. 26 to read as follows:

[First sentence as in present first sentence of 26.1, including footnote, finishing ''. . . (see Art. 46).''] ''Such a name is termed an autonym (automatically established name). It need not be validly nor even effectively published but is available any time it is needed. Its type is the same as that of the correct name of the species. It is not to be taken into consideration for purposes of priority. *Note 1.* This provision does not apply to the names of infraspecific taxa that do not include the type of the correct name of the species, although they may include the type of the correct name of a higher ranking infraspecific taxon. The names of such taxa are subject to the rule of priority; they may repeat the name of the corresponding higher ranking infraspecific taxon, followed by an appropriate author citation, if there is no obstacle under the rules.''

This re-wording is by Greuter who comments ''The discussions in the Committee on Autonyms have made it clear that the present wording of the autonym rule is misleading to many, and that the definition of the term autonym that is implicit in it needs clarification. The re-wording proposed above does not imply any change with respect to the rules now prevailing, but should make their essence more easy to comprehend.'' Committee votes are 2 in favour and 3 against.

Proposal (104). Alter Art. 22 by strict analogy with Proposal 108 below to cover names of subdivisions of genera.

Also proposed by Greuter. Committee votes are 1 in favour and 4 against.

Proposal (105). Change Art. 34.4 to read, after the first sentence (which would remain unchanged):

''This rule does not apply in those cases where the same combination is simultaneously used at different ranks, either for an infraspecific taxon within a species or for a subdivision of a genus within a genus (see Rec. 22.A.1–2, 26.A.1–3).''

This proposal is also put forward by Greuter. It allows ''pseudautonyms'' (see 2f above) to be used where there is no other competing name. Greuter comments ''The present wording of Art. 34.4 is in conflict with Recs. 19A.1, 22A.1–2 and 26A.1–3. In other words, if one follows these recommendations (as many do) one creates invalid alternative names. A change in wording of Art. 34.4, as here proposed, appears mandatory unless one wants to abolish the recommendations and also the currently well established practice in this field.''

Proposal (106). Delete Art. 66.1(b).

Greuter points out that there is a contradiction between Art. 66.1(b), which makes names published in contravention to Art. 22.1 illegitimate, and Art. 32.1(b) which makes them invalid. He comments ''For all ranks other than subdivisions of genera no such contradiction exists and names contrary to the autonym rules are invalid (see in particular Art. 24.3 for infraspecific ranks). Illegitimate status in these cases is not desirable for practical reasons, and would lead to the rejection of a good many sectional and subgeneric names that were originally published for taxa including the (possibly later lecto-) type of the generic name but are now in use in an amended sense excluding that type. If we conclude that they were invalid at their first use they can be used as validated from a later date, in the amended sense.'' Deletion of Art. 66.1(b) overcomes this. It is relevant not only for clarification of the present Code but also if Proposals 87 or 89–94 are accepted. Committee votes are 2 in favour, 0 against and 3 undecided.

3e. Suggestions on the status of pseudautonyms published 1952–1969

Three suggestions were put forward by Reveal & Broome (Taxon 29: 495. 1980) and are discussed above under 2f. They are not relevant if Proposal 95 above is accepted. It should be noted that, although the Committee have all voted against these proposals, there are diametrically opposed views within the Committee on interpretation of the present Code on this point.

Suggestion 1. To Art. 19.3 add a Note:

"Autonyms made for names of taxa of a rank below family and above genus which do not include the type of the correct name of the family from 1 January 1960 to 31 December 1969 are not to be considered as valid new combinations, and are not subject to the provisions of priority."

Committee votes are 0 in favour, 5 against.

Suggestion 2. To Art. 22.2 add a Note:

"Autonyms made for names of taxa below genus and above species which do not include the type of the correct name of the genus from 1 January 1955 to 31 December 1969 are not to be considered as valid new combinations, and are not subject to the provisions of priority."

Compare also Proposal 98 above which is operative if Proposal 95 is accepted. The *Astragalus* example given by Reveal & Broome is inappropriate since names of subsections have never been subject to the autonym rules. Committee votes are 0 in favour, 5 against.

Suggestion 3. To Art. 26.2 add a Note:

"Autonyms made for names of taxa of a rank below species which do not include the type of the correct name of the species from 1 January 1951 to 31 December 1969 are not be considered as valid new combinations, and are not subject to the provisions of priority." Add also *Eriogonum strictum* example.

Again compare also Proposal 98 above. Committee votes are 0 in favour, 5 against.

3f. Proposals on various special provisions in the Code

Proposal (107). In Art. 21.3 delete the words "the terminations *-oides* and *-opsis*, or".

This proposal is put forward by Greuter and is explained in 2i above. Committee votes are 4 in favour, 1 against.

Proposal (108). Change the first sentence of Art. 26 to read:

"The name of a subspecies or variety which includes . . . ." and add a Note to the Article: "This provision does not apply to the names of taxa of lower rank than variety, nor to the names of varieties that do not include the type of the correct name of the species, although they may include the type of the correct name of a recognised subspecies. The names of such varieties are subject to the rule of priority; they may repeat the name of the subspecies, followed by an appropriate author citation, if there is no obstacle under the rules."

This proposal by Greuter follows from the arguments outlined under 2h (first paragraph) above. It brings an additional limitation of the autonym rule to the major infraspecific ranks of subspecies and variety, by analogy to the present situation with respect to subdivision of genera where it is similarly limited to the ranks of subgenus and section. The clarification aimed at in Proposal 103 above is also incorporated. Committee votes are 1 in favour and 4 against.

Proposal (109). Amend Art. 22.1 to allow the autonym rules to be extended to cover all subdivisions of a genus, including subsection and lower subdivisions. Wording should be analogous to that of Proposal 103 above.

This proposal was suggested as a possibility by McNeill. It was received after the Committee

was asked to vote, and no comments have been made by any members. See 2h (second paragraph) above.

Proposal (110). Delete the second half of Art. 16.1 (after the semi-colon) and Art. 19.3 including the examples and Note 1.

This proposal by Greuter is to exclude names of subdivisions of families from the autonym rules, as suggested above under 2h, third paragraph. Committee votes are 1 in favour and 2 against.

4. Statement of Opinions by Committee Members

Each member was invited to submit a short statement of his personal opinions on autonyms. These are as follows:

R. K. Brummitt: Prior to the 1969 Congress the rules on use of autonyms were simple and straightforward. Whenever one subdivided a taxon one adopted an autonym for the 'typical' segregate, with no author citation. The system worked well and was easily understood. The changes made in 1969 were a retrograde step, based in part on doubtful theoretical arguments, introducing practical difficulties for users of the Code and of plant names, and retroactively bringing about many name changes. The diverse opinions expressed in this Special Committee on such issues as author citations under the present Code, together with opinions solicited from outside the Committee, suggest that very few people have understood the new rules or put them into practice, and in many cases people who should know have even been unaware that changes have been made. The next Congress can take a major step foward again by voting for Proposal 95 above which will let us revert to the simple and practical pre-1969 position. Problems over author citations, dates of publication, definition of autonym, etc. would then become irrelevant.

The question of whether autonyms should be accorded priority from their date of establishment or not is a choice between purely theoretical (and in my opinion often doubtful) objections to priority, which enforce adoption of undesirable names which in most known examples have not yet been published, and a more practical solution of allowing priority and permitting adoption of the more acceptable name which usually has been published in past examples. Those favouring practical solutions will vote for Proposal 87 above. The more extreme solution of dating priority of infrageneric and infraspecific names back to the date of the genus or species name involved (Proposals 89–94 above) would in effect revoke the principle that a name does not have priority outside its own rank. It would immediately call into question the correctness of every name of a subdivision of a genus or species published since 1753 and require comprehensive synonymy to be determined for each one before the correct name could be decided. This would cause major chaos to established nomenclature, and must be a non-starter.

W. Greuter: Any proposal dealing with autonyms must be seen on a background of considerable and permanent instability of infraspecific nomenclature, mainly due to the absence of indexing at these levels, and of a near to chaotic present state of the nomenclature of subdivisions of genera. Proposals aiming at stabilization should give preference to new simplified procedures and requirements rather than to conformity with past ruling and/or practice.

Of the various proposals before us those favouring return to the "expanded autonym rule" (Proposals 95–98) are absolutely unacceptable. This is a step backward from the present understanding of infraspecific (and infrageneric) nomenclature since it entails acceptance of complex multi-epithet classificatory formulae as the "real" names. It also leads to a codified instability of names: e.g., a variety will (quite often!) have to change its name depending on whether or not an intermediate taxonomic category (subspecies) is used.

Priorability of autonyms (Proposal 87) would intolerably aggravate the consequences of an expanded autonym concept. It would be less damaging under the present (restricted) autonym rule. It would, however, complicate rather than alleviate present procedural requirements, creating many new epithets of equal priority (where one would have to search the whole literature to find out who was the first to unite them and to choose one of them in preference

to the other!). The argument that the proposal brings about no change with respect to past legal procedure sounds good but is not entirely correct.

Proposals 101–106 aim at maintenance and clarification of the present state (restricted autonym rule without priorability). I could certainly live with that rule, although I do not really like it. Even with these improvements some problems are intrinsic to the application of the autonym concept to one-element names and appear to be insoluble. I for one would recommend deletion of the autonym rule for suprageneric ranks (Proposal 110).

An entirely new solution is put forward in Proposals 89–94. I strongly favour these (although I hesitate between the opposing proposals 89 and 110). They would bring about a relatively important amount of change in the ranks concerned, but also a much higher degree of security and clarity, i.e. a rapid increase of stability for the future. Of all proposals on record, these are the only one which I would consider qualify as real progress.

Suggestions 1–3 deal with a pseudoproblem. The "solution" offered is unsatisfactory. One of the examples in the original submission, concerning *Astragalus,* is plainly incorrect since subsection names have never been subject to the autonym rules. These proposals should be discarded.

J. Holub: Autonyms are not real names, but represent rather formulae, designations or symbols. When introduced into the Code they were regarded in this way, and any change in their status would be contrary to the original intention. As "non-names" they cannot acquire priorability against real names having descriptions, publication places, publication dates and authorship.

The universal use of autonyms seems to be more useful than the partial one for its mechanical character and unification. To select only family, genus and species for use of autonyms does not seem to be theoretically justified. The full scientific name of a plant taxon should include the totality of the names of all included taxa. Names of taxa with final epithets in auxiliary ranks within genus and species (i.e. subsection, subvariety etc.) cannot be contracted by exclusion of their basic rank (i.e. by exclusion of section, variety etc.). The authorship of a combination when an infraspecific (or infrageneric) taxon alters its position within the infraspecific (or infrageneric) content of the species (or genus) should accordingly be changed.

Under the present Code those names imitating autonyms by repetition of epithets but having descriptions, publication places and dates and authorship, as well as including the type of the name of the next higher taxon, should be considered invalidly published.

I. A. Linczevski: I think the introduction of the autonym rules into the Stockholm 1952 Code was a really progressive decision being a subsequent development of the type method providing further stabilization of nomenclature. I believe now that the autonym rules can give the best results when they become universal, involving all ranks below family without exception. I believe that autonyms must be compulsory at all levels and not open to competition from other names, otherwise they cannot fulfil the main task—to mark by the special name all the 'type-taxa' (i.e. the taxa which include the types of the names of the higher taxa) and at the same time to mark that which may be called a 'type-line' or something similar.

P. H. Raven: I am strongly and irreversibly in favour of the view that autonyms should be given priority (Proposal 87). Although the idea of giving names of subdivisions of genera and species priority from the date of publication of the genus or species name involved is attractive in theory, its retroactive introduction would create too many changes of names already established in the literature.

I am also in favour of reverting to the pre-Seattle position of having autonyms obligatory for the typical subdivision of all ranks throughout the system (Proposal 95). If this means changing the definition of a 'name' (Proposal 97) then this should be accepted too.

Summary

All who have commented on the priority question, either as members or non-members of the Committee, favour a move away from the present ruling dating from Morton (1968) that autonyms shall not be considered in questions of priority. Some favour the view that priority of an autonym should date back to first publication of another name at the same rank (Proposal 87), while others favour dating priority back to first publication of the family, genus or species

name involved (Proposals 89–94). A large majority of those who have commented have favoured reversing the Seattle decisions which have resulted in autonyms not being compulsory under those subdivisions of a family, genus or species which do not include the type of the family, genus or species name (Proposal 95). Consideration is given to the possibility of extending the autonym rules to cover names of subdivisions of genera below section, and of excluding from the autonym rules names of subdivisions of families and those below varietal rank. Other proposals for editorial improvements and minor clarifications are also presented.

References

Brummitt, R. K., and A. O. Chater. 1968. Proposals mainly concerning names of taxa which include the type of the name of the next higher taxon. *Taxon* 17: 652–658.

————, and ————. 1974. A re-consideration of autonyms in the International Code. *Taxon* 23: 852–858.

————, and ————. 1975. Supplementary notes on autonyms. 2 pp., cyclostyled. Royal Botanic Gardens, Kew. (Also distributed at Nomenclature Section XII Int. Bot. Cong. Leningrad).

Morton, C. V. 1968. Nomenclature proposals to the Seattle Congress. *Taxon* 17: 236–237.

Reveal, J. L., and C. R. Broome. 1980. Autonyms and new confusion in the International Code. *Taxon* 29: 495–498.

Stafleu, F., and E. G. Voss. 1969. Synopsis of Proposals on Botanical Nomenclature, Seattle, 1969. *Regnum Vegetabile* 60. Utrecht.

————, and ————. 1972. Report on Botanical Nomenclature, Seattle, 1969. *Regnum Vegetabile* 81. Utrecht.

Weresub, L. K. 1970. Automatic tautonyms: zoological vs. botanical Code. *Taxon* 19: 787–788.

Wood, C. E., and G. L. Webster. 1968. Tautonyms and confusion in the International Code. *Taxon* 17: 645–651.

R. K. Brummitt, Royal Botanic Gardens, Kew, Richmond, Surrey, U.K.

REPORT OF THE COMMITTEE ON GENERIC TYPIFICATION

At the meetings of the Nomenclature Section of the XII International Botanical Congress in Leningrad in 1975 it was agreed that the General Committee on Botanical Nomenclature set up a special committee to consider aspects of Article 10 of the *International Code of Botanical Nomenclature*. The particular aspects involved centre on the ambiguity that many, but not all, botanists perceive as existing in the present wording of Art. 10.1: "The type of name of a genus . . . is a species . . . ." The ambiguity perceived is that a species is not a single reference point but circumscribes many such points (e.g., specimens). Moreover the circumscription adopted by one botanist may be very different from that of another. This issue becomes a very practical matter when the material upon which the author principally relied in describing a new genus is not considered to-day to be congeneric with the species that he cited as type. Is the application of the generic name determined by the type of the name of the designated species or by the material used by the author, material that would be referable to-day to a quite different species?

Early in 1976, the General Committee constituted the following Committee on Generic Typification: W. Greuter (Berlin, Germany, formerly Genève, Switzerland), Convener, S. K. Czerepanov (Leningrad, USSR), G. F. Laundon (Levin, New Zealand), J. McNeill (Ottawa, Canada), R. McVaugh (Ann Arbor, U.S.A.), and R. E. G. Pichi Sermolli (Perugia, Italy). McNeill was appointed Secretary of the Committee. The interpretation of Article 10 had been of particular concern to mycologists and a subcommittee ("Subcommittee F") of the Standing Committee on Nomenclature of the International Mycological Association had been set up to con-

sider "Genera with misapplied type species names"; it was required to report to the 2nd International Mycological Congress held in Tampa, Florida in 1977. Laundon was the Secretary of the Subcommittee F, which had 9 members. Shortly before the Mycological Congress, Laundon found it necessary to resign from both the Committee on Generic Typification and Subcommittee F.

At its meeting in Tampa in August 1977, Subcommittee F agreed to the suggestion made by Greuter that they record their views on the various proposals then before them but take no firm positions that would make more difficult the presentation at Sydney in 1981 of a unified proposal or set of proposals to amend Article 10. Instead Subcommittee F was invited to nominate two of its members for co-option to the Committee on Generic Typification. Accordingly, in 1978, C. L. Holm (Uppsala, Sweden) and D. H. Nicolson (Washington, U.S.A.) were added to the membership of the Committee giving it since then seven regular members, along with the Rapporteur-Général and the Secretary of the General Committee. All but one of these members have contributed more or less extensively to the deliberations and conclusions of the committee. In addition several other botanists have made proposals or made comments on matters before the committee; notable amongst those are R. K. Brummitt (Kew, U.K.), J. Holub (Průhonice, Czechoslovakia), R. P. Korf (Ithaca, U.S.A.), J. Reveal (College Park, U.S.A.) and the late L. K. Weresub (Ottawa, Canada). The correspondence and documentation circulated amongst committee members has been rather voluminous, involving more than 160 pages of typescript and including consideration in greater or lesser detail of the problematical typification of about 40 generic names, ranging from classic examples like *Pseudolarix* Gordon (for references to the saga of its typification see Moore (1973) and Hara & Brummitt (1980)) to recently discovered cases like *Picrodendron* Planchon (Hayden & Reveal 1980).

Awareness of the problem of interpreting Article 10 goes back at least to 1952, when Donk argued that the type of a generic name was the species to which a contemporary taxonomist would assign the material upon which the original author actually based his generic description, and was not necessarily the species to which that author had assigned this material and which he may even have designated as type. One of the cases involved was that of *Cristella* Patouill. (1887) which was published with only one cited species, "*Crist. cristata*", usually interpreted as *C. cristata* (Pers. ex Fr.) Patouill., which is generally agreed to be a taxonomic synonym of *Sebacina incrustans* (Pers. ex Fr.) L. R. & C. Tulasne. As a result Rogers (1944, p. 78) had treated *Cristella* as a synonym of *Sebacina* in the Tremellales, although he believed that the fungal material that Patouillard had described was identifiable with *Corticium fastidiosum* Fr. (Aphyrophyllales). Donk (1952, 1957, p. 68, 1968) took the same view as to the identity of Patouillard's material, but argued that it was *Corticium fastidiosum* that was the type species of *Cristella* not the cited species. *Cristella* would therefore be a legitimate generic name in the Aphyllophorales. Although some dislike the labels, Donk's point of view that the actual material used by the author should determine the type is often called the "idealistic" approach, whereas Rogers' assumption that one should accept what the author claimed to have, is described as the "pragmatic" one.

The *Cristella* case appears to have been resolved finally by Weresub (1967), who, in a detailed study of Patouillard's material, established that, at the time of the original description, the only specimen that was apparently in his possession was referable to *Sebacina incrustans* (plus extraneous spores) and the widespread identification of his *C. cristata* with *Corticium fastidiosum* was due to a *later* misidentification by Patouillard himself, notably in his *Tabulae analyticae fungorum* of 1887 and 1889. Thus the idealistic and pragmatic approaches lead here to the same typification, and the controversy had only arisen because of the too ready acceptance of the customary usage of *C. cristata* sensu Patouill., which, in the event, turned out to be at variance with his own original material. The moral that Weresub drew from this was that the time and effort required to establish the identity of inadequate material like Patouillard's, was so great as to outweigh any advantage that the idealistic approach might have over the pragmatic.

Many did not agree, however, and at the Seattle Congress in 1969 conflicting proposals to modify Article 10 were proposed by Weresub and by McVaugh (*Regnum veg.* 60: 11–12, 1969). The Nomenclature Section discussed the matter extensively (*Regnum veg.* 81: 14–15 & 98–

100, 1972) but could only decide to defer both proposals and seek a new one through the General Committee on Nomenclature. No action appears to have been taken on this matter by the General Committee prior to the Leningrad Congress, at which a new set of proposals to amend Article 10 was made by Greuter (see *Taxon* 24: 207, 1975). These proposals took a new approach from earlier ones in that they did not confine themselves to trying to explain which species were eligible for selection as type. Rather they sought to establish single points of reference as the types of generic names, instead of retaining type species, whose circumscription, must always involve some taxonomic judgement. The proposals, which involved making the *name* of a species the generitype, were not acceptable to the Nomenclature Section. The discussions did, however, lead to the establishment of the present Committee (*Proc. XII Intern. Bot. Congress, Leningrad* pp. 144–145 & 174, 1979).

The Committee started its work in May 1976 and continued the circulation of documents and comments until mid-1980 with the greatest activity inevitably occurring in the final nine months. It would be tedious to try to analyse the development of thinking within the Committee but it is probably appropriate to report on the documentation transmitted from the Mycological Subcommittee F to this Committee. Three proposals were referred to us for consideration, originating respectively with Weresub, Holm and P. Parkinson (Wellington, New Zealand). None seemed to be altogether in final form for amendment to the Code but each pointed the way to a different solution. The Weresub proposal, which was not substantially different from her Seattle one, received 7 votes in Subcommittee F; Holm's proposal, intended to require explicit designation for holotypification and otherwise to allow complete freedom for lectotypification, received 1 vote; the proposal from Parkinson, which did not receive any supporting votes at the Tampa meeting of Subcommittee F, sought to make such major changes in the Code (e.g. dissolving the existing bond between a new combination and its basionym—Art. 55.2) that the Committee agreed that further consideration of it was unjustified.

In addition to the Holm and Weresub proposals the Committee considered specifically six other proposals some of which appeared in alternative versions. The members of the Committee were asked to indicate which were acceptable and which unacceptable to them and to rank the former in order of preference. From the replies a synthesis of the views of the members of the Committee has been prepared and a set of proposals drafted that try to take account of the divergent views represented on the Committee.

The Committee is unanimous in recognising that the interpretation of Article 10 only becomes critical when the material principally used by an author in preparing the description of a genus or of a taxon between genus and species, is not considered to-day to be conspecific with the species that was/were cited in the protologue. A majority of the Committee (4-2) believes that a situation of this kind can only be resolved satisfactorily if a precise reference point is taken to serve as type. This majority does not believe that either a species, comprising numerous individuals, or a species concept, which would require indication of a particular circumscription, can serve as a satisfactory reference point. Taxonomic considerations always intrude and although in general these do not present problems, they become critical in precisely that situation in which the interpretation of Article 10 is problematical. For example, it is common practice to speak of "genera with misapplied type species names" (the title of Subcommittee F), but this expresses a taxonomic judgement. Nomenclaturally one can only assume, in those cases, that the original author had a very broad species concept that assigned the material he used to his cited species, regardless of how taxonomically disparate these elements are considered to be to-day. Which species is the type of the genus: that of the original author with its, perhaps absurdly, broad circumscription or that of some later redetermination of the material on which his description was primarily based, and, if the latter, whose redetermination? In extreme cases this strict nomenclatural position may seem unnecessarily legalistic, but there can be a complete continuum between these cases and one such as is found in *Myriophyllum* L. Here no serious nomenclatural problems are involved, because the alternative species are undisputably congeneric, but the situation is illustrative of the imprecision involved in having a species as the type of a generic name. The universally accepted lectotype of *Myriophyllum* is *M. spicatum* L. (Heller & Stearn 1959, p. 133), but there is good evidence (Aiken & McNeill 1980) that Linnaeus included in his concept of *M. spicatum* three species that are widely recognised to-day. Moreover, although *M. spicatum* has now been lectotypified in such a way

as to preserve its traditional usage, there is a strong suggestion that in 1753, at the time of valid publication of *Myriophyllum*, the dominant element in Linnaeus's concept of *M. spicatum* was the species now known as *M. exalbescens* Fernald. Is this eligible for designation as type species? And if it were to be so designated, what would the "type species" become for those who treat it merely as a variety of *M. spicatum*?

A similar case, but one involving later "lumping" rather than "splitting", is that of *Arenaria* Series *Papillospermae* described by McNeill (1962, p. 117). McNeill designated *A. hispanica* Sprengel as type but substantial contemporary taxonomic opinion includes this withn *A. cerastioides* Poiret. Which species is type: the originally designated one or the later redetermination? The choice has nomenclatural implications, because, rightly or wrongly, McNeill placed *A. cerastioides* in a different series from *A. hispanica*. Although a minority of the Committee are not convinced of the need for greater precision, all agree with McVaugh (*in litt.*, 1977-11-14) that "the identity of the type-species is determined by the application of the type-method." Consequently we have an initial proposal (Proposal 111) to amend Article 10 which is basically acceptable to all members of the Committee. This specifies that "the type of a name of a genus . . . is the type of a name of an included species." It goes on to explain that "for purposes of designation or citation of a type, the species name alone suffices, i.e., it is considered as the full equivalent of its type." This proposal has the effect of providing a precise reference point as type, while at the same time maintaining the long-established practice of citing a species, by name, as the type of a generic name.

This, or an analogous clarification, is regarded by the majority of the committee as a necessary preliminary. It does not, however, resolve the real problem, that of determining which "included species" provides the type: the one(s) that the author said he had or the one(s) that his material and description suggest to modern taxonomists that he had. The next three proposals, which have received varying degrees of support within the Committee seek to provide guidance on the choice of "included species". Proposals 112 and 113 provide one route and Proposal 114 another.

Proposal 112 adopts the so-called pragmatic approach in that if an author includes reference to one or more named species, the type must be chosen from among the types of the cited names. Where no reference to a species name is included, a circumstance that can only arise for validly published names prior to 1st January 1958 (cf. Arts. 10.1 and 37.1), provision is made for selecting, as type, the type of the name of any other species believed to have been included in the taxon by the original author. The rationale for this proposal is not just that expressed by Weresub in her 1967 paper, namely that of the enormous investigative work involved in doing otherwise, but also the belief that if the *Code* is to be kept reasonably simple, no unambiguous wording reflecting the idealistic approach can readily be achieved. Indeed the strongest opposition in the Committee to proposals such as (112) has been on the basis that they already make Article 10 too complicated. Those who favour Proposal (112) believe that, rather than further complicating the Code, conservation is the best approach for handling documented cases in which there is an apparent discrepancy between the author's material and description and his cited species, and in which the adoption of the provisions of Proposal (112) would lead to undesirable changes in nomenclature. Proposal (113) provides for this. The approach adopted in Proposals (112) and (113) was the first (or in one case first equal) choice of four out of the six participating regular members of the committee.

An alternative to Proposals (112) and (113) embodying Holm's suggestion of allowing as wide a scope for lectotypification as possible, is presented in Proposal (114). This proposal accepts a designated holotypification as binding, so that authors doing so (and that means all authors from 1st January 1958 onwards, Art. 37.1) are presumed to have correctly identified their material with their "holotype species"; thus, in this situation, the pragmatic approach applies. The scope for lectotypification is widened however, to cover all other cases, with no restriction to species names that are cited in the protologue. A proposed change in the wording of Art. 7.3 restricting a holotype to an element "designated" by the author and not merely "used" by him, means that the mere listing of a single species under a new genus or taxon between genus and species would not constitute holotypification. The concept of resolving most of the older problems of generic typification through lectotypification has been consistently favoured by one member of the Committee but has not apparently been acceptable to any others.

Proposal (114) is put forward to allow the support for this point of view in the Nomenclature Section to be tested. It combined the idealistic approach for most older names with a pragmatic approach to recent names; this seems a reasonable position, in that less excuse exists to-day than in the past for the misidentification of material upon which new taxa are being based. The Proposal has the merit of reasonable simplicity. Two potential difficulties are known, however. One is the fact that it makes the application of Art. 10 much more dependent on Art. 8, which, in itself, presents some difficulties. Other than that by Heller & Stearn (1959) for the Linnaean genera that date to 1753, there are no extensive lists of existing lectotypes, and, moreover, the criteria for first lectotypification are unclear, although there is an independent proposal being presented to clarify these (Stirton et al. 1981). In any case, sound choice of a lectotype is always a more debatable thing than a conservation decision. The other possible difficulty is that the restriction of a holotype to a designated element could have undesirable side effects in the typification of species names. It would certainly be a significant change from established practice at this level.

The final Proposal (115) is rather different from the others in that it came from outside the Committee and is not complementary to Proposal (111); indeed it is in conflict with that proposal. It is included for consideration by the Nomenclature Section because it is the most extreme "idealistic" proposal and because it was the first equal preference of one member of the Committee and was acceptable to two others, albeit in one case "without enthusiasm". It appears to break firmly with tradition by specifying that a specimen be the type of a generic name, rather than a species or the type of a species name. The break is, however, more apparent than real because whenever there are named species included in the protologue the type must be the type of one of these species names unless "it can be proven that the types of all the included species are in conflict with the author's intentions, as indicated in the protologue". Moreover, one of the suggested examples indicates that where the type is also the type of a species name it would be an accepted convention to cite the type of the generic name by the species name (i.e. preserving current practice). The major difference between this proposal and the others is highlighted in the second suggested example (see below) demonstrating that a specimen that is not the type of any species name may be designated as a generitype specimen under appropriate circumstances. Proposal 113 also provides for such generitype specimens, but only through conservation. The practical impact of the differences is that, whereas with the other proposals no action need be taken except where conflict between description and cited species is known to exist, in this case type specimens will require to be designated for all genera that were published without cited species names. It is estimated that 5% (i.e. ca. 2500) of all generic names are in this category, representing a major nomenclatural task, against which can only be set the lighter load of conservation proposals than that which would have to be carried if Proposal 113 was preferred. In this context it is worth noting, however, that although there are certainly more buried in the literature, only some 50 generic names have surfaced in all the discussions of the past 30 years on the problem of typifying names in which the cited species conflict(s) with the rest of the protologue.

In summary, the Committee presents two basic proposals either of which would provide a clear definition of the type of a name of a genus or of a taxon between genus and species. Proposal 111 is generally acceptable to the entire Committee, keeps closer to existing practice and provides a basis for at least two strategies for handling cases of apparent conflict within the protologue; proposal 115 is acceptable to barely half the Committee, is more radical in its approach, provides a definite procedure for handling cases of apparent conflict within the protologue, but requires explicit retypification of a significant number of generic names.

If Proposal 111 is accepted, a choice then exists between two proposals that seek to establish what are to be considered as "included species". Proposal 112 is the preferred choice of two-thirds of the committee, it is simple to apply, it resolves problems of apparent conflict within the protologue readily and unambiguously and provides a basis for a further proposal to handle those cases where this resolution is not in the interests of nomenclatural stability; proposal 114 reflects the preferred option of one member of the Committee, it is often, but not always, simple to apply, it provides a definite mechanism for resolving problems of apparent conflict within the protologue but sometimes with considerable effort and possible ambiguity (e.g. in determining priority of lectotypification).

If Proposals (111) and (112) are accepted, Proposal (113) should then be considered. It also is favoured by two-thirds of the Committee and provides a specific mechanism for ensuring that the implications of Proposals (111) and (112) are not damaging to nomenclatural stability.

The accompanying table presents the sequence of choices in the form of a bracketed (or yoked) dichotomous key.

Table 1. Dichotomous key to the sequence of choice between the alternative proposals presented in the Report of the Committee on Generic Typification.

1. Proposal 111 (Type of the name of an included species) 2
   Proposal 115 ..... Generitype specimens.
2. Proposal 112 (Type that of a named species) 3
   Proposal 114 ..... Lectotypification in the absence of a definite holotype.
3. Proposal 113 ..... Generitype specimens through conservation.

Proposal (111). Clarify Article 10 by amending it as follows and make consequent editorial changes to other Articles.

New Article 10.1 (formerly 10.1, first part) to read: "The type of a name of a genus or of any taxon between genus and species is the type of a name of an included species. For purposes of designation or citation of a type, the species name alone suffices, i.e., it is considered as the full equivalent of its type."

New Article 10.2 (formerly 10.1, part two, and 10.3) to read: "The type of a name of a family or of any taxon between family and genus is the same as that of the generic name on which it is based. For purposes of designation or citation of a type the generic name alone suffices. The type of a name of a family not based on a generic name is the same as that of the alternative name of that family."

Renumber existing Art. 10.2 to 10.3 without change.

Art. 7.14 Alter "type-species" to "type".

Art. 22.1 lines 2 & 6, delete "species".

Art. 22.4 Alter line 2 to read: ". . . of its constituent species, the type of the name of this species is the type of the"

Art. 22.5 line 4, Replace "is" by "provides"

Art. 52.1 line 3. Insert "providing" so as to read ". . . designated as providing the type, the"

Art. 52 Example, p. 46 lines 2–3, to read: ". . . which includes *Aesculus hippocastanum* L. as this species name provides the type of the genus . . . ."

Proposal (112). Consequent on the acceptance of Proposal (111), establish what is meant by an "included species", restricting this to species named in the protologue (if any such exist).

New Art. 10.2, to read: "If in the protologue of a name of a genus or of any taxon between genus and species reference to one or more named species is definitely included, the type must be chosen from among the types of the cited names."

New Art. 10.3, to read: "If in the protologue of a name of a genus or of any taxon between genus and species no reference to a species name is definitely included, another type must be chosen. Such a typification is superseded if it can be demonstrated that the selected type is not conspecific with any of the material included in the protologue."

Renumber existing Art. 10.2 (10.3 in Proposal (111)) to 10.5 without change.

Renumber Art. 10.2 in Proposal (111) to 10.4

Proposal (113). Consequent on the acceptance of Proposals (111) & (112), provide, through conservation, for the retention of the usage of a generic name in a sense that does not include the type of an included species name.

Insert in Art. 10.1 as worded in Proposal (111) after ". . . included species", the parenthesis: "(except as provided by Art. 10.4)"

New Art. 10.4 to read: "By conservation, the type of the name of a genus can be a specimen

used by the author in the preparation of the protologue, other than the type of a name of an included species."

Renumber existing Art. 10.2 (10.3 in Proposal (111) and 10.5 in Proposal (112)) to 10.6

Renumber Art. 10.2 in Proposal (111) and 10.4 in Proposal (112) to 10.5

Add Recommendation 10A: "If the element selected under Art. 10.4 is the nomenclatural type of a species name then the type may be cited as that species name. If the element selected is not the nomenclatural type of a species name the type element should be cited and, optionally, a parenthetical reference to its correct name may be given."

Proposal (114). Consequent on the acceptance of Proposal (111), establish what is meant by an "included species", allowing, in the absence of a holotype, lectotypification by the type of the name of any species judged to have been included by the author, whether cited by him or not.

New Art. 10.2 to read: "If in the protologue of the name of a genus or of any taxon between genus and species a named species is designated as holotype, the type is the type of that named species."

New Art. 10.3 to read: "If in the protologue of the name of a genus or of any taxon between genus and species no holotype is designated, the type of the name of any species judged to have been included in the original circumscription of the taxon, whether cited in the protologue by name or not, may be designated as lectotype."

Proposal (114A). Amend Art. 7.3 to read: "A holotype is the one specimen or other element designated by the author as the nomenclatural type. As long as . . . ."

Renumber existing Art. 10.2 (10.3 in Proposal (111)) to 10.5

Renumber Art. 10.2 in Proposal (111) to 10.4

Proposal (115). Clarify Article 10 by providing for the designation of specimens and other elements as the types of names of taxa above the rank of species.

Art. 10.1 (formerly 10.1, first part) to read: "The type of a name of a genus or of any taxon between genus and species is a specimen or other comparable element. When the original author of such a name referred by name to one or more species included in the taxon the type of the name is the type of one of the specific names, except as provided below. If the author did not name any included species, or if it can be proven that the types of all the included species names are in conflict with the author's intentions, as indicated in the protologue, then any specimen or other element included by the author may be designated as the type; if no element included by the author is available, then a neotype may be chosen."

Suggested examples:

1. Linnaeus included in the protologue of his genus *Hydrophyllum* only one species, *H. virginianum* Linnaeus. The type of the generic name is therefore the type of this specific name. It is an accepted convention that this may be expressed in the form "*Hydrophyllum* Linnaeus. Type: *H. virginianum* Linnaeus".
2. The protologue of *Didymocarpus* Wallich did not include any named species. The type of the generic name is a specimen at the British Museum (BM) on which Wallich actually wrote his generic description, now considered to be referable to *D. primulifolius* D. Don. This may be expressed in the form "*Didymocarpus* Wallich. Type: *Wallich* s.n. (BM), (= *D. primulifolius* D. Don)".
3. The protologue of *Pseudolarix* Gordon included only one species, which he named *P. kaempferi*, a new combination based on *Pinus kaempferi* Lambert. However, it is now accepted that Gordon misinterpreted this basionym, which is considered to be correctly referred to the genus *Larix* as *L. kaempferi* (Lambert) Carriere, whereas the material described by Gordon is considered to be generically distinct from this. The type of the name *Pseudolarix* Gordon is a specimen at Kew originally in Gordon's herbarium which was labelled by him *Pseudolarix kaempferi*. This may be expressed in the form "*Pseudolarix* Gordon. Type: herb. Gordon s.n. (K), (=*P. amabilis* (Nelson) Rehder)."

New Art. 10.2 (formerly 10.1, part two and 10.3) to read: "The type of a name of a family or of any taxon between family and genus is the same as that of the generic name on which

it is based. For purposes of designation or citation of a type the generic name alone suffices. The type of a name of a family not based on a generic name is the same as that of the alternative name of that family.

Existing Art. 10.2 to be renumbered Art. 10.3 without change

Art. 7.14 Alter "type-species" to "type"

Art. 22.1 lines 2 & 6, delete "species".

Art. 22.4 alter line 2 to read: ". . . of its constituent species, the type of the name of this species is the type of the"

Art. 22.5 line 4, replace "is" by "provides"

Art. 52.1 line 3, insert "providing" so as to read ". . . designated as providing the type, the"

Art. 52 Example, p. 46 lines 2 & 3, to read: ". . . which includes *Aesculus hippocastanum* L. as this species name provides the type of the genus . . . ."

References

Aiken, S. G., and J. McNeill. 1980. The discovery of *Myriophyllum exalbescens* Fernald (Haloragaceae) in Europe and the typification of *M. spicatum* L. and *M. verticillatum* L. *Bot. J. Linn. Soc.* 80: 213–222.

Donk, M. A. 1952. On generic type species indicated by misapplied names. *Reinwardtia* 1: 483–486.

———. 1957. The generic names proposed for Hymenomycetes—VII "Thelophoraceae" (continuation). *Taxon* 6: 68–85.

———. 1968. On *Cristella*. *Taxon* 17: 277–278.

Hara, H., and R. K. Brummitt. 1980. The problem of *Pseudolarix kaempferi*: type method or circumscription method. *Taxon* 29: 315–317.

Hayden, W. J., and J. Reveal. 1980. Proposal (530) for the conservation of the generic name *Picrodendron* Grisebach (1859) against *Picrodendron* Planchon (1846) (Euphorbiaceae). *Taxon* 29: 507–511.

Heller, J. L., and W. T. Stearn. 1959. An appendix to the *Species Plantarum* of Carl Linnaeus. The Ray Society, London. 148 pp.

McNeill, J. 1962. Taxonomic studies in the Alsinoideae: I. Generic and infra-generic groups. *Notes R. Bot. Gard. Edinb.* 24: 79–155.

Moore, H. E. Jr. 1973. *Chrysolarix* renounced—a comedy of restoration. *Taxon* 22: 587–589.

Rogers, D. P. 1944. The genera *Trechispora* and *Galzinia* (Thelephoraceae). *Mycologia* 36: 70–103.

Stirton, C. H., D. V. Field, R. K. Brummitt, and J. McNeill. 1981. Principles of lectotypification. *Taxon* 30: 251–256.

Weresub, L. K. 1967. Why the controversy over the type of *Cristella* Pat.? *Taxon* 16: 396–402.

J. McNeill, Secretary to the Committee on Generic Typification,
Biosystematics Research Institute,
Agriculture Canada,
Ottawa, Canada, K1A 0C6

Appendix C

OTHER PAPERS WITH PROPOSALS (116)–(210) TO AMEND THE CODE

Note: The List of Proposals, beginning with 116 (p. 96), serves as an index to these papers.

SOME NOTES ON *ALTERNANTHERA* FORSSK. AND *FROELICHIA* MOENCH (AMARANTHACEAE) AND A PROPOSAL TO AMEND ARTICLE 48 AND DELETE ARTICLE 69

Summary

Alternanthera tenella Colla var. *versicolor* (Lem.) Veldk. is the correct name for *A. tenella* var. *bettzickiana* (Regel) Veldk. Art. 14, Note 1, is to be emended. A paragraph must be added to Art. 48. Art. 69 is to be deleted. The type of *Froelichia interrupta* (Linné) Moq. is in L. (Hb. Van Royen).

1. *Alternanthera bettzickiana* (Regel) Nichols.

Some time ago I proposed the new combination *A. tenella* Colla var. *bettzickiana* (Regel) Veldk. (1978). In the preparation of that paper I was assisted in the nomenclature by Dr. J. A. Mears (Philadelphia), but only after the publication of my note did he send me a reprint of a previously published article by him from which it became obvious that there is an older epithet available at the varietal level which has to be used (Mears, 1977). Characters and a more complete synonymy are found in Veldkamp (1978, p. 313). The correct name now has to be:

Alternanthera tenella Colla var. **versicolor** (Lem.) Veldk., comb. nov. *Telanthera ficoides* (Linné) Moq. var. *versicolor* Lem., Ill. Hort. 12 (June 1865) t. 440 ('*Teleianthera*'). *T. versicolor* (Lem.) Regel, Index Sem. Hort. Petrop. (1868) 83. *A. versicolor* (Lem.) Voss in Sieb. & Voss, Vil. Bl. Gärtn. (1896) 869. *A. ficoidea* (Linné) Beauv. var. *versicolor* (Lem.) Back., Fl. Mal. I, 4 (1949) 93, in nota ('*A. ficoides* (L.) R. Br. ex R. & S. var. *versicolor* (Regel) Back.'). Type: Lemaire's pl. 440.

2. A proposed change of the Code (Art. 14, 48, 69).

It has been pointed out by various correspondents that the title of my previous article on *A. ficoidea* (Veldkamp, 1978) is not quite correct and I agree. The title suggests that the name would have to be rejected, actually it is of course the epithet '*ficoidea*' as originally used by Linné in *Gomphrena* and typified by a Van Royen specimen, and all its subsequent homotypic uses of it, that we should get rid of. In the choice of the title I was misled by the wording of Art. 69.1, where the term 'name' is used. This word is rather loosely employed in the Code and obviously includes 'epithet' also (e.g., in Art. 7). The Article has especially been developed to cover epithets, as is also implied by the Introduction of the Code (p. xi, par. 2) where *nomina specifica rejicienda* are mentioned. Actual names, such as those of genera, families and the taxa in between are sufficiently dealt with by Art. 14 and 48, so for these Art. 69 is unnecessary and only epithets remain.

Both the Articles 48 and 69 now deal with 'names in a sense that excludes the type,' the first through conservation, the second through rejection. I think it would be more convenient for users of the Code to have such similar cases, although with different treatments, close together which will simultaneously make the difference between them more striking.

Proposal (116): Delete Art. 69 and add the following new paragraph to Art. 48:

"A specific epithet must be rejected if it has been widely and persistently used for a taxon not including its type. All combinations and replacing names based on it (and therefore on its type) are also to be rejected. The original combination shall be placed on a list of *nomina*

specifica rejicienda. The same epithet based on a different type used for a different taxon is not affected by this Article."
Example: . . .

If this is accepted, Art. 14, Note 1, must be rephrased:
"Note 1. Provisions for the conservation of a name or the rejection of a specific epithet used in a sense that excludes the original type are made in Art. 48.2 and 48.3."

3. *Froelichia interrupta* (Linné) Moq.

Contrary to the remarks by Mears (1980) the holotype of this name is present in Leiden. It is a good specimen, annotated '*Amaranthoides Lychnidis folio, spicata; squamis herbaceis flosculisque purpurascentibus Houst.*' in Philip Miller's handwriting according to that of A. Van Royen ('manu Phil. milleri script.'). D. van Royen labeled it as '*Gomphrena interrupta* L. sp. 2. p. 326.' The sheet bears the Leiden number 908.260-241. The neotypification by Mears with the Houstoun specimen in BM was not necessary; it may represent an isotype. His suggestion that the specimen would not be in Leiden is a misunderstanding due to a casual question by me on its whereabouts, as I could not find it readily under the original Linnean name.

Literature

Mears, J. A. 1977. The nomenclature and type collections of the widespread taxa of *Alternanthera* (Amaranthaceae). *Proc. Ac. Nat. Sc. Phil.* 129: 1–21.
———. 1980. The Linnean species of *Gomphrena* L. (Amaranthaceae). *Taxon* 29: 85–94.
Veldkamp, J. F. 1978. A proposal (449) to reject the name *Alternanthera ficoidea* (Linné) Beauv. (Amaranthaceae) in favour of *A. tenella* Colla. *Taxon* 27: 310–314.

Proposed by: J. F. Veldkamp, Rijksherbarium, Schelpenkade 6, Leiden, Netherlands.

DER STARTPUNKT DER PALÄOBOTANISCHEN NOMENKLATUR

Summary

Since 1954 (Eighth International Botanical Congress Paris 1954) nomenclature of fossil plants begins with the first fascicle of Sternberg's "Versuch einer geognostisch-botanischen Darstellung der Flora der Vorwelt" (1820). Schlotheim's "Petrefactenkunde" (1820) is regarded as invalidly published. The arguments for and the consequences of this decision (Proposal by J. M. Schopf 1949) are discussed. Resulting from this discussion the author proposes to change the starting point of the palaeobotanical nomenclature: begin with Schlotheim's "Petrefactenkunde" (1 Jan. 1820). The consequences and the advantages of this proposal are discussed. Additional proposals are: conservation of *Cordaites* Unger 1850 and change of the type-species of *Calamites* Brongniart 1828 nom. cons. from *C. radiatus* Brongniart to *C. suckowii* Brongniart.

Einleitung

Der Internationale Code der Botanischen Nomenklatur "soll feste Richtlinien geben für die Benennung taxonomischer Gruppen und für die Vermeidung und Verwerfung von Namen, die zu Irrtum oder Zweifel Anlaß geben oder die Wissenschaft in Verwirrung stürzen. Wichtig ist ferner das Vermeiden der unnützen Aufstellung von Namen." (ICBN, Präambel 1). Dabei soll sowohl in die Nomenklatur der Vergangenheit Ordnung gebracht als auch der Nomenklatur der Vergangenheit Ordnung gebracht als auch der Nomenklatur der Zukunft der Weg gewiesen werden. Der Code gilt für rezente und fossile Pflanzen. Grundsatz I des Code lautet: "Die botanische Nomenklatur ist von der zoologischen Nomenklatur unabhängig. Dieser Code gilt

einheitlich für Namen taxonomischer Gruppen, die als Pflanzen behandelt werden, gleichgültig, ob diese Gruppen ursprünglich als solche betrachtet wurden oder nicht." In einer Fußnote dazu wird darauf hingewiesen, daß die Bakterien nicht diesem Code unterliegen, für sie existiert der Internationale Code der Nomenklatur der Bakterien. Sonderregelungen gibt es für die Kulturpflanzen (Internationaler Code der Nomenklatur der Kulturpflanzen) und für die Bastarde (ICBN, Anhang I). Im ICBN (Ausgabe 1978) gibt es dagegen keine Sonderregelungen mehr für die fossilen Pflanzen, wie sie in den Ausgaben 1952 und 1956 existieren.

In der Unabhängigkeit von anderen Nomenklaturen stimmt der Code mit den Internationalen Regeln für die Zoologische Nomenklatur (IRZN, Art. 1, 2) überein, in vielen anderen Fällen leider nicht, so z.B. fehlt im Code der wesentliche Leitgedanke der IRZN (Präambel): "Es ist Sinn der Regeln, die Stabilität und Universalität wissenschaftlicher Tiernamen zu fördern . . .". Dieses Fehlen ist außerordentlich bedauerlich und sollte geändert werden.

Grundsatz III des Code lautet: "Die Nomenklatur beruht auf der Priorität der Veröffentlichung." "Um nachteilige Veränderungen in der Nomenklatur der Gattungen, Familien und der dazwischenliegenden Taxa zu vermeiden", gestattet der Art. 14 durch Konservierung die Beibehaltung von Namen, "die am vorteilhaftesten der Beständigkeit der Nomenklatur dienen." Für Taxa unterhalb der Gattung ist die Konservierung nicht vorgesehen, trotzdem sind schon mehrfach derartige Vorschläge unterbreitet worden.

Der seit 1954 gültige Startpunkt der paläobotanischen Nomenklatur

Als Ausgangspunkt für alle Tiernamen gilt einheitlich die 10. Ausgabe von Linnaeus' Systemae Naturae (1.1.1758, IRZN Art. 3). Bei den Pflanzennamen sieht das anders aus: In Art. 13.1 werden unterschiedliche Daten als Ausgangspunkte einer gültigen Veröffentlichung von Pflanzennamen der verschiedenen Gruppen festgelegt. Für die rezenten Pflanzen liegen sie zwischen dem 1. Mai 1753 (Linné, Species Plantarum, ed. 1) und dem 1. Januar 1900. Für die fossilen Pflanzen besagt Art. 13.1 (i): "Alle Gruppen, 31. Dez. 1820 (Sternberg, Flora der Vorwelt, Versuch 1: 1–24, t. 1–13). Schlotheim, Petrefactenkunde, 1820, wird als vor dem 31. Dez. 1820 veröffentlicht angesehen." Diese Fassung existiert und gilt seit der Ausgabe 1956 des Code.

Es ist interessant und wichtig zugleich zu untersuchen, wie es zu dieser Festlegung gekommen ist. 1930 wurde von dem Internationalen Botanischen Kongreß in Cambridge als Startpunkt für die Nomenklatur fossiler Pflanzen das Jahr 1820 festgelegt. Auf dem 6. Kongreß in Amsterdam wurde diese Frage wieder diskutiert. Zum 7. Kongreß in Stockholm 1950 unterbreitete J. M. Schopf den Vorschlag, die Nomenklatur der fossilen Pflanzen mit dem Heft 1 von Sternbergs "Flora der Vorwelt" zu beginnen, das Erscheinungsdatum auf den 31. Dez. 1820 festzusetzen und Schlotheim's "Petrefactenkunde" als vor dem Startpunkt veröffentlicht zu betrachten. In der Diskussion auf dem Stockholmer Kongreß begründete J. M. Schopf seinen Vorschlag u.a. mit folgenden Argumenten: "Most of the useful species names of Schlotheim are validated by later authors. One species name will apparently have to be changed from current usage" (Lanjouw 1953: 533). Daß diese Argumentation falsch ist, wird nachfolgend noch aufgezeigt werden. Das Studium des Originalvorschlags von Schopf (Just 1949: 4–5) und des Sitzungsprotokolls des Stockholmer Kongresses führt den Verfasser zu der Ansicht, daß der von Schopf vehement vorgetragene Vorschlag fehlerhaft und unzureichend ausgearbeitet war. Das Spezielle Komitee für Paläobotanik entschied 1950, die Entscheidung über den Startpunkt der paläobotanischen Nomenklatur bis zum 8. Kongreß (Paris 1954) zu vertagen. Zu diesem Kongreß wurde von Ch. Baehni und auch von I. A. Sprague der Vorschlag unterbreitet, die Nomenklatur für alle fossilen Pflanzen mit dem Jahr 1820 zu beginnen (Lanjouw 1954), d.h. also die Entscheidung von 1930 beizubehalten (nur geänderter Wortlaut!).

Das Komitee für paläobotanische Nomenklatur verwarf 1954 aber diese Vorschläge und empfahl die Annahme des Vorschlags von Schopf. Der 8. Internationale Botanische Kongreß (Paris 1954) nahm seinen Vorschlag an, und dadurch wird die Petrefactenkunde von Schlotheim 1820 als ungültig veröffentlicht betrachtet. Seitdem ist offenbar kein Versuch unternommen worden, diese Entscheidung zu verändern. Ungeachtet dieser Entscheidung halten weltweit fast alle Paläobotaniker, auch die ČSSR-Kollegen, in der Praxis an einer stillschweigenden de

facto-Anerkennung der Schlotheimschen Namen fest, worauf u.a. Gothan & Weyland (1973: 18) ausdrücklich hinweisen.

Konsequenzen der Entscheidung von 1954

Welche Konsequenzen brachte nun die Entscheidung des Pariser Kongresses mit sich? Ernst Friedrich Freiherr von Schlotheim ist anerkanntermaßen der Begründer der Paläontologie als Wissenschaft. Seine "Beschreibung merkwürdiger Kräuter-Abdrücke und Pflanzenversteinerungen" (1804) und "Die Petrefactenkunde auf ihrem jetzigen Standpunkte" (1820) sind die fundamentalen Werke dieser Wissenschaft, sowohl der Paläobotanik als auch der Paläozoologie, was u.a. Sternberg (1821: 23), Brongniart (1828: 2–3) und Mägdefrau (1968: 13–14; 1973: 236–237) bestätigen. Daß die "Petrefactenkunde" erst 1820 erschien, war eine direkte Folge der Napoleonischen Eroberungskriege, worauf der Autor (S. 424) indirekt hinwies. Weitere Schlotheimsche Werke sind die "Nachträge zur Petrefactenkunde, Erste und Zweyte Abteilung" (1822 bzw. 1823) und "Merkwürdige Versteinerungen . . ." (1832). Durch die Entscheidung des Pariser Kongresses (1954) entstand die eigenartige Situation, daß die wesentlichsten Veröffentlichungen des Begründers der Paläontologie als Wissenschaft, soweit sie die fossilen Pflanzen betreffen, als ungültig veröffentlicht gelten, während die in der "Petrefactenkunde" beschriebenen fossilen Tiere gültig veröffentlicht sind, da die zoologische Nomenklatur 1758 beginnt. Diese Entscheidung negiert vollständig die historische Leistung von E. F. v. Schlotheim, der als erster konsequent die binäre Nomenklatur auf alle fossilen Pflanzen und Tiere anwandte. (Die Begründung dafür gab Schlotheim (1813) in derselben Arbeit, in der er auch erstmals den Leitfossilgedanken äußerte.) Außerdem legalisiert sie nachträglich die Willkür anderer Autoren, die bedenkenlos die Schlotheimschen Namen, vor allem auch die Artepitheta, durch eigene Neuschöpfungen ersetzten. Ferner berücksichtigt diese Entscheidung nicht die Tatsache, daß die Schlotheimschen Abbildungen von hervorragender Qualität und Genauigkeit sind, während die Abbildungen der anderen Autoren in vielen Fällen ungenau, ja falsch sind.

Neben dieser Frage der historischen Gerechtigkeit sind natürlich die sachlichen Konsequenzen der Entscheidung von 1954 zu berücksichtigen. Schlotheim (1804) beschrieb 23 Arten und bildete sie ab; 1820 beschrieb und benannte er 78 Arten in 8 Gattungen, die größtenteils abgebildet wurden, oder es wurde auf die frühere Arbeit verwiesen. Einige Arten sind niemals abgebildet worden. Folgende Gattungsnamen verwandte Schlotheim: *Palmacites, Casuarinites, Calamites, Filicites, Lycopodiolithes, Poacites, Carpolithes* und *Anthotypolithes.*

Von Bedeutung ist unter diesen Namen gegenwärtig nur *Calamites* [Suckow 1784] Schlotheim 1820, worauf bereits Schopf (1949) hinwies. Er schlug vor, diesen Namen auf Grund der späteren Beschreibung von Brongniart (1828a) mit der Typus-Art *C. radiatus* zu konservieren, weil dies der Stabilisierung des Namens in seinem gegenwärtigen Gebrauch diene, nur daß die Autorenschaft geändert würde; durch den 7. Kongreß in Stockholm 1950 erfolgte diese Konservierung (Lanjouw 1953, S. 548). Dies war aber ein "klassisches Selbsttor" und diente nur der Destabilisierung der Nomenklatur, denn damit wurde der Inhalt und der Umfang der Gattung *Calamites* entgegen dem über 100jährigen Gebrauch radikal verändert und auf etwa 6 Arten eingeschränkt, von denen nur eine wirklich häufig ist. Die logische Konsequenz daraus zogen die Arbeiten von Remy & Remy (1977, 1978), die für die bisher zu *Calamites* gestellten Arten den neuen Gattungsnamen *Calamitopsis* vorschlugen. Bei einer Festlegung der "Petrefactenkunde" als Startpunkt der paläobotanischen Nomenklatur wäre dies nicht nötig gewesen, *Calamites* wäre *Calamites* geblieben, *Calamites radiatus* Brongniart 1828 wäre ein Synonym zu *Calamites scrobiculatus* Schlotheim 1820, der gültige Name dieser Art wäre *Archaeocalamites scrobiculatus* (Schlotheim 1820) Seward 1898, wie er von manchen Autoren auch heute weiterhin benutzt wird. Viel wichtiger aber als die verbleibenden 7 Gattungsnamen ist die Frage der Artepitheta. Viele Arten, vor allem des Karbons und Perms, die von stratigraphischer und botanischer Bedeutung sind, wurden von Schlotheim (1820) beschrieben und sehr sinnvoll benannt. Diese sind entsprechend dem jetzigen Startpunkt ungültig veröffentlicht. Eine Auswahl dieser Arten sei hier aufgeführt (mit ihren bisher gebräuchlichen Namen) (+ = Holotypus vorhanden; × = Holotypus noch nicht wieder aufgefunden, aber Teile des Originalmaterials sind vorhanden; ○ = Name müßte geändert werden, falls Sternberg (1820) Startpunkt bleibt):

○ × Annularia stellata (Schlotheim) Wood
○ × Sphenophyllum verticillatum (Schlotheim) Zeiller
○ × Asterocalamites scrobiculatus (Schlotheim) Zeiller, jetzt Calamites radiatus Brongniart
× Calamites canniformis Schlotheim
× Calamites approximatus Schlotheim
× Calamites nodosus Schlotheim
× Imparipteris tenuifolia (Schlotheim) Gothan
○ × Mariopteris muricata (Schlotheim) Zeiller
× Pecopteris oreopteridia (Schlotheim) Sternberg
+ Asterophyllites equisetiformis (Schlotheim) Brongniart
○ + Calamariophyllum zeiforme (Schlotheim) Hirmer
○ + Alethopteris lonchitica (Schlotheim) Sternberg
○ + Callipteridium pteridium (Schlotheim) Zeiller
+ Dicksonites pluckenetii (Schlotheim) Sterzel
○ + Lyginopteris bermudensiformis (Schlotheim) Patteisky
+ Lyginopteris fragilis (Schlotheim) Patteisky
○ + Nemejcopteris feminiformis (Schlotheim) Barthel
○ + Odontopteris osmundiformis (Schlotheim) Zeiller
+ Scolecopteris arborescens (Schlotheim) Stur
+ Scolecopteris cyathea (Schlotheim) Stur
○ + Sphenopteris adiantoides (Schlotheim) Potonié
+ Ernestiodendron filiciforme (Schlotheim) Florin
+ Lebachia piniformis (Schlotheim) Florin
○ + Quadrocladus orobiformis (Schlotheim) Schweitzer
+ Ullmannia frumentaria (Schlotheim) Goeppert
+ Mastixia amygdaliformis (Schlotheim) Kirchheimer

Sollte der Startpunkt weiterhin bei Sternberg bleiben, müßten all die gekennzeichneten Namen geändert werden; bei den übrigen Arten wären "nur" andere Autorennamen einzusetzen. Da die fossilen Pflanzen aber nicht nur in der Paläobotanik "verwendet" werden, sondern auch in der stratigraphischen Geologie eine wichtige Rolle als Leitfossilien spielen, bedeutete ein solcher Wechsel einen schweren Schlag gegen die Verständigung der Geologen.

Hinzu kommt noch, daß das Material der Schlotheim-Sammlung im 2. Weltkrieg nicht verlorenging, wie teilweise in der Literatur behauptet wurde, sondern überwiegend erhalten ist. Die Schlotheim-Sammlung gelangte 1833 durch Ankauf in das "Mineralogische Museum der Universität Berlin", wo sich auch die "Kgl. Preußische Cabinet-Sammlung" befand, die Schlotheim zur Abfassung seiner Werke ebenfalls benutzte (1804: 27; 1820: 413). Friedrich August Quenstedt erarbeitete 1833–1837 einen dreibändigen Katalog dieser Sammlungen (Dietrich 1961), in dem 1945 pflanzliche Reste enthalten sind. Von diesen sind gegenwärtig 1146 nachgewiesen und im Museum für Naturkunde, Bereich Paläontologisches Museum, an der Humboldt-Universität zu Berlin zugänglich. Schlotheim (1804, 1820) bildete insgesamt 69 Pflanzen ab, davon sind 33 Originale wieder aufgefunden (Stand Dezember 1979).

Vergleich der in den Veröffentlichungen von Schlotheim (1820) und Sternberg (1820) enthaltenen Gattungen

In seinem Vorschlag, mit der Arbeit von Sternberg (1820) die paläobotanische Nomenklatur zu beginnen und die Arbeit von Schlotheim (1820) als ungültig veröffentlicht zu betrachten, äußerte Schopf (1949) die Meinung, daß bei Anerkennung der Schlotheimschen Namen die Stabilität der Nomenklatur gefährdet sei. Sein Vorschlag zielte darauf ab, die von Sternberg (1820) im ersten Heft der "Flora der Vorwelt" und die nach dem 31. Dez. 1820 publizierten Namen zu legitimieren und die Schlotheimschen Namen auszuschließen. Dies sei ein "sehr kleiner Preis für einen definitiven Startpunkt der paläobotanischen Nomenklatur" (Schopf in Lanjouw 1953: 533)!?

Wie sieht das aber tatsächlich aus? Von den bei Schlotheim (1820) verwandten Gattungsnamen *Palmacites, Casuarinites, Calamites, Filicites, Lycopodiolithes, Poacites, Carpolithes*

und *Anthotypolithes* könnten lediglich zwei mit Namen aus der Arbeit von Sternberg (1820) kollidieren—*Calamites* und *Lycopodiolithes*. Die Ansicht von Schopf (1949), daß *Lycopodiolithes* und *Poacites* die Namen *Walchia* Sternberg 1825 und *Cordaites* Unger 1850 verdrängen könnten, ist übrigens falsch. Die Typus-Art von *Lycopodiolithes* ist *L. arboreus*, eindeutig ein Lepidophyt und keine Konifere, vgl. Andrews (1955, 1970). Für *Poacites* Schlotheim 1820 kann als Typus-Art nur *P. zeiformis* ausgewählt werden. Dies ist eine Artikulatenbeblätterung. *Cordaites* Unger 1850 selber ist ein nomenklatorisches Synonym zu *Pychnophyllum* Brongniart 1849, worauf bereits Seward (1917: 223) und Andrews (1955: 136) hinwiesen, und zu *Neozamia* Pomel 1846. *Cordaites* Unger 1850 mit der Typus-Art *C. borassifolius* (Sternberg 1821) Unger 1850 sollte konserviert werden, was hiermit in Übereinstimmung mit der Ansicht von Seward und Andrews vorgeschlagen wird.

Vorschlag (541). Zu konservieren ist **Cordaites** Unger (1850) gegenüber *Neozamia* Pomel (1846) und *Pychnophyllum* Brongniart (1849).
Cordaites Unger, Gen. Pl. Foss. 277. 1850, *nom. cons. prop.* (Fossil—Phan.—Cordaitales).
T.: *C. borassifolia* (Sternberg) Unger (*Flabellaria borassifolia* Sternberg)
Neozamia Pomel, Bull. Soc. géol. France, sér. 2, 3: 655. 1846, *nom. rej. prop.*
T.: *N. jaubertiana* Pomel, nom. illeg. (*Flabellaria borassifolia* Sternberg)
Pychnophyllum A. T. Brongniart, Dict. Univ. Hist. nat. 13: 114. 1849, *nom. rej. prop.* [non *Pycnophyllum* Remy, Ann. Sci. nat. Bot. sér. 3, 6: 355. 1846, Caryophyllaceae].
T.: *P. borassifolium* (Sternberg) Brongniart (*Flabellaria borassifolia* Sternberg)

Sternberg (1820) benutzte nur vier Gattungsnamen: *Lepidodendron* (elf Arten), *Variolaria* (eine Art), *Calamitis* (eine Art), *Syringodendron* (zwei Arten). Davon wollte Schopf (1949) *Lepidodendron* erhalten, *Variolaria* und *Calamitis* sollten zugunsten der zu konservierenden Namen *Stigmaria* Brongniart 1822 und *Calamites* Brongniart 1828 aufgegeben werden und *Syringodendron* sei als nomen ambiguum zu führen. Von diesen Vorschlägen wurde nur die Konservierung von *Calamites* Brongniart 1828 realisiert, vgl. S. 3. *Variolaria* Sternberg 1820 ist illegitim (jüngeres Homonym).

Man kann den Vorschlag von Schopf (1949)—Startpunkt Sternberg (1820)—nach diesen Ausführungen auch so deuten, daß er damit *Lepidodendron* erhalten wollte, ohne dafür die Konservierung beantragen zu müssen. Das Typusexemplar der Schlotheimschen Art *Lycopodiolithes arboreus* wird gegenwärtig als *Lepidodendron* sp. indet. bezeichnet, weil weder die Blattpolster noch die beblätterten Zweige eine eindeutige Bestimmung zulassen. Der Name *Lycopodiolithes* würde also mit *Lepidodendron* konkurrieren und hätte bei einem Startpunkt Schlotheim (1820) die Priorität.

Vorschlag zur Änderung des Startpunkts

Es liegt also nach Ansicht des Verfassers kein plausibler Grund vor, die Nomenklatur der fossilen Pflanzen nicht mit Schlotheim (Petrefactenkunde, 1820) beginnen zu lassen. Nach der jetzigen Fassung des Artikels 13.1 (i) ist der 31. Dez. 1820 das Erscheinungsdatum der Flora der Vorwelt, Heft 1, von Sternberg. Die Petrefactenkunde von Schlotheim wird als vor dem 31. Dez. 1820 veröffentlicht angesehen. Über andere Veröffentlichungen aus dem Jahre 1820 wird nichts ausgesagt. Verfasser kennt gegenwärtig nur zwei Arbeiten von Nilsson (1820a, b) aus diesem Jahr. Diese enthalten aber keinerlei Gattungs- oder Artnamen. Als Veröffentlichungsdatum der Petrefactenkunde sollte willkürlich der 1. Januar 1820 festgesetzt werden.

Vorschlag (117): Verfasser schlägt folgende Neufassung des Artikels 13.1 (i) vor:
"Fossile Pflanzen
(i) Alle Gruppen, 1. Januar 1820 (Schlotheim, Petrefactenkunde). Alle anderen Veröffentlichungen des Jahres 1820 werden als nach dem 1. Januar 1820 veröffentlicht angesehen."

Diesem Vorschlag stimmten bisher viele Paläobotaniker zu, u. a. M. Barthel, W. G. Chaloner, R. Daber, H. Döring, E. Kahlert, W. Krutzsch, K. U. Leistikow, K. Mägdefrau, D. Mai, S. V. Meyen, W. Remy, G. Roselt und E. Schulz (mdl. u. schr. Mitt.). Daß die Zustimmung

zu diesem Vorschlag weltweit ist, zeigt folgende Tatsache eindeutig: Der Internationale Arbeitskreis für Abdruckfloren des Karbon und Perm/International Working Group on Carboniferous and Permian Compression Floras erwählte sich 1979 als Namen "Schlotheimiana", zu Ehren des ersten Wissenschaftlers, "who worked exclusively with compression floras".

Konsequenzen der Neufestlegung des Startpunkts

Welche Konsequenzen ergeben sich aus dieser vorgeschlagenen Neufestlegung des Startpunkts der paläobotanischen Nomenklatur?

1. Erhaltung sämtlicher Artepitheta von Schlotheim 1820.
2. Erhaltung der Kombinationen *Sphenophyllum emarginatum* (Brongniart 1822) Brongniart 1828 und *Sphenophyllum verticillatum* (Schlotheim 1820) Zeiller 1885.
3. Der Name *Asterophyllites* Brongniart 1828 nom. cons. bleibt bestehen, die Typus-Art müßte dann heißen *A. equisetiformis* (Schlotheim 1820) Brongniart 1828. *Casuarinites* Schlotheim 1820 sollte in die Liste der nomina generica rejicienda aufgenommen werden.
4. Die Konservierung von *Calamites* Brongniart 1828 nom. cons. mit der Typus-Art *C. radiatus* Brongniart 1828 muß in jedem Fall aufgehoben werden, unabhängig vom Startpunkt. Als Typus-Art stehen besser geeignete Arten zur Verfügung. Damit bleibt *Calamites* als Gattungsname in seinem bisher über 100jährigen Gebrauch erhalten.
5. Der Name *Archaeocalamites* Stur 1875 ist nach Aufhebung der verfehlten Typisierung von *Calamites* Brongniart 1828 nom. cons. durch *C. radiatus* Brongniart 1828 wieder gültig veröffentlicht.
6. Es ist zu prüfen, welche Bedeutung die Schlotheimschen Gattungsnamen *Palmacites* (15 Arten), *Filicites* (23 Arten), *Lycopodiolithes* (5 Arten), *Poacites* (4 Arten), *Carpolithes* (15 Arten) und *Anthotypolithes* (eine Art) besitzen, die dann gültig veröffentlicht sind.
7. Fast alle Artepitheta aus der Sternbergschen "Flora der Vorwelt" bleiben erhalten.

Zu 1. Die Aufstellung oben zeigt, daß durch den von Schopf eingebrachten und 1954 akzeptierten Vorschlag, Schlotheims Petrefactenkunde als ungültig veröffentlicht zu betrachten, nicht nur ein Artepithetum betroffen wurde, wie der Autor des Vorschlags meinte; in Wahrheit handelt es sich um mehr als zehn wichtige Arten, deren Epitheta zu ändern wären, bei den anderen Artnamen würde sich nach gegenwärtigem Wissen "nur" die Autorenschaft ändern.

Zu 2. Ganz verzwickt ist die Situation bei den genannten *Sphenophyllum*-Arten. *Sph. emarginatum* (Brongniart 1822) Brongniart 1828 ist die Typus-Art von *Sphenophyllum* Brongniart 1828 nom. cons. Sie kommt weltweit überwiegend im Westfal C und D vor. *Sph. verticillatum* (Schlotheim 1820) Zeiller 1885 ist ein in Europa verbreitetes Leitfossil für das Stefan. Wenn Schlotheim als Startpunkt festgelegt wird, können die Artepitheta so bleiben, andernfalls sind beide illegitim, die korrekten Namen wären dann *Sph. marsiliifolium* (Sternberg 1821) für den Genotyp und *Sph. schlotheimii* Brongniart 1828 für die Schlotheimsche Art. Damit wären zwei Artepitheta gültig, die aus der Literatur glücklicherweise verschwunden waren, nachdem sie während ihrer gesamten Verwendungsdauer nur Verwirrung gestiftet hatten (Storch 1980, in Vorb.).

Zu 4. Der Ungültigkeitserklärung der Schlotheimschen Petrefactenkunde im Jahre 1954 schloß sich die Konservierung des Namens *Calamites* Brongniart 1828 mit der Typus-Art *C. radiatus* Brongniart gegenüber *Calamitis* Sternberg an. Gemäß Art. 14.7 des Code ist dieser Name automatisch auch gegenüber *Calamites* Artis 1825 geschützt. Wenn Schlotheim (1820) als Startpunkt anerkannt wird, wäre dieser Name auch gegenüber *Calamites* Schlotheim 1820 geschützt. Um der Stabilität der paläobotanischen Nomenklatur zu dienen, gäbe es zwei Möglichkeiten:

A. Diese Konservierung wird aufgehoben, weil unnötig, und unter den Schlotheimschen Arten wird ein Genotypus ausgewählt, wozu sich am ehesten *Calamites canniformis* oder *Calamites nodosus* eignen.

B. Es müßte in Übereinstimmung mit Art. 7.14, 8 und 14 eine Änderung der Typus-Art der Gattung erfolgen.

Die Variante A ist im Code leider nicht vorgesehen, daher muß die zweite angewandt werden, die in Art. 7.14 ausdrücklich aufgeführt ist.

Die Änderung der Typus-Art ist auch notwendig, wenn der Startpunkt bei Sternberg 1820 verbleibt, denn durch die falsche Wahl von *Calamites radiatus* Brongniart als Genotypus zu *Calamites* Brongniart 1828 nom. cons. ist der Inhalt und die Bedeutung dieses Gattungsnamens gegenüber der Erstbeschreibung und dem über 150jährigen Gebrauch total verändert worden. Die Typus-Art ist dann aus den bei Brongniart (1828) beschriebenen 18 Arten auszuwählen. Außer *C. radiatus* sind auch *C. approximatus, arenaceus, decoratus, mougeotii, ramosus, remotus* und *voltzii* als Genotypus aus unterschiedlichen Gründen nicht geeignet. Unter den verbleibenden zehn Arten sollten nach Ansicht des Verfassers die folgenden sechs in die engere Wahl kommen: *C. canniformis, cistii, cruciatus, gigas, suckowii* und *undulatus*. Jede dieser Arten stimmt mit dem bisherigen Gebrauch der Gattung *Calamites* völlig überein, ihre Wahl als Typus-Art diente der Stabilität der Nomenklatur. Von diesen sollte eigentlich *C. canniformis* [Schlotheim 1820] als Typus-Art ausgewählt werden. Da aber das von Schlotheim (1820) abgebildete Exemplar noch nicht wieder aufgefunden ist und die anderen Exemplare aus seiner Sammlung nicht gut erhalten sind, wäre dies für die Stabilität der Nomenklatur nicht günstig. Verfasser schlägt daher die Wahl von *Calamites suckowii* Brongniart als Typus-Art vor. Diese Art ist weit verbreitet und gut bekannt. Bei Brongniart (1828) ist sie die am häufigsten abgebildete *Calamites*-Art. Außerdem erinnert sie an den eigentlichen Schöpfer des Gattungsnamens (Suckow 1784). Auf Grund dieser Untersuchungsergebnisse unterbreitet Verfasser gemäß Art. 7. des Code folgenden Vorschlag:

Vorschlag (542). Im Interesse der Beständigkeit und taxonomischen Genauigkeit soll die Typus-Art von *Calamites* Brongniart 1828 nom. cons. von *C. radiatus* Brongniart in *C. suckowii* Brongniart geändert werden.

Zu 5. Nach der Aufhebung von *Calamites radiatus* als Typus-Art der Gattung *Calamites* ist der Gattungsname *Archaeocalamites* Stur 1875 wieder der korrekte Name für die hierher gehörenden Arten des Dinant und Namur. Die Typus-Art wäre "*A. radiatus* (Brongniart) Stur". Dies ist aber ein taxonomisches Synonym zu *A. scrobiculatus* (Sternberg 1825) Seward 1898. Letzteres ist also der korrekte Name der Typus-Art dieser Gattung, solange wie Sternberg 1820 der Startpunkt bleibt; bei Anerkennung von Schlotheim 1820 als Startpunkt lautet der korrekte Name *A. scrobiculatus* (Schlotheim 1820) Seward 1898.

Zu 6. Seinen Vorschlag, die Nomenklatur der fossilen Pflanzen nicht mit Schlotheim 1820, sondern mit Sternberg 1820 zu beginnen, begründet Schopf (1949) u. a. damit, daß die Gattungsnamen aus der "Petrefactenkunde" (*Palmacites, Casuarinites, Filicites, Lycopodiolithes, Poacites, Carpolithes* und *Anthotypolithes*) anderenfalls eine "Bedrohung für die Stabilität der Nomenklatur" wären. Dies ist aber eine Fehleinschätzung, wie sofort gezeigt werden soll.

Die Gattungsnamen *Palmacites, Filicites, Lycopodiolithes, Poacites* und *Carpolithes* wurden nach 1820 ebenfalls benutzt (u. a. von Sternberg, Brongniart oder Schlotheim) und werden es teilweise heute noch. Sie gelten also auch gegenwärtig als gültig veröffentlicht—allerdings von anderen Autoren—, ohne die Stabilität der Nomenklatur gefährdet zu haben. *Casuarinites* wäre ohne weiteres in die Liste der nomina generica rejicienda aufzunehmen (siehe oben unter Punkt 3). Die monotypische Gattung *Anthotypolithes* ist wissenschaftlich bedeutungslos. Sie ist auf Grund eines einzigen Exemplars unzureichend und fehlerhaft beschrieben worden, wurde nicht abgebildet, und es existiert kein Belegmaterial dazu, so daß nicht geklärt werden kann, was der Autor der Gattung meinte. Die Gattung kann damit die Stabilität nicht gefährden.

Mit 23 Arten ist die Formgattung *Filicites* Schlotheim 1820 die umfangreichste. Die meisten hierher gestellten Arten wurden inzwischen in die verschiedensten Organgattungen überführt. Aus den restlichen Arten könnte eine ausgewählt werden, um als Typus der Gattung zu dienen, damit diese für unvollständig erhaltene Reste farnähnlicher Pflanzen

unsicherer systematischer Zugehörigkeit erhalten bleibt. Andrews (1955, 1970) schreibt dazu: "A type species seems meaningless because of the diversity of fossils assigned to it." Ähnlich argumentiert er bei *Carpolithes* Schlotheim 1820.

Für *Carpolithes, Palmacites* und *Poacites* wäre bei einer Änderung des Startpunkts zugunsten von Schlotheim 1820 eine neue Typus-Art auszuwählen oder der Name zugunsten des gegenwärtigen Gebrauchs zu konservieren.

Für *Lycopodiolithes* Schlotheim 1820 ist die Typus-Art *L. arboreus* Schlotheim 1820 in Übereinstimmung mit Andrews (1955, 1970). Der Gattungsname wurde auch von Sternberg verwendet, danach aber praktisch nie mehr, d. h., er hat sich nicht durchgesetzt, er müßte in die Liste der nomina generica rejicienda aufgenommen werden. *Lepidodendron* Sternberg 1820 sollte dann konserviert werden, und zwar mit der Typus-Art *L. obovatum* Sternberg 1820, in Übereinstimmung mit Andrews (1955: 178). Auf keinen Fall darf *L. dichotomum* Sternberg 1820 als Typus-Art gelten, wie bisher teilweise angenommen, weil es sich dabei um die schematische Auswahl der ersten zitierten Art handelt.

Zu 7. Die Festlegung des Startpunkts Sternberg (1820) hatte zur Folge, daß sämtliche Namen von Schlotheim (1820) ungültig veröffentlicht sind oder jetzt unter anderen Autorennamen zitiert werden müssen. Demgegenüber hat die Annahme des Vorschlags—Startpunkt Schlotheim (1820)—den Vorteil, daß alle Artnamen beider Autoren aus dem Jahre 1820 gültig veröffentlicht sind und erhalten bleiben. Von den Artnamen aus späteren Jahren würden nur die ungültig, deren Autoren willkürlich die Schlotheimschen Artepitheta durch eigene Neuschöpfungen ersetzten. Das schafft aber keine Probleme, denn diese Epitheta haben sich bisher in der Literatur überwiegend nicht eingebürgert oder sind sogar völlig vergessen. Einige Beispiele seien angeführt:

Schlotheims Epitheta		jüngere Epitheta
Annularia stellata	—	A. spinulosa Sternberg
Alethopteris lonchitica	—	Al. lonchitidis Sternberg
Lyginopteris bermudensiformis	—	L. distans (Sternberg)
Nemejcopteris feminiformis	—	N. arguta (Sternberg)
Callipteridium pteridium	—	C. ovatum (Brongniart)
Odontopteris osmundiformis	—	O. schlotheimii (Brongniart)
Sphenopteris adiantoides	—	S. elegans (Brongniart)

Dies weist nochmals eindeutig darauf hin, daß der Vorschlag der Stabilität der paläobotanischen Nomenklatur dient, während der Vorschlag von Schopf (1949) destabilisierend wirkte.

Schlußfolgerung

Wie mit diesen Ausführungen gezeigt werden sollte, war die Begründung des Vorschlags von Schopf (1949), die "Petrefactenkunde" für ungültig veröffentlicht zu erklären, offensichtlich falsch. Die "Petrefactenkunde" bedeutete damals und bedeutet auch heute keine Gefährdung der Stabilität der Nomenklatur; mit ihrer Anerkennung als gültige Veröffentlichung und Startpunkt der paläobotanischen Nomenklatur wird im Gegenteil dem Grundsatz III des Code (Priorität) und dem Sinn des letzten Satzes in Art. 14.1 (Beständigkeit der Nomenklatur) Rechnung getragen werden.

Danksagung

Den Herren Doz. Dr. M. Barthel, Prof. Dr. W. G. Chaloner, Prof. Dr. R. Daber und Prof. Dr. F. A. Stafleu danke ich vielmals für die erhaltene Unterstützung durch Literaturbereitstellung und helfende Diskussionen.

Literatur

Andrews, H. N., Jr. 1955. Index of generic names of fossil plants, 1820–1950. *Bull. Geol. Surv.* 1013: 1–262.

———. 1970. Index of generic names of fossil plants, 1820–1965. *Bull. Geol. Surv.* 1300: 1–354.

Brongniart, A. 1822. Sur la classification et la distribution des végétaux fossiles en général et sur ceux des terrains de sédiment supérieur en particulier. *Mém. Mus. Hist. nat.* 8: 203–240, 297–348.

———. 1828a. *Histoire des végétaux fossiles ou recherches botaniques et géologiques sur les végétaux renfermés dans les diverses couches du globe.* Paris 1(1): 1–136.

———. 1828b. *Prodrome d'une histoire des végétaux fossiles.* Paris (Levrault): 1–223.

———. 1849. Tableau des genres des végétaux fossiles considerés sous le point de vue de leur classification botanique et de leur distribution géologique. *Dict. univ. Hist. nat.* 13: 52–173.

Dietrich, W. O. 1961. Geschichte der Sammlungen des Geologisch-Paläontologischen Instituts und Museums der Humboldt-Universität zu Berlin. *Ber. Geol. Ges. DDR* 5(4): 247–289.

Gothan, W., und H. Weyland. 1973. *Lehrbuch der Paläobotanik.* 3. Aufl. Berlin (Akademie-Verlag): 1–677.

Harms, H. (ed.). 1935. *Internationale Regeln der Botanischen Nomenclatur angenommen von den Internationalen Botanischen Kongressen zu Wien 1905, Brüssel 1910 und Cambridge 1930.* 3. Ausg. Jena (Gustav Fischer): I–XII, 1–152.

Kraus, O. (ed.). 1970. *Internationale Regeln für die Zoologische Nomenklatur.* 2. Aufl. Senckenbergbuch 51. Frankfurt a. Main (Waldemar Kramer): I–IX, 1–92.

Lanjouw, J. (ed.). 1952. International Code of Botanical Nomenclature adopted by the Seventh International Botanical Congress, Stockholm, July 1950. *Regn. Veg.* 3: 1–228.

———. 1953. Seventh International Botanical Congress. Section Nomenclature. *Report. Proceed. Seventh Internat. Bot. Congr., Stockholm* 1950: 457–550, Uppsala.

———. 1954. Recueil Synoptique des propositions concernant la Nomenclature botanique soumises au VIIIme Congrès International de Botanique, Paris 1954. *Regn. Veg.* 4: 1–124.

———. 1956. International Code of Botanical Nomenclature adopted by the Eighth International Botanical Congress, Paris, July 1954. *Regn. Veg.* 8: 1–338.

———. 1961. International Code of Botanical Nomenclature adopted by the Ninth International Botanical Congress, Montreal, August 1959. *Regn. Veg.* 23: 1–372.

Mägdefrau, K. 1968. *Paläobiologie der Pflanzen.* 4., neubearb. Aufl. Jena (VEB Gustav Fischer): 1–549.

———. 1973. *Geschichte der Botanik. Leben und Leistung großer Forscher.* Stuttgart (Gustav Fischer): 1–314.

Nilsson, Sv. 1820a. Om Försteningar och Aftryck af tropiska trädslag och deras blad, funne i ett Sandstenslager i Skåne. *Kgl. Vet. Acad. Hdl.* 1820(1): 108–122.

———. 1820b. Om Försteningar och Aftryck af tropiska trädslag, blad, ormbunkar och rörväxter m.m. samt trädkol, funna i ett Sandstenslager i Skåne. *Kgl. Vet. Acad. Hdl.* 1820(2): 278–285.

Remy, W., und R. Remy. 1977. *Die Floren des Erdaltertums.* Essen (Glückauf): 1–468.

———, und ———. 1978. Calamitopsis n. gen. und die Nomenklatur und Taxonomie von Calamites Brongniart 1828. *Arg. Paleobot.* 5: 1–10.

Schlotheim, E. F. v. 1804. *Beschreibung merkwürdiger Kräuter-Abdrücke und Pflanzen-Versteinerungen. Ein Beitrag zur Flora der Vorwelt.* Erste Abtheilung. Gotha (Beckersche Buchhandlung): 1–68.

———. 1813. Beiträge zur Naturgeschichte der Versteinerungen in geognostischer Hinsicht. *Leonhards Taschenbuch ges. Mineral.* 7: 3–134.

———. 1820. *Die Petrefactenkunde auf ihrem jetzigen Standpunkte durch die Beschreibung seiner Sammlung versteinerter und fossiler Überreste des Thier- und Pflanzenreichs der Vorwelt erläutert.* Gotha (Becker'sche Buchhandlung): I–LXII, 1–437.

———. 1822. *Nachträge zur Petrefactenkunde.* Erste Abtheilung. Gotha (Becker'sche Buchhandlung): I–XII, 1–100.

———. 1823. *Nachträge zur Petrefactenkunde.* Zweyte Abtheilung. Gotha (Becker'sche Buchhandlung): 1–114.

[———.] 1832. *Merkwürdige Versteinerungen aus der Petrefactensammlung des verstor-*

benen wirklichen Geh. Raths Freiherrn v. Schlotheim. Gotha (Beckersche Buchhandlung): I–IV, 1–40. [Entgegen mancher Angaben in der Literatur handelt es sich nicht um eine reine Kopie der Tafeln aus den vorgenannten Arbeiten: Die Tafelerläuterungen sind durch Synonyme usw. ergänzt.]

Schopf, J. M. 1949. Proposals. *In:* T. Just (ed.), *American proposals concerning paleobotanical nomenclature.* Bot. Soc. America, Paleobot. Sect. (Privatdruck).

Seward, A. C. 1898. *Fossil plants.* Vol. I. Cambridge: 1–452.

———. 1917. *Fossil plants.* Vol. III. Cambridge: 1–656.

Stafleu, F. A. (ed.). 1978. International Code of Botanical Nomenclature adopted by the Twelfth International Botanical Congress, Leningrad, July 1975. *Regn. Veg.* 97: 1–457.

Sternberg, Graf K. 1820. *Versuch einer geognostisch-botanischen Darstellung der Flora der Vorwelt.* Erstes Heft. Leipzig, Prag (Fr. Fleischer): 1–24.

———. (1821) *Versuch einer geognostisch-botanischen Darstellung der Flora der Vorwelt.* Zweites Heft. Regensburg (Ch. E. Brenck's Wittwe): 1–33.

———. 1825. *Versuch einer geognostisch-botanischen Darstellung der Flora der Vorwelt.* Viertes Heft. Regensburg (Ch. E. Brenck's Wittwe): 1–48, I–XLII.

Storch, D. 1980. *Sphenophyllum*-Arten aus drei intramontanen Karbonbecken—pflanzengeographische Besonderheiten im mitteleuropäischen Karbon. *Schr.-R. geol. Wiss.* 16: 171–273.

———. in Vorb. *Sphenophyllum emarginatum* und *Sphenophyllum verticillatum*—eine nomenklatorische Studie.

Suckow, G. A. 1784. Beschreibung einiger merkwürdiger Abdrücke von der Art der sogenannten Calamiten. Acta Acad. Theodoro-Palatinae (Mannheim) 5 [nicht gesehen].

Unger, F. 1850. *Genera et species plantarum.* Vindobonae: 1–627.

Zeiller, R. 1885. Note sur la flore et sur le niveau relatif des couches houillères de la Grand' Combe (Gard). *Bull. Soc. Géol. France,* 3e sér. 13: 131–149.

Proposed by: Diethard Storch, Fritz-Krieger-strasse 6, DDR-69 Jena, German Democratic Republic.

THE NAMES PUBLISHED IN STICKMAN'S HERBARIUM AMBOINENSE OR *CASUARINA LITOREA* L., A VALID RUMPHIAN NAME

Several years ago, while preparing the second fascicle of the Flora of Micronesia for publication and verifying places of publication and references accompanying names used therein, I had occasion to check the binomial *Casuarina equisetifolia* in Linnaeus Amoenitates Academicae 4: 123, 143. 1759, where it first appeared. The specific epithet is there misspelled *equisefolia*. Knowing that this article in the Amoenitates had originally been published as a dissertation defended by Olaf Stickman in 1754, I checked back to see how it was spelled there. Fortunately there is a copy of this rare publication in the Smithsonian library. To my surprise the name given there was *Casuarina litorea*. This is the only species listed in the genus, and is not accompanied by a description or illustration unless the statement "singularis arbor, Equiseti Structura" is accepted as descriptive.

This name appears with an exact reference in a list of names quoted from Rumphius' Herbarium Amboinense where it appears in Tomus III plate no. 57, published in 1743. It seemed clear that this binomial was validly published, though misspelled, in the Stickman dissertation by reference to a previously effectively published description and plate which could be considered under Art. 42 of the Code as a combined generic-specific description. This seemed sufficient to effect valid publication, but a number of problems had to be disposed of at least tentatively before this name could be adopted.

The dissertations of the students of Linnaeus are mostly known to botanists through their republication, often somewhat revised, in Linnaeus' series Amoenitates Academicae. The originals appeared, usually singly at the times when they were defended by the students, and,

as is true of many present-day graduate degree theses, their publication was rather obscure. They were regarded by Linnaeus as subject to revision and doubtless as superseded by the revisions and more formal publication in the Amoenitates. Their authorship, and especially that of the new names that first appeared in these dissertations, has been the subject of much argument and is even now not a matter of complete agreement. According to Dr. William T. Stearn (personal conversation, 1970) they must be ascribed to Linnaeus himself, as they were written by him and assigned to the students to be defended publicly for the degree to which they aspired. Merrill also adopted this view in his Interpretation of Rumphius Herbarium Amboinense, p. 33, 1917. St. John disagrees, as in his numerous papers on *Pandanus,* a name also first appearing post-1753 in this same dissertation discussed here, he ascribes the name *Pandanus* to Stickman. I have some reservations about this whole matter, but will defer to those who are far more accomplished Linnaean scholars than I am, and will, until the matter is clarified to be otherwise, continue to ascribe these names to Linnaeus as published in the dissertation.

The names under consideration here are certain generic names, binomials, and trinomials, that were published *effectively* by Rumphius prior to 1753 in his 6 volumes of the Herbarium Amboinense, 1741–1750, and which were republished for the first time after 1753 in 1754 in Olaf Stickman's dissertation on Rumphius' Herbarium Amboinense. This is a very small booklet that lists Rumphius' generic names, binomials and trinomials, indicating, where possible, their equivalents in Linnaeus' own system, or, failing that, in a few cases, equivalents in the Hortus Malabaricus of Rheede or in other works. For a considerable number of them, no equivalent was found, and my presumption (and here is the point at which my interpretation departs from the usual one) is that Linnaeus was content with the Rumphian names and the illustrations and descriptions that accompanied them in their original place of publication, the Herbarium Amboinense, until he could study the plants and know more about them. In the introduction to the dissertation Linnaeus (or Stickman) gave lavish praise to the botanical acumen of the old Dutchman.

It must be remembered that the date 1753 did not then have the special significance it does now, nor did the concepts of valid publication and legitimate or illegitimate names exist, at least in their modern sense. Linnaeus did not look on pre-1753 names as invalid and he only rejected names when he selected or coined what he regarded as more appropriate ones or when he placed them in synonymy, or in a few cases when he ignored them altogether.

We must examine the Rumphian names listed in Stickman's dissertation both in the light of the customs of the times, especially those of Linnaeus, as well as of the International Code of Botanical Nomenclature (Leningrad edition, 1978).

We cannot assume that Linnaeus was rejecting these names, except as, in many cases, he equated them with his own names or those of Rheede. He was merely giving his ideas of what they were in the already recorded botanical knowledge of his time. Of course, he accepted, by preference, such names as appeared in his own compendium, the Species Plantarum (ed. 1, 1753) and also some 30 binomials that he had not previously published but published in the right-hand column of the Stickman dissertation. For some 270 others he had no choice, at that time, but to accept Rumphius' names and the information they conveyed (the plates with accompanying text). There is no hint in his lengthy introduction that he rejected them even though he said he set them aside (*seponere*), and certainly it is stretching one's credulity to assume that they were only mentioned incidentally. For what purpose? It would seem, rather, that they were published here because Linnaeus considered that they represented real, recognizable plants, even though he had no personal knowledge of them.

These unplaced names, with the exception of a few to which there are short footnotes, are only accompanied by the numbers of the plates to which they refer, arranged in six lists under their respective volume numbers. They have been almost universally regarded as *nomina nuda* (e.g. Merrill (by inference) 1917, pp. 31–34; Bullock, 1960, p. 40; myself until recently). To do this was to ignore two significant facts. One is that by virtue of being listed from Rumphius' Herbarium Amboinense, the entire subject of the dissertation, they were therefore accompanied by reference to previously and effectively published descriptions and illustrations. Two, if this form of general reference is deemed too indirect, the plate numbers accompany them, which with volume (tomus) number, constitute direct, precise, and definite references. These

satisfy, in every respect, the requirement for valid publication by such reference (Leningrad Code Art. 32).

I cannot accept arguments based on Linnaeus' supposed intention or lack of intention to publish these names. He did effectively and validly publish them. They are new names in the Code sense, being post-starting-date.

Merrill, in his monumental Interpretation of Rumphius' Herbarium Amboinense (1917), though he presumably regarded these names as *nomina nuda,* accepted the references to their earlier effective publication through the plate numbers as establishing the Rumphian plates and text as the types of such of these names as came into use later, including 22 names appearing first in Stickman's Dissertation, listed on page 33 of the Interpretation.

The one further objection to these names that remains to be dealt with is that they are sometimes said to have been published in a work that did not consistently follow the Linnean binomial system of botanical nomenclature. This can undoubtedly be said of Rumphius' original work, including the post-1753 Auctuarium, but not of the Index Universalis (1755) added by Burman.

It is certainly true that binomials were not consistently used. However, the point that has been overlooked is that in Art. 23, dealing with this subject, the Code makes a specific exception (see Art. 23, Note) for the works of Linnaeus in 1753 and thereafter. If we accept the dissertations as being the work of Linnaeus, names that are otherwise in accord with the Code must be accepted.

The amount of controversy that followed my adoption of the name *Casuarina litorea* L. made further study of Stickman's dissertation advisable. The adoption of the above binomial resulted from a straightforward application of the Code to a specific nomenclatural problem. I was aware that it represented a departure from the belief that the Rumphian names were to be disregarded as pre-1753, but I was also aware that many names in current use are based solely on Rumphian plates and descriptions, the latter usually transcribed or condensed or merely cited as protologue elements. The Code (Art. 32) specifically provides that names may be validly published by reference to a previously effectively published description. The controversy over *Casuarina litorea* L. seemed out of proportion to the mere change of one name, even as familiar a name as *Casuarina equisetifolia* L. Hence an examination of the possible consequences of application of the Code to all the over seven hundred names used in Stickman's thesis seemed in order. Perhaps fear of major nomenclatural consequences was the cause for the reaction to the use of *Casuarina litorea* L.

One thing became clear at once on examination of the dissertation—the compilation was done in a surprisingly sloppy manner. It seems clear that Linnaeus did not exercise his usual scholarly care in the copying from Rumphius' work. Perhaps the drudgery of copying was delegated to the student, Stickman. One may blame the printer for some of the errors, but most should have been caught in the proof-reading if, indeed, any proof was read and corrected.

The plants listed by Stickman are only those illustrated by Rumphius, disregarding the many that are only described. An analysis of the nomenclatural status of the names listed with references to the corresponding Rumphian plates was undertaken. It proved unexpectedly difficult to establish meaningful categories, but an attempt was made to determine which names have a potential bearing on present-day nomenclature. This was approached by defining groups of names that for particular reasons could be eliminated from further consideration, and narrowing the lists down to those at least potentially having nomenclatural validity. The groups noted below are not mutually exclusive. Rumphius' names, descriptions and plates were published in a series of six volumes appearing on different dates between 1741 and 1750.

The arrangement of names in the original Stickman thesis is in two columns. The left-hand column is a list of the Rumphian names in order by volume and plate number. Frequently two or three names appear with a single plate number. These represent different figures in the plate, though no figure numbers are given. The generic name or word is always in Roman type, the trivial names or specific and infraspecific (or polynomial?) epithets are in italics.

The right-hand column is of the equivalents of the Rumphian names, when known, in the Linnean system. In a few cases remarks or diagnostic phrases are added, in italics, after the Linnean names. Occasionally instead of the Linnean name a phrase name is used, in italics, from Rheede's Hortus Malabaricus, or from the works of Plukenet, or from Linnaeus' own

Flora Zeylanica. In 32 cases the Linnean names in this column appear here for the first time. Rarely no name is given but instead a diagnostic phrase or word in italics takes its place. These latter cases, and the many where nothing is placed in the right column, are the ones that must be considered here as potentially validly published names. Those with citations of both Rumphian and additional pre-1753 references are here considered not to be validly published, as they refer not to "a previously and effectively published description or diagnosis" but to *two* such previously and effectively published descriptions or diagnoses, the Rumphian one and the other pre-1753 one. To consider these last as invalid is, granted, a very strict interpretation of the Code, but it does rid us of names that are potentially very difficult to typify.

One further important thing that must be taken into account is that, in the right-hand column, among the Linnean equivalents, there are two Linnean generic names and 32 binomials validly published here for the first time, some validated by provision of diagnoses, others by indirect reference to Rumphian plates and descriptions. All 32 are listed in the Amoenitates Academicae 4: 112–137, 1759 edition of the dissertation, but with many of the diagnoses omitted and at least two names changed. A few of the species are picked up in Linnaeus' Systema Naturae, ed. 10, vol. 2, 1759, but very few. Here they are ascribed to Rumphius, Herbarium Amboinense. A few more, but not all, are included in Species Plantarum ed. 2, 1762. Lists are given below of the generic and specific names first validly published in the right-hand column.

The important fact brought out by this analysis is that there are 61 generic names and 90 binomials first validly published by Linnaeus in Stickman's Dissertation in 1754. There are listed below, with, in the cases of validation by Rumphian references, equivalent names according to Merrill's Interpretation (a few of them changed to currently accepted genera). Some of these equivalents, of course, are not now in use. Modern workers may well disagree with some of Merrill's interpretations. However, in general these equivalents are the names threatened with change if Stickman's Dissertation is admitted as a valid publication for nomenclatural purposes.

The present paper is in no way put forward as the much needed restudy of Rumphius' Herbarium Amboinense and updating of Merrill's 1917 Interpretation. It is merely an explanation of my adoption of the name *Casuarina litorea* L. and an investigation of the possible or probable consequences of following this application of the provisions of the International Code, especially of Articles 23 Note, 32, 42. These consequences, as well as the actual divergences of interpretation of what Linnaeus actually did in this publication, seem sufficiently serious as to require some action to avoid them. The simplest such action would seem to be a decision by the 13th International Botanical Congress to disregard or exclude the left-hand column in Stickman's Dissertation on the Herbarium Amboinense from consideration for nomenclatural purposes. A proposal to that effect is presented following this article.

Nomenclatural Analysis

1.	Total number of names in left-hand column	720
	a) Monoverbals	134
	b) Biverbals	554
	c) Tri- or quadriverbals	32
2.	Not acceptable because of nature of words making up names (see attached lists)	193
	a) Morphological terms not acceptable as botanical names	69
	b) Latin common words or general terms	114
	c) Latin common names	7
	d) Local common names	2
3.	Rumphian botanical binomials accompanied by Linnean equivalents	274
4.	Rumphian botanical binomials without Linnean equivalents but in genera with more than one species	107
5.	Valid Rumphian binomials in left-hand column	69
6.	Rumphian botanical binomials in monotypic genera	19
7.	Validly published generic names from these	12 or 13
8.	Rumphian binomials accompanied by non-Rumphian pre-1753 references (invalid)	29

9.	Linnean binomials first validly published here in right-hand column	31 or 32
10.	Botanical monomials in left-hand column	128
11.	Botanical monomials with Linnean equivalents or with more than one species (invalid)	77
12.	Botanical monomials with non-Rumphian pre-1753 references (invalid)	10
13.	Legitimate generic names published as monomials based on references to Rumphian descriptions and plates	41
14.	Legitimate generic names published as monomials with diagnoses	5
15.	Legitimate generic names published as monomials in right-hand column	2

Lists of botanically unacceptable words or terms

Common Latin words		*Morphological terms*
Funis	rope, cord	Cortex
Soccus	shoe or sock	Arbor
Olus	potherb	Radix
Prunum	plum	Flos
Pomum	fruit	Fructus
Malum	apple or fruit	Lignum
Lobus	nightshade?	Folium
Tuba	trumpet	Herba
Lacca	plant or herb	Granum
Sirium	artemisia or mugwort	Spina
Ubium	?	
Planta	plant	
Gramen	grass	
Filix	fern	
Crusta	bark? rind?	

Latin common names

Flamma sylvarum
Cauda felix
Ova piscium
Amica nocturna

Local common names

Toeri-mera
Catti-marus

List of generic names validly published as monomials in the left-hand column (Those with 1753 equivalents or homonyms removed)

Plate	*Linnaeus 1754*	*Equivalents fide Merrill Int. Rumphius Herb. Amb. 1917*
1–9	Licuala	Licuala Thunb.
1–13	Saguerus	Arenga Labill.
1–16	Nypa	Nypa Wurmb.
1–29	Durio	Durio Murr.
1–64	Sandoricum	Sandoricum Cav.
1–65	Gajanus	Inocarpus J. R. & G. Forst.
2–20	Alliaria	Dysoxylum Bl.
2–44	Capraria	Garuga Roxb.
	Canarium (with diagnosis)	Canarium L.

2–58	Camirium	Aleurites J. R. & G. Forst.
2–59	Pangium	Pangium Reinw.
3–16, 17	Dabanus	Pometia J. R. & G. Forst.
3–21, 22	Sicchius	Palaquium Blanco or Sideroxylon L.
3–23	Ulassium	Adina Salisb.
3–24	Laharus	Neonauclea Merr.
3–25	Nessatus	Neonauclea Merr.
3–25	Morsalla	(not placed by Merrill)
3–27	Corius	(Apocynaceae not placed by Merrill)
3–31	Ulet	Taxotrophis Bl.
3–38	Arupa	Payena A. DC.
3–39	Surenus	Cedrela L. (or Toona Roem.)
3–60	Pulassarius	Lepiniopsis Val.
3–66	Vertifolia	Perrottetia Kunth
3–117	Malaparius	Pongamia Vent.
3–118	Vidoricum	(Sapotaceae not placed by Merrill)
3–124	Lanius	Samadera Gaertn.
3–125	Palacca	Octomeles Miq.
3–131	Bunius	Antidesma L.
3–131	Aalius	Breynia J. R. & G. Forst.
3–135	Cicadaria (with diagnosis)	Palaquium Blanco
3–140	Timonius	Timonius DC.
4–7	Arundastrum	Donax Lour.
	Pandanus (with diagnosis)	Pandanus L.
4–58	Mamanira	Callicarpa L.
5–15	Cudranus	Cudrania Tréc.
5–17	Camunium	Murraya L.
5–20	Pulassarium	Alyxia R. Br.
5–29	Sirioides	Myxopyrum Bl.
5–39	Sinapister	(not placed by Merrill)
5–65	Bangleum	Zingiber Boehm.
5–69	Gandasulum (=Gandasulium)	Hedychium Koenig
6–6	Calamagrostis	Themeda Forsskaal
6–27	Palmifilix	Cyathea Sm.
	Globba (with diagnosis)	Globba L.
6–67	Terebinthina	Limnophila R. Br.

List of binomials first published in left-hand column without Linnean equivalents or other pre-1753 references (valid)

Plate	*Linnaeus 1754*	*Equivalents fide Merrill Int. Rumphius Herb. Amb. 1917*
1–19	Sagus filtaris	Pigafetta filifera (Giseke) Merr.
2–12	Pseudosandalum amboinense	Osmoxylon amboinense Miq. = O. umbelliferum (Lam.) Merr.
2–18	Myrtus amboinensis	Leptospermum flavescens Sm.
2–47	Canarium vulgare	Canarium commune L.
2–48	Canarium zephyrinum	Canarium zephyrinum Bl.
2–49	Canarium sylvestre	Canarium sylvestre Gaertner
2–50, 51	Canarium odoriferum	Canarium balsamiferum Willd. or C. hirsutum Willd.
2–54	Canarium minimum	Canarium oleosum Gaertner
2–55	Canarium decumanum	Canarium decumanum Gaertner
2–64	Tanionus litorea	Mimusops parvifolia R. Br.
2–84	Lactaria salubris	Neisosperma oppositifolia (Lam.) Fosb. & Sachet

3–14	Cofassus citrina	Alstonia subsessilis Miq.
3–10	Tittius litorea	Guettarda speciosa L.
3–57	Casuarina litorea	Casuarina equisetifolia L.
4–67	Capsicum sylvestre	Tabernaemontana capsicoides Merr.
4–73	Blimbingum sylvestre	Elaeocarpus oppositifolius (DC.) Miq.
4–74	Pandanus verus	Pandanus tectorius Parkinson
4–75	Pandanus spurius	Pandanus robinsonii Merr.
4–76	Pandanus humilis	Pandanus polycephalus Lam.
4–77	Pandanus sylvestris	Pandanus terrestris Warb.
4–78	Pandanus latifolius	Pandanus hasskarlii Merr.
4–79	Pandanus moschatus	Pandanus tectorius var. moschatus (Miq.) Merr.
4–80	Pandanus ceramicus	Pandanus conoideus Lam.
4–81	Pandanus repens	Pandanus repens Miq.
4–82	Pandanus funicularis	Freycinetia funicularis (Savigny) Merr.
4–82	Pandanus caricosus	Scirpodendrum ghaeri (Gaertner) Merr.
5–33	Viscum amboinicum	Loranthus rumphii Merr.
5–36	Complanus funicularis	(not listed by Merrill)
5–43	Rudens sylvaticus	Ficus recurva Bl.
5–61	Musa uranoscopos	Musa paradisiaca L.
5–61	Musa simiarum	Musa acuminata Colla
5–73	Gladiolus odoratus	Dianella odorata Bl.
5–93	Mentha crispa	Mentha arvensis L.
5–95	Oxys lutea indica	Oxalis corniculata L.
5–102	Melissa lotoria	Pogostemon cablin (Blanco) Benth.
5–102	Majorana aurea (=Majana?)	Coleus blumei Benth.
5–131	Glans terrestris	Coleus tuberosus (Bl.) Benth.
5–139	Phaseolus minor	Vigna cylindrica (L.) Merr.
5–140	Phaseolus cylindraceus	Phaseolus calcaratus Roxb.
5–141	Phaseolus maritimus	Vigna marina (Burm.) Merr.
5–158	Convolvulus coeruleus	Ipomoea indica (Burm. f.) Merr.
5–159	Convolvulus riparius	Ipomoea littoralis Bl.?
5–171	Cucumis murinus	Melothria indica Lour. and Melothria javanicus (Miq.) Cogn.
6–2	Cyperus longus	Remirea maritima Aubl.
6–3	Cyperus dulcis	Eleocharis dulcis (Burm. f.) Hensch.
6–5	Hippogrostis amboinica	Ischaemum timorense Kunth
6–7	Phoenix montana	Andropogon amboinicus (L.) Merr.
6–8	Carex amboinica	Scleria bancana Miq.
6–13	Prunella hortenus	Hemigraphis (3 species)
6–14	Senecio amboincus sylvestris	Vernonia cinerea L.
6–30	Lonchitis amboinica	Blechnum orientale L.
6–37	Phyllitis amboinica	Asplenium nidus L.
6–60	Globba longa	Amomum rumphii Sm.
6–61	Globba crispa	Amomum sp.
6–61	Globba uniformis	Alpinia uniformis (L.) Horan.
6–61	Globba acris	Amomum acre Val.
6–67	Pilosella amboinica	(not placed by Merrill)
6–68	Menthastrum amboinicum	Limnophila rugosa (Roth) Merr.

List of generic names from validly published binomials in left-hand column with references to generic-specific descriptions and plates (Those with 1753 equivalents removed)

Plate	*Linnaeus 1754*	*Equivalent fide Merrill, Int. Rumphius Herb. Amb.*
1–19	Sagus	Pigafetta (Mart.) Becc.
2–12	Pseudosandalum	Oxmoxylon Miq.
2–84	Lactaria	Neisosperma Rafinesque (as Ochrosia Juss.)
3–14	Cofassus	Alstonia R. Br.
3–29	Carbonaria	(not placed by Merrill)
3–57	Casaarina (typographical error for Casuarina) =Casuarina	Casuarina L.
5–101	Majana	Coleus Lour.
5–102	Melissa	Pogostemon Desf.
5–102	Majorana (misspelling of Majana?)	Coleus Lour.
5–132	Glans	Coleus Lour.
6–5	Hippogrostis	Oplismenus Beauv. or Ischaemum L.
6–67	Pilosella	(Merrill could not place)
6–68	Menthastrum	Limnophila R. Br.

List of binomials first validly published in the right-hand column of the Stickman Dissertation

Plate	*Linnaeus 1754*	*Equivalents fide Merrill, Int. Rump. Herb. Amb. (or ref. to validating diagnosis)*
5–81	Bromelia comosa L.	Ananas comosus (L.) Merr.
5–151	Momordica indica L.	Momordica charantia L.
6–70	Pancratium narbonense L.	Eurycles amboinensis Herb.
5–168	Plumbago indica L.	Plumbago indica L.
5–9	Tragia scandens L.	Tetracera scandens Merr.
	Garcinia celebica L.	(short but adequate diagnosis)
	Psidium cujavus L.	(2-word diagnosis contrast with P. guajana [=P. guajava])
2–14	Laurus culitlawan L.	Cinnamomum culilawan Bl.
	Myrtus leucadendra L.	(with diagnosis)
2–77	Erythrina variegata L.	Erythrina variegata L.
	Rhizophora caseolaris L.	(with diagnosis)
	Rhizophora corniculata L.	(with diagnosis)
	Ricinus mappa L.	(with diagnosis)
	Adenanthera falcata L.	(with diagnosis)
	Ricinus tanarius L.	(with diagnosis)
	Hernandia ovigera L.	(with diagnosis)
4–1	Arundo arbor L.	Bambusa atra Lindl.
4–5	Arundo vallatoria [Pluk.] L.	Phragmites vulgaris Trin. [=Phragmites australis (Cav.) Trin. ex Steud.] [probably actually Phragmites karka (Retz.) Trin. ex Steud.] (possibly invalid if Plukenet author citation is considered a reference to a Plukenet description or plate.)
	Convallaria fruticosa L.	(with diagnosis)
4–51	Mussaenda frondosa L.	Mussaenda reinwardtiana Miq. (this may be a correction by Linnaeus of

		the name *Mussaenda fr.* [uctu] *frondoso* in the Species Plantarum 1753, which latter, if accepted, should be transcribed *Mussaenda fructu-frondoso* according to ICBN Art. 23.1, 23.3. It has since been universally written as *Mussaenda frondosa,* including by Linnaeus himself in Systema Naturae ed. 10, 1759, and Species Plantarum ed. 2, 1762. His correction here dates from 1754.)
5–4	Lens phaseoloides L.	Entada phaseoloides L.
	Menispermum flavum L.	(with diagnosis)
	Piper decumanum L.	(with diagnosis)
5–88	Capsicum fruticosum L.	Capsicum frutescens L. (This is not nomenclaturally the same as Capsicum frutescens L. 1753.)
5–94	Aloe vivipara L.	Agave cantala Roxb.
	Dolichos [as Dolichus] tetragonolobus L.	(with diagnosis)
5–138	Phaseolus unguiculatus L.	Mucuna aterrima Merr. (=Stizolobium aterrimum (Piper & Tracy))
	(changed in Amoen. Acad. 4: 132, 1759 to *Colichos unguiculatus*)	
	Dolichos [as Dolichus] pruriens L.	(with diagnosis)
	Momordica trifolia L.	(with diagnosis)
	Pothos latifolius L.	(with diagnosis)
6–22	Jussiaea purpurea L.	Peristrophe bivalvis (L.) Merr.
	(changed in Amoen. Acad. 4: 134, 1759, to *Justicia bivalvis*)	
	Ophioglossum pendulum L.	(with diagnosis)

There are 31 or 32 binomials in this list. A few of these, e.g. *Dolichos tetragonolobus, D. pruriens, Menispermum flavum, Piper decumanum, Rhizophora corniculata, R. caseolaris, Mussaenda frondosa* were picked up in Syst. Nat. ed. 10, 1759, but most of them were not. The references are to Rumphius' Herbarium Amboinense.

List of generic names validly published in the right-hand column

Myristica L. reference to plate II-4
Pterocarpus L. reference to Fl. Zeyl. 417

Of these *Pterocarpus* is included in the appendix to Species Plantarum ed. 2, 1762, but *Myristica* is not. The reference is to Jacquin "hist." [1763?].

Proposal (118). A. To Article 23.6(c) add a Note 1.

"The names published in the left-hand column in Stickman's Dissertation on the Herbarium Amboinense (1754) are not, for the purposes of this Code, considered as validly published, even though they are generally regarded as the work of, and ascribed to, Linnaeus."

The rationale for this proposal is that, under the present wording of the Code, there is unlikely to be agreement on the validity or not of nearly 150 names. The adoption of these names as validly published would put in jeopardy nearly that many presently used names, many of them for well-known or widespread tropical plants. Furthermore, the amount of unproductive bibliographic work necessary to clarify the status of these names would be enormous, and might still not lead to much agreement.

B. An alternative wording for the note, that might be preferred, could be effected by deleting the words "in the left-hand column". The disadvantage of this would be that it would invalidate some 17 or 18 names published in the right-hand column validated by short diagnoses, at least some of which are in current use (e.g. *Ophioglossum pendulum* L.).

An advantage of adopting either of these wordings would be that it would save such familiar names as *Casuarina equisetifolia* L., *Neisosperma* (or *Ochrosia*) *oppositifolia* (Lam.) Fosb. & Sachet, *Pandanus tectorius* Parkinson, *Scirpodendron ghaeri* (Gaertner) Merr., etc.

Another advantage over other suggested means of attacking the problem of such names is that, since it specifies this one work, there is no wording that might have unanticipated side effects in other places. Of course, there is the possibility that in the future this might be taken as a precedent for outlawing other troublesome works, which might be regarded as either an advantage or a disadvantage, depending on where one stood.

It is not argued here that this is the only means available of disposing of the names based on reference back to the Rumphian plates and descriptions. Some changes which have been suggested in the wording of Article 42 would accomplish this. What is not clear is what other, perhaps undesirable side-effects those changes might have. It is also by no means certain that any proposal to amend Art. 42 will be accepted by the next International Congress. Acceptance of the proposal to consider invalid the names published in the left-hand column of the Stickman Dissertation would have no effect whatever on names published elsewhere. Furthermore, its acceptance would have no effect on any amendment to Art. 42 that might be adopted. It would merely settle, once and for all, any controversy as to the applicability of Art. 42 to the names in the left-hand column of this dissertation.

Proposed by: F. R. Fosberg, Dept. of Botany, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

MISCELLANEOUS PROPOSALS TO AMEND THE CODE

Proposal (119). To amend Article 28.

The last two lines consist of examples which give only one of the two methods of quoting cultivar names authorized by Article 29 of the International Code of Nomenclature of Cultivated Plants (1969 edn.). The following sentence is proposed for addition after the word 'Dawn.':

"Cultivar epithets may also be preceded by the abbreviation 'cv.', in which case the epithet is not placed in quotation marks e.g. *Taxus baccata* cv. Variegata, etc."

Proposal (120). To amend Article 75.

The precise action required from the individual is not clear in the present wording, in particular whether it is left to his discretion to decide if confusion is likely to arise. The 'examples' should be quoted as decided cases, with the reasons given.

The following is suggested:

Delete the asterisk ('*') after 'confused' in line two of Article 75.1, and the footnote.

Article 75.1. Add after 'types' in line four: "When it is held that names are sufficiently alike to be confused, they should be referred to the General Committee. Normally this should only occur if the names are in related taxa."

Proposal (121). To amend Article 55.2.

This Article has been interpreted independently of Art. 55.1 on which it clearly depends. A specific epithet has no life of its own, and cannot be transferred apart from a specific name. The first line needs re-wording to accord with Art. 55.1 as follows:

"When a species has been transferred to another genus and the specific epithet has been applied . . ."

Proposed by: W. L. Tjaden, 85 Welling Way, Welling, Kent, DA16 2RW, U.K.

ON THE LECTOTYPIFICATION OF *STAPELIA* L. AND A PROPOSAL FOR THE CLARIFICATION OF ARTICLE 8 OF THE ICBN

When the genus *Orbea* Haw. was reinstated (Leach, 1975) it was accepted that Haworth (1812) had automatically typified *Stapelia* L. with *Stapelia hirsuta* L., which species he had

retained in his treatment of that genus, whilst transferring *S. variegata* L. to his new genus *Orbea*.

Concurrence with this view of Haworth's action was expressed by all the taxonomists with whom the problem was discussed prior to publication; these included Dr. W. T. Stearn who, following on his own independent investigation and consultation with the late Mr. J. E. Dandy and Mr. R. Ross, supported *S. hirsuta* as typifying *Stapelia*.

However, it appears that doubts regarding the correctness of this view are now being entertained in some quarters (Hunt, 1979). This has caused me to make a fresh appraisal of the matter and in view of its relevance to the lectotypification of Linnaean taxa in general it is considered to be important that it should be discussed in detail.

It is also perhaps important to mention that the taxonomic necessity for the generic separation of the two original species of *Stapelia* appears to have been generally accepted, enthusiastically by some, with regret by others, but agreed to be unavoidable by most, if not all, of those with whom the matter has been discussed.

In the article by Hunt (1979) there are several inaccuracies (e.g. that *S. variegata* is currently sanctioned as the type of *Stapelia* L. by the ICBN), but as I understand that a correction of at least some of these is shortly to be published, and as they do not materially affect the main issue, they will not be further discussed here.

It has been suggested (Hunt, *in litt.*) that typification by residual implication may not be procedurally acceptable, and that Haworth's choice was arbitrary within the meaning of Article 8. This, in my opinion, is merely legalistic quibbling since the procedure followed conforms precisely with the provisions of the Code as set out in: Guide for the determination of Types, 4e: "In cases when two or more elements were included in or cited in the original description . . . However, *if another author has already segregated one or more elements as other taxa, the residue or part of it should be designated as the lectotype* provided that this element is not discordant with the original description or diagnosis" (my italics). That this is often the only means by which many genera can be satisfactorily typified is generally accepted (Haworth would not, of course, have *designated a lectotype as such* since such a concept did not exist in 1812). The suggestion that Haworth's choice may be considered to have been made arbitrarily is equally difficult to understand; the mandatory Art. 8.1 states: "The author who first designates a lectotype must be followed unless it can be shown that the choice was based on a misinterpretation of the protologue or was made arbitrarily."

In the present instance the generic description includes conflicting characters of both the species involved. It cannot therefore be argued that *S. hirsuta* is a discordant element; in fact it is considered that there is a slight bias towards *S. hirsuta* in the relevant descriptions and it may be significant that this was the only species which was described in detail by Linnaeus. It may well be that Haworth, in view of this, was influenced in reaching his decision by the provisions set out by Linnaeus in his Philosophia Botanica (1751) for the "natural character of the genus" (see Stearn, 1957). This and the mere fact that Haworth, in his overall treatment of the genera, segregated the earlier, better known and superficially more eligible species, effectively disposes of any suggestion that his choice was made arbitrarily.

It should be remembered that the two species had been associated together at generic level for a long time before 1737 and that Linnaeus (1735) had himself accepted them at that level under the name *Stisseria*. This may well account for the inclusion of some discordant characters in his generic descriptions.

Had Haworth not established *Orbea* it would have been necessary to select a lectotype for *Stapelia* by some other means; it would then, presumably, have been permissible, in view of the conflicting characters of the first valid diagnosis in Gen. Pl. ed. 5 to go back to Gen. Pl. ed. 1 and on the grounds of Linnaeus's citation of *Apocynum aizoides* H.L.B.53, to select *S. variegata* as the type of *Stapelia*, but it could equally well be argued that the description differs in some essential characters from that species and could be said to favour *S. hirsuta*. It is submitted that against this background Haworth's segregation of *S. variegata* was a perfectly legitimate action ("both species seem to be equally eligible" Stearn *in litt.* 1974).

In the face of Haworth's legitimate action and the mandatory provisions of Article 8 it becomes obligatory to accept the automatic typification of *Stapelia* by *S. hirsuta*. It seems indubitable that this accords with both intention and letter of the Code and that the provisions

of Art. 52.1 and Clause 4e of the Guide for the determination of Types make the intention of Art. 8 perfectly clear; it is only in relation to the precise meaning of protologue that ambiguity could arise. In this connexion I am entirely in agreement with Jeffrey (1979) who maintains "In the lectotypification of generic names, therefore, the correspondence to be established is that between the *validating description* (italics mine) in the protologue of the generic name and the species on which that description was based".

It seems implicit in the Articles of the Code that in such terms as "first publication", "original description" etc. validity is understood and this is evident in the wording of, e.g. Art. 7.12, 7.13, 7.15 and many others, unless qualified, as in Art. 7.13, in which reference is made to a "pre-starting point" description. As pointed out by Jeffrey (1979), Art. 8.1 is the only clause affecting typification which has the status of a rule and so must be given the greatest weight. In order therefore to obviate any ambiguity in its operation it is proposed that its wording should be slightly modified.

Proposal (122). That the wording of Article 8.1 should be changed to read:

"The author who first designates a lectotype, either directly or indirectly, must be followed unless his choice conflicts with the evidence contained in the protologue, description or diagnosis included in the validating publication of the name."

Some such modification appears to be necessary in the interest of stability; that now proposed requires minimal change to the Code, appears to conform to the intentions of the Code as it is now written and would prevent unnecessary nomenclatural upheavals, based possibly on some new interpretation or newly discovered pre-starting-point publication, without requiring any action involving the machinery for Nom. Gen. Cons. At the same time it would not in any way impede normal typification procedures nor would it have any effect on normal nomenclatural processes; the sole effect would be to restrict the evidence to be used for typification purposes to that contained in the validating publication in the event of previous typification.

It is also considered that it would contribute to the reduction of uncertainties in connexion with the selection of lectotypes (as well as of some duplication) if some of the clauses (particularly 4e) of the Guide for the determination of Types, were given the status of rules.

References

Haworth, A. 1812. *Synopsis Plantarum Succulentarum:* 37–42. London.

Hunt, D. R. 1979. Orbea back in Orbit, *Cactus & Succulent Journal of Great Britain* 41(1): 10–11.

ICBN. 1978. *International Code of Botanical Nomenclature.* F. A. Stafleu et al., Utrecht.

Jeffrey, C. 1979. Note on the Lectotypification of the names *Cacalia* L., *Matricaria* L. and *Gnaphalium* L. *Taxon* 28(4): 349–351.

Leach, L. C. 1975. The Lectotype Species of *Stapelia* L. and the Reinstatement of *Orbea* Haw. (Asclepiadaceae). *Kirkia* 10(1): 287–291.

Linnaeus, C. 1735. *Systema Naturae.* Leyden.

Stearn, W. T. 1957. *An Introduction to the Species Plantarum and cognate botanical Works of Carl Linnaeus* (Ray Society facsimile of Linnaeus, Species Plantarum, Vol. 1). London.

Proposed by: L. C. Leach, Honorary Botanist, National Herbarium, Salisbury, Zimbabwe.

PROPOSAL ON LECTOPARATYPES

Proposal (123) on lectoparatypes.

Add the following sentence to the end of the footnote on page 76 of the Leningrad Code (Guide for the Determination of Types):

"But if one of the syntypes was chosen as the lectotype, the remaining syntypes will be [must be/may be] designated as lectoparatypes."

In our opinion this will be in accordance with established practice.

Proposed by: I. A. Linczevski, Komarov Botanical Institute, Prof. Popov Street 2, Leningrad P-22, U.S.S.R. and I. A. Gubanov, Moscow State University, Moscow, U.S.S.R.

PROPOSALS TO AMEND ARTICLES 11, 32 AND 34 OF THE CODE

Proposal (124). Change the following parts of Art. 11 to read as follows:

11.1, first line: Each family, genus, species and subspecies with a particular circumscription, position . . .

11.2, first line: For any family or genus, the correct name is the earliest . . .

11.3, first line: For any species or subspecies, the correct name is the combination . . .

11.4: The principle of priority is not mandatory for names of taxa above the rank of family, between the ranks of family and genus, between the ranks of genus and species, or below the rank of subspecies.

Since the principle of priority is embodied in the Code (Principle III), as is the principle that a taxon with a particular circumscription, position, and rank can bear only one correct name (Principle IV), the present proposal may at first appear very radical, and to undermine the Code's aim (Preamble, 1) of stability.

However, the Code now recognizes an important departure from mandatory priority, in that names above the rank of family are excluded from that requirement (Art. 11.4).

Principles should be re-examined from time to time, in the light of their purposes, benefits and costs.

The purpose of priority is supposedly to bring stability to nomenclature. While taxonomy attempts, in some sense, to reflect relationships of which our understanding is improvable, then neither taxonomic systems nor the nomenclature that is bound to them can be stable, and there could be no such thing as an optimal taxonomy even if cladistic knowledge were perfectable, which it is not (Johnson, 1970).

The more fluid the circumscription of groups, the less value attaches to stability of names. The type method, to which priority is bound, in no way ensures that concepts of taxa bearing a particular name will have anything in common except the type element.

Thus the benefit of the type/priority principle depends on the stability of the taxonomic concepts. It depends also on the frequency of usage of the names (and concepts) concerned.

Both stability and usage are undoubtedly highest for the three levels of family, genus and species, and to a somewhat lesser extent, that of subspecies.

It is at these levels that most botanists feel that they should be particularly confident that their classifications and circumscriptions are well based, and it is the names of such taxa that form part of the common currency of botanical communication.

At other levels (higher, intermediate or lower), the content and circumscription of taxa is markedly more fluid, depending particularly on the systems adopted by individual workers. In the past the delimitation and definition of such taxa has inevitably often been arbitrary and artificial. This is because botanists have paid them less attention, and authors were less certain about them, feeling correctly that changes or uncertainties would cause less upset at such levels than for the "big three" of family, genus and species.

Recent authors, trying to assess suprafamilial, infrafamilial and infrageneric relationships more critically, often find that the taxa they recognize have very few constituents in common with those to which the same names were applied by earlier authors. As one example amongst thousands, Johnson and Briggs (1975) in a study of Proteaceae recognized 43 taxa in the ranks of subfamily, tribe and subtribe. Only one of these corresponds in both content and rank with

those of previous authors, and many of them differ very greatly. Topologically, the implied nested systems are grossly unconformable.

Thus there is no point in anyone referring to tribe Knightieae of the Proteaceae, for example, unless the particular system is cited, directly or indirectly. It would, in fact, therefore do no harm, and might even reduce misunderstanding, if that tribe were called by a different name in a different system. We do not advocate that this be done deliberately, but merely point out that "stability" is illusory in such cases. Of course, it is often illusory also for the "big three" categories—our points are that this is less often the case, and that the names of such taxa have a much wider and less technical circle of users.

Recent editions of the Code have recognized these facts in the case of orders and other categories above the rank of family. These are, of course, notoriously bound to the systems of particular authors, and their profitable use *must* generally be accompanied by reference to a particular system. Certainly, the removal of the priority requirement has made it a lot easier for the important work of megataxonomy to proceed, and has not upset many people, if any.

As to the cost, removal of priority restrictions makes it possible to avoid exceedingly time-consuming searches through obscure literature, often of virtually no scientific value, together with the problems of deciding what rank was intended by particular authors for their proposed taxa, and indeed whether the taxa were validly published. Examples of these problems, and of essentially wasted time by highly competent workers in sorting them out, are legion—a prime one is the paper by Sundell (1980). Moreover, the problem of incongruously formed names (e.g. substantives and adjectives, singulars and plurals for sectional names) vanishes, and authors can devise coherent, rational and uniform naming systems for their classifications. The infrageneric nomenclature of the *Eucalyptus* group would be both chaotic and uncertain had Pryor and Johnson (1971) attempted to use pre-existing names rather than setting up a consistent system (with its own ties to the priority of species names) avowedly outside the ICBN. We have not noticed that this system has caused anything but greater convenience and clarity to users, though it may have worried a few conservative editors.

Proposal 124 also removes the names of varieties and lower ranks from the requirements of priority, while retaining subspecies within its operation. An earlier proposal (Raven, 1974) was to treat varietal and subspecific names as equivalent for nomenclatural purposes, referring them all to the category of subspecies, and retaining only 'forma' with little consequence attached to it, amongst the other infraspecific ranks (see also Burtt, 1970).

Most of the above remarks, and particularly those relating to the cost of literature search, to which we may add that of typification and obtaining or seeing types of little scientific consequence, apply to varieties and the like. It is indeed a positive advantage in the Code that an author who recognizes subspecies as the only infraspecific category need not worry about chasing up worthless and obscure names of varieties or forms, but can adopt useful and clearly typified subspecies names. This is so precisely because priority does not apply across a change of rank.

Thus it may seem that it is not necessary to exclude from priority requirements the names of taxa below the rank of subspecies, since authors who wish the Code to be the servant rather than the master of taxonomy can have recourse to recognition of subspecies only. We ourselves see little point in the use of the categories of variety, etc., especially since they have been used so variously and haphazardly. We believe that a reviser, or for that matter a reasonably critical flora-writer or compiler, can make any necessary transfers to subspecies rank for "varieties" that seem to merit it—the supposed burden to synonymy of the necessary "stat. nov." publication is not insupportable.

Nevertheless there are others who wish to recognize varieties etc. and who vigorously defend their use. Therefore we propose that the use of such categories be made less burdensome and more susceptible to rational arrangement by their exclusion also from mandatory priority, in the cause of more efficient scientific taxonomy.

Realizing that some botanists may support the proposal in respect of subdivisions of families and of genera, but be less willing to extend the principle to ranks below subspecies, we put forward a restricted Proposal 125.

Note: In voting, those who favour Proposal 124 should also vote in favour of 125. If 124 is accepted, it will subsume 125, but to vote for 124 and not for 125 would be self-defeating.

Proposal (125). Change the following parts of Art. 11 to read as follows:

11.1, first line: Each family, genus, species and subdivision of a species, with a particular circumscription, position . . .

11.2, first line: For any family or genus, the correct name is the earliest . . .

11.3, first line: For any species or subdivision of a species, the correct name is the combination . . .

11.4: The principle of priority is not mandatory for names of taxa above the rank of family, between those of family and genus, or between those of genus and species.

Note: If one or other of these proposals is accepted, editorial attention will need to be paid to the application of the terms "valid" and "legitimate" in various places. Also needing review, or possibly so, are 16B.1; 19 Note I; 19.4; 19A.1; 21?; 22.2 examples; 22.4; 22.5; 22A.1 (undesirable if proposal adopted, since it may be useful, as in the *Eucalyptus* case cited above, to give different terminations to subgeneric and sectional names); 22A.2 (similarly) and example; 24 (would need note, cf. Art. 16); 26.2 and ex.; 26A.2 (unnecessary and even undesirable under these principles); 26A.3 (similarly); 33.3 ex.; 35.2 second ex. (useless); 38.1?; 39.1?; 40.1?; 53.2 delete ref. to variety; 54 delete (would no longer apply as an article since it depends on the priority requirement); 56.1 (to apply to subspecies only); 56.2 (similarly); 57.1; 60.1; 60A.1 (not necessary under these principles); 60A.2 (similarly, except for subspecies to species); 60A.3 (similarly); 61.1 (delete, not appropriate under these principles); 62.1 (restrict to names subject to priority); 62.2 (similarly); 63.3 (should not apply to names outside priority); 64.1 (similarly); 66 (delete, not appropriate under the principles); 67 (restrict to species and subspecies); 68.2 (subspecific); 75.2 (subspecific).

Proposal (126). Change first line of Art. 32.1 to read:

"In order to be validly published, a name of a family, genus, species or subspecies must (a) be effectively . . ."

Change first line of Art. 34.1 to read:

"A name of a family, genus, species or subspecies is not validly published (a) . . ."

Since the concept of validity is of little importance except in relation to priority, these Articles should be changed in accordance with Proposal 124 (or 125) if that is accepted.

There is a further, more philosophical point. As they stand, names are not validly published "by the mere mention of the subordinate taxa to be included". As has been argued by Johnson and Briggs (1975: 170), circumscription of taxa by diagnosis implies a residual Aristotelian concept inapplicable to phyletic taxonomy. In practice, more and more taxonomists recognize taxa according to some conception of relationship amongst their elements (or their subtaxa) and *not* by a set of character-states. The character-states specified in a diagnosis or description may often be altered without any abandonment of the concept of the taxon in terms of its constituents; or its constituents *and* its character-states may change but the taxon name remains as determined by the type method.

Indeed, it does not matter nomenclaturally if a diagnosis is totally wrong. Under the ICBN all that is needed is a string of words purporting to be a diagnosis together with designation of a type. Now, it may indeed be desirable to provide a useful indication in words of the nature of the organisms one is naming, but it is not essential to the taxonomic method, only to nomenclatural requirements, and then only formally. Moreover, the descriptive method leads even some taxonomists to the wrong notion that inclusion or exclusion of a prospective element depends on its agreement with an existing description.

Partly out of regard for traditional attitudes, and partly because of their usefulness, we do not here propose that the requirement for a diagnosis or description be dropped in respect of families, genera, species or subspecies. For the other categories, the case is different. It is indeed very useful to be able to "define" an order, a series, etc. in terms of its constituent taxa of lower order rather than in terms of a supposedly defining set of character-states. A discussion of the relationships, or even a listing of the constituents, may be far more illuminating than a formal description. Examples can be found in any substantial taxonomic account.

It is doubly appropriate to drop the diagnosis *requirement* (it could still be a recommendation) for categories exempt from priority (as suprafamilial ones are at present). The only purpose of defining validity at all in such cases is to determine whether a name is acceptable *at all* under the Code (and does that really cause anyone any lack of sleep?); it does not determine the "correct" name, because there is no such unique thing.

Note: Acceptance of Proposal 126 may involve editorial changes also to 36.1; 37.1; H.9.1.

References

Burtt, B. L. 1970. Infraspecific categories in flowering plants. *Biol. J. Linn. Soc.* 2: 233–238.

Johnson, L. A. S. 1970. Rainbow's end: the quest for an optimal taxonomy. *Syst. Zool.* 19: 203–239.

————, and B. G. Briggs. 1975. On the Proteaceae—the evolution and classification of a southern family. *Bot. J. Linn. Soc.* 70: 83–182.

Pryor, L. D., and L. A. S. Johnson. 1971. *A Classification of the Eucalypts.* Australian National Univ. Press, Canberra.

Raven, P. H. 1974. Nomenclature proposals to the Leningrad Congress. *Taxon* 23: 828–833.

Sundell, E. 1980. The subfamilial, tribal, and subtribal nomenclature of the Asclepiadaceae. *Taxon* 29: 257–265.

Proposed by: L. A. S. Johnson, B. G. Briggs and D. F. Blaxell, National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, Australia.

A PROPOSED SIMPLIFICATION OF THE ORTHOGRAPHIC SECTION OF THE CODE OF BOTANICAL NOMENCLATURE

Summary

The historical development of the orthographic section of the ICBN is reviewed. This section is considered exceedingly long, complex and sometimes incorrect. Lack of interest from a majority of botanists seems responsible for this situation and even allowed some standardizations (Art. 73.8 and 10) to be introduced in contradiction to the decision of the Paris Congress. It is stressed stronger emphasis on original spelling is the only objective method to stabilize spellings and the deletion of Art. 73.8 and 73.10 is urged. Art. 74 should also be deleted and the spelling of generic names used in the *Species Plantarum* of Linnaeus should be adopted in case of disagreement with the *Genera Plantarum,* ed. V. Other proposed modifications concern the formation of names and the transcription of the letters u/v, i/j where a modification of the original spelling should be limited to works where the typography was incompatible with modern usage.

The orthographic section of the Code has always been a problematic one and often has not been given an adequate amount of attention. Being the last section in the Code, it has often received superficial regard at Congresses (with the exception of the last one, where however not all the problems were solved). Probably through lack of interest on the part of botanists it has undergone an inflationary evolution swelling from two paragraphs in the De Candolle laws to 8 pages in the last edition (1978). This might be viewed as some form of monstrous genetic drift unchecked by natural selection.

The fundamental principle of Art. 73 is that botanists should not be obliged to perpetuate gross errors appearing in the first publication of a name. In De Candolle's original wording the offence was to be clearly directed toward Greek or Latin and the spelling of names of persons:

"Art. 66.—Lorsqu'un nom tiré du grec ou du latin a été mal écrit ou mal construit, ou qu'un nom tiré d'un nom d'homme n'a pas été écrit conformément à l'orthographe réelle du nom, ou qu'une erreur sur le genre grammatical d'un nom a entraîné une désinence vicieuse dans les noms d'espèces ou de modifications d'espèces, chaque botaniste est autorisé à rectifier le nom fautif ou les désinences fautives, à moins qu'il ne s'agisse d'un nom très ancien et passé entièrement dans l'usage sous la forme erronée. On doit user de cette faculté avec réserve, particulièrement si le changement doit porter sur la première syllabe, surtout sur la première lettre du nom.

Quand un nom a été tiré d'une langue vulgaire, il doit subsister tel qu'on l'a fait, même dans le cas où l'orthographe du nom a été mal comprise par l'auteur et donne lieu à des critiques fondées."

In the Vienna and Brussels Codes this was simplified to (Art. 57):

"The original spelling of a name must be retained, except in case of a typographic or orthographic error" (the official version of those codes was still French. In order to make easier the comparison with later editions I shall however use the English version), associated with the Recommendation of reserve which persisted in the Code from De Candolle to the present. No examples of corrections were given.

It is with the Cambridge Rules that what was then Art. 70 started its inflationary growth by the addition of several notes, examples and recommendations. Among those appeared the recommendation to use *i* and *o* as connecting vowels in Latin and Greek respectively and a note *authorizing* correction in this matter. There was no similar note for the termination of latinized personal names and the famous example of *Rosa pissarti* was still corrected to *pissardi*.

It was at Stockholm that Art. 73 reached more or less its present stage. This was largely a consequence of the work of the Editorial Committee which took a number of initiatives, given the confusion in the action of the section. Rec. 82 H (connecting vowels) doubled its volume after a revision by R. E. Latham on the invitation of the Editorial Committee. It is this version that persisted until Leningrad. The suppression in Note 2 of the "which may be corrected" for the use of connecting vowels contrary to Rec. 82 H seemed to imply an obligation to correct. A similar note for the termination of personal names had been accepted but was not incorporated as such and appeared in the Rec. 82 C ("Those who follow this Recommendation may treat the termination -i as an orthographic error and correct it") and in the new examples of orthographic errors, "*Dioscorea lecardi* De Wild. may be corrected to *D. lecardii,* and *Berberis wilsonae* Hemsl. & Wils. may be corrected to *B. wilsoniae* . . .".

This situation was criticized by St. John (1954) who proposed for the Paris Congress the deletion of the liberty to "correct" connecting vowels and personal name terminations (proposal B and D to Art. 82 and D to Rec. 82 C). For the same Congress a Special Committee (Drs. Pichon, Rickett and Sprague) had been appointed to report on orthography and the mail vote referred most orthography proposals to this Committee, while the section decided to accept the Committee's report as a whole. Then something rather incredible happened: the majority of the committee endorsed the St. John proposals [see the Committee report in Taxon 4(7): 167–172, 1955] and the report of decisions taken [Taxon 3(6): 184–190, 1954] dutifully stated the acceptance of these proposals; nevertheless the Paris Code adopts the exactly reverse position and following the minority view of Dr. Sprague states in what is now Art. 73 that "typographic or orthographic errors should be corrected" and in Note 2 and 3 that use of connecting vowels contrary to Rec. 73 G and of terminations contrary to Rec. 73 C are treated as orthographic errors.

That this contradiction between the decisions of a Congress and the published Code went unnoticed clearly shows how little attention is usually given to orthography. The only reaction to this wording of Art. 73 was the proposal by Schulze and Buchheim (1958) to reinstate the authorization instead of the advice ("should"); they unfortunately provided two alternative wordings of their proposal which were presented competitively to the vote, with the result

both were rejected, while an addition of the favourable votes to each wording shows a favourable majority.

The matter was not dealt with at Edinburgh and Seattle and when a major set of proposals to revise Art. 73 was presented by Nicolson for the Leningrad Congress he took for granted an obligation to correct orthographic errors and to treat as such unconformities to Rec. 73 C and G.

During the discussion of those proposals at Leningrad an amendment was moved by Cronquist and McVaugh to make again corrections permissive and not mandatory. Being unaware at the time how the obligation to correct had been illegally introduced into the Code I was opposed to the amendment through conservatism, and because I thought this kind of proposal ought to have been printed prior to the Congress. Having reexamined in detail both the history of Art. 73 and the problem itself I have come to agree we cannot maintain every obligation to "correct" actually in the Code, and consequently introduce the necessary proposals for the next Congress, together with some other modifications to Art. 73.

The historical reasons are clear: the obligation to correct has been introduced illegally and the lack of opposition should be attributed to the lack of interest of taxonomists (this is also clearly apparent in the case of dehyphenation of compounds, a provision introduced at Stockholm which disappeared in the Edinburgh Code apparently through a mistake of the Editorial Committee and was reintroduced de novo at Leningrad). In any case a number of current floras (including *Flora Europaea*) do not show consistency in applying corrections and some authors openly refuse to correct. The fundamental question is however, is it desirable or not to modify the original spelling of some names?

A total respect of original orthography would be very convenient in providing the single taxonomic concept, single name, single spelling that seems wanted by a number of botanists. It could however lead to some absurd situations. Nobody cares about *Lespedeza* because few people know about Céspedes, but suppose *Linnaea* had been printed *Binnaea*? Would anybody maintain *Achillea crtica* L., Sp. Pl.: 899, instead of *A. cretica*? In that kind of situation even if forbidden by the Code, corrections would inevitably appear. At the generic level it is true conservation can take care of such cases; at the specific level, however, as long as *nomina specifica conservanda* are not admitted, the existence of cases that cannot remain uncorrected must be taken into consideration. Those cases are primarily:

1) Indisputable grammatical mistakes like an adjectival epithet failing to agree with the generic name (nobody would maintain a *Brassica niger*) or an incorrect genitive form (*Puccinia gramini* instead of *graminis*).
2) Spelling of words that are obviously erroneous for they do not conform to previous uses or are not composed arbitrarily as authorized by Art. 23. (There is some contradiction between the recommendation to correct orthography in Art. 73 and the authorization to compose epithets arbitrarily in Art. 23. My interpretation of Art. 23 is that one does not "compose" an epithet with a slip of the pen. The arbitrary composition must refer to obviously intentional compositions like anagrams.)

In those cases of blatant errors it seems there is no other way than to authorize correction and I even would say that the Code should encourage it, or at least take for granted this will occur. This principle of correction of true errors has always been in the Botanical Code and is the only one existing in the Zoological (Stoll et al., 1964) and Bacteriological (Lapage et al., 1975) Codes.

A matter very different from orthographic correctness is that of standardization. It is the problem of connecting vowels (or compounding forms in the terminology adopted at Leningrad) and terminations of personal names. It must be emphasized that many names not conforming to Rec. 73 C and G are philologically perfectly correct and are unfairly stigmatized as wrong by the Code. This has recently been underlined again by Salisbury (1976) who however misdirects his accusations against Nicolson and Brooks, instead of against former editions of the Code.

In the case of Rec. 73 C the recommended practice is quite unusual in classical Latin: names

in *-ius* are usually adjectives and when they are substantivated the genitive is usually contracted in *-i* (*Vergilius, Vergili* more often than *Vergilii, Pompeius, Pompei* never *Pompeii* despite the fact the corresponding adjective used by Caesar is *pompeianus* not *pompeanus* as we would believe from Rec. 73 C). Latinization in *-ius* (see Nicolson 1974a for an excellent treatment of Latin and latinized personal names) is not however incorrect, and *Forum Julii* parallels the more classical *Forum Julium* (now Fréjus in Southern France) as an example of the substantival use of a *gens* name. That this was frequent in the 18th century is also certain but it was far from general (for example of 41 botanists cited by Linnaeus in the genitive in "*usitatiores*" at the beginning of the *Species Plantarum,* only 16 have the additional *i*). There certainly was no more reason to impose formation of genitives in *ii* like the Botanical Code does than in *i* as in the Zoological one, before it adopted the more sensible position of regard for the original author's choice.

For Rec. 73 G the main body certainly conforms to classical use but is nonetheless much more restrictive. Not all Greek compounds were in *o,* several were in η (θανατηφόρος, νικηφόρος, ἀσπιδηφόρος) and even α (πολιανόμος). In Latin alsi, *i* is not general, though with fewer genuine exceptions (*manupretium*), but a spread of *o* forms (*aenobarbus, merobibus*) arising through analogy with compounds borrowed from Greek like *philosophus, hippodromus* (Buck, 1933, p. 357). (To this category must most probably belong *atropurpureus*. The explanation given in the Code, i.e. a reduction of *purpureus cum atro,* seems extremely far fetched.) More importantly pseudocompounds, as they are called in the Code, (compounds where the first part is a case form like *salviaefolius*) are perfectly legitimate and the anathema launched on them by the Code would have amused Greeks who spoke of Διόσκουροι and Ελλήσποντος and Latins who spoke of *aquaeductus* and *senatusconsultum*. As suggested by Salisbury (1976) it is also possible for several *i* compounds to be pseudocompounds like in *argentifodina,* sometimes written in two words. In *Melilotus* (classical: *melilotos*), derived from the Greek, the i is not a connecting vowel but the nominative case ending of μέλι (honey).

That there is no philological ground to impose to "correct" epithets according to Rec. 73 C and G will be evident to anybody familiar with classical languages. What the Code would make us do is choose among several equally correct variants (when it is not followed to the point of making real orthographic errors, like "correcting" *aquaeductus* into *aquiductus*). The idea to *a posteriori* standardize orthography is welcomed by those who would like to be relieved of frequent consultation of original publications. That this is a false hope as I will show later, has probably been realized by the majority of botanists who have usually refused other proposals for standardization. I have the impression that it is only because they were induced to believe names contrary to Rec. 73 C and G were grammatically more or less incorrect that several people tolerated this exception in respect of original spelling. How is it possible otherwise to reject standardization of epithets like *chinensis/sinensis* and, even more, *silvestris/sylvestris*?

Such proposals have however been rejected at all Congresses, except Stockholm where the preliminary vote had been in favour of a list of standardized epithets (proposal 1 to Rec. XLII by Van Dijk), however the decision of the Congress was confused and the matter was referred to the Editorial Committee. It seems that the latter attempted a compromise between advocates of retention of original spelling and those of standardized spelling, which is the present situation of standardization restricted to connecting vowels and personal name terminations. This was probably made palatable to partisans of original spelling on the basis that there was some orthographic reason to correct. I believe this hybrid situation is illogical and that taxonomists should clearly choose between retention of original spelling (eventually correcting only gross and genuine errors) and standardization of most orthographic variants. The first method reduces subjectivity, the second is more convenient for memorisation in so far as there is agreement on what and how to standardize. Before drawing final conclusions on the feasibility of standardization I will discuss in detail the orthographic sections of the Code which should be improved. This will illustrate some of the problems raised by Art. 73.8 and 73.10.

The Alphabet

The *i/j, u/v* problem has been well exposed by Nicolson (1974b). The proposals he made to deal with it and which were accepted at Leningrad, however, are not fully satisfactory. These

consist in retaining original spelling except for *v* used as a vowel before 1800 and in the case of alternative typographies in the original publication, where one should arbitrarily choose the one with *i* or *u* before a consonant or a semi-vowel and *j* or *v* before a vowel.

The first part of Art. 73.5 does not tell us any more than older versions of the Code as to how one can recognize that *v* is a vowel and the date 1800 is not satisfactory, inasmuch as the use of typographic standards different from ours persisted until later; further, the second part is too arbitrary.

Examples of unacceptable results that would come from the application of this Article are the names used in the *Synopsis fungorum* of Persoon (1801), the starting point book for Gasteromycetes, rusts and smuts, where the typography ignores *j* and uses *v* only in capitals and at the beginning of a word. If the new rules were applied the extremely important name in plant pathology *Uredo* would, unless conserved, have to be written *Vredo* which I believe nobody will do. Even in case of alternative typographies a name like *Geastrum quadrifidum* (p. 133) would have to be written *qvadrifidum*.

I believe no limiting date should be put to provisions concerning *i/j u/v* alternatives. The question is whether a book used typographical conventions different from ours or not. This is easily decided by consulting the book, and the date is irrelevant.

The mistake made when the *u/v i/j* problem was introduced in the Montreal Code, following a proposal by Rickett (1955), was not to restrict those provisions to books with a typography different from ours. Instead, by stating that "*j*" and "*v*" must be changed to "*i*" and "*u*" respectively when they represent vowels, while the reverse change must be made when consonants are required, the door was open to any kind of *a posteriori* standardizations on a quite subjective basis. How difficult it is to decide if *i* and *u* are vowels or consonants is illustrated by the fact Rickett (1955) considered his proposal should lead to write *Satureia* while Macé (1911) states that *i* is a consonant when in between two vowels. A first point is to admit that when in the printing of non-botanical words no anomalies appear in the use of *u/v, i/j,* unless the case for an inadvertent mistake can be proven, there is no reason to change an original spelling because one believes the author should have used a vowel or not. To act otherwise leads to the kind of absurdity made when *Lefebvrea* is corrected in *Lefeburea* (Sprague, 1929). When a transcription is necessary, the rule must be as objective as possible and not left to a decision of what is a vowel, a question to which persons from different linguistic backgrounds will give different answers. Beside a general rule, the existence of exceptions must be duly accounted for, were it only for the fact that botanical Latin includes words derived from various languages for which the use of *j* and *v* might be different from that possible with classical Latin words. The classical example of *uoluit* which, without the use of *v* stands both for *volvit* (from *volvo*) and *voluit* (from *volo*) also shows no totally automatic rule can be defined. Such ambiguous cases are fortunately rare and had little troubled botanists before the Montreal Code created the problem of deciding when *i* or *u* are vowels.

For the letters *u/v* it is not possible to adopt the rule presently included in Art. 73.5 (use v before a vowel). This is incompatible with words like *suus, cernuus* or *quadrifidus*. To use *u* before a consonant would probably lead to less absurdity but still may represent an unnecessary modification of the original author's concept. An example where *v* can be a good consonant before another one is *Nevropteris*. In French, words derived from *νεῦρον* have been written either *neur-* or *névr-*. The two spellings answer very different pronounciations but both were in use during the 19th century. Nowadays use is stabilized but differently according to the words (*neurone* but *névralgie*). (The sound *vr* seems nonexistent in English. Harrap's standard French/English dictionary does not list a single English word starting in *vr* but 23 French ones (*vrai, vrilles* . . .). In other languages like Russian it is even more common (врéмя and over 50 similar names). *Lefebvrea* A. Rich. precedently cited, is an example of generic name based on a common French family name where the b is mute and which has sometimes been erroneously corrected in *Lefeburea* (Sprague, 1929).)

The letter *j* is less troublesome than *v* for it was probably never used in situations incompatible with a semi-vowel or consonant and the typography used by Linnaeus in the *Species Plantarum* is a good model of what has been current botanical Latin practice. Linnaeus (or his printer) was very consistent in his typography and it is evident that he used *u* and *v* in the modern sense (they are separately listed in the index of the *Species Plantarum* and occasional

cases like *Gvajacum* in the index are obviously inadvertent (in the whole *Index Generum* it is the only aberrant use of *u/v, i/j*; this is a frequency to be expected for typographical mistakes)) and considered *i* and *j* as different forms of the same letter (they are joined in the index) using *j* before a vowel at the beginning of a word and between two vowels. This is a case parallel to the two forms of *s*, our modern *s* then being only used at the end of a word. The single exception I have found is *iisdem* and some compound words (*adjeci*). This may let us suppose that some phonetic difference was already meant and that some exceptions must be accepted (also for names derived from other languages like Ionia or Iowa).

Finally the notion of alternative spellings in the original publication introduced in the Leningrad Code should be abandoned, for I believe in the Botanical Code only the spelling accompanying the description is binding. Furthermore a choice in orthography should not depend on the random factor of whether a name is cited more than once in an original publication that may be a short paper or a lengthy book. In books which ignore the *u/v, i/j* distinction, alternative spellings would generally occur because different letters are used in capitals and lower case. To have this factor play a role in our nomenclature does not make much sense.

Proposal (127). Replace Art. 73.5 with the following:

"When a name or epithet has been published in a work where the letters *u, v, i, j* are used interchangeably or in any other way incompatible with modern practices (one of those letters is not used or only in capitals), those letters should be transcribed in conformity to modern usage."

I would like to present separately the following guidelines in order that, if a voter disagrees with them, he still could vote for the general principle and leave to the Editorial Committee or the next Congress the task to define such guidelines. He may also consider that these are unnecessary and the matter can be left to common sense.

Proposal (128). Add the following after Art. 73.5:

"In most cases, this implies to only use *v* and *j* when placed between vowels and at the beginning of a word (or a part of a compound, ex. *Benjaminus*) when followed by a vowel (*Satureja, Jujuba, Jalappa, Evax, evolutus, Vulpia, Iberis, Iria, Jonquilla, Uredo, citrinus, cernuus, quadrifidus*). Exceptions can occur with names adopted in Latin from another language, including Greek (*Ionia, Iowensis, Svensonia, Lefebvrea*) and with *v* at the beginning of a syllable (*Minerva, servus, Salvia, arvensis*), the letter group—*qui*—(*reliquiae, quietus*) and in very few other cases (*iisdem*).

"Examples: *Geastrvm coronatvm* Pers., Syn. Fung., 132 (1801), *Vredo,* ibid., 214, *Pvccinia ivniperi,* ibid., 228 should be written respectively *Geastrum coronatum, Uredo, Puccinia juniperi. Bromus iaponicus* Thunberg, Fl. Jap., 52 (1784) should be written *Bromus japonicus.*

"While Linnaeus' *Species Plantarum* uses *i* and *j* in a way that is not entirely modern (there are considered two forms of the same letter joined in the index) this use is not incompatible with current practice (for example *Satureja juliana* L., Sp. Pl. II, 567) and should not be modified."

Rec. 73 B

As elsewhere in the Code a special provision for names in *-er* (*Kernera*) is unjustified. *Sesleria* is a better example to follow than *Kernera*. Furthermore, taken literally the actual wording implies that *Dillenia* is a contraction of *Dilleniia*. The following proposed wording is more straightforward and also covers Latin names which were left out of this Recommendation.

Proposal (129). Replace Rec. 73B.1(b) with:

"When the name of the person ends in a consonant the letters *ia* are added. In Latin or latinized names ending in *-us*, this termination is dropped and the name formed according to Rec. 73B.1(a) when *-us* followed a vowel and by adding *-ia* when it followed a consonant (*Linnaea* after *Linnaeus, Dillenia* after *Dillenius, Bauhinia* after *Bauhinus*; *Theophrasta* L. after *Theophrastus* is not an example to follow but should not be corrected)."

As a recommendation I have not many objections against this. They are however two points which need amending.

One is the *Verbena hasslerana*-question. Nicolson (1974a) had well demonstrated that this rule not to form adjectives in *-ianus* after *er* was misplaced in the Code and that it had been almost unanimously ignored. His proposed modification of Rec. 73 C which included the necessary change concerning the *-eranus* ending had received a heavy support (182 yes, 26 no) in the mail vote. In Leningrad an amendment was unfortunately passed to reestablish those *-eranus* endings. The justification was that this provision had recently been applied in some institutions. I do not believe a recommendation which has remained ignored for sixty years and which has been illegally turned into a rule in the nineteen fifties without being anymore observed until the last ten years is something which can be retained, for the pure sake of the stability of the Code. The problem should thus be examined again and botanists who have not the opportunity to take part in nomenclature sessions be given a chance to express again their wish, through a mail vote that hopefully, this time, should be binding.

If it is bizarre that the Botanical Code recommends genitives in *i* only for the names in *-er*, there is nothing shocking in it. To recommend genitives in *i* for every substantival epithet derived from the name of a person and at the same time *-ianus* endings for the corresponding adjective as the Zoological Code does (Rec. 31 A, Appendix D, 16), is in fact the ideal situation, both simple and in perfect agreement with classical Latin (*Pompeius*, gen. *Pompei*, adj. *pompeianus*; *Vergilius*, gen. *Vergili*, adj. *vergilianus*; *Catullus*, gen. *Catulli*, adj. *catullianus*). If *-eri* genitives are acceptable, *-eranus* terminations are however unusual in Latin and phonetically undesirable. It is true it exists in Latin the adjective *veteranus*. Nonetheless most adjectives in *er* are in *-ianus* (*Numerianus, Severianus, Tiberianus, Valerianus*) and *-inus* (*puerinus*), the most usual form. Further *-ianus* terminations seem preferred for adjectives derived from names of persons (*Tiberianus* from Tiberius and *Tiberinus* from the river Tiber). *-anus* terminations are more adequate in geographical adjectives (*africanus, romanus*). If *veteranus* represents a rare case it is however unproblematic in its pronounciation: *te* is an open syllable which can be separated from the *r* (*ve-te-ra-nus, vétéran* in French). On the contrary in the germanic termination *er* which occurs in most of the names which gave epithets like *hasslerianus, hookerianus, englerianus,* the mute *e* is necessarily linked to *r* (in Hooker, ker is a closed syllable). Since in Latin an intervocalic consonant forms a syllable with the following vowel (Kent, 1932; Allen, 1978), one should pronounce *hoo-ke-ra-nus,* with the *e* pronounced like the French é, as in *veteranus*. In this way the name of Hooker is impossible to recognise. That the accent should be placed in the penultimate syllable makes things even worse.

It is for this reason that past botanists who knew Latin better than we do always used a *-ianus* termination: in this case *i* acts as a semivowel and relieves the need to link *r* to the end of the word. Another solution would have been to redouble the *r,* a barbarism that fortunately never appeared in print but is sometimes heard in the mouth of those trying to cope with "corrected" *hassleranus* and the like.

The advice to use *-eranus* terminations is thus a mistake which crept into the Code. It was simply ignored by botanists, except for an occasional protest like that of Danser (1935), and it is unfortunate that in a time of decline of fluency in Latin it was put recently in practice. It is, however, not too late to return to common sense and delete this provision from our Code.

Proposal (130). In Rec. 73C.1(b) and (d):

Reestablish the wording approved by the mail vote (186:26) before Leningrad and modified by an amendment from the floor (i.e., delete special provisions for names in *er*: recommend *Ranunculus sprunerianus* not *spruneranus*).

The other problem is Rec. 73 C.2 stating that if a personal name is already in Greek or Latin the appropriate Latin genitive should be used. This is inescapable but introduces a number of uncertainties. First, one sometimes forgets that a name is already Latin and in the zeal to apply what I considered the rule I "corrected" even myself (1969) *Phallus hadriani* Vent. per Pers. into *P. hadrianii,* philologically an absurdity. If that kind of case represent involuntary mistakes

there is however one category for which great uncertainties exist. This is the case of authors frequently cited in Latin. One is instructed by the Code that *Linnaeus* makes *Linnaei* in the genitive and *Martius Martii,* one can then conclude that *Magnus* would be *Magni* and not *Magnusii* (a famous example that was conveniently dropped from the Code). One can argue that those names already in Latin include Scandinavian and Germanic names which were officially Latin. But what does one do with people like Bauhin/*Bauhinus*? To botanists writing in Latin he was universally known as *Bauhinus*; must we investigate parish records to know if he officially was called Bauhin and, if true, change *Hieracium bauhini* Schultes ex Besser into *bauhinii*? This is equivalent to deciding that *Bauhinus* is now *Bauhinius*. If one goes further in this direction there is no reason why Bergzabern should not cease to be *Tabernaemontanus* and become *Bergzabernius*.

Admitting it would be evident that for *Bauhinus*/Bauhin the situation is the reverse of that for *Linnaeus*/von Linné and the benefit of being already Latin is refused to *Bauhinus,* like Nicolson (1974a) and Leach (1979), I nonetheless consider that Art. 73.7, prescribing to respect intentional latinization protects forms like *Hieracium bauhini*. Once the latinized name of an author is universally established to use that form and decline it correctly is the firm intention of any sane author.

One could further argue like Leach (1979) that Art. 73.10 prescribes only to correct wrong terminations. Unfortunately the example to change the grammatically perfectly correct *Rosa pissardi* into *pissardii* shows that there are persons including the editors of the Paris Code who added this tranformation to *Rosa pissarti* for whom "wrong" means not in total agreement with Rec. 73 C.1.

A clarification of the status of names with well established latinization is thus necessary. Prop. 40 of Leach is certainly to be supported but will not solve completely the problem.

This problem not only concerns surnames but also forenames, since even when non-Latin in origin, most European forenames rapidly acquired a latinized form during the Middle Ages. Furthermore Latin names have evolved in different forms in different languages. It seems logical to use the appropriate Latin genitive for names like Albert, Arthur, Ernest (*Alberti, Arthuri, Ernesti*) and various derivations from a same Latin name *Alexandri* for Alexander (Latin, English) or Alexandre (French), *Beatricis* from Beatrix (Latin, English) or Béatrice (French, also used in English without the accent). *Francisci* is also the logical form for Francis (English, not *Francisii*), François (French, not *Françoisii*), Franz (German, not *Franzii*), Frans (Dutch, not *Fransii*). To write *Alexandrei* or *Beatriceae* for names derived from the French is rather ridiculous and "correct" *Rosa alberti* Regel to *R. albertii* is as shocking as *Hieracium bauhinii*. One is consequently obliged to recommend appropriate genitives not only for names which are already in Latin but also for those which already have a well established latinization. Many cases however exist of names for which the link between the forename and its Latin form is not evident and if it is recommendable to use the appropriate latinization authors should be left free to latinize forenames as they wish (cf. Art. 73.7).

The biggest problem with Rec. 73 C remains to decide if a name is already Latin. Is *Abutilon theophrasti* Medic. named in honour of the Greek philosopher, in which case it should not be altered (I hope nobody would dream of *A. theophrastosii*) or of a Frenchman with the forename Théophraste, in which case the present Code would oblige us to "correct" into *A. theophrastei*? At Stockholm it was argued that Magnus was to be considered a German name to be latinized into *Magnusius*; in lack of an agreement the example disappeared from the Code. If one however holds that Magnus gives *Magnusius* why not Linnaeus, *Linnaeusius*? Or should a distinction be made between Latin names adopted for a surname which then ceased to be Latin and latinized names in the same situation which are the only one to be considered Latin? Absurd isn't it? The only way out is of course to accept the original spelling and consider that one is free to make *magni* or *magnusii*. The most elegant solution is the deletion of Art. 73.10 (*a posteriori* "correction" of terminations). If this is nonetheless maintained it should be emphasized that Art. 73.7 and Rec. 73 C.2 restrict the application of this rule.

The following proposal should, in any case, be made concerning Rec. 73C.2:

Proposal (131). In Rec. 73C.2, start with:

"Personal names already in Greek or Latin or possessing a well established latinized form . . ."

Add to the examples "*alberti* from Albert, *alexandri* from Alexander and Alexandre, *beatricis* from Beatrix or Béatrice, *bauhini* from Bauhinus, the universal latinization of Bauhin."

Rec. 73G

Even as a recommendation this is unsatisfactory, being too complex and at the same time in need of some philological correction. A first problem is that of the stem notion. In the wording adopted at Leningrad, the word "stem" is used with a very definite meaning which is excellent philologically but unfortunately will probably not be understood by most botanists who are used to a looser concept. The stem concept used in Latin by the authors of the proposal Nicolson and Brooks (1974) is an abstract etymological one which is certainly useful for comparative linguistic studies but which cannot be used by botanists without reference to the original paper. This concept is quite different from the one most people will hold (the word less the case ending) and which they will find in the book they are most likely to refer in case of problems with botanical Latin: Stearn (1973, p. 60–61) as well as in works like that of Zabinkova (1968).

Stearn's concept is what Nicolson and Brooks call "operating base". Discrepancy in definition of stem comes from the fact that "Au point de vue latin, on ne peut plus parler de thèmes en -i, en -u etc.: dans une flexion comme celle de *senatus, senatum, senatus,* la langue n'isolait plus un thème et une désinence; . . ." (Meillet, 1937, repr. 1964, p. 433; *thème* is the French word for stem in the sense of Nicolson and Brooks, unlike the English "stem" it is always used with that restricted meaning). Etymologists followed by Nicolson and Brooks have nonetheless classified Latin words in stem categories corresponding to hypothetical Indo-European ancestral forms, but these cannot be directly determined, hence the necessity of a key like that presented by Nicolson and Brooks p. 167.

Due to the ambiguity in stem definition, in cases like *Magnolia* and *Lilium* one will consider them as *i* stems following Stearn, but respectively *a* and *o* stems following Nicolson and Brooks. If one follows Rec. 73.G as reworded, with the idea of *Magnoli-* and *Lili-* stems one will form *magnoliflorus* and *liliflorus*. This would not be bad Latin but it is not what the Code prescribes. In fact it would be more classical than the prescribed compounding; ii was usually contracted in Latin: *gallicus* is the adjective derived from both *Gallus* (cock) and *Gallia* (Gaul) while our Code would prescribe *Galliicus* for the latter case. Of course since *Magnoliiflorus* and *liliiflorus* are cited examples this probably would not happen, but in other cases a confusion is quite possible. The case of *i* stems is also unsatisfactory since the conjunction of Art. 73 and 18 would presently lead to "*Vitiaceae*", the mention that Latin *i* disappears being left out in the new Code.

One way out is for the Code to include a clear explanation of the stem concept accepted, for example by including Nicolson and Brooks' key if their concept is maintained. I do not however believe the reference to stems is necessary for botanical nomenclature, which can do with a word like "radical" as used in the French wording of Art. 18. This is not so precise (it can cover the stem concept of Nicolson and Brooks or that of Stearn) but cannot be erroneously interpreted. This is the same kind of terminological change as the one adopted at Leningrad (proposal of Zabinkova and Kaden distributed at the Congress) where the specialized linguistic term "suffix" was replaced by "termination." Grammarians will certainly not object to the fact botanists do not try to handle the subtleties of stems, for even in the standard grammar of Landgraf-Waltzing (1961 ed., p. 11), one will find after the definition of stem ("thème"), made up of the root ("racine") and of one or several suffixes, and that of desinence (the final element indicating case etc.) the advise: "Le contact entre les différents éléments entraîne souvent des modifications telles qu'on ne peut plus les dissocier avec netteté. Il est alors préférable de parler simplement de radical et de finale". One may note that the word "stem" also creates problems in the Zoological Code (Stoll et al. 1964): it is used in the sense of Stearn in the Code itself and in that of Nicolson and Brooks in the appendix giving advice on compounding (cf. glossary). That this appendix to the Zoological Code is fourteen pages long, shows the intricacies of dealing with stems in the restricted grammatical meaning!

Another drawback of the stem concept is the problem of words with a nominative very distinct from the genitive like σῶμα, σώματος; πούς, ποδός; μέλι, μέλιτος; *pes, pedis*; *lapis, lapidis; bos, bovis*; *corpus, corporis*; *iter, itineris*. Some authors will consider those names to have two stems, a short nominative and a long genitive one, while others would only speak of a single stem to be determined from the genitive. For compounding the important thing is that if the genitive stem is the most frequently used, the nominative one also occurs (Ex. σωμασκία (physical training), σωματοειδής (body like); μελίλωτος (Melilotus) and μελίτειον (hydromel), *lapicida* and *lapidarius* (both stone cutter); *iterduca* (guide in travel, surname of Juno) and *itinerarium* (itinerary).

A similar case is mentioned in Art. 75 with *heteropus* and *heteropodus* which are considered orthographic variants. This fact seems accounted for in the beginning of Rec. 73 G when it is stated that in a true compound a name appears as *a* stem. Unfortunately guidelines developed by Nicolson and Brooks lead to the determination of a single stem by name and this is also implied by Art. 18. In this context, the replacement of "connecting vowel" by "compounding form" in Art. 73 is dangerous, for one may believe that using the short nominative stem is an erroneous compounding form to be corrected (change *iterduca* to *itineriduca*). That kind of "correction" seems to be the rule for family names, but should certainly not be extended to epithets. Most authors automatically correct the original spelling *Sclerodermaceae* Corda into *Sclerodermataceae* and the example of changing *Atherospermeae* R. Br. into *Atherospermataceae* was recently added to Art. 18.4. If one can then conclude (but this ought to be explicited as in the Zoological Code Art. 29) that for forming family names the stem as appearing in the genitive should be used, a problem still exists with names presenting various genitives. A good example is *cucumis* which in classical Latin had as genitive either *cucumis* or *cucumeris*. If *Helianthus cucumerifolius* T. and G. and *Cucurbitella cucumifolia* Cogn. are as correct, had *Cucumis* been the type genus of a family should this be the *Cucumaceae* or the *Cucumeraceae*? *Batis* is a less theoretical example. Good dictionaries will list it with the two genitives *batis* and *batidis* as for *Iris* or *Agrostis* but Zabinkova (1968) only cites *batidis*, while the Subcommittee for Family Names in charge at the time of the Montreal congress has in the editing of the Code changed the family name *Batidaceae* proposed for conservation into *Bataceae*. Similar divergences between Bullock's (1959) proposals and the published Code appeared for *Cannabiaceae* changed into *Cannabaceae*, *Capparidaceae* into *Capparaceae*. Crosswhite and Iltis (1966) urged to change those spellings into the more familiar ones *Batidaceae*, *Cannabinaceae*, *Capparidaceae* to which they added *Halorhagidaceae* instead of *Haloragaceae* (proposed as such). Despite an heavy support in the mail vote their proposal was defeated at Seattle following a virulent defense of its positions by the Family Names Subcommittee. If this defense did convince the Congress (Regn. Veg. 81: 119–120, 1972) it is, however, uncorrect. It resumes to the statement that a family name is to be derived from the stem of a generic name and that the committee has always been correct in defining that stem. One must admit some names have different stems, as stressed by Crosswhite and Iltis (1966) and Zabinkova (1968). In such cases respect of the original authors choice is the only possibility or, if necessary, conservation of a particular orthography (Art. 14.8) should be used. It is especially paradoxical that this wording involving the stem of a generic name was introduced at Paris to protect names in current use like *Melastomataceae* and *Haloragidaceae* (Taxon IV(7): 172, 1955) and was then applied to get back to *Haloragaceae*.

In their proposal, however, Crosswhite and Iltis should not have lumped the four controversial names in *-is*. For *Batis* it is evident *Bataceae* is erroneous, *Batidis* is a perfectly classical genitive and the one accepted by Zabinkova; it answers use from the creation of the family name onward. For *Cannabis* and *Capparis* classical genitives were certainly *Cannabis* and *Capparis*. As for *Orchis*, an irregular genitive *Capparidis* has developed in botanical Latin. For *Cannabis*, Crosswhite and Iltis cannot be followed. Endlicher used the normal genitive *Cannabis* (Enchiridion Bot., 1841, p. 172: "*Cannabis sativae*"), and not *Cannabinis*. If he formed *Cannabineae* (Gen. Pl. 286, 1837) it was simply because at that time, usage of terminations was not yet codified and *Cannabineae* which now would be a subtribe name is parallel to *Salicineae* (ibid., p. 290) etc. Anybody who would like to use a spelling different from *Cannabaceae* should present it for conservation.

For *Haloragis* the original orthography was *Halorageae* and the form *Haloragidaceae* which

Zabinkova (1968) finds philologically more correct imposed itself at the end of the last century (eventually in the form *Halorrhagidaceae*).

Difficulties in determining a stem for names in *-is* was already at the origin of a proposal by Airy Shaw and Deighton (1963) to automatically treat them as having a genitive in *-idis*. This was too radical (*Vitidaceae*!) and was rejected at Edinburgh. The best thing is in my opinion to acknowledge that botanical Latin is entitled to some departures from classical Latin just as Latin of Cicero is not that of the end of the empire and in agreement with Art. 73.3 advise caution in "correcting" family names derived from names in *-is*.

This should be best obtained if Art. 18 drew attention to the fact different genitives may exist for a single name, in which case the choice of the original author is to be respected. Further it should rule that names in *-is*, even if not present in classical Latin, are considered to have an alternative genitive in *-idis*. In this way, endless philological discussions will be stopped and the main aim of Airy Shaw and Deighton proposal will be fulfilled without imposing *Vitidaceae*. The case of *Cannabinaceae* and *Haloragidaceae* should be treated by conservation.

As far as compounding is concerned it is of course necessary to preserve existing forms based on stems different from the official genitive one. Salisbury (1976) gives excellent examples with *corticolus* (not to be corrected to *corticicolus*) and compounds in myco- (mycology) not to be corrected to myceto- (mycetology) like in *Dactylaria mycophila* Tubaki and hosts of similar names.

I will not burden this discussion with minor corrections in the text of Rec. 73 G but, as noted by Salisbury (1976), § 73 G.1 (c) which provides the inevitable escape to absurd "corrections" is inadequately written, the stems used in this case being not at all specific of compounds.

I make three proposals to deal with the problems of stems/compounding forms:

Proposal (132). In Art. 18 and everywhere in the Code replace "stem" by "radical."

Proposal (133). Replace Art. 18.1 as follows:

"The name of a family is a plural adjective used as a substantive; it is formed by adding the termination *-aceae* to the radical appearing in the genitive of a legitimate name of an included genus (see also Art. 10). (For the treatment of final vowels of radicals in composition, see Rec. 73 G). In case alternative genitives exist for a name the one used by the original author must be maintained.

Botanical names in *-is* with a genitive similar to the nominative are also considered to have an alternative genitive in *-idis*. Ex. *Orchidaceae* is not to be altered to *Orchaceae* despite the fact the genitive *Orchis* is more classical.

Add to the examples: *Berberidaceae* (from *Berberis*), *Sclerodermataceae* (from *Scleroderma*), *Rhodophyllaceae* (an illegitimate name, from *Rhodophyllus*), *Rhodophyllidaceae* (from *Rhodophyllis*).

Note. One should beware of the existence, beside feminine names in *-a,* genitive *-ae,* of neuter names in *-a* of Greek origin with the genitive in *-atis*. Similarly, names ending in *-on* are derived from Greek terminations in *-ον* or *-ων*. Names in *-ον* have a genitive in *-ou* latinized in *-i* those in *-ων* in *-ονος* latinized *-onis* hence *Aextoxicaceae* (*Aextoxicon* from *τοξικον*, *-ου*) and *Aponogetonaceae* (*Aponogeton* from *γειτων*, *-ονος*). Cf. also dendrology and demonology."

In application of new Art. 18.1 change in the list of conserved family names: *Bataceae* to *Batidaceae* ("*Batideae*") and *Capparaceae* to *Capparidaceae* ("*Capparides*").

Proposal (134). Replace Rec. 73G with:

"When forming a new compound, a name or adjective in non-final position should appear as a radical without case ending. The final vowel of this radical, if any, normally falls before a vowel, with the exception of Greek *y* and *i*. Before a consonant *i* in Latin and *o* in Greek is added, or used in place of the final vowel. A general rule cannot, however, be established for *y, i, e, au, eu, ou* in Greek.

In case of choice for a new taxon of an epithet for which orthographic variants exist, the one conforming to those rules should be selected.

Examples: Latin *Chrys-anthemum, mult-angulus, multi-color, menthi-folius, salvii-folius, cruci-formis, cordi-folius.*

Greek: *Hemero-callis, Leonto-podium, Acantho-panax, Limno-charis, Cyclo-surus, Ophio-glossum.*

Other ways of forming compounds as a use of *e* instead of *o* in Greek (*Corynephorus*) or *o* instead of *i* in Latin (*aenobarbus, Gallograecia, atropurpureus*) or the use of a case ending (*Myos-otis* (gen.) *Pelopon-nesus* (gen. with assimilation of s into n), *albo-marginatus* (ablative), *cannae-folius* (genitive)) should be avoided for creating a new compound but must be respected in pre-existing ones. It should also be noted that compounds where the first part is a verb form, an adverb or a preposition (usual prefixes like *syn-, epi-, hypo-, dis-, eu-, para-, ob-, de-, e-, pro-, sub-* as well as adverbs standing on their own like *chamae*) can also be formed and are not covered by this recommendation."

One will note that this Recommendation is devised for the formation of new epithets, not for the correction of existing ones. It is true that some compounds may be orthographically incorrect and to be corrected; it is however not the role of the Code to be a Latin grammar and dictionary nor to instruct us on this matter any more than in Latin declensions or the like. The complexity of compounding rules is such that it is hopeless to expect a stabilized standardization in this matter. Zoologists have well understood this, their Code clearly stating (Art. 32 a ii) that inappropriate connecting vowels are not to be considered inadvertent errors to be corrected, while the advice for formation of new compounds is fourteen pages long. I would consider such precisions unnecessary unless the obligation to standardize is maintained in which case very complete and accurate rules with listing of established exceptions will be desirable.

Art. 74

This Article, fixing the choice of the spelling of a Linnean generic name when this differs between the *Species* and *Genera Plantarum,* was adopted without discussion at Cambridge, where more important issues occupied the attention of the Congress and it seems to have never been discussed since that time, except by Baum (1968). When one looks carefully at this article, one cannot but be convinced this has no place in the Code. A first objection to Art. 74 is that this whole Article only concerns 41 names according to Stearn's (in Heller and Stearn, 1959) index. Worst the Article establishes a cumbersome and subjective procedure which obliges one to judge if Linnaeus was subsequently consistent in his use of a spelling (including the dissertations?), eventually to decide on philological correctness and of preponderance of usage. Notions of philological correctness and preponderance of usage can be the object of such disagreement that they should be avoided as far as possible in an Article and be left as elements of judgement for an eventual conservation. At first glance one could thus consider the spelling of those names, if in doubt, should have been fixed by conservation. This is however not even necessary. Most authors have instinctively adopted the spelling used by Linnaeus in the *Species Plantarum.* This is logical for the situation is similar to that of publication by reference to a previous description, but here with reference to a later description. In case of publication by reference one does not care about the spelling used with the description. To sanction this an additional line in Art. 13.4 is all that is needed. The addition could be:

Proposal (135). Delete Art. 74 and add the following to Art. 13.4:

"The spelling of generic names introduced in the *Species Plantarum* ed. 1 should not be altered because a different spelling has been used in the *Genera Plantarum* ed. 5".

This system is far more simple and in agreement with usage than the solution proposed by Baum and rejected at Seattle to resort to a third book, the *Philosophia botanica.*

To assess the impact of my proposal I did check the spelling of the names in Willis (1966). In only 9 cases was the spelling of the *Gen. Pl.* used, in three cases obviously because these were examples cited in Art. 74 (*Euonymus, Ludwigia* and *Ortegia*). The 9 cases are:

Brunfelsia instead of *Brunsfelsia.* This should be maintained independently of Art. 74 as an

orthographic correction falling under Art. 73. This is no case of intentional latinization: an additional *s* in Brunfels cannot have anything to do with a latinization and thus cannot be protected by Art. 73.7.

Euonymus instead of *Evonymus*. Willis obeyed the example which was added at Montreal. This addition was unfortunate, especially as an example of philological correction. Valckenier Suringar (1928) already criticized the idea put forth by Sprague (1928) that *Euonymus* was in better agreement with usual transcription of ευ. One should, however, note Sprague admitted neither form was more correct than the other. Testu (1972) recently argued again in favour of *Evonymus*. Given the evolution of ευ in modern languages (evangelical) and especially modern Greek (evzone!) there is really no obligation to transcribe it as *eu*. The authoritative statement of Allen (1978, p. 69) is here appropriate: "Where followed by a vowel, as in the Greek derived *Euander, Eu(h)ius, eu(h)ae, eu* represents not a diphthong but a short *e* followed by a double consonantal *u*". If one uses the letter *v* (what Allen does not do like most modern latinists), it is thus more logical to write Evander (as done in English). The more euphonic and widely used *Evonymus* is definitely preferable. People who want the spelling *Euonymus* can present it for conservation, a proposal that I hope will be defeated.

Guaiacum instead of *Guajacum*. The reasons for this change are not evident to me (preponderance of use?) and I do not feel it should be maintained through conservation.

Hypochoeris instead of *Hypochaeris*. This is an orthographic correction that falls under Art. 73.

Ludwigia instead of *Ludvigia*. *Ludvigia* can be considered a mistake for it is already changed to *Ludwigia* in the *Index Generum* of the *Sp. Pl.* Since it could be an acceptable latinization I however would find it better to propose *Ludwigia* for conservation if this is deemed necessary.

Ortegia instead of *Ortega*. This is presented in Art. 74 as an example of agreement with Rec. 73 A, B or G. The form presented by Rec. 73 B would however be *Ortegaea*. It is not obvious that *Ortegia* comes closer to that form than *Ortega*. Sprague (1928) in fact preferred *Ortegia* because, *Maranta* notwithstanding, it is unusual to employ the unaltered name of a person as a generic name. It seems hardly necessary to conserve *Ortegia* (two species) but this can be done.

Pinguicula instead of *Pingvicula*. *Pingvicula* is a typographical mistake already corrected in the *Index Generum* of the *Sp. Pl.* (exceptionally on the page 17 where *Pinguicula* was introduced the printer was not consistent in his use of *u* and *v* and both spellings appear in the treatment of the genus).

Roëlla instead of *Roella*. The use of diaeresis being facultative (Art. 73.6) this is immaterial. South African floras that I have seen write *Roella*.

Trewia instead of *Trevia*. Since *Trevia* can be considered an intentional latinization, conservation of *Trewia* could be presented but seems hardly necessary (2 species).

In conclusion I consider the spelling of the *Species Plantarum* should be adopted for each of the names which have been spelled differently in the *Genera Plantarum* except for *Brunfelsia, Hypochoeris* and *Pinguicula* which should be corrected according to Art. 73. Those who would refuse one of those corrections or want to adopt some other *Gen. Pl.* spelling always have the possibility to present a case for conservation of a particular orthography (Art. 14.8).

Final conclusions should now be drawn on the question of standardization. The central problem is admitting there is a consensus on what to standardize, to define this unambiguously enough so that there is no possibility of doubt (*Hieracium bauhini* or *bauhinii*?) or errors (*Phallus hadrianii* for *hadriani*).

The first category of alternative orthographies, which one may want to standardize is that of names where *y* has been frequently used while *i* would be more correct (*sylvestris* = *silvestris, pyriformis* = *piriformis*). A rule could be devised that *y* is to be corrected to *i* in words which are not latinizations of Greek words, or modern words in which this letter is used.

This would not be too difficult to apply with the use of good Latin and Greek dictionaries, however the use of *y* is so frequent in Linnean and later time Latin and people are so used to names like *Fagus sylvatica*, that out of respect for current usage, one would wish the reverse

standardization. This however cannot be devised by a single rule and would need a listing of the epithets.

Listing is the only possibility for the various orthographic variants that already existed in classical Latin like *caespitosus/cespitosus, littoralis/litoralis*. Assimilable to these are the epithets derived from geographical names (*sinensis/chinensis*). Such a list has not been discussed since the Stockholm Congress but prop. H to Art. 73, which was heavily defeated in the mail vote before Leningrad, was an embryo to such a list.

Finally we have the personal name terminations and compounding forms that some authors already standardize.

For the first category the main problem lies with the limit between modern names that would have to be latinized in *-ius* and names already in Latin for which this termination is occasional. An additional problem is that of names with a well-known latinization. Should one conform to use or retroactively change this latinization? Since use has been divergent with *linnaei* and *magnusii* having established themselves in parallel I think it is impossible to rule absolutely on this issue. The only possibility is to restrict standardization to names for which there is not a well-established latinization and retain original spelling in the other cases (leaving the liberty to the author to dedicate an epithet to *Magnus* as *magni* or *magnusii* and never changing a *bauhini* to *bauhinii*).

Proposal (136). Delete Art. 73.10.

The worst standardization problem occurs with compounding forms for one must avoid abusive standardization. This demands the clear expression not only of what should be corrected but also of what should not be corrected. It involves the listing of established exceptions (from *aquaeductus* to *atropurpureus*) and the remainder of those categories which are not treated by Rec. 73 G, that is compounds where the first part is a verb form (μισάνθρωπος, σωσίπολις), an adverbial prefix or a preposition (compounds in *syn-, epi-, hypo-, dis-, eu-, para-*, from Greek or in *ob-, de-, e-, pro-, sub-* in Latin). How many botanists realise that in *Polygala chamaebuxus* one deals with the Greek adverb χαμαί (on the ground) and not with a Latin first declension genitive that they would be happy to transform into *chamibuxus*? Another problem is *Potentilla* (etc.) *tabernaemontani*. If the man was known under the name *Tabernaemontanus* are we going to "correct" his name as a first step to *Tabernaemontanius* and as a second step to *Tabernimontanius*?

This clearly shows a standardization of compounding forms cannot be obtained by an easy rule. I am personally convinced that standardization rules complicate the work of taxonomists instead of simplifying it and lead to instability of spellings given the misinterpretation to which they are susceptible. Only the respect of original spelling, with prudent correction of gross mistakes, can lead to the objectively determined stable spelling that modern scientific nomenclature requires.

Proposal (137). Delete Art. 73.8.

Acknowledgements

The preparation of this article has benefited from lengthy discussions with many persons, including my colleagues in the Editorial Committee of the Code. R. K. Brummitt, R. D. Meikle, G. C. Steyskal and especially D. Nicolson have provided helpful comments on the first draft of the manuscript. To my mother M. Demoulin-Marique and sisters, A. Germain-Demoulin and N. Bruyère-Demoulin I am most thankful for philological advice. If all those persons have influenced me in a way or another it is not implied that they agree with every idea expressed in this paper.

References

References cited by date only in the text. For former editions of the Code, one will find a complete bibliography pp. 394–397 of the 1972 edition:

F. A. Stafleu et al., eds., International Code of Botanical Nomenclature, Regn. Veg. 82: 426 pp., 1972. The present edition is:
F. A. Stafleu et al., eds., International Code of Botanical Nomenclature, Regn. Veg. 97: XIV + 457 pp., 1978.

Airy-Shaw, H. K., and F. C. Deighton. 1963. Nomenclature proposals submitted to the Xth International Botanical Congress. B. Proposal by H. K. Airy-Shaw and F. C. Deighton (Kew). *Taxon* XII(8): 291–292.

Allen, W. S. 1978. *Vox latina. A guide to the pronunciation of classical Latin. Second edition.* XIV + 132 pp., Cambridge University Press.

Baum, B. R. 1968. On Article 74 of the Code and on the correct orthography of Linnaeus's generic names. *Taxon* 17(6): 642–644.

Buck, C. D. 1933. *Comparative grammar of Greek and Latin.* XVI + 405 pp. The University of Chicago Press, Chicago and London.

Bullock, A. A. 1959. Nomina Familiarum Conservanda Proposita. *Taxon* VII(5): 154–181.

Crosswhite, F. S., and H. H. Iltis. 1966. Studies on the Capparidaceae. X. Orthography and conservation: Capparidaceae vs. Capparaceae. *Taxon* XV(6): 205–214.

Danser, B. H. 1935. Grammatical objections to the international rules of botanical nomenclature, adopted at Cambridge in 1930. *Blumea* I(2): 295–304.

Demoulin, V. 1969. Les Gastéromycètes. Introduction à l'étude des Gastéromycètes de Belgique. *Naturalistes Belges* 50(5): 225–270.

Heller, J. L., and W. T. Stearn. 1959. ("1958"). *An Appendix to the Species Plantarum of Carl Linnaeus.* 148 pp. Appendix to the Roy. Soc. Repr. of C. Linnaeus, *Species Plantarum,* ed. II, London.

Kent, R. G. 1932. The sounds of Latin. *Language Monogr.* XII: 216 pp.

Landgraf-Waltzing. 1961. *Grammaire latine. 6e ed. revue par G. François.* XX + 371 pp., H. Dessain, Liège.

Lapage, S. P. et al. ed. 1975. *International Code of Nomenclature of Bacteria.* XXXV + 180 pp., Amer. Soc. Microbiol., Washington, DC.

Leach, L. C. 1979. The correct spelling of *Euphorbia monteiri* Hook. f. and the operation of art. 73.10, I.C.B.N. 1978. *Taxon* 28(5/6): 602–604.

Macé, A. 1911. *La prononciation du latin.* 249 pp., C. Klincksieck, Paris.

Meillet, A. 1937. *Introduction à l'étude comparative des langues Indo-Européennes, 8e ed.* XIV + 516 pp. repr. 1964 with a preface by G. C. Buck. Univ. of Alabama Press, Alabama.

Nicolson, D. H. 1974a. Orthography of names and epithets: latinization of personal names. *Taxon* 23(4): 549–561.

————. 1974b. Orthography of names and epithets: the *i/j* and *u/v* problem. *Taxon* 23(5/6): 843–851.

————, and R. A. Brooks. 1974. Orthography of names and epithets: stems and compound words. *Taxon* 23(1): 163–177.

Persoon, C. H. 1801. *Synopsis methodica fungorum.* XXX + 708 pp. + V tab. apud Henricum Dieterich, Gottingae.

Rickett, H. W. 1955. The "original spelling" of botanical names. *Taxon* IV(8): 185–188.

Salisbury, G. 1976. Article 73. *Taxon* 25(5/6): 674–676.

Schulze, G. M., and G. Buchheim 1958. Nomenclature Proposals for the Montreal Congress XIV. Proposals by G. M. Schulze and G. Buchheim (Berlin-Dahlem). *Taxon* VII(9): 253–256.

Sprague, T. A. 1928. The correct spelling of certain generic names: II. *Bull. Misc. Inf.* 1928 (7): 285–296.

————. 1929. The correct spelling of certain generic names: IV. *Bull. Misc. Inf.* 1929(2): 38–52.

Stearn, W. T. 1973. *Botanical Latin (2nd. revised edition).* XIV + 566 pp., David & Charles, Newton Abbot.

St John, H. 1954. Proposed Amendments to the International Code of Botanical Nomenclature A. Proposals by Harold St John (Honolulu). *Taxon* III(1): 6–16.

Stoll, N. R. et al. 1964. *International Code of Zoological nomenclature adopted by the XV International Congress of Zoology*. XX + 176 pp. Intern. Trust Zool. Nomencl., London.

Testu, Ch. 1972. *Arbustes et arbrisseaux de nos jardins*. 176 pp., La Maison rustique, Paris.

Valckenier Suringar, J. 1928. Nomenclatuur kwesties. *Jaarboek Nederl. Dendrol. Ver.* 1928: 97–108.

Willis, J. C. 1966. *A dictionary of the flowering plants and ferns. Seventh edition revised by H. K. Airy Shaw*. XXXII + 1214 + LIII pp. Cambridge University Press.

Zabinkova, N. 1968. Generic names ending in -is and the determination of their stems. *Taxon* 17(1): 19–33.

Proposed by: Vincent Demoulin, Départment de Botanique, Université de Liège, Sart Tilman, B-4000 Liège, Belgium.

EIGHT PROPOSALS TO AMEND THE INTERNATIONAL CODE OF BOTANICAL NOMENCLATURE

Proposal (138). Article 6. Replace 6.4 to read as follows:

"6.4 An illegitimate name or epithet is one that is defined as such in Art. 18.3, Art. 21. Note 1, Art. 24. Note 1 and Arts. 63–67."

Comment: The present wording of Art. 6.4 does not make sense since all the Articles and Notes referred to therein define which names and epithets are illegitimate; therefore such names are not those which are contrary to these Articles and Notes.

Proposal (139). Article 64. Replace 64.2 to read:

"64.2 Legitimate names which are based on different types and are so similar that they are likely to be confused are treated as homonyms. The criteria for confusing similarity are defined in Art. 75.1."

Comment: The present wording of 64.2 perpetuates an ambiguous definition of orthographic variants which has led to much confusion in the past. There is a strong trend among nomenclaturally conversant taxonomists to restrict the term *orthographic variants* to different spellings of one name (only one type is involved). *Similar names* are differently spelt names based on different types. They may be confusingly similar and then are to be treated as if they were *homonyms* (names based on different types which are identically spelled). Acceptance of the proposal would clarify this situation, and the revised wording eliminates the term orthographic variant which is used in a misleadingly wide sense. The second sentence in the above proposal, with the reference to Art. 75.1, has been added in the assumption that the relevant proposal (Art. 75, Prop. C) by the Committee for Spermatophyta (Proposal 76) is accepted. The relation of orthographic variants to homonymy is dealt with in the proposal (Art. 75, Prop. D) for adding a new paragraph 75.3 which has been submitted by the Committee for Spermatophyta (Proposal 77). A reason for the restriction of 64.2 to cover only legitimate names is given in the comment to the proposal for adding Note 1 under 64.2 (below).

Proposal (140). Article 64. Add under 64.2 the following note:

"Note 1. In contrast to the case for true homonyms (Art. 64.1), illegitimate names do not qualify as similar names to be treated as homonyms. Being illegitimate, their existence will not lead to confusion with the legitimate similar names, regardless of the degree of similarity in orthography."

Comment: If the wording of Art. 64.2 proposed above is accepted, an explanation on how similar illegitimate names are to be treated becomes desirable. The proposed Note provides

this and also tells by implication why for treatment as homonyms among similar names only legitimate ones are to be taken into consideration, emphasizing the difference in this respect between similar names and true homonyms dealt with in Art. 64.1. It is unnecessary and undesirable (see below) to take notice of illegitimate names in this context, because they will never come into use and, therefore, are not likely to be confused with later legitimate names, similar as they may be. If the exclusion of illegitimate names from the consideration for treatment as homonyms proposed here is not accepted, many currently used names may become illegitimate unless they are conserved, because hitherto overlooked similar illegitimate names exist. Under the present ruling earlier illegitimate names render their confusingly similar counterparts illegitimate, because they are to be treated obligatorily as homonyms. If they fulfil the criteria in Art. 75.1 (Prop. C) as amended in the proposal by the Committee for Spermatophyta (Proposal 76) and if the Committee's proposal is accepted, there will be left no flexibility in many cases for interpretation of the degree of similarity. To avoid undesirable changes and to maintain the use of established names many proposals for conservation will be forthcoming, committees will be engaged to deal with them and the list of *nomina conservanda* will become still longer. Acceptance of the proposed ruling that illegitimate names do not require similar names to be treated as homonyms will reduce considerably the number of otherwise inevitable name changes or proposals for conservation for the reason of similarity.

Proposal (141). Article 67. Add under the Article:
"67.2 An infraspecific epithet is illegitimate and is to be rejected if it contravenes Art. 26.1."

Comment: Article 66.1(b) rules that the epithet of a subdivision of a genus (infrageneric-supraspecific epithet) is illegitimate if it contravenes Article 22.1. There is no such ruling in the 1978 Code on the status of infraspecific epithets which contravene Article 26.1. The proposed addition renders a final epithet of a name of an infraspecific taxon which includes the type of the correct name of the species to which it belongs illegitimate if it is not the same as that of the name of the species.

Proposal (142). Article 73: Extend in 73.5 the obviously arbitrary closing date of "before 1800" to "before 1900".

Comment: There appears to be no good reason for the choice of 1800, and this early date seems to make it imperative to retain v where u would be appropriate in names published after 1800. Example: *Hydrocotyle buplevrifolia* A. Richard (1820). The original spelling of the epithet was changed to *bupleurifolia* by Sprengel in 1820, and very few subsequent authors took notice of the original spelling.

Proposal (143). Article 73. It is proposed that the Editorial Committee be requested to transfer the examples in Art. 73.5 and 73.6 from the text of these paragraphs to "Examples" in small print at the end in the established manner.

Comment: This is designed to achieve consistency in the style of presentation.

Proposal (144). Recommendation 73G. It is proposed that the Editorial Committee be requested to improve the wording of 73G.1(a) by simplifying it and by:
(i) defining "stem" or giving a reference to an acceptable definition (e.g.: W. T. Stearn, Botanical Latin pp. 60–63.1966); and
(ii) eliminating the apparent contradiction between 73G1(a) (2) and (3).

Comment: By reference to Rec. 73G under Art. 73.8 the Recommendation has become part of a rule. Therefore, it should be written so clearly that it can be applied by botanists without special training in classical languages. This appears to be difficult when one is faced with such oddities as that the stem of *magnolia* is said to be *magnolia-*, and that of *Lilium, lilio-*. Furthermore, assuming that the stem of *Geranium* is *gerani-* and applying 73G.1(a) (3), presumably a compound epithet would be *geranifolia*; if however, by analogy with *Lilium,* the

stem is supposed to be *geranio-*, the epithet would be *geraniifolia* according to 73G.1(a) (2). Which is correct?

Proposal (145). Article 75: Insert in the proposed rewording of Art. 75.1 (Prop. C) as proposed by the Committee for Spermatophyta (Proposal 76) the word 'legitimate' before 'names', the Article to read: "When two or more legitimate names . . ." and add at the end of the sentence a reference also to Art. 64.2 Note 1.

Comment: The exclusion of illegitimate names implies a useful reduction of cases of similar names to be considered for homonymy. It will allow legitimate retention of (probably many) names which otherwise would fall under the homonym rule and become illegitimate and, unless conserved, would have to be replaced. (See also comment above under the proposal to add a note under Art. 64.2.)

Proposed by: Hj. Eichler, Herbarium Australiense, CSIRO, P.O. Box 1600, Canberra City, A.C.T. 2601, Australia.

PROPOSALS ON STABILITY OF NAMES

Proposal (146). Amend Art. 69 to read:

"A name must be rejected if it has been widely and persistently used for a taxon or taxa not including its type. The basionym of a rejected name (if it has one), and all combinations based either on a rejected name or on the basionym of a rejected name, are automatically also rejected. Of all such rejected names based on any one type, the earliest shall be placed on a list of *nomina rejicienda*."

A provision to reject *nomina ambigua* (names long used in an incorrect sense) has been present in all Codes this century. Although some botanists still apparently find the whole idea distasteful and would happily delete the Article and carry the type method to its logical, if sometimes unpleasant, conclusion, we agree wholeheartedly with Faegri in Taxon 23: 827 (1974) that the consequences of deleting Art. 69 would be very grave. But whether one likes it or not, the provision is there and is very likely to stay there for all time, and we all have an obligation to make it work.

To this end the changes introduced at Leningrad, largely on Faegri's initiative, seem to be significant positive steps in the right direction: an improved wording and the establishment of a permanent list of rejected names. However, a practical problem has arisen in several of the first few cases submitted to the Committee for Spermatophyta for inclusion of a name on the list. In attempting to get rid of the long-misapplied name *Pterocephalus papposus* (L.) Coult. one of us (Meikle in Taxon 27: 560. 1978) proposed rejection of the basionym *Scabiosa papposa* L., assuming, by analogy with Art. 14.2, that this would automatically lead to rejection of *Pterocephalus papposus*. In discussing this the Committee for Spermatophyta have been forced to point out firstly that the name *Scabiosa papposa* has not been widely and persistently misapplied because this *name* has never been used since Coulter transferred it to *Pterocephalus* in 1823, and secondly that there is nothing in the present Art. 69 to say that a new combination based on a rejected name is also rejected. The proposal as it stands cannot therefore be accepted.

In this case the position could be rectified by simply proposing *Pterocephalus papposus* for rejection instead. But in the case of *Orchis latifolia* L., proposed for rejection by P. Vermeulen in Taxon 27: 128 (1978), it is not so simple. Although it is accepted that the name *Orchis latifolia* has been long misinterpreted, there is no point in rejecting it under the present Art. 69 because most taxonomists today refer the species involved to the genus *Dactylorhiza*. But one cannot reject *Dactylorhiza latifolia* (L.) Soó because the latter was not published until 1963 and so has not been "widely and persistently used". Thus one cannot get rid of the

epithet *latifolia* in this context. Some would argue that Art. 69 is intended to allow only rejection of *names*, not epithets, and that it is irrelevant to *Dactylorhiza latifolia* that *Orchis latifolia* has been misapplied for 200 years. But users of plant names are not so simple that they cannot make a connection between use of *latifolia* under one generic name and use of the same epithet under another. It would cause great confusion to force adoption of *Dactylorhiza latifolia* in its correct sense when *Orchis latifolia* has been used for a different species for a very long time.

A similar difficulty arises with *Bromus purgans* L., proposed for rejection by J. McNeill in Taxon 25: 614 (1976). The proposal has already been approved by the Committee for Spermatophyta and *Bromus purgans* may not now be used, but if botanists with different generic concepts wish to recognise *Zerna* or *Bromopsis* they would have to combine *purgans* under one of these names and use it in its correct sense, not in the sense in which it has hitherto been used in *Bromus*. Or should we now recommend that the appropriate combinations under *Zerna* and *Bromopsis* should also be placed on the list of *nomina rejicienda*? Similar problems will arise in any group where there is any instability of generic nomenclature or taxonomic concepts.

The proposal made above is not a fundamentally new idea, but merely makes a provision for rejected names analogous to that for conserved names already found in Art. 14.2. The words "or taxa" are added to the existing sentence of Art. 69 since at least two cases so far submitted to the Committee for Spermatophyta, *Scabiosa papposa* (see above) and *Rotala decussata* (Cook in Taxon 29: 161–162. 1980) have involved names misapplied in more than one sense. The last sentence of our proposal may need some explanation. In groups with unstable generic nomenclature it may be necessary to reject several different combinations of the same epithet. It seems unnecessary to list all of these, and in some cases it may take a lot of bibliographic research to do so. If one always lists the basionym it will make reference much easier and avoid having to check through every name in the list to see if a certain name is rejected through listing of any one of many synonyms.

A proposal similar to that above, but with a wording open to technical objections, was actually put to the Committee for Spermatophyta with a view to the Committee putting it forward to Sydney. It received 7 votes in favour and 5 against, and so, according to the Committee's practice of requiring 8 positive votes before action is taken, it was not included in the Committee's proposals. The votes against the proposal appeared to be split between those who prefer to delete Art. 69 altogether and therefore disapprove of any attempt to broaden its scope, and those who would prefer *nomina specifica conservanda*. Whether we like it or not Art. 69 is in the Code, and we feel that it would work more efficiently if the above proposal were adopted. For those who prefer the more radical approach to stability of specific names we also offer the following hope for future salvation.

Proposal (147). In Art. 14.1 insert "species," after "nomenclature of" and delete "generic" in line 6.

Proposed by: R. K. Brummitt and R. D. Meikle, Royal Botanic Gardens, Kew, Richmond, Surrey, U.K.

PRINCIPLES OF LECTOTYPIFICATION

The International Code attempts to define the term 'lectotype' in Arts. 7 and 9, while in Art. 8 it rules that the first choice of a lectotype must be followed except in certain circumstances when it may be superseded. The Guide for the Determination of Types, which appears in the Code almost as an afterthought following the Articles and Appendices, also comments on the process of lectotypification. In its paragraphs 4d and 4e the Guide tells us what we *should* do, but does not tell us what is to happen if this advice is ignored. Although the Guide apparently has no legal standing itself, it should certainly be in accord with the requirements of the Articles and Recommendations, and it may be important in interpretation of the Articles where doubt

arises. We are here interested in its effect on interpretation of Art. 8, particularly with reference to acceptance or rejection of lectotypes in the examples of generic names discussed below.

There are several possible lines of argument which may lead botanists to make or reject a lectotypification. Paragraph 4d of the Guide refers to evidence of the original author's intentions, such as "manuscript notes, annotations on herbarium sheets, recognizable figures, and epithets such as *typicus, genuinus, vulgaris, commutatus* etc." These, we are told, should be given preference. Recommendation 7B of the Code, by contrast, recommends that the lectotype should be selected to preserve current usage, which may be quite different from the original author's intentions. Paragraph 4e of the Guide, by contrast again, argues for the so-called "residue method", whereby one is left with a lectotype by successive segregation of other elements into different taxa until only one is left in its original position. Not mentioned at all in the Code are historical arguments such as the pre-Linnaean use of a name, which may, rightly or wrongly, influence the choice of a lectotype. Others again would argue that the major factor to consider is the closeness of fit to the description given by the original author; this approach is obligatory under Art. 9.2 in lectotypification from a mixed collection for names of species and below, and may also be particularly relevant for Linnaean genera—see comments on Linnaeus's method of working by Stearn (1957, pp. 37–38).

Once a lectotypification has been made, Art. 8 rules that this first choice *must* be followed, except in specified circumstances. But it is not always clear what is meant by "the author who first designates a lectotype". Is it necessary to use the word *lectotype,* or at least *type*? Does application of the epithet *typicus* or *genuinus* etc. imply a lectotypification which must be followed? Can annotation of a herbarium sheet constitute designation of a lectotype? And in particular, does the residue method advocated in the Guide, 4e, provide a lectotypification which must be followed?

Among the reasons allowed by Art. 8 for rejection of a lectotypification, the 'misinterpretation of the protologue' can be applied in a variety of ways. Could this include historical arguments, and to what extent do we need to consider the closeness of fit of the included elements to the description? On the latter question very pertinent points are made by Wilbur (1981), to whom we are grateful for sending us a copy of his paper before publication, and these need not be repeated here. One may merely stress the significant, and no doubt beneficial, change introduced into the Code at Seattle through acceptance of proposals 157 and 171 of Tryon (1968). Instead of the former emphasis of previous Codes on the *best fitting* element being chosen as lectotype, the present Code merely allows one to reject a lectotypification if it is directly contrary to the protologue. However, as noted above, this general principle is contradicted by Art. 9.2 which rules that the best fitting element must be chosen as lectotype of a name of a species or lower taxon in the special case of a mixed gathering on a herbarium sheet.

Rejection of a typification "made arbitrarily", introduced into the 1972 Seattle Code, may also be something of a mystery to some. Dictionary definitions of 'arbitrary' all emphasise randomness and lack of any rules, which might apply to many lectotypifications made where there is no particular reason for choosing one element rather than another. Remarkably, however, the main example given of 'arbitrary selection' is that of Britton & Brown (1913), who clearly stated that they were applying fixed rules (those of the 'American Code' published in Bull. Torrey Bot. Club 34: 167–178. 1907) and so their designations of types were the opposite of arbitrary. A proposal on this is given below.

With so much conflicting advice and such unclear rules it is not surprising that attempts to find an answer to many problems of typification of names by reference to the Code are fraught with difficulty. Lectotypification of the name *Stapelia* L. has been discussed by Leach (1975). Linnaeus included only two species, *S. variegata* and *S. hirsuta,* in the protologue in Species Plantarum, 1753. In the following decades many other species were described by various authors in *Stapelia* before Haworth, Synopsis Plantarum Succulentarum, 1812, divided the genus into a number of segregate genera. Haworth referred *S. variegata* L. to his new genus *Orbea,* and *S. hirsuta* L. to *Stapelia,* with no reasons given, each species simply appearing in the middle of a considerable number of others in the same genera. It can be argued, however, that the historical type of *Stapelia* is *S. variegata*; the name goes back to Linnaeus's Hortus Cliffortianus, 1736, where he stated that it commemorated J. van Stapel who was the first to

detect the species, and van Stapel certainly only knew one species, which was *S. variegata* not *S. hirsuta*. According to Heller & Stearn (1958, pp. 105, 144) the first explicit citation of a type for the name *Stapelia* was that by Hitchcock in Hitchcock & Green (1929) who, disregarding Haworth, chose *S. variegata* with the comment that the two species "appear to be equally eligible, though the first (*S. variegata*) was somewhat better known". Later, Phillips (1951) also gave *S. variegata* as the type. However, Leach (1975), forced to make an important decision because he recognises segregate genera, has argued that Haworth's action in transferring *S. variegata* to *Orbea* was implicit lectotypification of *Stapelia* in the sense of *S. hirsuta*, and he has reinstated *Orbea* while confining *Stapelia* to a group including *S. hirsuta*. The card edition of Index Nominum Genericorum gave *S. variegata* as the type, quoting Phillips, not Hitchcock, as the authority for the choice; surprisingly the book edition (Farr, Leussink & Stafleu, 1979) also gives *S. variegata* but quoting Haworth, 1812, and Leach's paper of 1975 as the authority, which seems to be a complete misinterpretation of Leach.

How can we interpret this case in the light of the Code's rulings and recommendations? Is Haworth's implicit lectotypification by the residue method, as recommended in the Guide, paragraph 4e, to be accepted as the first choice of a lectotype? If so, could it then be superseded on the grounds that since Haworth gave no reasons for his choice it was quite arbitrary? Or do we disregard Haworth since he did not mention a type and operated long before the type concept became established, so that we should then follow the explicit choice of Hitchcock in 1929. Or then again should Hitchcock & Green be disregarded because they deliberately avoided calling their choices "types" but regarded them as "standard species" which "may or may not be the type of the original author" (Hitchcock & Green 1929, p. 113); in this case the first explicit choice of a type is by Phillips, as given in the card edition of I.N.G. Is it relevant that the choice of both Hitchcock and Phillips happens to be the 'historical type'? Would it be relevant to examine the original description of the genus by Linnaeus, 1754, and try to ascertain which of the two species fits it most closely? As noted above, the latter is actually a procedure which may be particularly appropriate in typifying Linnaean generic names, but in the actual case of *Stapelia* the original generic description could equally fit either species.

Our second example concerns lectotypification of the name *Psoralea*, also published by Linnaeus in Species Plantarum, 1753, when eight species were included. The name *Psoralea* goes back to 1740 when it was coined by van Royen for a genus in which he included only two species, named by Linnaeus in 1753 as *P. pinnata* and *P. aculeata*. The historical type would thus be one of these two species, and since the former was known to several authors before 1740, who were cited by van Royen, while the other was given only a very brief mention by him, it can be argued that *P. pinnata* would be the natural choice on historical grounds. *P. pinnata* and *P. aculeata* are also the two species which best match Linnaeus's generic description. However, Medikus (Vorles. Churpf. Phys. Oek. Ges. 2: 380–382. 1787), in dividing the Linnaean concept of *Psoralea* into several different genera, placed *P. pinnata* and *P. aculeata* in a new genus *Ruteria* and retained two other species, *P. americana* and *P. glandulosa*, in *Psoralea*. In contrast, Britton & Brown (1913) gave a fifth species out of the original Linnaean eight, *P. bituminosa*, as the type, the reason for this being somewhat obscure since *P. pinnata*, not *P. bituminosa*, was the first species listed by Linnaeus. Green, in Hitchcock & Green (1929), in choosing a 'standard-species', rejected Britton & Brown's typification in favour of *P. pinnata*, which she gave as "the best known of the original species, and the type", also observing that it was one of the original species of van Royen. Phillips (1951) has also given *P. pinnata* as the type of *Psoralea*. Index Nominum Genericorum (1979) makes no reference to the residue method but quotes both Britton & Brown's and Green's choices.

The arguments here are very similar to those in the *Stapelia* case. The residue method recommended in the Guide would restrict choice of a lectotype to either *P. americana*, now regarded as congeneric with *P. corylifolia* L. which is the type of another of Medikus's segregate genera, *Cullen*, or *P. glandulosa*, currently referred to *Orbexilum*, as the type of *Psoralea*. Further research would be needed to determine which of these two species was left alone in *Psoralea* longest. If the residue method is relevant to typification and must be followed, can Medikus's restriction of the genus to two of the original species be disregarded as a misinterpretation of the protologue, on the grounds that in the protologue Linnaeus (Gen. Pl.) actually attributed the name to van Royen who knew neither of these two species? Through such an

argument historical considerations might become significant facts in interpretation of Art. 8. If Medikus's treatment is not relevant to lectotypification one must consider Britton & Brown's choice. Apparently the example in Art. 8 implies that all Britton & Brown's designations of types may be rejected, but, as noted above, their choice in the case of *Psoralea* was not in fact the first species given by Linnaeus in the Species Plantarum. If their choice of *P. bituminosa* is to be rejected, then one moves on to Green, and later Phillips, who chose the historical type, *P. pinnata*.

The above examples both concern generic names, and the problem is likely to be very frequently met with at this level. Close examination of the works of Medikus will probably reveal many more cases like that of *Psoralea* where he has divided up Linnaeus's generic concepts in a way which few modern authors follow but which could be relevant to typification of names of Linnaean genera if the residue method is to be followed. The same principles apply equally at specific level and below, where original syntype specimens may have been successively segregated off from the original concept of a taxon. An example of this is that of the typification of *Panicum glaucum* L., Sp. Pl. 56 (1753). Throughout this century two alternative and widely disparate typifications have had almost equal support among the botanical community. The one applies the epithet to the weedy yellow bristly foxtail which is then called *Setaria glauca* (L.) Beauv. (*S. lutescens* auct. non (Weigel) F. T. Hubbard; *S. pumila* (Poiret) Roemer & Schultes) and the other to the cultivated pearl millet which might then be called *Pennisetum glaucum* (L.) R. Br. (*P. americanum* (L.) Leeke; *P. typhoides* (Burm.f.) Stapf & C. E. Hubbard). Terrell (1976) has recently argued in favour of the first typification, the main justification for this being that in 1759, Linnaeus himself appears to have restricted *P. glaucum* to the yellow bristly foxtail element. Kerguelen (1977), on the other hand, regards the epithet *glaucum* as applying to pearl millet, believing that this element better fits Linnaeus's protologue. It is probably true that were typification being attempted *de novo* the pearl millet element would be a natural choice (although there is some doubt as to whether the Hermann specimen that provides its basis was available to Linnaeus in 1753), but under the terms of Art. 8, the critical matter is who first lectotypified *Panicum glaucum*. Was it Linnaeus in 1759 or one of the succession of later authors who discussed this problem (for references see Terrell 1976 and McNeill & Dore 1976), and if so which one? The present wording of Art. 8 gives little guidance.

The problems are complex and might well justify the setting up of a Special Committee. However, in the hope of getting a more immediate solution we put forward definite proposals below.

From a practical view-point we find explicit citation of a type easier to determine than lectotypification by the residue method. It is often difficult to trace who was the first to segregate one or more of the original species included in a genus, and if it should be a case of tracing, say, the first seven out of eight original species to be removed then one's chances of being correct may be slight. In cases where an author recognizes segregate genera by description only, without saying which species are included in which genera, the problems may be insuperable. Although no comprehensive bibliography of lectotypifications exists there is now a considerable body of literature on this subject, and the facts, once brought to light, are usually indisputable. We thus prefer to place emphasis on explicit lectotypification.

Proposal (148). Add to Art. 8 a Note 1:

"Designation of a lectotype requires explicit citation of the type by use of the words 'lectotype', 'type', 'standard species' or an equivalent term. It is not achieved merely by the exclusion from the taxon of all save one of the original elements." The example of *Stapelia* or *Psoralea* given above may be added if desired.

The inclusion of 'standard species' in the above wording would remove any doubt as to whether the Hitchcock & Green choices are designations of types or not.

Proposal (149). Delete Recommendation 7B and transfer the present wording preceded by "Other things being equal" to the Guide for the Determination of Types.

As noted above, Recommendation 7B may well often be in conflict with paragraphs 4d and

4e of the Guide. It is illogical to give this as a Recommendation while other similar considerations are placed in the Guide.

Proposal (150). In Art. 8 replace the words "made arbitrarily" by "based on a largely mechanical system". Also in the Example delete the last sentence, and insert instead "All these choices of lectotypes by Britton & Brown are thus based on a largely mechanical system and so may be superseded."

As noted above, the present use of "arbitrary" in the Code in relation to Britton & Brown is quite at variance with the meaning of the word. Dictionary definitions of "arbitrary" include "derived from mere opinion or random choice" (Oxford), "not governed by any fixed rules or standard" (Webster), "arising from accident rather than from rule" (Chambers), and "capricious" (all three). According to these definitions many currently accepted lectotypifications would be in danger of being superseded as 'arbitrary' if the author appeared not to have followed any rules or principles in making his choice. The presence in the glossary by McVaugh, Ross & Stafleu (1968) of two other definitions of 'arbitrary' in nomenclatural contexts (for Arts. 20.1 and 23.2 and for Rec. 75A.3), both in senses conflicting with usage of the word in Art. 8, is an additional argument for removing the word from this Article.

The present wording was introduced into the Code through a proposal from the floor at the Seattle Congress (see Stafleu & Voss, 1972, pp. 14 and 25–28). As is evident from the discussion, the main intention was to find a way of enabling the Britton & Brown (1913) types to be superseded, a no doubt laudable objective. It was pointed out that their choice of types was based on a "mechanical system" which was already proscribed in the Guide for the Determination of Types as "unscientific and productive of possible future confusion and further change". It would, therefore, have been much better to have used the words "based on a mechanical system" in the wording of the Article instead of "arbitrarily" which has quite the opposite meaning. Because the American Code which Britton & Brown followed was not entirely a mechanical system, several qualifying conditions being attached to the main directive of choosing the first species given in the protologue, we have preferred in our proposal to suggest "largely mechanical system".

The Example in Art. 8 cites Britton & Brown and gives as an example of their typifications that of "*Delphinium* L. (a genus assigned by its author to Polyandria Trigynia) by *D. consolida* L. (a unicarpellate species)". This seems doubly confusing, for the emphasis seems to be on the contrast between the description of the genus by the original author and the character of the lectotype species, which is quite a separate issue from whether the lectotype was either chosen arbitrarily or based on a mechanical system. It is not even a good example of misinterpretation of the protologue, and it would appear to be best deleted. It is hoped that the suggested re-wording of the Example will make it clear that *all* Britton & Brown choices of lectotypes may be superseded, including those like that in *Psoralea* where their choice was not the first in order in the original publication, and so avoid any possible ambiguity on this point existing under the present Code. Another Example, to cover misinterpretation of the protologue, is provided in the following proposal.

Proposal (151). Add to Art. 8 a second Example:

"The first designation of a lectotype of the name *Vaccinium* Linnaeus, applied to a genus assigned by its author to Octandria Monogynia and described as having a 4-partite corolla, was that of *V. myrtillus* Linnaeus by Hitchcock in A. S. Hitchcock & M. L. Green, Proposals by British Botanists: 150. 1929. Because the species always has a pentamerous perianth and 10 stamens its choice is considered to represent a misinterpretation of the protologue, and is correctly superseded by Vander Kloet's designation of *V. uliginosum* Linnaeus as lectotype in Taxon 30 (in press)."

Proposal (152). In Art. 8, after "misinterpretation of the protologue" insert "or is contrary to Art. 9.2."

Art. 9.2 makes it obligatory to choose the element best fitting the original description in

choosing a lectotype from a mixed gathering. A choice which can be shown to be contrary to this Article should presumably be superseded. As noted above, there is an important difference between choosing an element best fitting the description and rejecting an element chosen through misinterpretation of the protologue. An alternative, which might seem more logical, would be to relegate Art. 9.2 to the Guide for the Determination of Types, replacing the present "must" by "should."

References

Britton, N. L., and A. Brown. 1913. *An Illustrated Flora of the Northern United States, Canada and the British Possessions*. Ed. 2. 3 volumes. New York.

Farr, E. R., J. A. Leussink, and F. A. Stafleu. 1979. *Index Nominum Genericorum (Plantarum)*. 3 vols. Utrecht and The Hague.

Heller, J. L., and W. T. Stearn. 1958. An appendix to the *Species Plantarum* of Carl Linnaeus. Ray Society, London. (Reprinted in facsimile edition of *Species Plantarum*, vol. 2, 1959).

Hitchcock, A. S., and M. L. Green. 1929. Standard species of Linnean genera of Phanerogamae (1753–54). International Botanical Congress, Cambridge (England), 1930: Nomenclature: Proposals by British Botanists: 111–199. H.M.S.O., London.

Kerguélen, M. 1977. Notes agrostologiques. II. *Bull. Soc. Bot. Fr.* 124: 337–349.

Leach, L. C. 1975. The lectotype species of *Stapelia* L. and the re-instatement of *Orbea* Haw. (Asclepiadaceae). *Kirkia* 10: 287–291.

McNeill, J., and W. G. Dore. 1976. Taxonomic and nomenclatural notes on Ontario Grasses. *Naturaliste Can.* 103: 553–567.

McVaugh, R., R. Ross, and F. A. Stafleu. 1968. An annotated glossary of botanical nomenclature. *Regnum Vegetabile* 56. Utrecht.

Phillips, E. P. 1951. *The Genera of South African Flowering Plants*. Ed. 2. Pretoria.

Stafleu, F. A., and E. G. Voss. 1972. Report on botanical nomenclature, Seattle 1969. *Regnum Vegetabile* 81. Utrecht.

Stearn, W. T. 1957. An introduction to the *Species Plantarum* and cognate botanical works of Carl Linnaeus. In facsimile edition of Linnaeus, C., *Species Plantarum* 1753. Ray Society, London.

Terrell, E. E. 1976. The correct names for pearl millet and yellow foxtail. *Taxon* 25: 297–304.

Tryon, R. 1968. Proposals by Rolla Tryon. *Taxon* 17: 588–590.

Wilbur, R. L. 1981. The unnecessary conservation of generic lectotypes. *Taxon* 30: 39–42.

Proposed by: C. H. Stirton, Botanical Research Institute, Private Bag X101, Pretoria 0001, South Africa; D. V. Field and R. K. Brummitt, Royal Botanic Gardens, Kew, Richmond, Surrey, UK; and J. McNeill, Biosystematics Research Institute, Agriculture Canada, Ottawa, Canada.

PROPOSALS TO THE SYDNEY CONGRESS

Proposal (153). Re-word Art. 48.1 to read:

"When an author circumscribes a taxon in such a way as to exclude the original type of the name *or apparent basionym* he *applies to* it, he is considered to have published *a new name* which must be ascribed solely to him. *If this is identical with the original name it is a later homonym*" (changed wording italicised).

The present Art. 48.1 does not allow for the possibility of an intended new combination or change of rank being made simultaneously with the exclusion of the type of the earlier name. Attention was drawn to this by the argument by Moore in Taxon 22: 587–589 (1973) that, in publishing the name *Pseudolarix kaempferi*, Gordon (Pinetum: 292. 1858) excluded the type

of the apparent basionym *Pinus kaempferi* Lambert and so published *Pseudolarix kaempferi* as a new name. According to the present Art. 48.1 the latter would then be a later homonym of *Pinus kaempferi,* which is, of course, nonsense. The above proposal would overcome this. Since there is dispute as to whether Gordon did or did not exclude Lambert's type (see Taxon 29: 314–318. 1980), this example is not actually a good one to be inserted in the Code. A better example would be "The name *Amorphophallus campanulatus* was published by Decaisne in Nouv. Ann. Mus. Hist. Nat. 3: 366 (1843) apparently derived from *Arum campanulatum* Roxb. cited beneath. However, the type of the latter was explicitly excluded by Decaisne, and *Amorphophallus campanulatus* must be regarded as a new name ascribed solely to Decaisne". There is a slight complication here in that *Arum campanulatum* Roxb. was an illegitimate superfluous name, as pointed out by Nicolson in Taxon 26: 337–338 (1977), and it may appear that Art. 72 Note 1 is also relevant. The important factor, however, is that Decaisne explicitly excluded the type of *Arum campanulatum* Roxb. and if he had not done so his *Amorphophallus campanulatus* would also have been illegitimate. The case may thus be a better example of the revised Art. 48.1, dealing with exclusion of types, than of Art. 72 Note 1.

Proposal (154). In Art. 63.1 after "A name" insert "of a genus or lower taxon".

This proposal is to exempt names of families and subdivisions of families, and of higher groups, from the provision for rejection of superfluous illegitimate names. Its effect is in fact already covered by proposal 54 of Silva in Taxon 29: 343 (1980), but the latter goes too far for my liking. Silva would also exempt from being superfluous any name at generic rank and below for which its author designated a type. While recognising the logic of this I feel that too many such names have already been rejected for us to go back on it now, and such a change would create instability. It may be argued that the same would apply to names of families and their subdivisions, but at these levels nomenclature is still at such a primitive stage, and application of Art. 63 is so blatantly ridiculous, that there seems to be a good case for making a change now before it is too late.

The problem was pointed out by Burtt in Taxon 15: 107–108 (1966) who quoted the case in Scrophulariaceae of the tribe name *Rehmannieae* published in 1909 by Rouy for a tribe including *Digitalis* which was the type of *Digitaleae* Benth. 1835. According to Art. 63.1 the name *Rehmannieae* is illegitimate and must be rejected. But if a later author wishes to recognise a tribe including only a single genus *Rehmannia* he must call it *Rehmannieae.* Or should he describe a bad new genus, later sink it into *Rehmannia,* and then base a new tribal name on the synonym? Several colleagues have recently quoted similar examples of illegitimate tribe names, the consequences of which are so awful that we prefer not to quote them here. Names above generic rank are essentially different in character from those at generic rank and below in that their type is obligatorily indicated by the stem of the name, and this difference should be reflected in their being exempted from the provisions of Art. 63.

Proposal (155). In Art. 34.1, delete "(c) when it is merely mentioned incidentally", and delete 34.3 which attempts to define 'incidental mention'.

My original arguments on this matter were published in the Seattle *Synopsis,* Regnum Vegetabile 60: 53–54 (1969), and still stand. The Seattle Congress declined to accept the proposal, citing two instances where names were said to be rejected as merely 'mentioned incidentally'—see Seattle *Report,* Regnum Vegetabile 81: 69–70 (1972). The proposal was re-submitted to the Leningrad Congress in Taxon 23: 866–867 (1974), where it was pointed out that neither of the examples quoted at Seattle was relevant, and that the *Jollya* example in the Code was also irrelevant. The Rapporteurs, in Taxon 24: 218 (1975), were sympathetic, commenting that "The provision does seem superfluous, even confusing if taken seriously" and that "the Editorial Committee were unable to elicit any examples of names which could be rendered invalid *only* by this provision". At the same time the Rapporteurs invited opponents of the proposal to offer an unequivocal example to replace that of *Jollya.* The proposal was again rejected at Leningrad, but despite further efforts by the Editorial Committee to find one no example has yet been produced. At least in the 1978 Code the *Jollya* example has been deleted, so that

there is now no example at all. The only precise example offered at Leningrad was *Roxira* of Clausen, but this is said to be a *nomen nudum* which would fail under Art. 32.1(c), not 34.1(c). Names in Engler's Pflanzenwelt Ost Afrikas "mentioned with a few descriptive words", also referred to at Leningrad as mentioned incidentally, again are invalid only because the descriptions are insufficient to validate the names, not because they are mentioned incidentally. Other cases of incidental mention quoted were "travel books" and "works by people who are not primarily taxonomists", but again if such works give an acceptable description, or information to validate a new combination, the names *must* be taken up.

I believe that opponents of the proposals to delete this provision at the last two Congresses have failed to distinguish between incidental mention and fulfillment of the various requirements of Arts. 32 and 33. Almost by definition, publication of a name which fulfils the other requirements for valid publication cannot be only "mentioned incidentally". Meanwhile people will continue to misuse this provision of the Code (see for example Taxon 29: 156, line 4 of main text. 1980). As many have said, if taken seriously this provision would rule out thousands of perfectly acceptable names. I invite the Rapporteurs to comment on whether or not the following names are "mentioned incidentally" and whether they are valid or not: *Grewia robusta* Burchell, published in his 'travel book' *Travels in Southern Africa* 2: 133 (1824) in a footnote to the main text, preceded by "I note in passing"; *Tristerix verticillatus* (R. & P.) Barlow & Wiens in Taxon 20: 307 (1971) published in a footnote to a list of chromosome numbers; *Afromosia brasseuriana* (De Wild.) De Wild. in Fedde, Repert. 11: 507 (1913) published in an "obs." under *A. bequaertii* reading "diese Merkmale hat auch *A. brasseuriana* (*Ormosia brasseuriana* De Wild.) von Katanga"; *Peltophorum* (T. Vogel) Bentham in J. Bot. (Hooker) 2: 75 (1840), *nom. cons.*, based on *Caesalpinia* sect. *Peltophorum* Vogel, published in the middle of a paragraph in the sentence "The *Caesalpinia brasiliensis*, from Jamaica, is a second species of the genus *Peltophorum*"; and *Cyphostemma schlechteri* (Gilg & Brandt) published in Flora Zambesiaca 2(2): 463 (1966) by Wild & Drummond who certainly did "not intend to introduce the new . . . combination" (see Art. 34.3) because they mistakenly thought the combination had already been published by Descoings. Meanwhile, if anybody intending to vote against the proposal would provide a good example I should be glad to receive it before the Sydney Congress meets.

Proposed by: R. K. Brummitt, Royal Botanic Gardens, Kew, Richmond, Surrey, U.K.

MISCELLANEOUS PROPOSALS TO AMEND THE CODE

Proposal to amend Art. 14

There has been considerable discussion within the Committee for Spermatophyta about illegitimate names becoming legitimate, most members favoring the view that "once illegitimate, forever illegitimate." If this viewpoint is adopted it is not clear that overcoming superfluity of a later name by conserving it with a type different from the earlier name actually legitimizes the formerly illegitimate name.

For example, *Monstera* Adanson (1763) includes the type of *Dracontium* L. (1753), *D. polyphyllum* L., and therefore is superfluous and illegitimate under Art. 63. A proposal was made to conserve *Monstera* with a different type and this passed.

It seems anomalous that there is no language in the Code clarifying that this is not only a method (conservation) for overcoming "automatic typification" (Art. 7.11) but for overcoming illegitimacy (Art. 63). Therefore we offer the following:

Proposal (156). Add new paragraph to Art. 14:

"A name may be conserved with a different type from that designated by the author or determined by application of the Code. A name with a type so conserved (*typ. cons.*) is legitimate even if it would otherwise be illegitimate under Art. 63."

Proposal to amend Art. 63.3

Under the present Art. 63.1 names are illegitimate if they were nomenclaturally superfluous when published. Further down, Art. 63.3 exempts from this rule names and combinations that are based on legitimate basionyms. This is certainly logical and desirable. However, names of suprageneric taxa that are based on a legitimate generic name are not covered by this exemption. It is here suggested that they should be, not only for the sake of consistency, but also because the present language leads to impossible situations.

One might wish, for instance, to recognize a monotypic tribe, of which the genus has but a single legitimate name; if the corresponding tribal name was originally published in a wider sense and happened to be illegitimate upon publication it could no longer be used and it would be impossible to name the monogeneric tribe! This is the potential situation with the Mussaendeae (cf. Darwin, Taxon 25: 596. 1976) and in the Stapelieae (cf. Sundell, Taxon 29: 258. 1980).

Proposal (157). Add the following after the first sentence of Art. 63.3:

"The same holds true for names of suprageneric taxa based on the stem of a legitimate generic name."

Replace the final sentence as follows:

"Such names are incorrect when published but they may become correct later."

Proposals on Art. 75

Various issues on Art. 75 have been discussed within the Committee for Spermatophyta. It was generally agreed that its present form is highly unsatisfactory. There was also a consensus on the desirability of making a clear distinction between (1) "names based on different types that are so similar that they are likely to be confused and are to be treated as homonyms" and (2) "variants of one name, only one type being involved." The unanimous opinion was that the latter, variants of names, should not be treated as validly published names.

A set of proposals on Art. 75 is being submitted by the Committee for Spermatophyta. However, owing to a tight schedule which did not allow for a thorough discussion of certain points, that package is not as balanced as it might have been. The following proposals are therefore put forward, of which some are complementary to the Committee proposals and some are alternative wordings or rulings. Most of these proposals have not been considered by the Committee in their present form, owing to a shortage of time, but they have benefited from the comments, by various Committee members, on previously circulated draft proposals.

Proposal (158). Replace the present footnote to Art. 75 with the following:

"When it is doubtful whether names are sufficiently alike to be confused, they should be referred to the General Committee. The decisions of the General Committee will, after ratification by an International Botanical Congress, be listed in an Appendix to the Code."

This proposal was considered and thoroughly discussed by the Committee for Spermatophyta and was favored by a majority (7:5), but not by the two-thirds majority required for its being put forward as a Committee proposal. Those favoring it feel that a decisionary mechanism is required for judging cases of doubtful homonymy. This proposal could be incorporated into the Committee proposal, if accepted.

Proposal (159). Add the following definition to Art. 75:

"Orthographic variants are the various spelling, compounding and inflexional forms of a name or epithet (including typographic errors), only one type being involved."

Proposal (160). Add the following provisions to Art. 75:

"Only one orthographic variant of any one name is treated as validly published, the form which appears in the original publication, except as provided in Art. 73 (orthographic and

typographic errors), Art. 14.8 (conserved spellings), and Art. 21, 23, and 24 (incorrect gender or number in adjectival epithets)."

Proposal (161). Add the following provision to Art. 75:

"If orthographic variants of a name appear in the original publication the one that conforms to the rules and best suits the recommendations of Art. 73 is to be retained; otherwise the first author who explicitly adopts one of the variants, rejecting the other(s), must be followed (see also Art. 74)."

Proposal (162). Add the following provision to Art. 75:

"The orthographic variants of a name are to be automatically corrected to the validly published form of that name. Whenever such a variant to be corrected appears in print, it is to be treated as if it was printed in its corrected form."

The first of these proposals offers a definition of the term "orthographic variant." It provides the basis for the three other proposals, but could also be combined with the proposal on variants by the Committee for Spermatophyta, if the latter should be preferred.

The second proposal is essentially the same as that of the Committee for Spermatophyta, but offers what we believe is a clearer, more explicit wording.

The third and fourth proposals are additional to the foregoing (whichever wording may be preferred). The third proposal deals with a special case which, although not infrequent, may be taken as being of relatively minor importance.

The fourth proposal appears to be fairly essential: the proposed language implies (a) that the correction of a variant does not lead to loss of priority or change of authorship of the name, (b) that epithets published under an invalid variant of a generic or specific name may, nevertheless, be validly published, and (c) that no explicit transfer or "new" combination under the correct form of a higher ranking name is recognized in such cases.

Proposal (163). "The Editorial Committee be empowered to transfer the provisions concerning similar names based on different types from Art. 75 to Art. 64, replacing the present Art. 64.2, so that Art. 75 would deal exclusively with variants of the same name based on the same type."

Proposed by: W. Greuter, Botanischer Garten, Königin-Luise-Str. 6-8, Berlin 33 (Dahlem), West Germany; J. McNeill, Biosystematics Research Institute, Agriculture Canada, Ottawa, Ontario K1A 0C6, Canada; and D. H. Nicolson, Dept. of Botany, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

PROPOSALS TO THE SYDNEY CONGRESS AFFECTING THE RULES OF NOMENCLATURE FOR HYBRIDS

Introduction

Names validly published for plants which are believed to be hybrids belong to the general corpus of plant nomenclature, and it is important that users of the International Code of Botanical Nomenclature (ICBN) should be aware of this. This assertion stems principally from the fact that the Code as it stands allows the insertion *or removal* of the multiplication sign before an existing epithet in accordance with the views of taxonomists as to appropriate treatment (Art. 50) and allows the interchange of the status of variety with the status of nothomorph (Art. 50; Art. H.10). This means that names proposed for hybrids (governed by Appendix I) often share priorability with names governed by the body of the Code.

The provisions which the ICBN makes for the naming of hybrids represent a minor extension in detail of the general principles governing botanical nomenclature, which are abrogated only

in the case of hybrids between genera and between subdivisions of genera. It is this congruence and compatibility with the rest of the Code which is the beauty of the system.

The inadequacy of a simple nomenclatural system to express all the varied results of hybridization may be urged as a reason for using formulae instead, perhaps with supplementary symbols. However, adoption of the system is entirely optional, and the extent to which it is in fact used can be taken as a sufficient demonstration of the need. The users are people who need names (as handles) for talking about, writing about and compiling lists of, certain entities which could only be referred to with difficulty if only formulae were available. The more knowledgeable users will be aware of the limited capacities of the nomenclatural system, and for the less knowledgeable the limitations will perhaps be immaterial.

In the course of trying to devise proposals to meet certain needs brought to my notice by correspondents, I have prepared a new draft of Appendix I of the Code. The needs arise from arbitrary limitations in the Appendix, which makes no provision for naming hybrids between named infraspecific taxa assigned to different species, and which provides only one rank under Art. H.10. The new proposals remove these limitations and thereby increase the congruence of the Appendix with the body of the Code. Thus, though the above-mentioned limitations are felt by relatively few taxonomists (in the North Temperate region, principally those dealing with *Mentha* and *Salix*), the changes proposed below may be generally beneficial.

I now give, in Part II of this paper, the reasons for the proposed changes in more detail. Part III consists of independent proposals from various sources.

II. NOTHOMORPHS AND NOTHOTAXA: APPENDIX I REWRITTEN

Infraspecific Names for Hybrid Plants

There appear to be three situations in which the need may be felt for names below the rank of species which designate plants of hybrid origin:

1) when it is desired to show that a hybrid is derived from a particular infraspecific taxon of one or both parent species; for this case the Code makes no provision for naming and recommends the use of formulae (H.3A).
2) when hybrids arise between infraspecific taxa of the same species; here, the Code (H.6) recognizes infraspecific categories designated by the same terms as non-hybrid infraspecific categories and requires the use of '×' sign before the infraspecific epithet; (the Code does, however, recommend the use of formulae in preference to names for such hybrids (H.6A)).
3) when the variation within an interspecific hybrid, designated by a binary name, calls for taxonomic recognition; here the Code (H.10) provides for the naming of taxa designated by the special term nothomorph, equivalent in rank to variety.

Correspondence which I had with Dr. R. K. Brummitt (Kew) before the 12th International Botanical Congress at Leningrad and a Proposal from J. Lebeau in *Taxon* 23: 880 (1974) (which became Proposal B to alter H.10—rejected at the Congress) indicated a need to be able to use names in 'situation (1)' and a need for more categories for use in 'situation (3)'.

To meet these needs I prepared new drafts for Articles H.6 and H.10 and sent them to R. K. Brummitt and to J. Lebeau in Sept. 1979. Brummitt circulated it among interested colleagues at Kew who raised certain objections. R. D. Meikle (Kew) pointed out that since 'nothomorph' means 'hybrid form' it could be used as a general term for all hybrid categories and we could then use the expressions *nothospecies, nothosubspecies, nothovariety* and *nothoforma*. This suggested to me a way of re-writing Appendix I, and this is presented below (Proposal 164), as amended after circulation to members of the Committee for Hybrids, secretaries of certain other Nomenclature Committees and other persons known to be interested.

Two Kinds of Infraspecific Category in Appendix I

It is important to be clear that in the Code at present there are two kinds of categories of infraspecific rank which can be applied to hybrids. *Firstly* there is that exemplified by H.6: the

infraspecific epithet is preceded by a multiplication sign and the parent taxa (or at least one of them) have to be known or postulated at the same rank. As with interspecific hybrids, the application of the name is determined by a type (H.5.1) but the circumscription is analogous to that for interspecific hybrids (H.3.2), which ensures that different names cannot be given to different crosses between the same set of equal-ranking parents (this is not actually stated in H.6, but clearly it should be). *Secondly* there is the kind permitted by H.10, namely the nothomorph. The epithet of a nothomorph is not preceded by a multiplication sign, and there is no statement of parentage at that rank (though there has to be for the hybrid taxon to which the nothomorph is subordinate); circumscription is therefore left entirely to taxonomic judgement, and the application of the name, is, as usual, determined by the type. These two kinds of category are retained in the new draft proposals.

For the first type of category the new scheme for Appendix I takes up Meikle's suggestion of prefixing 'notho-' to the names of the categories. Rather than use 'nothomorph' in a new sense it seems preferable to use the expression *nothotaxon* for these categories. This term has value in that it indicates a named or nameable group arising by hybridity between named taxa. It is not subject to the ambiguity of 'hybrid' which, as geneticists like to point out, can be the progeny of a cross between individuals differing by only a single gene. To be forced to use the expression 'a hybrid' when one means a nothotaxon is like being forced to say 'a plant' when one means a species of plant. For the classification of hybrid variants at present called nothomorphs (the second type), the scheme permits the use of the normal infraspecific categories, thus increasing the number of ranks available.

This reverses the terminology as compared with the Leningrad Code but there is so little hybrid nomenclature under H.6 and H.10 at present that it is not too late to change. The reasons for the reversal are as follows: (1) The taxa which do not have their parentage stated at the same rank (nothomorphs) are more akin to non-hybrid taxa than those that do. So neither the 'notho-' prefix nor the multiplication sign is appropriate for use with them. (2) For taxa with a stated parentage at specific level we can at present use the designation 'interspecific hybrid'; below the species-level, however, where the designation of the category has to appear in the name, we at present (H.6) have to use designations applicable to non-hybrid categories but include the multiplication sign—an anomalous procedure. It is now proposed to use the 'notho-' designations here.

The term 'genus' and the terms for subdivisions of genera should also be prefixed with 'notho-' to indicate hybridity. It would be logical to retain the multiplication sign for all nothotaxa, as a reminder that these are categories of the same kind as regards circumscription. This would mean that the sign would appear twice in names representing 'situation (1)' (above) and in names like ×*Agropogon littoralis* (=*Agrostis stolonifera* × *Polypogon monspeliensis*). This is because such a name embodies the names of two nothotaxa. However, many users of hybrid nomenclature would doubtless find this confusing and it is therefore proposed not to adopt it. According to the proposed new rules, hybridity would be indicated either by the multiplication sign or by the prefix 'notho-' before the term denoting rank. The epithet in a name like ×*Agropogon littoralis* will then be exceptional: that it is a nothospecific epithet is implicit, as under the present Code, not explicit.

Advantages and Disadvantages of the Proposed Draft

Apart from the general advantage already mentioned, the re-writing of Appendix I has provided an opportunity to place all *general* provisions first. (Some of these do not appear in the Leningrad Code as such, but only as applying to particular categories.) Then follow articles which apply only to particular ranks, in order of descending rank, and after these comes the replacement for Art. H.10. I do not feel I have yet achieved a perfectly logical arrangement: for example Art. H.8 of the existing Code is contingent on the substance of Art. H.7, and should perhaps logically be a Note to that, but this would result in a dreadfully overloaded H.7, so it remains as a separate article. The main disadvantage of the new draft is that it involves change. It does not make the Code inherently more complicated but it does allow more taxonomic complexity in the classification of hybrid plants.

In the preparation of the new text, which forms Proposal 164, as much as possible of the existing wording of the Code has been retained.

Acknowledgements

A draft of the new text for Appendix I and Art. 50 together with some separate proposals for the Appendix was circulated as mentioned above. Unfortunately, under a mis-apprehension about the deadline for publication in *Taxon* I gave an unnecessarily short time for replies. However, the following replied: C. D. Brickell, R. K. Brummitt and R. D. Meikle (jointly), J. Greatwood, P. Hanelt, O. M. Poletiko, G. D. Rowley and Warren H. Wagner Jr. (I also received a letter telling me that H. E. Moore was away). The replies have been most helpful and I am grateful for them. Brummitt and Meikle have expressed clear support for the new draft and general approval has come also from Brickell and Wagner. In addition, W. T. Stearn (Chairman of the Committee for Hybrids) has indicated verbally his support for Proposal 1. Rowley has expressed misgivings pending fuller study, Hanelt is opposed in general and Poletiko thinks such a substantial change is untimely. The separate proposals which are due to correspondents are acknowledged individually.

Summary of the Changes of Practice Involved in Proposal 164

1) The term 'nothotaxon' is introduced for all hybrid taxa, and the categories of nothotaxa are designated by prefixing 'notho-' to the terms denoting categories already in the Code.
2) Where the term denoting the rank appears in the name it is prefixed by 'notho-' and the multiplication sign is omitted (applicable to subdivisions of genera, old H.7.9, and infraspecific categories, old H.6: multiplication sign before the epithet; parentage specified at the same rank).
3) It is made clear that, just as one can indicate an interspecific hybrid whose parent species belong to different genera, so one can indicate an infraspecific hybrid whose parental infraspecific taxa belong to different species (e.g. *Mentha* ×*piperita* nothosubsp. *pyramidata* for the cross *M. aquatica* × *M. spicata* subsp. *tomentosa*).
4) If the postulated or known parent taxa are of unequal rank the nothotaxon must have the lower rank (not the upper, as formerly) (separately proposed again later).
5) Infraspecific category designations are used (without multiplication sign or the prefix 'notho-') when a parentage is stated only at a higher rank. All ranks thus become available, whereas at present the only category designation available for this kind of taxon is 'nothomorph' (H.10). These taxa are not nothotaxa.

Text of Proposal 164

(References in the left-hand margin are to articles containing corresponding material in the Leningrad Code or indicate a new article or paragraph).

Proposal (164). Re-write Appendix I and amend Art. 50 as below:

Article H.1

New *H.1.1* Hybridity is indicated by the use of the multiplication sign ×, or by the addition of the prefix 'notho-' to the term denoting the rank of the taxon.

Article H.2

H.2.2 *H.2.1* A hybrid between named taxa may be indicated by placing the multiplication sign between the names of the taxa: the whole expression is then called a hybrid formula. Examples: *Agrostis* L. × *Polypogon* Desf.; *Agrostis stolonifera* L. × *Polypogon monspeliensis* (L.) Desf.; *Salix aurita* L. × *S. caprea* L.; *Mentha aquatica* L. × *M. arvensis* L. × *M. spicata* L.; *Polypodium vulgare* L. subsp. *prionodes* Rothm. × subsp. *vulgare*.

Recommendation H.2A

H.2A.1 As in 1978 Code.

Article H.3

H.3.1 Hybrids between representatives of two or more taxa may receive a name.

H.3.1, H.6.1, H.7.1&3 The hybrid nature of a taxon is indicated by placing the multiplication sign × before the name of an intergeneric hybrid or before the epithet of an interspecific hybrid, and by prefixing the term 'notho-' (optionally abbreviated 'n-') to the term denoting the rank of the taxon (see Chapter I). All such taxa are designated nothotaxa. [Include explanation of 'notho-' from 1978 Code].

Examples (the putative or known parentage is found in the corresponding examples in Art. H.2.1): ×*Agropogon* P. Fourn.; ×*Agropogon littoralis* (Sm.) C. E. Hubb.; *Salix* ×*capreola* Kerner ex Andersson; *Mentha* ×*smithiana* R. A. Graham; *Polypodium vulgare* L. nothosubsp. *mantoniae* Rothm. ex Schidlay. (See also Art. H.7).

New *H.3.2* A nothotaxon cannot be designated unless at least one parental taxon is known or can be postulated.

H.3.1 *H.3.3* The epithet of a nothospecies is termed a collective epithet.

H.3.4 For purposes of homonymy and synonymy the multiplication sign and the

New prefix 'notho-' are disregarded.

Example: ×*Hordelymus* Bachtj & Darevsk (1950) (=*Elymus* L. × *Hordeum* L.) is a later homonym of *Hordelymus* (Jessen) Jessen (1885).

Note 1. Amphidiploids and similar polyploids may be treated as species and bear

H.3.2 an epithet without the multiplication sign.

Example: [1978 Code, *H.3.2*].

H.7.8 *Note 2.* The term 'collective epithet' is used in the International Code of Nomenclature of Cultivated Plants to include also epithets in modern language.

Article H.4

H.4.1 When all the parent taxa can be postulated or are known, a nothotaxon is

H.3.2, H.7.4 circumscribed so as to include all individuals (as far as they can be recognized) derived from the crossing of the stated set of parent taxa (i.e. not only the F_1 but subsequent filial generations and also back-crosses and combinations of these).

There can thus be only one correct name corresponding to a particular hybrid

New formula; this is the earliest legitimate name (see Chapter IV and V), and other names to which the same hybrid formula applies are synonyms of it.

New Example: The name *Oenothera* ×*fallax* Renner em. Rost. (1917) is considered to apply to *O. biennis* (♂) × *O. erythrosepala* (♀), and *O.* ×*albivelutina* Renner (?) to the reciprocal cross; the hereditary system of the parents is such that the results of the reciprocal crosses are widely different but the later of the two names is, in the circumstances, a synonym of the earlier (see Art. 63.4).

Note 1. For the purpose of this article the two hybrid formulae possible for a reciprocal cross are treated as the same. [Provisional]

Note 2. Variation within nothospecies and nothotaxa of lower rank may be treated according to Art. H.12 or, if appropriate, the International Code of Nomenclature of Cultivated Plants.

Article H.5

H.6.1 *H.5.1* A nothotaxon has the same rank as its postulated or known parent taxa.

Example: *Helleborus* ×*sternii* Turrill is the name for hybrids between *H. corsicus*

New Willd. and *H. lividus* Curt. However, when *H. corsicus* is considered to be a

example subspecies of *H. lividus* the correct name for the hybrid is *H. lividus* nothosubsp. *sternii*.

H.6.1 *H.5.2* If the postulated or known parent taxa are of unequal rank the nothotaxon must have the lower rank (see Art. H.11.2, second example).

Article H.6

H.6.1 A nothogeneric name (i.e. the name at generic rank for a hybrid between

H.7.3., H.7.6 two or more genera) is a condensed formula or is equivalent to a condensed formula.

H.6.2 The nothogeneric name of a bigeneric hybrid is a condensed formula formed

H.7.3 by combining the correct names (see Art. 11) of the two parent genera, i.e. the first part or the whole of one name and the last part or the whole of the other into a single word.

Examples: ×*Agropogon* P. Fourn. (=*Agrostis* × *Polypogon*); ×*Gymnanacamptis* Asch. & Graebn. (=*Anacamptis* × *Gymnadenia*); ×*Gymnaglossum* Rolfe (=*Coeloglossum* × *Gymnadenia*); ×*Sericobonia* André (=*Libonia* × *Sericographis*).

H.7.6 *H.6.3* The nothogeneric name of an intergeneric hybrid derived from four or more genera is formed from the name of a collector, grower, or student of the group, to which is added the termination *-ara*; no such name may exceed eight syllables. Such a name is regarded as a condensed formula. Example: ×*Potinara* (=*Brassavola* × *Cattleya* × *Laelia* × *Sophronitis*).

H.7.7 *H.6.4* The nothogeneric name of a trigeneric hybrid is formed either like that of bigeneric hybrids, by combining the correct names of the three parent genera into a single word not exceeding eight syllables, or, like that of a hybrid derived from four or more genera, from a personal name, to which is added the termination *-ara*.

Examples: ×*Sophrolaeliocattleya* (=*Cattleya* × *Laelia* × *Sophronitis*); ×*Wilsonara* (=*Cochlioda* × *Odontoglossum* × *Oncidium*).

Article H.7

H.7.9 *H.7.1* The name of a nothotaxon which is a hybrid between subdivisions of a genus is a combination of an epithet, which is a condensed formula formed in the same way as a nothogeneric name (Art. H.6.2), with the name of the genus.

Examples: *Ptilostemon* nothosect. *Platon* Greuter (Boissiera 22: 159. 1973), comprising hybrids between *Ptilostemon* sect. *Platyraphium* Greuter and *P.* sect. *Ptilostemon*; *Ptilostemon* nothosect. *Plinia* Greuter (Boissiera 22: 158. 1973), comprising hybrids between *Ptilostemon* sect. *Platyrhaphium* and *P.* sect. *Cassinia* Greuter.

Article H.8

H.8 *H.8.1* The names of nothotaxa with the rank of genus or subdivision of a genus are applicable only to plants which are accepted taxonomically as derived from the genera or subdivisions of a genus named.

Examples: (as in 1978 Code but (1) change 'hybrid group' in lines 4 and 7 to 'nothogenus' and (2) correct errors as indicated in Proposal 183).

Article H.9

H.9 *H.9.1* In order to be validly published, the name of a nothogenus or the epithet of a nothotaxon with the rank of subdivision of a genus, which is a condensed formula or equivalent to a condensed formula (Art. H.6.3), must be effectively published (see Art. 29) with a statement of the names of the parent genera or subdivisions of genera, but no description or diagnosis is necessary, whether in Latin or in any other language.

Examples of validly published names: ×*Philageria* Masters (Gard. Chron. 1872: 358), published with a statement of parentage, *Lapageria* × *Philesia*; *Eryngium* nothosect. *Alpestria* Burdet & Miège, pro sect. (Candollea 23: 116. 1968) published with a statement of its parentage, *Eryngium* sect. *Alpina* × sect. *Campestria*.

New *Note 1.* Since the names of nothogenera and nothotaxa with the rank of a subdivision of a genus are condensed formulae or treated as such, they do not have types.

Example: The name ×*Ericalluna bealei* Krüssm. (1960) was published for plants which were thought to be variants of the cross *Calluna vulgaris* × *Erica cinerea*. If it is considered that these are not hybrids, but are forms of *Erica cinerea*, the name ×*Ericalluna* Krüssm. (Deutsche Baumschule 12(6): 154–6. 1960) remains available for use if and when known or postulated plants of *Calluna* × *Erica* should appear. However, names published merely in anticipation of the existence of a hybrid are not validly published because they contravene Art. 34.1(b).

Article H.10

H.10.1 Names of nothotaxa at the rank of species or below must conform with
H.3.1, the provisions (a) in the body of the Code applicable to the same ranks and (b)
H.6.2 in Art. H.3. Infringements of Art. H.3.1 are to be corrected. Examples of such names are found in Note 1 and in Arts. H.3.1, H.5.1 and H.11.1 & 2.

H.10.2 Taxa previously published as species or infraspecific taxa which are later considered to be nothotaxa may be indicated as such, without change of rank, in conformity with Arts. 3 and 4 and by the application of Art. 50 (which also operates in the reverse direction).

Note 1. The following are considered to be formulae and not true epithets: des-
H.4 ignations consisting of the epithets of the names of the parents combined in unaltered form by a hyphen, or with only the termination of one epithet changed, or consisting of the specific epithet of the name of one parent combined with the generic name of the other (with or without change of termination).

Examples as in 1978 Code, Art. H.4.

Note 2. Since the name of a nothotaxon at the rank of species or below has a
H.5 type (Art. H.10.1), statements of parentage play a secondary part in determining the application of the name (see Art. H.4).

Example: *Quercus* ×*deamii* Trelease (etc., as in 1978 Code, H.5).

Recommendation H.10A

H.4A *H.10A.1* In forming epithets for nothotaxa at the rank of species and below, authors should avoid combining parts of the epithets of the names of the parents.

Recommendation H.10B

H.3A *H.10B.1* For hybrids between named infraspecific taxa the use of hybrid formulae
H.6A is more informative, and entails less danger of confusion, than the naming of nothotaxa.

Article H.11

H.11.1 The name of a nothospecies of which the postulated or known parent
H.7.8 species belong to different genera is a combination of a nothospecific (collective) epithet with a nothogeneric name.

Examples: ×*Heucherella tiarelloides* Wehrh. ex Stearn (considered to be *Heu-*
H.7.5 *chera* ×*brizoides* Hort. × *Tiarella cordifolia* L., for which *Heuchera* ×*tiarel-loides* is incorrect); when *Orchis fuchsii* Druce was re-named *Dactylorhiza fuchsii* (Druce) Soó the name ×*Orchicoeloglossum mixtum* Asch. & Graebn. (for its hybrid with *Coeloglossum viride* (L.) Hartm.) became the basis of the necessary new combination ×*Dactyloglossum mixtum* (Asch. & Graebn.) P. F. Hunt.

New *H.11.2* The epithet of an infraspecific nothotaxon, of which the postulated or known parental taxa are assigned to different taxa at a higher rank, is placed subordinate to the name of a nothotaxon at that higher rank. If this higher-ranking nothotaxon is a nothospecies the name of the inferior nothotaxon is a combination of its epithet with the nothospecific name. (See, however, Rec. H.10B).

Examples: *Mentha* ×*piperita* L. nothosubsp. *piperita* (=*M. aquatica* L. × *M. spicata* L. subsp. *spicata*); *Mentha* ×*piperita* L. nothosubsp. *pyramidalis* (=*M. aquatica* L. × *M. spicata* L. subsp. *tomentosa* (Briq.) Harley).

Article H. 12

H.12.1 Subordinate taxa within nothotaxa of specific or infraspecific rank may
H.10 be recognized without an obligation to specify parent taxa at the subordinate rank. In this case non-hybrid infraspecific categories of the appropriate rank are used (see Chapter I and Chapter III, Section 5).

Examples: *Mentha* ×*piperita* L. forma *hirsuta* Sole; *Populus* ×*canadensis* Moench var. *serotina* (Hartig) Rehd. and *P.* ×*canadensis* var. *marilandica* (Poir.) Rehd. (See also Art. H.4, Note 2).

H.12.2 Previous editions of the Code (1978, Art. H.10, and the corresponding article in earlier editions) permitted only one rank under provisions equivalent to H.12. That rank was equivalent to variety and the category was termed 'notho-

morph'. Taxa originally designated and validly published as nothomorphs are now deemed to be varieties (See Art. 50).

Note 1. As there is no statement of parentage at the rank concerned there is no control of circumscription at this rank by parentage (compare Art. H.4).

Note 2. It is not feasible to treat subdivisions of nothospecies by the methods of both Art. H.10 and H.12.1 at the same rank.

Article 50

50.1 Alter to read as follows: "When the status of a taxon of the rank of species or below is altered to the hybrid category (nothotaxon, see Art. H.3) of corresponding rank (Art. H.10.2), or *vice versa,* the name of the original author may be cited, followed by an indication in parentheses of the original status. Subsequently, and if the context appears to permit it, the indication of original status may be omitted." Delete the third and fourth examples.

III. FURTHER PROPOSALS AFFECTING APPENDIX I AND ARTICLE 50

Very many ideas for improvements to the wording or changes in the rules have been brought to my attention or have occurred to me while working on the Appendix. These are presented here as separate proposals which, unless otherwise stated, could be included in either the old or the new text. Some have been explicitly accepted by respondents to the first draft; however, I record here only the objections.

An outstanding desideratum is examples of non-hybrid names which are later homonyms of the names of hybrids. If these can be found and added to Art. 40 they will greatly increase the relevance of that Article to the body of the Code.

Prop. (165). *H.2.1.* Change "two species" to "two or more species". *H.2.2.* Delete the word "two" twice.

Comment. Some hybrids are the result of crossing between members of more than two taxa. This change is incorporated in Prop. 164.

Prop. (166). *H.2.2.* Delete the part of the first sentence which follows the bracketed multiplication sign; delete the alternative example.

Comment. Formulae of the type "*Salix aurita* × *caprea*" cannot cope with the cross between, for example, *Ulmus angustifolia* × *U.* ×*hollandica,* and the practice of writing them so should be discouraged. This change is incorporated in Prop. 164. Considered unnecessary by Poletiko.

Prop. (167). *H.2.2.* Delete last sentence. *Rec. H.2A.* Alter to read:

"It is usually preferable to place the names or epithets in a formula in alphabetical order. The direction of a cross may be indicated by including the sexual symbols (♀: female; ♂: male) in the formula, or by placing the female parent first. If a non-alphabetical sequence is used, its basis should be clearly indicated."

Comment. The obligation to use alphabetical sequence has proved inconvenient in certain compilations (e.g., J. E. Dandy, List of Vascular Plants, 1958; C. A. Stace, Hybridization and the Flora of the British Isles, 1975). Since the infringement of the rule carries no penalties the rule is ineffectual and should be omitted. In addition the "condensed formulae" allowed in H.7 are not restricted in this way, as shown by the examples. If Prop. 164 is accepted this will remain Rec. H2A. Poletiko is against changing this paragraph.

Prop. (168). *H.2.2.* Delete last sentence. *Rec. H.2A.* Alter to read:

"The sequence of names or epithets in a hybrid formula is usually alphabetical or with the name or epithet of the female parent first when this is known."

Comment. An alternative to Prop. 167, by P. Hanelt, intended to bring conformity with the convention used by geneticists.

Prop. (169). *H.3.2.* Delete the last sentence and example and substitute the following:
"*Note 1.* Taxa which are believed to be of hybrid origin need not necessarily be designated as nothotaxa.
Examples: The true-breeding tetraploid raised from the artificial cross: *Digitalis grandiflora* L. × *D. purpurea* L. may, if desired, be referred to as *D. mertonensis* Buxton & Darlington; *Triticum aestivum* L. is treated as a species although it is not found in nature and its genome has been shown to be composed of those of *T. monococcum, Aegilops speltoides* and *A. squarrosa*; the taxon known as *Phlox divaricata* L. subsp. *laphamii* (Wood) Wherry is believed (D. A. Levin, in *Evolution* 21: 92–108. 1967) to be a stabilized product of hybridization between *P. divaricata* subsp. *divaricata* and *P. pilosa* L. subsp. *ozarkana* Wherry."

Comment. A less restrictive exemption than is implied by H.3.2 is required to cover current practice. If Prop. 164 is accepted this would be H.3, Note 1.

Prop. (170). Add a new *Rec. H.3A*:
"The multiplication sign before the name or epithet of a hybrid should be placed against its initial letter. However, if the mathematical symbol is not available and the letter 'x' is used instead, a single letter space may be left between it and the epithet if this helps to avoid ambiguity. The letter 'x' should be in lower case." If Prop. 164 is accepted this Recommendation would have the same number; the first sentence would read: "The multiplication sign in the name of a nothotaxon should be placed against the initial letter of the name or epithet".

Comment. This is a composite proposal based on suggestions by C. D. Brickell and G. D. Rowley and is also a compromise between the Code as it stands and Rowley's point that there are epithets beginning '*xantho-*' and '*antho-*', so that the possibility of confusion is real.

Prop. (171). *H.4.* Add another paragraph:
"Epithets for interspecific hybrids formed by combining parts of the epithets of the parent species, if published after [date], are not validly published." Rec. *H.4A.* Delete.

Comment. Proposed by Brickell on the ground that the existing recommendation will be too readily disregarded. Drafted by Yeo. If Prop. 164 is accepted this would become part of H.10 and would apply to nothotaxa with the rank of species and below. Date to be inserted by Editorial Committee at a suitable stage.

Prop. (172). *H.6.* Add a new paragraph after H.6.2:
"Where an infraspecific hybrid receives a name in accordance with this Article, all descendents (as far as they can be recognized) of crosses between individuals of the same parent taxa are included in the hybrid taxon so named."

Comment. The principle of H.3.2 must apply here also. Prop. 164 covers this point in the proposed new H.4. Considered unnecessary by Poletiko.

Prop. (173). *H.6.1* In the last line, change "higher-ranking" to "lower-ranking".

Comment. If the higher-ranking taxon to which the lower-ranking parent is subordinate forms a hybrid with the higher-ranking (equally ranked) parent, a name proposed under the present rule for the latter hybrid would embrace taxonomically the taxon which is the subject of the rule, yet it would have the same rank. This is nonsensical but presumably there is a reason for the existing rule; it would be helpful to know what it is. Poletiko does not think the alteration is useful. The change proposed here is included in Prop. 164 as Art. H.5.2.

Prop. (174). *H.7.3* and *H.7.7.* Change "combining the names" to "combining the correct

names (see Art. 11)''. Add one or both of the following examples to H.7.3: (a) ×*Amarcrinum* Coutts is correct for *Amaryllis* L. × *Crinum* L., not ×*Crindonna* Ragioneri which, although it has priority, is derived partly from *Belladonna* Sweet, an illegitimate synonym of *Amaryllis* L.; (b) the name ×*Leucadenia* Schlechter (*Leucorchis* E. Mey. × *Gymnadenia* R. Br.) is to be changed to ×*Pseudadenia* P. F. Hunt if the generic name *Leuchorchis* is rejected and *Pseudorchis* Séguier adopted in its stead.

Comment. A 'correct' name is the name which is correct under the Code for a 'particular circumscription, position or rank' (Art. 11). This proposal, having been rejected at Leningrad, has to be presented again. External evidence (see *Taxon* 23: 678–679. 1974) shows that it represents the intention of the Committee for Hybrids in its proposals to the 10th Congress at Edinburgh in 1964. The decision then taken was that names of intergeneric hybrids are treated as condensed formulae. Taxonomic changes at generic level had resulted in hybrid generic names being applied to crosses between taxa, one or more of which now belonged to genera whose names did not take part in the formation of the hybrid generic name. To escape the resulting chaos it was necessary to sacrifice stability in the positioning of the collective epithet in relation to the intergeneric name. The 'condensed formula' is not a name in the traditional sense and it is outside the field of the type method. It seems obvious that, for the system to work, nomenclaturally correct names must always be adopted in the formation of names which are treated as 'condensed formulae'. This change is included in Prop. 164.

Prop. (175). *H.7.3.* Alter to read:

''The 'generic name' (*or if Prop. 164 is accepted* The nothogeneric name) of a bigeneric hybrid is a condensed formula in which the parental generic names are combined into a single word, using the first part or the whole of one, the last part or the whole of the other (but not the whole of both) and, if desirable, a connecting vowel.

Examples: ×*Agropogon* P. Fourn. (=*Agrostis* × *Polypogon*); ×*Gymnanacamptis* Asch. & Graebn. (=*Anacamptis* × *Gymnadenia*); ×*Cupressocyparis* Dallim. (=*Chamaecyparis* × *Cupressus*); ×*Seleniphyllum* Rowl. (=*Epiphyllum* × *Selenicereus*).''

H.7.7. Alter to read:

''The 'generic name' (*or if Prop. 164 is accepted* The nothogeneric name) of a trigeneric hybrid is *either* (1) a condensed formula in which the three generic names are combined into a single word not exceeding eight syllables, using the whole or first part of one, followed by the whole or any part of another, followed by the whole or last part of the third (but not the whole of all three) and, if desirable, one or two connecting vowels, *or* (2) a name formed like that of a hybrid (*or if Prop. 164 is accepted* nothogenus) derived from four or more genera, i.e., from a personal name to which is added the termination *-ara*.

Examples: ×*Sophrolaeliocattleya* (=*Cattleya* × *Laelia* × *Sophronitis*); ×*Vascostylis* (=*Ascocentrum* × *Rhynchostylis* × *Vanda*); ×*Rodriettiopsis* (=*Comparettia* × *Ionopsis* × *Rodriguezia*); ×*Wilsonara* (=*Cochlioda* × *Odontoglossum* × *Oncidium*).''

Comment. This draft by Yeo embodies Props. 176, 177, and 178, which are also presented separately for convenience. Under *H.7.3* the examples for Orchidaceae have been reduced from two to one; that from Acanthaceae has been replaced by one from Cactaceae, since the parent species of ×*Sericobonia* have subsequently been placed in the same genus (*Jacobinia*/*Justicia*).

Prop. (176). *H.7.3.* In last line, after ''of the other'' add: with or without the addition of a connecting vowel. Transfer example ''×*Cupressocyparis* etc.'' from H.9 to here.

Comment. Proposed by Meikle and Brummitt. At present ×*Cupressocyparis* (and ×*Sophrolaeliocattleya*—H.7.6, ×*Hordeopyrum* and ×*Elymopyrum*—H.8) are in conflict with the Code. This change is incorporated in Prop. 175.

Prop. (177). *H.7.3,* last line, after ''of the other'' add: but not the whole of both. *H.7.7,* third line, after ''eight syllables'' add: using the whole or part of each but not the whole of all three.

Comment. A name which is made up of the whole of the names of both (or all) the names of the parent genera might be ruled out on the ground that it is not a condensed formula, but it is perhaps wiser to exclude such formations explicitly. This change is included in Prop. 175.

Prop. (178). *H.7.7.* In line 3, after "eight syllables" add: i.e. the whole or first part of one, followed by the whole or any part of another, followed by the whole or last part of the third.

Comment. The present H.7.7 has no detailed instructions for forming the name, and the implication is that H.7.3 is to be followed. This makes no provision for using the middle part of the second contributing parental name. Mr. J. Greatwood, Registrar of the International Authority for the Registration of Orchid Hybrids, has found it desirable to allow this in names proposed for orchid hybrids. The draft is by Yeo and the change is included in Prop. 175.

Prop. (179). *H.7.3.* After "two parent genera" delete remainder of para. and substitute: preferably by using the first part or the whole of one name and the last part or the whole of the other, into a single word. In the interests of brevity and euphony, some rearrangement or addition or subtraction of letters is permissible, so long as the result reflects the ancestry of the name. Citation of an author's name follows, as per Art. 46.
Examples: Retain two of the four (very similar) examples cited under H.7.3, and add: ×*Gastrolea* Walth. (=*Aloe* × *Gasteria*); ×*Aleptoe* Rowl. (=*Aloe* × *Leptaloe*). Inadmissible is ×*Maltea* Boivin (1967) for *Phippsia* × *Puccinellia*; this must be replaced by ×*Pucciphippsia* Tsvelev (1971).

Comment. There is open conflict between the ICBN and the International Code of Nomenclature of Cultivated Plants (1969) here. The wording in the former is too restrictive: it rules out certain long-favoured names like ×*Gastrolea* for *Gasteria* × *Aloe*, and makes name-coining difficult when the names of two parental genera are much alike, as *Helianthocereus* × *Neohelianthocereus*.

By contrast, the wording in the ICNCP is too lax: "The botanical name of derivatives of an intergeneric hybrid consists of a "generic" name, usually formed by a combination of parts of the names of the two parent genera . . .". By including the word "usually", *Gastrolea* and similar anagrams or variants made in the interest of euphony are admissible, but one is left wondering what isn't?

Obviously both Codes should tell the same story in the same wording, and the right answer would seem to lie between the two extremes.

The final sentence in the draft proposed is important as a means of avoiding confusion. Thus, ×*Phyllocereus* Knebel (1938) is not the same as ×*Phyllocereus* Worsley (1931), or *Phyllocereus* Miquel (1839), a non-hybrid genus. Proposal by G. D. Rowley.

Comment by Yeo. Mr. Rowley is right that the two Codes should tell the same story but the legislation concerned here is the province of ICBN, and it is the duty of ICNCP to reproduce it faithfully. Unfortunately the two Codes are not revised simultaneously, and I understand from Brickell that the International Commission for the Nomenclature of Cultivated Plants, at its meeting October 1979, adopted Mr. Rowley's draft for inclusion in the next edition of ICNCP. The two members of the Committee for Hybrids who have commented on this are Hanelt, who approves (but wishes the example of ×*Gastrolea* to be omitted), and Brickell, who is on the above-mentioned Commission and has simply told me that they accepted Rowley's draft. The proposal introduces a subjective element into the application of the rule.

Prop. (180). *H.7.6.* It might be helpful to add the following extra example, either here or wherever more appropriate: ×*Aporophyllum* Johnson when first published was defined as *Aporocactus* × members of the 'Orchid Cacti'. The latter constitute the epicacti ("epiphyllums" of horticulture)—a complex descended from 4 or 5 separate genera. This name is hence illegitimate in that it conflicts with Art. H.7.6. For the simple bigener *Aporocactus* × *Epiphyllum* a different name applies (×*Aporepiphyllum* Rowl.). Proposed by G. D. Rowley.

Prop. (181). *H.7.* Add the following:

"If the only representative(s) of a hybrid genus is shown to be of different ancestry from that originally claimed, it must be reclassified under the appropriate genus (or hybrid genus) and the original name remains available if and when true hybrids are found.

Example: ×*Ericalluna* Krüssmann was originally published for 3 supposed hybrids of *Calluna* × *Erica*, all of which are now regarded as conspecific with *Erica cinerea*. The name ×*Ericalluna* is thus without a living representative, but remains available for use if wanted."

Note. This does not, however, authorise publication of new names in anticipation of the existence of a hybrid. This would be contrary to Art. 34.1(b).

Proposed by: G. D. Rowley. Example adopted also by Yeo in Prop. 164, H.9, Note.

Prop. (182). Add a new Recommendation, H.7A:

"In the formation of names ending in *-ara*, the personal name used should be the family name (surname) unless that name or one very like it has already been used in this way. If the surname is not used, a given name, or two given names joined together, or a given name and a surname joined together, should be used. Nicknames should be avoided."

Comment. Mr. J. Greatwood has felt it necessary to insist on observance of the above conditions in dealing with the registration of the names of orchid hybrids. It would therefore seem helpful to have them in the Code, though I think it unwise to make them compulsory.

Prop. (183). *H.8.1.* Examples. Replace the last two sentences of para. 1 with the following: Hybrids between *Elymus* and *Hordeum* are placed in ×*Elyhordeum* Mansfeld ex Zizin & Petrowa (Züchter 26: 164. 1955); this name was proposed as a substitute for ×*Hordelymus* Bachtj et Darevsk (1950) which is a later homonym of *Hordelymus* (Jessen) Jessen (1885).

Comment. My attention has been drawn to an error and an omission in the existing examples by a letter from Dr. Wray M. Bowden which has reached me through Dr. Robert W. Read. ×*Elymordeum* Lapage (1957) is antedated by ×*Elyhordeum* (1955) and ×*Hordelymus* is not hypothetical but actually has been published. This proposal will doubtless be referred to the Editorial Committee. See also Prop. 184. The second half of this example is used in Prop. 1, new *H.2.*

Prop. (184). *H.9.1.* Add the following example:

"×*Agrohordeum* Camus (Bull. Mus. Hist. Nat. (Paris) 33: 537. 1927) (=*Agropyron* Gaertn. × *Hordeum* L.), of which ×*Hordeopyron* Simonet (Compt. Rend. Acad. Paris 201: 1212. 1935) ("×*Hordeopyrum*") is a later synonym."

Art. H.8. Re-write as follows:

"*H.8.1* When the name or epithet of a hybrid is a condensed formula (Art. H.7.3, H.7.7 and H.7.9), the parental names used in its formation must be those which are correct for the particular circumscription, position and rank accepted for the parental taxa.

Example: If the genus *Triticum* L. is interpreted on taxonomic grounds as including *Triticum* (s. str.) and *Agropyron* Gaertn., and the genus *Hordeum* L. as including *Hordeum* (s. str.) and *Elymus* L., then hybrids between *Agropyron* and *Elymus* as well as between *Triticum* (s. str.) and *Hordeum* (s. str.) are placed in the same hybrid group, ×*Tritordeum* Asch. & Graebn. (Syn. 2: 748. 1902). If, however, *Agropyron* is separated generically from *Triticum*, hybrids between *Agropyron* and *Hordeum* (s. str. or s. lat.) are placed in the hybrid group ×*Agrohordeum* Camus (Bull. Mus. Nat. Hist. (Paris) 33: 537. 1927). Similarly, if *Elymus* is separated generically from *Hordeum*, hybrids between *Elymus* and *Triticum* (s. str. or s. lat.) are placed in the hybrid group ×*Elymotriticum* P. Fourn. (Quatre Fl. France 88. 1935). If both *Agropyron* and *Elymus* are given generic rank, hybrids between them are placed in the hybrid group ×*Agroelymus* Camus (Bull. Mus. Hist. Nat. (Paris) 33: 538. 1927); ×*Tritordeum* is then restricted to hybrids between *Hordeum* (s. str.) and *Triticum* (s. str.).

H.8.2 Names ending in *-ara* for intergeneric hybrids, which are equivalent to condensed formulae (Art. H.7.7, H.7.8), are applicable only to plants which are accepted taxonomically as derived from the parents named. Example: If *Euanthe* etc. (as in 1978 Code)."

If Prop. 164 is accepted, change "hybrid" in the proposed H.8.1 to "nothotaxon", "hybrid group" in proposed example to H.8.1 to "nothogenus" and "intergeneric hybrids" in proposed H.8.2 to "nothogenera".

Comment. (1) It is better to remove matters of taxonomic synonymy from the very complicated first example. ×*Hordeopyrum* is therefore transferred to H.9 and ×*Elyhordeum* (see Prop. 183) disappears unless it can be satisfactorily re-positioned. It would be better used to show that epithets under ×*Elyhordeum* would be placed under *Hordeum* if *Elymus* is included in *Hordeum*. (2) Condensed formulae ought to be based on correct spellings of generic names, and the proposed example to H.9.1 expresses this. (3) The recognition of ×*Agrohordeum* does not depend on the separate recognition of *Elymus*. The first example in H.8.1 has therefore been re-worded, and ×*Elymotriticum* has been introduced to balance ×*Agrohordeum*. (4) H.8 is divided into two paragraphs, a separate one being provided for names ending in *-ara*; the old wording is used for the latter, and new wording is provided for H.8.1.

Prop. (185). *H.10.3.* Delete the examples from *Ulmus* and substitute:
"*Populus* ×*canadensis* Moench nm. *serotina* (Hartig) Rehd., pro var., and *P.* ×*canadensis* nm. *marilandica* (Poir.) Rehd., pro var."

Comment. According to R. Melville in C. A. Stace: Hybridization and the Flora of the British Isles (1975), *Ulmus* ×*hollandica* and *U.* ×*vegeta* do not have the same parent species. The alternative example proposed here is given by R. D. Meikle in Stace (op. cit.). This change is included in Prop. 164.

Prop. (186). *50.1.* Alter second sentence after the word "nothomorph" to read as follows "or when a nothomorph is altered in status to variety (see Art. H.10)."

Comment. This was proposed and rejected at Leningrad. It is needed to prevent, for instance, a change in status from nothomorph to subspecies of a taxon that previously was changed from variety to nothomorph. Such a change ought to be allowable only by publication of a new combination. This proposal is an alternative to the one included in Proposal 164.

Prop. (187). *50.* Add the following:
"In no case does a cultivar name have priority over a latinised epithet when the two compete for a taxon of spontaneous occurrence.
Example: *Mammillaria* 'Stella-de-Tacubaya' (Heese in Gartenflora 53: 214, 1904) was published before *Mammillaria tacubayensis* Fedde (in Just Bot. Jahresb. 33: 443, 1906) and has been taken up by some for this species as *M. stella-de-tacubaya*. Being a cultivar name, 'Stella-de-Tacubaya' does not have priority over *tacubayensis*."

Comment. Since the name of a species can be "taken from any source whatever" (Art. 23.2), unwelcome results can arise if a taxon is first validated with a cultivar name and subsequently found to occur in the wild. Clearly it is not the intention of the Code that such popular names should enter botanical literature. Proposal by G. D. Rowley.

Comment by Yeo. This is supported by Brickell and opposed by Brummitt and Meikle. I think the problem is that it is not always clear whether an epithet is a cultivar epithet or a specific or other botanical epithet. If 'Stella-de-Tacubaya' is unmistakably a cultivar epithet then it would be clear that the botanical name for the plant concerned is *M. tacubayensis,* and no legislation would be required. If it is not clear, I very much doubt that any legislation could be devised to make it so.

Prop. (188). *H.4.1.* Examples. Delete the places and dates of publication of the names of parental species.

Comment. These details are superfluous in the context. The Congress will no doubt wish to refer this to the Editorial Committee.

Postscript to Proposals to the Sydney Congress Affecting the Rules of Nomenclature for Hybrids.

Dr. E. L. Little has retired from the U.S. Forest Service and a reply to the draft proposals has been received from Dr. Charles Feddema, Curator of the Forest Service Herbarium, Fort Collins, Colorado, U.S.A. He states that the opinion of his institution is that "the present code, with its emphasis on formulae, should be retained for the present". "The overwhelming need for simplicity and stability in nomenclatural practice by non-botanical scientists and land managers must be considered. We would be reluctant to invite a proliferation of names in such complex genera as *Artemisia* and *Chrysothamnus* which are of such practical importance in the Western United States."

Proposed by: P. F. Yeo, University Botanic Garden, Cambridge CB2 1JF, England.

MISCELLANEOUS PROPOSALS

Proposal (189). To add to Paragraph 4c and reword part of Paragraph 5 of the "Guide for the determination of types":

Para. 4c
Add to the end of this paragraph: "A neotype may also be designated if specimens seen by the author but not cited, and their duplicates, are lost or destroyed."
Para. 5
Substitute the third sentence with the following: "A neotype may be designated only when all of the originally cited material or material seen by the author but not cited, and its duplicates, are believed lost or destroyed; a neotype may be selected from any material that is not original material (Art. 7.8)."

In the "Guide for the determination of types" the circumstances in which one may select a neotype appear to be in some conflict with those stated in Article 7. Para. 4c, last line, of the Guide, states "If none of the specimens *cited* in the protologue nor any duplicates of them are extant, a neotype (Art. 7.8) may be designated" and Para. 5, third sentence, reads "A neotype may be designated only when all of the originally *cited* material and its duplicates are believed lost or destroyed (Art. 7.8)."

The wording of these sentences implies that only in the absence of *cited* material may a neotype be designated, but there are many instances of taxa having been described without citation of type material, for example Linnaean species. Fortunately the definition of a neotype in Art. 7.8 does not refer only to cited material, but to "all of the material on which the name of the taxon was based", which could include both cited and uncited material. It seems desirable to amend the Guide to bring it in line with Article 7.8, and to clarify what material may be selected in neotypification.

Proposal (190). To substitute "holotype" for "type" in the second line of Paragraph 3 of the "Guide for the determination of types."

The paragraph presently reads "A lectotype may be chosen only when an author failed to designate a holotype, or when, for species or taxa of lower rank, the type has been lost or

destroyed (Art. 7.4)." "Type", as used in the second line, is not sufficiently specific: it could refer to all the type material, in which case, if the material were lost or destroyed, one would select a neotype and not a lectotype. The correct word is obviously "holotype" and this is the word used in line 2 of Article 7.4. By using "holotype" there would be no possible ambiguity.

Proposal (191). To omit the last five words of Paragraph 4a of the "Guide for the determination of types". The paragraph then reads "A lectotype must be chosen from among elements that were definitely studied by the author up to the time the name of the taxon was published."

Originally the paragraph stipulated that a lectotype must be chosen from among elements that "were included in the protologue", i.e. elements cited by the author. However, many early authors did not always cite specimens e.g. Linnaeus, consequently, as the paragraph stands, one would not be able to lectotypify the names of a great many of their taxa, which would create an untenable situation. The change suggested permits the selection as a lectotype of an element studied by the author, whether cited or not.

Proposed by: D. J. B. Killick, Botanical Research Institute, Private Bag X101, Pretoria, South Africa, 0001.

PROPOSALS TO AMEND THE CODE

The piecemeal growth and emendation of some complex articles and sections of the Code without intermittent comprehensive reorganisation and consolidation to clarify their provisions has led to increasing difficulty in interpreting these articles and to consequential problems in their application. Some of these Articles (e.g. 63, 64, 73, 75) were never particularly well-conceived in the first place and confuse terminology which should be used precisely, and distinctively. The confusion between homonymy (one name; two types), orthographic variation (one name, one type, two spellings) and parahomonymy (two similarly spelled but differently typified names) in Art. 75 is a case in point. This confusion makes it very difficult to understand what to do about, say, a parahomonym which as a result of orthographic variation becomes homonymous with an earlier legitimate name.

Furthermore there are practices such as conservation of the typification of a generic name, which have occurred and continue to be proposed (c.f. the recent proposal on *Bignonia*) when there is actually no provision for them in the legislation of the Code. Such problems cannot be dealt with by tinkering with individual words or phrases of articles; they require a comprehensive legislative review and clarified reformulation. A review and reformulation does not necessarily mean a change in the application of the Article in question; only a clarification of what it is there to accomplish. At the same time however, it may well point up a lacuna in the article; something the article should deal with and fails to, which may suggest the need for covering legislation. This I found to be the case when I reviewed Art. 14 to bring it more into line with its application as reflected in Appendix II to the ICBN (Proposal 192).

The review of Art. 14 required reviews and reformulation of other articles, principally Arts. 75 and 64, which I have revised comprehensively, and small changes to Arts. 7 and 55.

The other major revision undertaken and proposed here is of the perennially problematical Art. 63 (superfluous names). This article has long been recognised to be unsatisfactory and illogical, although its close relationship with Art. 57 is generally overlooked (the ICBN does not even have a cross reference between them) and this oversight has resulted in a focus on the foolish practice of typifying such names in accordance with their status (superfluous therefore illegitimate) as if that status meant that their typification was a matter of no importance which did not need to be undertaken with the usual care recommended by the Guide for the Determination of Types. No wonder the Article is in conflict with established practice! There are some unsound practices involved in the literal application of the Article, and not all workers have been prepared to follow it, being mindful of the instability it would cause. There has been

a good deal of watering down of its more objectionable provisions ("inclusion of a type") and absurdities. The proposed revision, is, I feel consistent with the practice followed by the majority of botanists who have relied on common sense rather than bad law in dealing with superfluous names. A comprehensive suite of examples is included in the proposal. Corollary proposals (which are basically housekeeping matters) are made to Arts. 7 and 57 in consequence of Proposal 193.

The final major proposal (Proposal 199) deals with the typification of generic names. This hitherto uncontentious matter, covered under Art. 10 has recently been the subject of considerable contention over what it means to say that the type of a generic name is a "species"; interpretations of "species" as a synonym for "biosystematic species" "specimen" and even "name" have been under consideration. There is no major change required. The type of a generic name is and has always been a taxon in the rank of species; in a Code dealing with names and taxa this is all it could be. The proposal on Art. 10 seeks to place the present position beyond doubt.

Proposal (192). Art. 14 to be replaced by the following:

"14.1 In order to avoid disadvantageous changes to generic and familial nomenclature entailed by the strict application of the Articles of the Code, and especially of the Principle of Priority (Principle III) and its consequences and limitations (Art. 13), this Code provides for names and usages contrary to the rules to be retained as useful exceptions (nomenclatural conservation). The objective of nomenclatural conservation is the retention of names and their applications which best serve the stability of nomenclature. (See Rec. 50E.)

14.2 The following are the five criteria under which nomenclatural conservation may be proposed;

1) SYNONYMY: a generic name may be proposed for conservation against an earlier synonym which has priority over it and ought to be adopted under the Code, if the adoption of the correct name would destabilise established nomenclature of the group concerned e.g. by resulting in a large number of recombinations. (*Nomen conservandum*) Examples 1 and 2. (See also Art. 57.)

2) HOMONYMY: a generic name which has been adopted in more than one sense (i.e. with more than one nomenclatural type) may have its earliest typification rejected in favour of a later typification in order to preserve the latter usage of the name from the consequences of Art. 64. (*Usus conservandus*) Example 3. (See also Art. 48, 64.)

3) ORTHOGRAPHY: an orthographic variant which would be rejected on priority grounds under Art. 73 may be conserved against the correct variant which Art. 73 requires to be adopted. (*Orthographia conservanda*) Example 4. (See also Art. 73.)

4) RECTOTYPIFICATION: a generic name the typification of which is contentious and open to differing interpretations because of a conflict between Articles of the Code, or on account of a conflict between the strict application of the Code and the established tradition of the application of the name in the literature may be proposed to the General Committee for a binding and final declaration on its typification (rectotypification). Rectotypification amounts to an authoritative lectotypification being endorsed by the General Committee and a rectotype is of equal precedence with a holotype. Example 5. A species name (a binary combination), the typification of which is contentious because of a conflict between articles of the Code, or because of a conflict between the Code and the established application of the combination, or because the combination, when adopted, was misapplied (Art. 55) is also able to be rectotypified by decree of the General Committee if its rectotypification is in the interests of nomenclatural stability. Example 6. (See also Art. 55.)

5) PARAHOMONYMY: Two names which are similar in spelling and differently typified are parahomonyms (Art. 64.3, also Art. 75). When the continued use of both parahomonyms in nomenclature is likely to lead to confusion between them (e.g. because they designate closely related genera) or where such confusion has already arisen, one parahomonym may be suppressed by the conservation of the other against it. (*Conservatio parahomonymica*) Example 7.

14.3 Names and applications of names which have undergone nomenclatural conservation are listed in Nomina Conservanda which formerly made up Appendices II and III of the Code but which is, in future, to be published separately from time to time as issues within the series

Regnum vegetabile. Nomenclatural conservations approved after the latest edition of Nomina Conservanda are listed in *Taxon*.

14.4 The lists of Nomina Conservanda (Nomina Familiarum Conservanda, Nomina Generica Conservanda, Nomina Specifica Rectotypificationibus Conservandis) will remain permanently open for additions. Any proposals for nomenclatural conservation must be submitted to the General Committee (see Division III) which will refer them for examination to the committees for the various taxonomic groups. Any proposal for nomenclatural conservation must be accompanied by a detailed statement of the cases both for and against the conservation, and of the consequences of the decision going either way.

14.5 A nomenclatural conservation carried out on the grounds of synonymy results in the conserved name being conserved against all homotypic synonyms only if these are listed as *nomina rejicienda*. A conserved name is not conserved against an unlisted name which ought to be adopted under Art. 57. Example 8.

14.6 A nomenclatural conservation on the grounds of homonymy results in the conserved use of the name being conserved against all other usages based on different types whether listed or not. Example 9.

14.7 A *nomen conservandum* (i.e. a name conserved on the grounds of synonymy) is conserved against all its homonymous usages. Example 10.

14.8 A conserved orthography is to be attributed without change of priority to the author who originally adopted the name in its rejected orthography. The correction or conservation of orthography is retroactive. (see Example 4.)

14.9 A nomenclatural conservation carried out on the grounds of rectotypification does not make the rectotypified name correct as adopted when validly published. It affects only the typification of that name. A rectotypified name may still be illegitimate or incorrect for the taxon for which it was originally adopted. Rectotypification aims at stabilising the typification of names, but not the retention of the names themselves. (see Example 6, Note.)

Examples.

1) 967 *Tricyrtis* Wallich 1826 (Type: *T. pilosa* Wallich) is conserved against its heterotypic synonym *Compsoa* D. Don 1825 (Type: *C. maculata* D. Don) on this basis.

2) 7 *Zamia* L. 1763 (Type: *Z. pumila* L.) is conserved against its homotypic synonym *Palmafilix* Adanson 1763 (Type: *Zamia pumila* L.) on this basis.

3) 1739 *Warmingia* H. G. Reichenbach 1881 (Type: *W. eugenii* H. G. Reichenbach) [ORCHID.] is a *usus conservandus* against *Warmingia* Engler in C.F.P. Martius 1874 (Type: *W. pauciflora* Engl.) [ANACARD.]

4) *Cortinarius* S. F. Gray 1821 *corr.* E. M. Fries 1835 is the *orthographia conservanda* of the name which S. F. Gray adopted as *Cortinaria*.

5) Examples of rectotypified generic names; 150 *Zoysia*, 221 *Crypsis*, 228 *Coleanthus* etc.

6) The combination *Grateloupia ornata* (L.) C. Agardh 1822 was misapplied by its author to a taxon which was fundamentally *Fucus erinaceus* Turner, which he cited as a synonym, rather than *Fucus ornatus* L., which Agardh had been deceived into thinking was conspecific with *F. erinaceus*. This mistake was copied by successive workers and not recognised for 130 years. Rigid application of the Code, and especially Art. 55 without rectotypification of the combination *Grateloupia ornata* on to a type specimen different from that which typifies *Fucus ornatus* L. would now result in severe and bizarre disturbance to the application of two names *Chaetangium* and *Suhria* to the taxa to which they have been applied with stability since 1843. To preserve the established use of the names *Suhria* and *Chaetangium*, the rectotypification of the combination in *Grateloupia* on the type of the combination *Fucus erinaceus* has been proposed (Parkinson, Taxon 30: 312. 1981).

Note: The effect of the rectotypification of *Grateloupia ornata* on this name is that the epithet adopted by Agardh (treated as new) is a superfluous homotypic substitute for the correct epithet *erinaceus* and is illegitimate under Art. 63. The generic name *Grateloupia* as used by Agardh is homonymous with the earlier *Grateloupia* Bonnemaison 1822. The combination *Grateloupia ornata* is therefore incorrect for the taxon to which it was applied by its author. (cf. Art. 63.8.)

7) 2804 *Bernieria* Baillon. 1884 is conserved against *Berniera* A. P. de Candolle; 2811a

Endlicheria C. G. Nees is conserved against *Endlichera* K. B. Presl.; 4278 *Muraltia* A. P. de Candolle is conserved against *Muralta* Adans. and *Muralta* A. L. Jussieu.

8) 5528 *Weihea* C. Sprengel 1825 is conserved against its homotypic synonym *Richaeia* Thouars 1806, but if *Weihea* is united with *Cassipourea* Aubl. 1775 the correct name for the combined taxon will be the prior name *Cassipourea* since *Weihea* is not conserved against it.

9) If *Grateloupia* Kützing 1843 (Type: *Grateloupia filicina* (Wulf.) C. Ag.) were to be conserved against *Grateloupia* Bonnemaison 1822, it would automatically be conserved against *Grateloupia* C. Ag. 1822 (Type: *G. ornata* Ag. *nom. rectotyp. prop.*) whether this were listed as a *usus rejiciendus* or not.

10) The *nomen conservandum Smithia* Ait. 1789, conserved against its synonym *Damapana* Adans., is thereby automatically a *usus conservandus* against *Smithia* Scop. 1777."

Remarks: This revision consolidates and demonstrates by means of examples the very disorganised and vaguely expressed intentions contained in the present Article. The present provisions on conservation of homonyms, when looked at with semantic precision (which one should obviously aim for in a legislative document) are a nonsense, confusing names with usages. They have therefore been scrapped, and some new terminology introduced (the notion of conserved usage); the apparently major changes in expression however have negligible impact on the effect of the Article in practice; established practice is not changed, only clearly codified.

A similar semantic mélange exists in connection with conserved orthographic variants and similarly this has been spelled out in precise terms. In the case of parahomonyms, the present Article provided no guidelines for their conservation because, in its semantic befuddlement, it treated them as homonymous usages "which are variants, when based on different types" (Art. 75). The difference between 'homonyms' and 'names likely to be confused' is quite clear and the institution of *conservatio parahomonymica* gives legal provision for a widely existing practice, which previously rested on ambiguity and malapropism.

The new provision for rectotypification of generic names also gives a legal basis to a practice which has long been in use without it. The proposed rectotypification of combinations as exceptions to Art. 55 is a novel suggestion which is desirable in the documented case of *Grateloupia* and perhaps in a few others, although acceptance of the proposal is not likely to result in more than a few rectotypifications. The adoption of this suggestion would eliminate the great problem of misapplied names which cause typification ambiguities in generic names and therefore is conducive to nomenclatural stability.

A full suite of examples, mostly taken from already sanctioned *nomina conservanda,* is added by way of practical explanation. Acceptance of this proposal necessitates tidying up of wording in Arts. 7, 55, 64, 75 etc.; proposals are attached. Unnecessary duplicated examples (*Mahonia, Nasturtium, Enallagma, Enargea*) have been deleted.

Proposal (193). Art. 63: replace the present text of Art. 63 with the following:

"63.1 A name or epithet is nomenclaturally superfluous if the taxon for which it is adopted, as circumscribed by its author, includes the type of an available name or epithet which ought to have been adopted in place of the new name or epithet proposed; a superfluous name or epithet is to be rejected for the taxon for which it was adopted, unless conserved against the correct name.

63.2 The inclusion of a type (see Art. 7) is here understood to mean the citation of a type specimen, the citation of the illustration of a type specimen, the citation of the type of a name or the citation of the name itself, unless the type is at the same time excluded either explicitly or by implication.

Example of implicit inclusion of type: The name *Nemostoma* J. Agardh, Alg. Mar. Med. p. 89 (1842), as there applied, was superfluous when validated since the citation of the first section of the genus "Fronde plana integriuscula: Iridaea Bory Dict. Class. etc." implied the inclusion in *Nemostoma* of the whole of *Iridaea* Bory, Dict. Class. Hist. Nat. V. 5 p. 15–16 (1826). The name *Iridaea* Bory when validated was also superfluous as it explicitly included "le *Delesseria edulis* de Lamouroux" (i.e. *Delesseria edulis* (Stackh.) Lamouroux, Mem. Mus. Nat. Hist. Nat., Paris 20: 125 (1813)), the basionym of which is *Dilsea edulis* Stackh. Mem. Soc. Imp.

Nat. Moscou 2: 55, 71 (1809), the nomenclatural type of *Dilsea* Stackh.; the name *Delesseria* Lamour. Mem. Mus. Nat. Hist. Nat. 20: 122 (1813), was therefore also superfluous when validated, for this reason.

Examples of implicit exclusion of type: *Cedrus* Duhamel (Trait. Arbr. 1: xxviii, 139. t. 52. 1755) is not superfluous even though *Juniperus* L. was cited as a synonym; only some of the species of *Juniperus* L. were included in *Cedrus* and the differences between the two genera are discussed, *Juniperus* (including its nomenclatural type) being recognised in the same work as an independent genus.

Tmesipteris elongata Dangeard (Le Botaniste 2: 213. 1890–91) was published as a new species, but *Psilotum truncatum* R. Br. was cited as a synonym. However, on the following page (p. 214), *T. truncata* (R. Br.) Desv. is recognised as a different species and on page 216 the two are distinguished in a key, thus showing that the meaning of the cited synonym was either "*P. truncatum* R. Br. *pro parte*" or "*P. truncatum auct. non* R. Br." The epithet *elongata* adopted by Dangeard is therefore not superfluous.

Solanum torvum Swartz (Prodr. 47. 1788) was published with a new diagnosis but *S. indicum* L. (Sp. Pl. 187. 1753) was cited as a synonym. In accord with the practice in his Prodromus, Swartz indicated where the species was to be inserted in the latest edition (14, Murray) of the Systema Vegetabilium. *S. torvum* was to be inserted between species 26 (*S. incanum*) and 27 (*S. ferox*); the number of *S. indicum* in this edition of the Systema is 32. The epithet of *S. torvum* is thus not superfluous; the type of *S. indicum* is excluded by implication.

Example of explicit exclusion of type: When publishing the name *Galium tricornutum* Dandy (Watsonia 4: 47. 1957) cited *G. tricorne* Stokes (1787) *pro parte* as a synonym but explicitly excluded the type of the latter name: the epithet *tricornutum* is therefore not superfluous.

Example of explicit inclusion of type; *Euhymenia* Kützing (Phyc. Gen. 400. 1843) includes *E. reniformis* (Turn.) Kütz., a recombination based on *Kallymenia reniformis* (Turn.) J. Ag. Alg. Mar. Med. 99. 1842, which is cited as a synonym; the name *Euhymenia* was a superfluous substitute for *Kallymenia* J. Agardh 1842 (Type; *K. reniformis* (Turn.) J. Ag.), which Kützing presumed, incorrectly, to be a later homonym of *Calymenia* Persoon.

63.3 A superfluous name or epithet is typified on the type of the name or epithet which ought to have been adopted, provided that this is not contrary to Art. 22 (automatic typification of a cognate name) or to the protologue. If such a typification would be contrary to the protologue, the superfluous name is typified on an element of the taxon in accordance with the Guide for the Determination of Types. If a holotype was designated in the protologue this is the type of the superfluous name. If no holotype was designated a lectotype must be chosen. If the choice of a lectotype is contentious a proposal for rectotypification (the binding designation of a type) with a full statement of the circumstances may be put to the General Committee for a final decision (Art. 14).

63.4 A name which becomes superfluous through the lectotypification of another name subsequent to the adoption of the first name is treated as if it had always been superfluous. (Example 1.)

63.5 If the type of a superfluous name or epithet is the same as the type of the name which ought to have been adopted (i.e. if they are homotypic (obligate) synonyms) the superfluous name is permanently superfluous and illegitimate in status. It may be used correctly only if conserved against its homotypic synonym. (Example 2.)

63.6 A generic name which was superfluous when originally adopted, but which is not typified on the type of the name which should have been adopted in place of it, is initially superfluous but is not superfluous if and when the nomenclatural types of the two names are subsequently treated as elements of distinct taxa of generic rank. A name which is only initially superfluous and which is able to become available is initially incorrect for the taxon to which it is applied, and may be used for that taxon only if conserved against the correct name, but it is not illegitimate. (Example 3.) A generic name which is correct when adopted may subsequently become superfluous when it is treated as a synonym of an earlier name; this makes it incorrect, but not illegitimate unless the two names are homotypic. A correct superfluising earlier synonym may be rejected only after conservation of later synonym against it (Art. 57). (Example 4.)

The same provision applies to family names. Example 1. Although *Papyracea* Stackh., Mem.

Soc. Imp. Nat. Moscou 2: 54, 69 (1809), was not lectotypified until 1950 (Papenfuss, Hydrobiologia 2: 199 (1950)), it nonetheless renders superfluous and illegitimate its homotypic synonym *Cryptopleura* Kützing Phyc. Gen. p. 444 (1843); however *Cryptopleura* Kütz. has been conserved against *Papyracea* Stackh.

Example 2. *Delesseria* Lamouroux, Mem. Mus. Nat. Hist. Nat. Paris 20: 122 (1813) is a homotypic superfluous synonym for *Hydrolapatha* Stackh., Mem. Soc. Imp. Nat. Moscou 2: 54, 67 (1809) and is therefore illegitimate. *Delesseria* has been conserved against *Hydrolapatha* and so is now the correct name for the taxon including its type, *D. sanguinea*.

Example 3. *Delesseria* Lamouroux when validly published was a superfluous heterotypic synonym for eight other generic names established by Stackhouse in Mem. Soc. Imp. Nat. Moscou 2, 1809 or earlier: *Dilsea* Stackh., *Membranifolia* Stackh., *Palmaria* Stackh. (1801), *Fimbriaria* Stackh., *Membranoptera* Stackh., *Bifida* Stackh., *Prolifera* Stack., and *Ciliaria* Stackh., since the nomenclatural types of all of these names were either explicitly or implicitly included in *Delesseria* as this was originally circumscribed, when Lamouroux was ignorant of the proposition of these names by Stackhouse. The types of all these Stackhouse names are excluded from *Delesseria* as this is presently circumscribed, so *Delesseria* no longer requires conservation against any of them. If any of these types were still included in *Delesseria* it would require conservation against the earlier synonyms in order to become correct (cf. Art. 57).

Example 4. The type of *Clavatula* Stackh. Mem. Soc. Imp. Nat. Moscou 2: 95, 97 (1809) is *C. caespitosa* (Stackh.) Stackh. (≡*Fucus caespitosus* Stackh.), which is generally treated as a synonym of *Fucus repens* Lightfoot, an earlier name. The type of *Catenella* Greville Alg. Brit. lxiii, 166 (1830), is *C. opuntia* (Goodenough & Woodward) Greville (≡*Fucus opuntia* Goodenough & Woodward), which is also generally treated as a synonym of *Fucus repens* Lightfoot, or *Catenella repens* (Lightfoot) Batters as this is now known. The name *Catenella* is therefore superfluous for the taxon to which it is currently applied since the earlier name *Clavatula* Stackh. is available for this taxon. However the conservation of *Catenella* Greville 1830 against *Clavatula* Stackh. 1809 requires that *Catenella* be treated as the correct name for the taxon. (cf. Art. 57.)

63.7 If the type of a name containing a superfluous epithet is the same as the nomenclatural type of the name containing the epithet which ought to have been adopted (i.e. if they are homotypic (obligate) synonyms), the superfluous epithet is illegitimate and can never be used correctly under the generic name concerned. (Example 5.)

An epithet which was superfluous when originally adopted but which is not typified on the type of the name which should have been adopted in place of it is initially superfluous but is not superfluous if and when the nomenclatural types associated with the two epithets are treated as non-conspecific. An epithet which is only initially superfluous and which is able to become available is initially incorrect for the taxon to which it is applied, but is not illegitimate. (Example 6.)

An epithet which was correctly used when adopted in a particular combination may subsequently become "superfluous" when the taxon to which it was originally applied incorporates the type of an earlier available epithet. This makes the use of the "superfluous" epithet incorrect, but not illegitimate (cf. Art. 57). (Example 7.)

63.8 An epithet which is superfluous renders the combination containing it incorrect, but not illegitimate.

63.9 A combination containing a superfluous generic name is incorrect, but not illegitimate.

63.10 A statement of parentage accompanying the publication of a name for a hybrid cannot make the name or epithet of the hybrid superfluous. (Example 8.)

63.11 A name which becomes superfluous as the result of a change of rank (*stat. nov.*) on account of the existence of an earlier available synonym (Art. 57.1) is incorrect unless conserved against that synonym, or unless the superfluising synonym itself is to be rejected for some reason. (Example 9.)

Example 5. The epithet in *Chrysophyllum sericium* Salisb. (Prodr. 138. 1796) is a superfluous homotypic substitute for the epithet *cainito* in *C. cainito* L. (1753) which Salisbury cited as a synonym, and is therefore illegitimate.

Example 6. The epithet of *Fucus tuberculatus* Hudson (Fl. Angl. 2d ed. p. 558. 1778) is a

superfluous substitute for the epithet of *Fucus rotundus* Hudson (Fl. Angl. 1st ed. p. 471. 1762), since the type of the latter name is implicitly included (in error) in the circumscription of the former; however since the two taxa as conceived by Hudson are quite different, *F. rotundus* being a red alga (*Polyides rotundus* (Huds.) C. Agardh) and *F. tuberculatus* being a brown alga (*Bifurcaria tuberculata* (Huds.) Stackh.), they must be differently typified and when *Fucus tuberculatus* is treated as a distinct species from *Fucus rotundus* (as by Turner, Fuci. I, tabs. 5, 7. 1808) the initially superfluous and incorrect epithet *tuberculatus* may be taken up as the correct epithet for the taxon including its type, while the epithet *rotundus* is taken up as the correct epithet for the taxon including its type.

Example 7. The epithet *himantophora* was correct for the taxon circumscribed under the name *Pachymenia himantophora* J. Agardh (1876). When *Pachymenia lusoria* (Grev.) J. Ag. and *P. himantophora* J. Ag. are considered conspecific however the epithet *himantophora* becomes "superfluous" and the correct epithet is *lusoria,* in the correct combination *Pachymenia lusoria,* the epithet of which has priority over the epithet *himantophora* (Art. 57.1).

Example 8. The name *Polypodium* × *shivasiae* Rothm. (1962) was proposed for hybrids between *P. australe* and *P. vulgare* subsp. *prionodes,* while at the same time the author accepted *P.* × *fontqueri* Rothm. (1936) for hybrids between *P. australe* and *P. vulgare* subsp. *vulgare.* Under Art. H.3 para. 2. *P.* × *shivasiae* is a synonym of *P.* × *font-queri*; nevertheless it is not held to be a superfluous name.

Example 9. The generic name *Hordelymus* (Jessen) Harz (Samenkunde 2: 1147. 1885) based on the legitimate *Hordeum* subg. *Hordelymus* Jessen (Deutschl. Graser 202. 1863) was superfluous when published in generic rank because its type, *Elymus europeus* L. is also the type of *Cuviera* Koeler (Descr. Gram. Gall. Germ. 328. 1802). *Cuviera* Koeler has since been rejected in favour of its later homonymous usage *Cuviera* DC. and *Hordelymus* (Jessen) Harz can now be used as a correct name for the segregate genus containing *Elymus europeus* L."

Remarks: The notion of superfluous (unnecessary) names is logically connected to the provisions of Art. 57 (choice of names when taxa are united), although the Code does not indicate this relationship by cross references. It has long been recognised that Art. 63 is illogical and unsatisfactory and that it confuses superfluity and legitimacy with typification. Past proposals on Art. 63 have met with little success and this proposal seeks to get at the source of the problem by breaking the illogical present connections between the status of a name (superfluous therefore illegitimate) and its consequential illogical mistypification. As the retained examples show, the revision of the text does not imply a revision of established nomenclatural practice.

The old example of *Cainito/Chrysophyllum* has been replaced by the more interesting example of *Delesseria* (Example 1), although the old *Chrysophyllum sericum* example has been retained (Example 5). The old *Picea* example, which was badly worded, essentially duplicates the example of *Chrysophyllum sericum,* and has been deleted for this reason. The *Cucubalus* example and the recently added *Salix myrsinifolia* example, both of which dealt with names which are *not* superfluous have been deleted since they are irrelevant to Art. 63. The example of *Chloris radiata* is misplaced, coming under the provisions of Art. 57 rather than 63 and has been transferred herein (p. 281). The epithet in *Chloris radiata* was neither newly proposed nor superfluous, it was merely incorrect as it contravened priority, being an incorrect choice of epithet when two taxa (*Agrostis radiata* and *Andropogon fasciculatum*) were united.

Proposals (194)–(196). Corollary changes necessitated if Arts. 14 and 63 were to be adopted in the versions herein (Props. 192 & 193).

Corollary revisions to Art. 7.

Proposal (194). 7.2 to become:

"7.2 The nomenclatural type of a name is not necessarily the most typical or representative element of the taxon to which it is currently applied, whether as a correct name or as a synonym; it is the element to which the name is permanently attached. This element must however be an element of the taxon for which the name was originally adopted; on no account may any name be typified on a type either explicitly or implicitly excluded from the taxon for

which the name was adopted when first validly published. (See Guide for the Determination of Types.) For an exception to this rule see Art. 55."

Proposal (194B). 7.9 to become:

"7.9 A new name or combination published as an avowed substitute (*nomen novum*) for an older illegitimate name or incorrect name or combination is typified on the type of the name or combination substituted for unless the author of the substitute name initially designated a different type. (See Art. 33.)

Example: *Myrica lucida* (McVaugh, Mem. N. Y. Bot. Gard. 18: 100. 1969) was published as a *nomen novum* for the homonymous combination *Myrica laevis* Berg 1862, *non M. laevis* G. Don 1832. The type of *M. lucida* is Spruce 3502, which is the type of *M. laevis* Berg (*non* G. Don)."

Proposal (194C). 7.11 to be deleted altogether.

Remarks: The revision of 7.2 clarifies the relationship between the Article and the need for names to be typified in accordance with the protologue, as stipulated in the Guide. At present the impression is given that it doesn't really matter what the type of a name is, and this encourages arbitrary and automatic mistypification which is contrary to the Guide and to the whole tenor of Arts. 7–9. A cross reference to Art. 55 has been added to point out that this latter Article (automatic mistypification of misapplied specific names) is a flagrant contradiction of the guiding principles behind Arts. 7–9 and the Guide.

The revision of Art. 7.9 takes into consideration Silva's recent proposals. I would point out that epithets cannot be typified; it is the combination in which an epithet appears that is typified, this being a "name of a species". An epithet is not a "species name". While combinations may be correct or incorrect, it is never appropriate to call them illegitimate. The slight change of wording in the example reflects my desire to stop the illogical practice of talking about a homonym as if it were two names; it is one name with two types, and usages.

The deletion of 7.11 is possible because the typification of superfluous names is not to be determined by their status of "superfluity." The typification of superfluously illegitimate and incorrect names is dealt with fully under Art. 63 (revised above) and I see no need for a cross reference, since no special or anomalous method of typification is called for under the revised Article.

Proposal (194D). Add new 7.11:

"7.11 A rectotype is a type designated by the General Committee as an exception to the rules, in the interests of nomenclatural stability (see Art. 14.4)."

Proposal (195). Corollary change to Art. 55. Add to 55.2 the following:

"Useful exceptions to this rule are to be tolerated if rectotypified (Art. 14.4)."

Remarks: These last two changes merely add cross references pointing to the possibility of rectotypification.

Proposal (196). Corollary proposal on Art. 57. In the Art. 57 *Verbesina* example change "*Eclipta erecta,* a superfluous name because *V. alba* . . ." to read "*Eclipta erecta,* the epithet of which was superfluous because *V. alba* . . .". The combination is not superfluous; it is incorrect because it contains a superfluous epithet.

Add the following example:

"The epithet in *Agrostis radiata* L. (Syst. Nat. ed. 10 2: 873. 1759) was correct, but when *Agrostis radiata* L. and *Andropogon fasciculatum* L. (Sp. Pl. 1047. 1753) are treated as conspecific, as under the combination *Chloris radiata* (L.) Sw. (Prodr. 26. 1788) the epithet *radiata* is incorrect, contravening Art. 57.1. When *Agrostis radiata* and *Andropogon fasciculatum* are treated as different species under *Chloris,* as was done by Hackel (in A. & C. DC. Monog. Phan. 6. 177. 1889), *Chloris radiata* is a correct name."

Remarks: The new example is transferred from Article 63, as pointed out above (p. 280). It practically duplicates Example 7 to Art. 63.7 as revised above.

Proposal (197). Corollary changes to Art. 64. Replace the present article with the following revision:

"64.1 A name or combination which has been adopted independently by two or more authors at different times, applied by them to different taxa and associated with different nomenclatural types in its two or more usages is a homonym. The earliest validly published usage of a homonym and the associated typification are correct if they are in accordance with the rules, but later usages of the homonym based on different types are incorrect and are to be rejected unless conserved (Art. 14.3). Examples 1–3.

64.2 All subsequent homonymous usages of a validly published name are to be rejected unless conserved in favour of the original usage, irrespective of whether or not the original usage was correct. Example 4. Conservation of one usage automatically causes rejection of all others.

Example 1. *Astralagus rhizanthus* is a homonym originally adopted by Royle (Ill. Bot. Himal. 200. 1835) and subsequently by Boissier (Diagn. Pl. Orient. 2: 83. 1843). The former usage is correct but the latter is incorrect and was subsequently rejected by Boissier, who renamed it *A. cariensis* (Diagn. Pl. Orient. 9: 56. 1849).

Example 2. The homonym *Tapieanthus* is correct in its earliest application (Herb. 1837) [Amaryllidac.] but not in its later application (Boiss. ex Benth. 1848) which was rejected and renamed by Th. Durand (Ind. Gen. Phan. X 1888) as *Thuspeinta*. Example 3. The homonymous generic names *Torreya* and *Warmingia* have been the subjects of nomenclatural conservation, each as an *usus conservandus* against the original use of the name.

Example 4. [This example is still to be completed, when an appropriate case is identified.] The homonym [ ] as originally adopted was illegitimate (Art. [ ]) but this still requires the later usage of the same name by [ ] to be rejected unless conserved.

64.3 Two names which are differently typified and merely similar in spelling are not homonyms. They are parahomonyms (Art. 75). Example: *Calymenia* Persoon and *Kallymenia* J. Agardh are not homonymous, they are parahomonymous.

Secondary orthographic variants of one name, typified on the same type are incorrect and to be rejected unless conserved (Art. 14, Art. 73).

Example: *Kallymenia* J. Agardh 1842 has two later orthographic variants, *Kalymenia* and *Callymenia* which have been adopted intermittently by later authors; these are to be rejected in favour of the original spelling.

If an incorrect orthographic variant of a name is homonymous with an earlier name it is to be rejected unless conserved against both the primary orthographic variant of the name and the earlier homonymous usage of the secondary conserved variant.

If an incorrect orthographic variant is homonymous with a later name the later name is not to be rejected on this account unless the incorrect orthographic variant is conserved.

Parahomonymy is not grounds for the rejection of a name, but Art. 75 makes provision for the supression of one parahomonym if continued use of both names would be likely to result in confusion between them (Art. 75, Art. 14).

64.4 An epithet may not be used for differently typified subdivisions of a genus, whether or not they are of the same rank, although it may be used for subdivisions of different genera. The same applies to epithets of intraspecific taxa, which may however be used for subdivisions of different species-taxa. Priority determines the correct usage in both cases.

Example: Under *Verbascum* the sectional epithet *Aulacospermae* Murbeck (1933) is allowed, although there was already under *Celsia* a section named *Aulacospermae* Murbeck (1926). This however is not an example to be followed since it is contrary to Rec. 21B. Paragraph 3.

The following is incorrect; *Erysimum hieraciifolium* subsp. *strictum* var. *longisiliquum* and *E. hieracifolium* subsp. *pannonicum* var. *longisiliquum*; two varieties of a species may not bear the same epithet.

64.5 When one name is simultaneously published for more than one taxon, the first author

who adopts it in one sense, rejecting the other, or provides another name for one of these taxa, is to be followed.

Example: Linnaeus simultaneously published both *Mimosa* 10 *cinerea* (Sp. Pl. 517. 1753) and *Mimosa* 25 *cinerea* Sp. Pl. 520. 1753). Later, he (Syst. Nat. ed. 10 2: 1311. 1759) renamed *Mimosa* 10 *cinerea* as 10 *Mimosa cineraria* and retained the name *Mimosa cinerea* for species 25. This establishes the correct usage of the latter name."

Remarks: This revision simply aims at tidying up the Article in accordance with present practice and the proposed recodification of Art. 14. It would be logical, however to substitute 64.4, above for Art. 21 Note 1. 64.4 has nothing really to do with homonymy. This would require a revision of Note 1 to Art. 24 as well. It would be best perhaps to divide 64.4 into two parts. The first half with its example *Verbascum* going to Art. 21 and the second half with its example going to Art. 24. The *Amblyanthera* example is similar to that of *Tapieanthus* and need not be retained. The *Anagallis* example is similar to the *Erysimum* one.

Proposal (198A). Corollary revision of Art. 75 (Parahomonyms). Replace the present Article with the following:

"75.1 When two or more generic names are similarly spelled, but differently typified, they are parahomonyms (Art. 64.3).

Examples: *Astrostemma* and *Asterostemma, Pleuripetalum* and *Pleuropetalum.*

75.2 The existence of an earlier parahomonym shall not cause rejection of a name on this ground alone. However, when the continued usage of two or more parahomonyms in botanical nomenclature would be likely to lead to confusion between them (e.g. because they are names of related taxa) nomenclatural conservation may be invoked (Art. 14.2) to suppress all but one parahomonym entirely, in the interests of the unconfused application of the retained name. The decision on whether names are or are not likely to be confused is made by the General Committee on receipt of a proposal. If the General Committee decides that the names are not likely to be confused, both are to be retained. Conservation may also be invoked to eliminate existing confusion in the literature between parahomonyms.

Examples of parahomonyms likely to be confused; *Bradlea* Adans., *Bradleja* Banks *ex* Gaertn. and *Braddleya* Vell., all commemorating Richard Bradley, cannot all be used without serious risk of confusion. (Two of these names should be listed as *parahomonyma rejicienda* of one name, which is retained.) 1178 *Vallota* R. A. Salisb. *ex* Herbert is conserved against its parahomonym *Valota* Adanson. Post 1834 *Symphyglossum* Schlechter is conserved against *Symphyoglossum* Turczaninow. 3182 *Bergenia* Moench is conserved against *Bergena* Adans., 3185 *Boykinia* Nuttall is conserved against *Boykiana* Rafinesque, 3284 *Thamnea* Solander ex A. T. Brongniart is conserved against *Thamnia* P. Browne.

Examples of names not likely to be confused; *Rubia* and *Rubus, Monochaete* and *Monochaetum, Peponia* and *Peponium, Iria* and *Iris, Desmostachys* and *Desmostachya, Symphyostemon* and *Symphostemon, Gerrardina* and *Gerardiina, Durvillea* and *Urvillea*; *Peltophorus* (Poaceae) and *Peltophorum* (Fabaceae).

Examples of names on which the General Committee has expressed an opinion; *Kadalia* Raf. and *Kadali* Adans. (Melastomataceae) are confusable (Taxon 15: 287. 1966); *Acanthoica* Lohmann and *Acanthoeca* W. Ellis (both phytoflagellate algae) are confusable (Taxon 22: 313. 1973); *Acanthococcus* Lagerheim and *Acanthococos* Barb. Rodr. (a palm) are not likely to be confused (Taxon 18: 735. 1969).

75.3 The same applies to parahomonymous specific epithets within genera and to infraspecific epithets within a species.

Examples of parahomonymous epithets likely to be confused if used within a genus; *chinensis* and *sinensis*; *ceylanica* and *zeylanica*; *napaulensis* and *nepalensis* and *nipalensis*; *polyanthemos* and *polyanthemus*; *macrostachys* and *macrostachyus*; *heteropus* and *heteropodus*; *poikiliantha* and *poikilianthes*; *pteroides* and *pteroideus*; *trinervis* and *trinervius*; *macrocarpon* and *macrocarpum*; *trachycaulum* and *trachycaulon.*

Examples of epithets not likely to be confused if used under the same generic name; *napaeifolius* and *napifolius* (e.g. under *Senecio*); *hemsleyana* and *hemsleyi* (e.g. under *Lysimachia* but see Rec. 23.A.); *peplis* and *peplus* (e.g. under *Euphorbia*).

Epithets on which the General Committee has expressed an opinion; The epithets in *Solanum saltense* and *Solanum saltiense* are confusable (Taxon 22: 153. 1973)."

Proposal (198B). Add Rec. 75 C:

"Authors should avoid adopting parahomonymous names and epithets for closely related taxa, if the usage of these similar names is likely to lead to nomenclatural confusion between them. The use of distinctive prefixes or suffixes (e.g. *Neo-*, *Pseudo-*, *-ella*, *-opsis*) to similar or identical stems does not constitute parahomonymy, however."

Remarks: This proposal seeks to eliminate the semantic confusion between homonyms, parahomonyms and orthographic variants which pervades the present Article. These terms are elsewhere defined (orthographic variants in Art. 73, homonyms and parahomonyms in Art. 64 as revised above). The proposal brings the Article into line with my proposal on Art. 14. All the present examples have been retained and a few short additions have been made, together with minor clarifications of wording. It is fairly obvious from the examples that determination of confusable parahomonyms must be left at the discretion of the General Committee as it is impossible to determine this from the form of the name alone.

Proposal (199). Replace present Art. 10 with the following:

10.1 The nomenclatural type of a generic name or the name of any taxon between the ranks of family and species is a taxon in the rank of species and includes all material explicitly assigned to that taxon in the rank of species by the author of the new generic name in the work in which the name first appears.

10.2 The citation of the name of a taxon in the rank of species (a binary combination) is equivalent to the citation of this taxon.

10.3 If the nomenclatural type (a taxon) of the generic name is itself considered to be heterogeneous, the correct application of the generic name is to that part of its nomenclatural type which includes the nomenclatural type (a specimen) of the binary combination used to indicate the type (taxon) of the generic name (Art. 53). See also Art. 22.

10.4 If no validly published binary combination is cited under the new generic name, a cited and validly published combination under another generic name (provided that it indicates a taxon of the rank of species accepted by the author of the new generic name as a member of the newly named genus (Art. 34)) is acceptable as a citation of the taxon in the rank of species typifying the generic name. Example 1.

10.5 If no validly published combinations under the new generic name or under any other generic name are cited, the newly named generic taxon lacks constituent taxa in the rank of species and is consequently incapable of typification. A generic name which is incapable of typification shall be considered to be not validly published; it can however become validly published subsequently when it is adopted by an author who makes combinations under it: meanwhile it is treated as a provisional name (Art. 34).

10.6 The nomenclatural type of a familial name or of the name of a taxon between the ranks of family and genus is a taxon in the rank of genus and includes all nominal species taxa assigned to that generic taxon by the author of the new name in the work in which it appears. Example 2.

10.7 The citation of the name of a taxon in the rank of genus is equivalent to the citation of that taxon in the rank of genus. If the type (a taxon in the rank of genus) of a familial name is considered to be heterogeneous, the correct application of the familial name is to that portion of the taxon in the rank of genus which includes the type (a taxon in the rank of species) of the generic name (see also Art. 18).

10.8 The principle of typification does not apply to names of taxa above the rank of family except for names that are automatically typified by being ultimately based on generic names (see Art. 16).

The type of a familial name not based on a generic name is the taxon in the rank of genus which typifies the alternative name of that family (see Art. 18).

Example 1: *Erinacea* Lamouroux 1824 is explicitly typified on "Le *Fucus erinaceus*, tab. 26 de Turner", not on a taxon named by the uncited and inadmissible tautonym "*Erinacea*

erinacea", nor by the name apparently intended to be used, previously published elsewhere, but invalidly, as *Erinacea capensis, nom. nud.* in avoidance of this tautonym. The correct citation of the type of the name *Erinacea* Lamouroux is therefore *Fucus erinaceus* Turner, and the type of the name *Erinacea* consists of everything assigned to *Fucus erinaceus* by Turner in the work cited, his 'Fuci' (London, 1808–19).

Example 2: of typification of a familial name; Halymeniaceae Bory 1828 is automatically typified on the taxon in the rank of genus *Halymenia* C. Ag. *sensu* Bory 1828. When *Halymenia* C. Ag. *sensu* Bory is considered heterogeneous that portion of it which contains the type of the name *Halymenia* is that to which the familial name is to be correctly applied.

Remarks. The present text of Art. 10 has been the subject of recent dispute over the meaning of the word "species". Some have maintained that this actually means "species" in a biosystematic sense, while others have considered that it should be interpreted as being a specimen. This proposal restates the traditional view that the type of a generic name is a taxon in the rank of species. This is what the Code means when it says "species" because the Code deals with taxa and names, not metaphysical concepts like "biosystematic" species. The interpretation of "species" in the present Article to mean "specimen" would involve substantial and far reaching changes in established practice which would severely destabilise established nomenclature.

Proposed by: P. G. Parkinson, Alexander Turnbull Library, P.O. Box 12349, Wellington, New Zealand.

THREE PROPOSALS TO AMEND THE CODE

Article 59, dealing principally with the names of fungi with a pleiomorphic life history, has long been a source of nomenclatural controversy and as a result was one of the main concerns of the Nomenclature Secretariat set up by the First International Mycological Congress in 1971. As a result of deliberations of a subcommittee of the Secretariat (Subcommittee A) a series of proposals (Proposals (11)–(23)) has been made to amend Article 59 and related articles (Taxon 28: 424–426, 1979). These proposals appear to represent a major step forward in clarifying the nomenclature of fungi with a pleiomorphic life history, and it is to be hoped that they will be accepted by the XIII International Botanical Congress in Sydney.

Two alternative versions of Art. 59.6 are included in the report of Subcommittee A (Proposals (19) and (19 bis)). These present two alternative ways of treating ostensible new combinations between generic names applicable to different morphs. Proposal (19) stays rigidly with Art. 55, always typifying the "comb. nov." by its basionym. Proposal (19 bis), on the other hand, treats such a "comb. nov." (or similar "nom. nov.") as an error, provided that all the other requirements for valid publication of the name of a new taxon of the morph involved are met. Each of the proposals has merit and it is not my intent here to express a preference for one over the other.

The wording of the two proposals is such, however, that, whereas, Proposal (19 bis) covers all transfers from a genus applicable to one morph ("form") to another genus applicable to a different morph, Proposal (19) restricts itself to transfers from holomorphic genera to form-genera and vice-versa.

There are many groups of fungi (e.g. the Metacapnodiaceae, cf. Hughes, N. Z. J. Bot. 10: 225–242, 1972) in which two or more distinct anamorphs (synanamorphs) can be distinguished. It is essential that the provisions of Article 59.6 be applicable also to transfers between genera representing these different anamorphs. Accordingly a proposal is made to extend the provisions of Art. 59.6 as worded in Proposal (19) to transfers between form-genera applicable to different anamorphs.

Proposal (200). In the event of the acceptance of Proposal (19) insert the italicized words in Art. 59.6, so that it reads as follows:

"If a binomial is published as a comb. nov. from a holomorphic genus into a form-genus or vice-versa, *or from a form-genus applicable to one anamorph to a form-genus applicable to another,* it remains, in accordance with Art. 55, typified by the type of its basionym."

It would be helpful to have an example in the Code that illustrated both this point and that made in Art. 59.3 of Proposal (19) that the name of "a form-taxon" is "applicable only to the anamorph described or referred to in the protologue and represented by its type". The following might serve the purpose:

Proposed example (f): *Myrioconium depraedans* (M. C. Cooke) von Arx was published in 1970 as a "*comb. nov.*" based on *Polyactis depraedans* M. C. Cooke (1885), the type of *Cristulariella* Höhnel. Consequently, although a valid and legitimate name, *M. depraedans* can apply only to the *Cristulariella* anamorph, represented by the type of its basionym, and not to the distinct phialide-bearing *Myrioconium* anamorph of the same fungus.

Article 37.1 states that since 1 January 1958, valid publication of a new taxon of the rank of family or below requires "indication" of the nomenclatural type. Indication seems an undesirably vague, or even ambiguous, word in this context. For example, would the choice of an epithet based on a personal name be in itself sufficient indication that a specimen collected by that individual was to be regarded as the type? "Designated" or "cited" would both be better words, though I prefer the former.

The types of the names of all taxa above the rank of genus are indicated implicitly by the generic name on which they are based (Arts. 10 & 16.1). Consequently, it is unnecessary to require explicit designation of a type in such cases. The following proposal to amend Article 37 and Recommendation 37A takes account of these points.

Proposal (201). In line 2 of Art. 37.1 replace "family" by "genus" and "indicated" by "designated". In line 1 of Rec. 37A.1 replace "indication" by "designation".

The committee on Spermatophyta has been concerned by the problem of determining whether "two or more generic names are so similar that they are likely to be confused" (Art. 75.1). The Code has at present a footnote indicating that cases of doubt should be referred to the General Committee. This does not, however, make clear what status any rulings of the General Committee have nor how these are to be reported. The Committee has considered an alternative wording for this footnote which was favoured by a 7–5 majority of the Committee, one vote short of the two-thirds vote established by the Secretary for justifying proposals to be made in the name of the Committee. Accordingly this proposal is being made here.

Proposal (202). Replace the present footnote to Art. 75 by the following:

"When it is doubtful whether names are sufficiently alike to be confused, a request for a decision may be submitted to the General Committee (see Division III) which will refer it for examination to the committee or committees for the appropriate taxonomic group or groups. A recommendation may then be put forward to an International Botanical Congress, and, if ratified, will become a binding decision".

Acknowledgements

I am indebted to my mycological colleagues Drs. S. J. Hughes, G. A. Neish and S. A. Redhead for discussions and suggestions on the first of these proposals, and to Dr. R. K. Brummitt and other members of the Committee on Spermatophyta for the wording of the third proposal.

Proposed by: J. McNeill, Biosystematics Research Institute, Agriculture Canada, Ottawa, Canada K1A 0C6.

TWO ALTERNATIVE PROPOSALS CONCERNING ARTICLE 69 OF THE INTERNATIONAL CODE OF BOTANICAL NOMENCLATURE

Proposal (203). Article 69. To be deleted (and the list of *nomina rejicienda* envisaged therein not to be implemented).

Comment: In the preceding "Seattle Code" (publ. 1972), Articles 69–71 represented the last vestiges of the "species concept" approach in botanical nomenclature, in contrast to the type method which has been accepted as the guiding principle for all editions since 1935. Articles 70 and 71 were deleted from the subsequent "Leningrad Code" (publ. 1978). Art. 69 was maintained, although it was reformulated with due recognition of the type method and with the additional provision for a list of *nomina rejicienda*.

It is interesting to refer to Art. 62 of the "Cambridge Code" of 1930, where it was envisaged that "A list of names to be abandoned for this reason (*Nomina ambigua*) will form Appendix IV". This list was never realised and reference to it was deleted at the 6th Botanical Congress in 1935. In the interim period it must have become clear that such a list would be impractical and/or an unnecessary blemish on the intellectual simplicity of the type method. Half a century later, a list of *nomina* (*ambigua*) *rejicienda* must still be regarded as a misguided attempt towards expediency.

Apparently, the present wording of Art. 69 allows for an interpretation, probably unforeseen by its authors, which may result in an avalanche of proposals for rejection instead of a few exceptional cases. A suitable example is Veldkamp's proposal (449) to reject the name *Alternanthera ficoidea* (L.(?)) Beauv. (Taxon 27: 310–4. 1978), which was criticized by Pedersen as being contrary to the spirit of Art. 69, particularly in regard to wide and persistent misapplication of the name concerned (Taxon 29: 326–8. 1980). Pedersen did not question Veldkamp's fundamental arguments for the proposal, but Mears has published a different opinion about an essential point in an earlier paper (Proc. Acad. Nat. Sci. Philadelphia 129: 16–9. 1977) and has reiterated this in a subsequent one (Taxon 29: 89–90. 1980). This demonstrates clearly the amount of uncreative research required from the Committee members concerned while checking names that allegedly "must be rejected".

There is no doubt that, in cases like the example given, a sensible interpretation of past nomenclatural practices and a lecto-typification with stability in mind can often result in an undesirable name being relegated to obscurity in synonymy. Names that can not be typified satisfactorily should simply be listed as *nomina dubia* at the end of a relevant revision and not be revived arbitrarily. The few instances when rejection of a name may be desirable would not warrant the existence of the list required under the present Art. 69, if only because of the enormous amount of work it would entail for those officially engaged. On the other hand, the number of name changes necessary because of strict adherence to the type method are steadily diminishing in our opinion, particularly where economically important plants are concerned.

The forthcoming Botanical Congress in Sydney in 1981 provides the last opportunity to eliminate the relevant requirement from the Code, before a list of *nomina rejicienda* is established.

Proposal (204). Article 69. The wording to be amended as follows:

"A name may be rejected if it has been widely and persistently used for a taxon not including its type and if its correct application would give rise to confusion. Names thus rejected shall be placed on a list of *nomina rejicienda*."

Comment: If a total deletion of Art. 69 would be unacceptable to a majority at the forthcoming Botanical Congress in 1981, it should be possible to adjust its effects by improving its wording. By replacing the word "must" by "may", an element of compulsion is taken out of the article and this may encourage botanists to look for other nomenclatural solutions before proposing the formal rejection of a name. It will also strengthen the hand of the relevant Committee when deciding not to support insufficiently prepared cases. The addition to the first sentence also emphasizes the need for demonstrating the desirability of a case for rejection, rather than allowing for the automatic implementation of the rule. A list of rejected names

represents legalized exceptions to the general principles and rules of the Code and its size should be kept to a minimum.

Proposed by: Hj. Eichler and A. Kanis, Herbarium Australiense, CSIRO, P.O. Box 1600, Canberra City, A.C.T. 2601, Australia.

PROPOSAL TO PERMIT CONSERVATION OF SPECIES NAMES

The revised version of Art. 69 adopted in Leningrad has not, unfortunately, always achieved the effect desired by its proponents. In trying to apply it, the Committee for Spermatophyta has often found it to be virtually unworkable. We understand that a proposal to improve the wording will be submitted; this will take care of most but not all of the difficulties involved. It seems, however, that the whole concept of names to be rejected *without* a corresponding conserved name is unsatisfactory. The status of most rejected names has not been clearly defined, and a definition that satisfies all requirements will be difficult, if not impossible, to find.

In view of these difficulties, it seems preferable to consider once again what we believe is, in the long run, the only reasonable option: to extend the well-known notion of *nomina conservanda,* whose workability has been proven for many years, to the level of the species. Although similar proposals have been repeatedly defeated in the past, it is our firm belief that it is the only really satisfactory workable solution that is left to us. Two main options exist when trying to avoid disturbing nomenclatural changes. The one is the formulation of explicit provisions in the Code to cover special, often exceptional, cases. This has led to an undesirable and increasing complexity of the nomenclatural rules and, too often, to the introduction of provisions which turned out to have unforeseen and undesirable side effects. The other option is to deal with special cases individually, as exceptions; this can be done through conservation.

In order to avoid a growing complexity of the Code which, in the long run, would inevitably undermine its use and credibility with botanists at large, the concept of *nomina conservanda* at all principal ranks for which the principle of priority is mandatory (i.e. species, genus and family, Arts. 3 & 16) is commended most strongly.

Once provision for *nomina specifica conservanda* has been implemented the need for Art. 69 will disappear and it could be deleted altogether from the Code.

Proposal (205). Modify Art. 14 to allow for conservation of specific names:

(a) Change the beginning of Art. 14.1 to read: "In order to avoid disadvantageous changes in the nomenclature of species, genera, and families entailed by . . ." Delete the word "generic" in line 6.

(b) Change the beginning of Art. 14.2 to read: "conserved name of a family or genus . . . ." Add a sentence: "A conserved name of a species is conserved against all names listed as rejected, and against all combinations based on the rejected names."

(c) Change the beginning of Art. 14.4 to read: "A rejected name, or a combination based on a rejected name, ..."

(d) Change Art. 14.6 to read at the beginning: "When a name of a taxon . . . ;" and in line 3: ". . . the name of a taxon in the same rank . . . ."

Proposed by: W. Greuter, Botanischer Garten, Königin-Liuse-Str. 6-8, Berlin 33 (Dahlem), West Germany, and J. McNeill, Biosystematics Research Institute, Agriculture Canada, Ottawa, Ontario K1A 0C6, Canada.

TWO PROPOSALS ON ARTICLE 45

In its present wording, Art. 45.1 may conflict with Art. 34.1 (a) and (d), and presumably with other provisions on the valid publication of names. If taken literally, it would permit the

validation of a name not accepted by the validating author, or not even appearing in print in the place of its validation. Concrete examples of this are known, and it is to be feared that many more will be traced. To mention but one not too unlikely situation, a name or combination previously invalidly published, owing to the omission of the indication of a type or a full and direct reference to the basionym, could be later validated while cited in synonymy, provided that a type is there designated or the required reference provided. I believe that this is highly undesirable.

Another unsatisfactory feature of Art. 45.1 is that the requirement for a full and direct reference to earlier relevant publications dates back only to January 1973 whereas in the much more common and straightforward case of new combinations it became effective as from January 1953. It is suggested that the starting-point date for this requirement should be the same in both instances.

Proposal (206). Add a new sentence at the end of Art. 45.1:
"However, the name must always be explicitly accepted in the place of its validation."

Proposal (207). In Art. 45.1, change "1973" to "1953."

Proposed by: W. Greuter, Botanischer Garten, Königin-Luise-Str. 6-8, 33 Berlin (Dahlem), West Germany.

MISCELLANEOUS NOMENCLATURAL NOTES

Summary

Various aspects of the ICBN are discussed and proposals are made to adapt Art. 9, 42 and 44 better to the needs of cryptogamists. The reinstatement of Art. 70 in a new formulation is urged, given its relevance to mycology. A defence of the term "division", of descriptive names for taxa of high rank and of the notion that the type of a generic name is a species is presented.

Perusal of the Code and observation of the taxonomic literature have convinced me that despite the clarity of numerous Articles there still remain many places where the International Code of Botanical Nomenclature should be improved, especially in its application to lower plants (Thallophytes). Furthermore there are rules which, while clearly expressed, are systematically ignored by some groups. In some cases this might indicate that the Code should be changed but in others that its present form should be protected and more vigorously enforced. The present paper will assemble various remarks which do not relate to lengthier papers in preparation concerning the orthography section and the starting point date of fungi (in collaboration with D. L. Hawksworth, R. P. Korf and Z. Pouzar).

Art. 3

Despite its heavy rejection in the mail vote before the Leningrad Congress the proposal to adopt "phylum" instead of "division" is made again (prop. 10 by Bold et al., Taxon 27(1): 121–122, 1978). If I concur with the authors of the proposal that making uniform the nomenclatural codes is a most necessary task, this should be done by taking the best from each code. I personally defend the adoption in botany of some of the orthographic rules of zoologists. The term "phylum" is however not one of the good things of the zoological code. It is an ambiguous term which has a connotation of phylogenetic unity for the taxon considered, while nomenclature should be applied to taxa established following any taxonomical philosophy. More importantly it is a common name for a phylogenetically uniform group whatever its rank. In this case botanists should convince the zoologists that they should adopt the term division rather than the reverse. One should also note that the justification of their proposal by Bold et al. is misleading: it seems to imply that the Bacteriological Code also uses the word phylum, while the highest taxonomic unit considered by that Code is that of class.

Art. 9

9.1. Many algae and fungi are not kept on herbarium sheets but in bags, boxes or jars. To be accurate, the end of § 9.1 should read ". . . , which ought to be conserved permanently on one herbarium sheet (or in its equivalent bag, box or jar) or in one preparation".

9.5. Proposals to accept type cultures for algae and fungi will probably be accepted at the next congress. When one sees the characters paleobiochemists now extract from fossils, the disdain for herbarium specimens shown by some microbiologists seems a bit old fashioned. Given the risk of secession from the Botanical Code on the part of the same people, one should admit the living culture as holotype, but prop. 28 from the 2nd Int. Mycol. Congr. (Taxon 28(4): 428, 1979) to strongly recommend that a dried down culture be prepared and deposited in a herbarium should be supported by all those who believe in the type as an element as permanent as possible.

Art. 10

"The type of a name of a genus . . . is a species . . ." I do not know at this moment if any new proposal will come to alter Art. 10 but partisans of the type method should be on the watch. Despite the fact that proposals to change the Code in that direction have been repeatedly rejected some people seem to consider that they are allowed to disregard it and decide that the type of a genus is not a species but the name of a species. As emphasized by Fosberg at the Leningrad Congress a type is an element of a taxon (Art. 7.2) and the constitutive elements of a genus are species not names. To admit that the type of a genus is the name of a species is like admitting that the type of a species is the number of an herbarium collection.

If the misapplication of a name supersedes the rest of the protologue in the typification of a generic name, then we have automatic typification and the whole guide for the determination of types might be deleted and every reference to correct interpretation of the protologue dropped from Art. 7 and 8. One might in fact wonder why generic names should any longer be published with a description following Art. 32 and 41 since this description is of no value in determining the application of the name.

If in order to accommodate the type specimen of a "type specific name" erroneously used by an author we must create an entirely new concept of the genus, a concept of which the original author would never have dreamed, we exchange common sense which is not always easily applied for automatic absurdity. To try to separate taxonomy from nomenclature as much as possible is a good thing but there are points where they cannot be disjoined and typification is the essential one. Typification is a taxonomic judgment with nomenclatural consequences, not the reverse.

Art. 17 and 18.5

Silva (1980) claims that there is an emotional tie between taxonomists and descriptive names as *Centrospermae* and that this will become "progressively attenuated with each succeeding generation". I belong to a younger generation than Dr. Silva and I intend to keep using and promoting the use of such names as best as I can. My reasons are not emotional but what seems to me a logical attachment to Principle III of the Code (priority of publication) and the experience that descriptive names are mnemotechnically the best, often the only ones that botanists remember for groups in which they are not specialized. Typification is irrelevant in the opposition to descriptive names: nothing forbids typification of descriptive names. Family names like *Gramineae* are typified (Art. 10.3). The wish to have every higher rank name based on a generic name has nothing scientific in it, it is this wish which is emotional being a syndrome of what I would call the sergeant-major esthetic: to enjoy making rows of highly standardized objects.

Art. 44

The obligation for valid publication based on a plate to be "with analysis showing essential

characters" is a feature of the Vienna Code which was essentially aimed at flowering plants, probably in order to set aside paintings of an artistic rather than a scientific type. If it is relatively understandable that for flowering plants this analysis refers to some details of the inflorescence it is unclear how this should be interpreted for lower plants. A precision was added at the Paris Congress (present § 44.2), that single figures, if they show the details necessary for identification, are considered as "illustration with analysis" when one deals with microscopic plants. This, however, leaves unspecified what should be done with non-microscopic cryptogams. I used to believe all cryptogamists always followed the spirit of the Code and accepted as valid any publication with a scientific plate where the organism is identifiable without wondering what should be considered an analysis when for example a fleshy fungus is pictured. I was therefore surprised to see, in an index of Bulliard fungal names, Petersen (1977) place the origin of these names in the *Histoire des Champignons de la France* (1791–1812), started by Bulliard and completed by Ventenat, even if these names were introduced earlier in the plates of the *Herbier de la France* (1781–1793). This has some anomalous consequences.

For example *Helvella acicularis* (*Herbier,* pl. 473, fig. 1, 1790) is considered a superfluous new name for *Helvella agariciformia* Bolt. (Hist. fung. Halifax 3: pl. 98, fig. 1, 1790) since this name is cited in synonymy in the text of the *Histoire* (p. 296, 1791). It simply happened that Bulliard included in his 1791 synonymy Bolton's name of which he was unaware when preparing his plate.

Worse, *Lycoperdon cepaeforme* (*Herbier,* pl. 435, fig. 2, 1790), which, the later starting point system notwithstanding, is universally attributed to Bulliard, is attributed by Petersen to Ventenat as a new superfluous name for a part of *L. proteus*. Here what happened was that Bulliard changed his mind between the publication of the plate and that of the text of the *Histoire* (p. 148, 1791) and made of *L. cepaeforme* a variety of a new collective species, *L. proteus*. Ventenat reestablished *L. cepaeforme* in the final index.

Petersen's position is hardly defensible, firstly because Bulliard's plates are so detailed that one wonders what an illustration with analysis of a fungus published in the 18th century could be, if these are not, and secondly because these plates are accompanied by short descriptions which in most cases are in themselves sufficient to validate the names. Nonetheless I believe the ambiguity of Art. 44 is partly responsible for the misleading aspects of Petersen's index and the problem of non-microscopic cryptogams should be more directly addressed.

It should be, of course, paradoxical that coloured plates of fleshy fungi which for a long time have been the most informative published material for that group would be denied nomenclatural importance following misinterpretation of Art. 44. Preponderance of plates over text in these iconographies of fungi clearly appear in the fact it is practically always by the plate and not the page number that those works are referred to.

I would thus propose in Art. 44.2 to replace "microscopic" by "nonvascular". A similar change should be made in Art. 42.4.

Art. 45.4

Proposal 58 by Silva (1980) is welcomed. It is especially necessary to replace the restricted reference to the zoological code, now that some authors use the Bacteriological Code for the blue-green algae (for ex. *Gloeobacter violaceus* Rippka et al., Arch. Microbiol. 100: 435, 1974).

Art. 70 and 71

The deletion of those Articles at the Leningrad Congress occurred under far from satisfactory conditions. First, it was proposed by a committee which did not function, to the point its secretary started his report by "This report is therefore mainly based upon my own interpretation" (Faegri, 1974). Second, the vote was taken in a few minutes during one of the last meetings of the nomenclature session with a considerably attenuated audience, many persons having had difficulties getting a lunch in time that day. While like Weresub (1975) I regret the deletion of both Articles, at the moment I will only propose a new Art. 70.

Art. 70 has mostly been useful to mycologists and its best formulation was that proposed by

the Special Committee for Fungi and Lichens and adopted at Stockholm (Regn. Veg. 1: 522, 1953). Its deletion by a majority of phanerogamists is one of those cases of being unfair to the minority. The formulation which was in the Code from the Paris Congress until the Leningrad Congress was, however, not very good and this may have eased the deletion of the Article. I will thus propose the following new formulation which is based on that adopted at Stockholm:

"A name of a taxon must be rejected if the characters of that taxon were derived from two or more entirely discordant elements, none of which can be selected as a satisfactory type".

Examples where Art. 70 has been applied and for which it should be reintroduced in the new formulation are as follows:

Friend (1965) considered that the thing known as *Fumago vagans* Pers. (type species of the genus *Fumago* Pers.), being regularly formed by a mixture of *Aureobasidium pullulans* (de Bary) Arn. and *Cladosporium herbarum* (Pers.) Link ex Fr., both the specific and generic names should be rejected under Art. 70, an opinion approved by Hughes (1976) in his authoritative treatment of sooty moulds.

Demoulin (1970) having shown that *Lycoperdon subpratense* C. G. Lloyd which was supposed to be an American variant of the European *L. pratense* Pers. per Pers., em. Quél., differing only by the presence of coloured capillitium, was in fact based on specimens hardly distinguishable from the European species and others presenting the coloured capillitium but having only a superficial similarity with *Lycoperdon pratense,* rejected Lloyd's name under Art. 70.

Lowe (1974) showed that *Tyromyces caesiolimitatus* Atk., supposed to differ from *Tyromyces caesius* (Schrad. ex Fr.) Murr. because of its pedicellate spores is in fact *Tyromyces caesius* parasitized by *Tremella polyporina* Reid, whose spores had been observed by Murrill. Lowe consequently used Art. 70 to reject the name *Tyromyces caesiolimitatus.*

In each of these cases the taxonomist was faced with a chimeric taxon for which there is no more reason to choose one element as type rather than the other. Here the notion of satisfactory typification is essential for it is sometimes said that names touched by Art. 70 cannot be typified and that names that cannot be typified cannot be used. This is not true: a name can always be typified but not always satisfactorily. For example, if one has to toss a coin to decide if *Fumago vagans* will become a synonym, eventually priorable, of *Aureobasidium pullulans* or of *Cladosporium herbarum,* this can hardly be considered a satisfactory typification.

Proposal (208). Change the end of Art. 9.1 to read:
". . . , which ought to be conserved permanently on one herbarium sheet (or in its equivalent, bag, box or jar) or in one preparation."

Proposal (209). In Art. 42.4 and 44.2 replace "microscopic" by "nonvascular."

Proposal (210). Re-establish Art. 70 as follows:
"A name of a taxon must be rejected if the characters of that taxon were derived from two or more entirely discordant elements, none of which can be selected as a satisfactory type."

References

Demoulin, V. 1971. Lycoperdon subpratense C. G. Lloyd nomen rejiciendum. *Mycologia* LXIII(6): 1226–1230.
Faegri, K. 1974. Special committee for articles 69, 70, 71 (Report). *Taxon* 23(5/6): 824–828.
Friend, R. J. 1968. What is *Fumago vagans? Trans. Brit. mycol. Soc.* 48(3): 371–373.
Hughes, S. J. 1976. Sooty moulds. *Mycologia* LXVIII (4): 693–820.
Lowe, J. L. 1974. Solution to a mycological mystery. *Trav. mycol. dédiés à R. Kühner (N° spécial Bull. Soc. Linn. Lyon, 43e année)*: 239–240.

Petersen, R. H. 1977. An annotated index for Bulliard's "Histoire des champignons". *Mycotaxon* 6(1): 127–166.
Silva, P. C. 1980. Proposals to amend the code. *Taxon* 29(2/3): 342–346.
Weresub, L. 1975. Nomenclature report from the Leningrad Botanical Congress submitted by Luella Weresub, chairperson of the MSA Nomenclature Committee. *Mycol. Soc. Amer. Newslett.* 26(2): 34–39.

Proposed by: V. Demoulin, Département de Botanique, Université de Liège, Sart Tilman, B-4000, Liège, Belgium.