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International Rules of Botanical Nomenclature

Formulated by the International Botanical Congresses of Vienna, 1905,
Brussels, 1910, and Cambridge, 1930
Adopted and revised by the International Botanical Congress of Amsterdam, 1935

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PREFACE

At the meeting of the Council of the American Society of Plant Taxonomists in St. Louis in March, 1946, action was taken toward the formation of a Committee on Nomenclature of the Society, the purpose of this Committee being to look forward to the next International Congress in order that the Society might take an active part in the deliberations of that body.

In preliminary discussion it was decided that the first task of this Committee on Nomenclature would be the assembling and publication of the present text of the International Rules of Botanical Nomenclature. This was deemed necessary because copies of the last [3rd (1935)] edition were no longer available and because the Congress at Amsterdam in 1935 had made additional changes in the Rules published earlier that year. Furthermore, these changes in the Rules initiated at Amsterdam have not been readily available to many American workers in taxonomy and to some are unknown. The present edition, therefore, is a compilation of what already has been acted upon favorably or authorized at official sessions of the Subsection for Nomenclature of the more recent International Botanical Congresses, together with certain items pertinent to the work of plant taxonomists and which legitimately should be included in such a volume.

The present text has been assembled from the following sources:

Briquet, John [Editor]. International Rules of Botanical Nomenclature. ed. 3. xi + 151 pp. Gustav Fischer, Jena. 1935.

Sprague, T. A. Synopsis of proposals concerning nomenclature submitted to the Sixth International Botanical Congress, Amsterdam, 1935. 80 pp. University Press, Cambridge. 1935. [Because of its original cover, for brevity, this is sometimes referred to as the "Red Book."]

Sprague, T. A. Preliminary opinions concerning nomenclature proposals submitted to the Sixth International Botanical Congress, Amsterdam, 1935. 28 pp. University Press, Cambridge. 1935. [Because of its original cover, this is sometimes referred to as the "Gray Book."]

Sprague, T. A. *in* **Sirks, M. J.** [Editor]. Proceedings, Zesde International Botanisch Congres, Amsterdam, 2–7 September, 1935. [Subsection for Nomenclature] 1: 333–369. E. J. Brill, Leiden. 1936.

[**Green, M. L. & Sprague, T. A.**] Additional nomina generica conservanda (Pteridophyta and Phanerogamae). Kew Bull. 1940: 81–134. 1940.

It is to be clearly understood that the present text, although taken from authentic sources, is in no way to be considered an official edition. Its compilers have attempted to be as careful as possible in bringing the various basic official texts together so as to avoid introducing errors, but there is no warranty that the text in all its parts is as originally intended. This, in part, is a result of occasional slight ambiguities of wording, for those responsible for reporting the action of certain sessions and committees were not always completely clear as to the exact placement in the text of particular emendations, corrections, and additions. In such cases we have had to proceed upon our own judgment.

It will be seen in the main body of the Rules that, in general, we have followed the format of the 3rd (1935) edition. We have attempted here to correct only a few minor typographical errors which came to our attention. In the Appendix containing the conserved generic names (nomina generica conservanda) we have taken considerable liberty and rearranged the text, hoping thus to avoid certain possible errors inherent in a reproduction of the original format and also with a view toward the conservation of space and some saving in the cost of type-setting, with (we trust) no loss of clarity. This was made especially necessary because of the inclusion of a complete index to both conserved and rejected names, a feature not found in former editions.

A casual examination of the main text of the Rules and the lists of nomina conservanda will disclose that several types of citation have been employed. Unfortunately, those who compiled and edited the materials on which the present text is based were not entirely consistent and this is reflected here in a certain amount of irregularity, for we have attempted to follow the original texts with as little change as possible. It will be evident that the present compilers have had no opportunity to check the large number of citations and so bring them into uniformity. It would seem, however, that a special committee might well be formed, its function being that of presenting Recommendations to the next Congress on the standardization of citation to botanical literature. Whether or not these even in part would follow the recommendations adopted by the Botanical Congress at Madison (1893) is of no great moment. The important item is that a greater uniformity in botanical citation than now exists would seem to have considerable advantage, especially to workers in taxonomy.

In closing, the present compilers feel impelled to call attention to several items. In working over and preparing the present text, it became evident that three Articles of the Rules have not always been kept clearly in mind by those perhaps most active in the proposal of changes in the Rules in the past. It would appear—and quite contrary to the excellent dicta laid down so effectively in Article 3—that there has been a tendency by a few individuals toward the proposal of alterations and modifications which were not always "simple" and "clear." Future Congresses might well make strong attempts to keep within the spirit of this Article as they have in the past. It is feared, however, that various parts of Article 4 almost have been forgotten in the zealous attempts by some to bring relatively minor (and often debatable and sometimes even personal) items into the main body of the Rules. It is the concerted opinion of the present compilers that the main body of the International Rules of Botanical Nomenclature should not be permitted to become cluttered with decisions on individual cases; such items should be dealt with by the Executive Committee or a special nomenclatural commission and might very profitably be relegated to appendices designed especially for them or, as with the zoologists, to a series of "opinions." And those who—like the compilers of the present text—sometimes have trouble with the interpretation of particular passages now before us, might read Article 5 again. Its words are comforting and can be a lamp unto our feet, lighting the devious and sometimes tortuous nomenclatural paths which already have been laid out for us. It is therefore hoped that those who seek, in the future, to modify or add to the present Rules will read these three Articles with care and deep thought before they seek to bring their talents to bear on the sometimes perplexing nomenclatural problems which yet confront us.

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H. W. RICKETT, representing the Editorial Board of the American Society of Plant Taxonomists.

C. A. WEATHERBY, Member of the Special Committee for Phanerogamae and Pteridophyta appointed by the Sixth International Botanical Congress, Amsterdam, 1935; and Chairman, the Committee on Nomenclature, the Botanical Society of America.

INTERNATIONAL RULES OF BOTANICAL NOMENCLATURE

[Official deletions from the familiar 3rd (1935) edition have been indicated by dots (. . . . . .) except where new material was substituted, and the additions and substitutions adopted by the Amsterdam Congress have been inserted in **bold-face** type so that they may be located with greater ease (or in SMALL CAPITALS if introduced in a title already in bold-face). As is customary, these changes—although official—are considered as being "on trial" until the next Congress (see Art. 74). In the original texts the footnotes appeared in various languages; here they have been all set in English. Some additional footnotes have been added; these have been initialed by one or more of the present compilers. For ease in publication, all footnotes have been consecutively numbered.]

Chapter I. General Considerations and Guiding Principles (Art. 1–9).

Art. 1. Botany cannot make satisfactory progress without a precise system of nomenclature, which is used by the great majority of botanists in all countries.

Art. 2. The precepts on which this precise system of botanical nomenclature is based are divided into *principles, rules* and *recommendations.* The principles (Art. 1–9, 10–14, 15–19[1]) form the basis of the rules and recommendations. The object of the rules (Art. 19–74) is to put the nomenclature of the past into order and to provide for that of the future. They are always retroactive: names or forms of nomenclature contrary to a rule (*illegitimate names* or *forms*) cannot be maintained. The recommendations deal with subsidiary points, their object being to bring about greater uniformity and clearness **especially** in future nomenclature; names or forms contrary to a recommendation cannot on that account be rejected, but they are not examples to be followed.

Art. 3. The rules of nomenclature should be simple and founded on considerations sufficiently clear and forcible for everyone to comprehend and be disposed to accept.

Art. 4. The essential points in nomenclature are: (1) to aim at fixity of names; (2) to avoid or to reject the use of forms and names which may cause error or ambiguity or throw science into confusion.

Next in importance is the avoidance of all useless creation of names.

Other considerations, such as absolute grammatical correctness, regularity or euphony of names, more or less prevailing custom, regard for persons, etc., notwithstanding their undeniable importance are relatively accessory.

Art. 5. In the absence of a relevant rule, or where the consequences of rules are doubtful, established custom must be followed.

Art. 6. Botanical nomenclature is independent of zoological nomenclature in the sense that the name of a plant is not to be rejected simply because it is identical with the name of an animal. If, however, an organism is transferred from the animal to the plant kingdom, its validly published names are to be accepted as botanical nomenclature in the form prescribed by the rules of botanical nomenclature, and if an organism is transferred from the plant to the animal kingdom, its names retain their status in botanical nomenclature.

Art. 7. Scientific names of all groups are usually taken from Latin or Greek. When taken from any language other than Latin, or formed in an arbitrary man-

[1] Art. 19 is both a principle and a rule.

ner, they are treated as if they were Latin. Latin terminations should be used so far as possible for new names.

Art. 8. Nomenclature deals with: (1) the *terms* which denote the rank of taxonomic groups (Art. 10–14); (2) the *names* which are applied to the individual groups (Art. 15–72).

Art. 9. The rules and recommendations of botanical nomenclature apply to all classes of the plant kingdom, recent and fossil, with certain distinctly specified exceptions.

Chapter II. Categories of Taxonomic Groups, and the Terms Denoting Them (Art. 10–14, Rec. I, II).[2]

Art. 10. Every individual plant, interspecific hybrids and chimaeras excepted, belongs to a species (*species*), every species to a genus (*genus*), every genus to a family (*familia*), every family to an order (*ordo*), every order to a class (*classis*), every class to a division (*divisio*).

Art. 11. In many species, varieties (*varietas*), forms (*forma*), and races or biological forms (*forma biologica*) are distinguished; in parasitic species special forms (*forma specialis*), and in certain cultivated species modifications still more numerous; in many genera sections (*sectio*) are distinguished, in many families tribes (*tribus*).

Recommendation I. In parasites, especially parasitic fungi, authors who do not give specific value to forms characterized from a biological standpoint but scarcely or not at all from a morphological standpoint, should distinguish within the species special forms (*forma specialis*) characterized by their adaptation to different hosts.

Art. 12. Finally, if a greater number of intermediate categories are required, the terms for these subdivisions are made by adding the prefix sub (*sub*) to the terms denoting the categories. Thus subfamily (*subfamilia*) denotes a category between a family and a tribe, subtribe (*subtribus*) a category between a tribe and a genus, etc. The classification of subordinated categories may thus be carried, for wild plants, to twenty-three degrees in the following order: Regnum vegetabile. Divisio. Subdivisio. Classis. Subclassis. Ordo. Subordo. Familia. Subfamilia. Tribus. Subtribus. Genus. Subgenus. Sectio. Subsectio. Species. Subspecies. Varietas. Subvarietas. Forma. Forma biologica. Forma specialis. Individuum.

If this list of categories is insufficient it may be augmented by the intercalation of supplementary categories, provided that this does not introduce confusion or error.

Examples: *Series* and *subseries* are categories which may be intercalated between subsection and species.

Recommendation II. The arrangement of species in a genus or in a subdivision of a genus is made by means of typographic signs, letters or numerals.

The arrangement of subspecies under a species is made by letters or numerals; that of varieties by the series of Greek letters α, β, γ, etc. Groups below varieties and also half-breeds are indicated by letters, numerals or typographic signs at the author's will.

Art. 13. The definition of each of these categories varies, up to a certain point, according to individual opinion and the state of the science; but their relative order, sanctioned by custom, must not be altered. No classification is admissible which contains such alterations.

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[2] For proposals having to do with fossil plants, see Appendix I.

Examples of inadmissible alteration: a form divided into varieties, a species containing genera, a genus containing families or tribes: e.g., Huth (in Engl. *Bot. Jahrb.* XX, 337: 1895) divided the subgenera of *Delphinium* into "tribes."

Art. 14. The fertilization of one species by another may give rise to a hybrid (*hybrida*); that of a . . . . . subdivision of a species by another subdivision of the same species may give rise to a half-breed (*mistus*).

Chapter III. Names of Taxonomic Groups (Art. 15–72, Rec. III–L).

Section 1. General principles; priority (Art. 15–17, Rec. III).

Art. 15. The purpose of giving a name to a taxonomic group is not to indicate the characters or the history of the group, but to supply a means of referring to it.

Art. 16. Each group with a given circumscription, position and rank can bear only one valid name,[3] the earliest that is in accordance with the Rules of Nomenclature.

Art. 17. No one may change a name (or combination of names) without serious motives, based either on more profound knowledge of facts or on the necessity of giving up a nomenclature that is contrary to the Rules.

Recommendation III. Changes in nomenclature should be made only after adequate taxonomic study.

Section 2. The type method (Art. 18, Rec. IV–VII).[4]

Art. 18. The application of names of taxonomic groups is determined by means of *nomenclatural types*. A nomenclatural type is that constituent element of a group to which the name of the group is permanently attached, whether as an accepted name or as a synonym. The name of a group must be changed if the type of that name is excluded (see Art. 66).

The type of the name of an order or suborder is a family, that of the name of a family, subfamily, tribe or subtribe is a genus, that of a generic name is a species, that of the name of a species or group of lower rank is usually a specimen or preparation. In some species, however, the type is a description or figure given by a previous author. Where permanent preservation of a specimen or preparation is impossible, the application of the name of a species or subdivision of a species is determined by means of the original description or figure.

Note: The nomenclatural type is not necessarily the most typical or representative element of a group; it is merely that element with which the name of the group is permanently associated.

Examples: The type of the name *Malvales* is the family *Malvaceae;* the type of the name *Malvaceae* is the genus *Malva;* the type of the name *Malva* is the species *Malva sylvestris* L.; the type of the name *Polyporus amboinensis* Fries is the figure and description in Rumph. *Herb. Amboin.* VI, p. 129, t. 57, fig. 1.

Recommendations:

IV. When publishing names of new groups, authors should indicate carefully the subdivision

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[3] In genera and groups of higher rank, the valid name is the earliest name published with the same rank, provided that this is in conformity with the Rules of Nomenclature and the provisions of Arts. 20 and 21.

In subdivisions of genera the valid name is the earliest name published with the same rank provided that this name and its combination with the generic name are in conformity with the Rules of Nomenclature.

In species and groups of lower rank, the valid name is the binary or ternary combination containing the earliest epithet published with the same rank, provided that this combination is in conformity with the Rules of Nomenclature.

[4] For proposals for selecting types of fossil groups, see Appendix I.

which is the type of the new name: the type-genus in a family, the type-species in a genus, the type-variety or specimen in a species. This type determines the application of the name in the event of the group being subsequently divided. When describing new species, varieties or forms of parasitic plants, especially Fungi, the host plant of the type should be indicated.

V. When revising a genus, an author should state which species he accepts as the nomenclatural type.

VI. In selecting a nomenclatural type for a genus of non-vascular Cryptogams, botanists should, where possible, choose a species that will fix the generic name as it is now commonly applied.

Examples: *Hypoxylon* Fr. (*Summa Veg. Scand.* 383–4). Fries first used the name for a genus to include 25 species now distributed in *Ustulina, Anthostoma, Nummularia, Daldinia, Sordaria,* etc. To take the first species, *H. ustulatum* as the type would displace the name *Ustulina,* and most of the other species which are now known as *Hypoxylon* would require another generic name. If however, *H. coccineum,* species No. 11 in Fries's list, a well-known and widely-distributed species, be taken as the type, the name *Hypoxylon* would be retained in its present general application and the nomenclature would be stabilized.—The genus *Valsa* Fr. (*Summa Veg. Scand.* 410) contained 44 species now placed in several different genera. The first species *V. Sorbi* is now known as a species of *Eutypella.* By selecting *V. ceratophora* Tul. (*V. decorticans* Fr.) the name *Valsa* is retained in its present general application and many nomenclatural changes are avoided[5].

VII. The utmost importance should be given to the preservation of the original ("type") material on which the description of a new group is based. In microscopic Cryptogams the preparations and the original drawings, in fleshy Fungi water-colour drawings and specimens suitably prepared or dried, should be preserved. The original account should state where this material is to be found.

Section 3. **Limitation of the principle of priority; publication, starting-points, conservation of names** (Art. 19–22).

Art. 19. A name of a taxonomic group has no status under the Rules, and no claim to recognition by botanists, unless it is validly published (see Section 6, Art. 37).

Art. 20. Legitimate botanical nomenclature begins for the different groups of plants at the following dates:—

(a) *Phanerogamae* and *Pteridophyta,* 1753 (Linnaeus, *Species Plantarum,* ed. 1).

(b) *Muscineae,* 1801 (Hedwig, *Species Muscorum*).

(c) *Sphagnaceae* and *Hepaticae,* 1753 (Linnaeus, *Species Plantarum,* ed. 1).

(d) *Lichenes,* 1753 (Linnaeus, *Species Plantarum,* ed. 1).

(e) *Fungi: Uredinales, Ustilaginales* and *Gasteromycetes,* 1801 (Persoon, *Synopsis methodica Fungorum*).

(f) *Fungi caeteri,* 1821–32 (Fries, *Systema mycologicum*).

(g) *Algae,* 1753 (Linnaeus, *Species Plantarum,* ed. 1).

Exceptions.—*Nostocaceae homocysteae,* 1892–93 (Gomont, *Monographie des Oscillariées,* in *Ann. Sci. Nat. Bôt.* sér. 7. XV, 263, XVI, 91).—*Nostocaceae heterocysteae,* 1886–88 (Bornet et Flahault, *Revision des Nostocacées hétérocystées* in *Ann. Sci. Nat. Bot.* sér. 7. III, 323, IV, 344, V, 51, VII, 177).—*Desmidiaceae,* 1848 (Ralfs, *British Desmidieae*).—*Oedogoniaceae,* 1900 (Hirn, *Monographie und Iconographie der Oedogoniaceen* in *Act. Soc. Sci. Fenn.* XXVII, No. 1).

(h) *Myxomycetes,* 1753 (Linnaeus, *Species Plantarum,* ed. 1).

The nomenclature of Fossil Plants of all groups begins with the year 1820.

The two volumes of Linnaeus, *Species Plantarum,* ed. 1 (1753), which appeared in May and August, 1753, respectively, are treated as having been published simultaneously on the former date.

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[5] Numerous cases of this kind might be cited among the Fungi. Following the above recommendation would largely obviate the need of a lengthy list of *nomina conservanda.*

Example: The generic names *Thea* L. *Sp. Pl.* ed. 1, I (May 1753) and *Camellia* L. *Sp. Pl.* ed. 1, II (Aug. 1753) are treated as having been published simultaneously in May 1753. Under Art. 56, the combined genus bears the name *Camellia*, since Sweet (*Hort. Suburb. Lond.* 1818, 157), who was the first to write [? unite] the two genera, chose that name, citing *Thea* as a synonym.

It is agreed to associate generic names which appear in Linnaeus's *Species Plantarum*, ed. 1 (1753) and ed. 2 (1762–63) with the first subsequent descriptions given under those names in Linnaeus's *Genera Plantarum*, ed. 5 (1754) and ed. 6 (1764).

Art. 21. However, to avoid disadvantageous changes in the nomenclature of genera by the strict application of the Rules of Nomenclature, and especially of the principle of priority in starting from the dates given in Art. 20, the Rules provide a list of names which must be retained as exceptions. These names are by preference those which have come into general use in the fifty years following their publication, or which have been used in monographs and important floristic works up to the year 1890.

Note 1. These lists of conserved names will remain permanently open for additions. Any proposal of an additional name must be accompanied by a detailed statement of the cases for and against its conservation. Such proposals must be submitted to the Executive Committee, who will refer them for examination to the Special Committees for the various taxonomic groups.

Note 2. The application of conserved names is determined by nomenclatural types, or by substitute-types where necessary or desirable.

Note 3. A conserved name is conserved against all other names for the group, whether these are cited in the corresponding list of rejected names or not, so long as the group concerned is not united or reunited with another group bearing a legitimate name. In the event of union or reunion with another group, the earlier of the two competing names is adopted in accordance with Art. 56.

Note 4. A conserved name is conserved against all earlier homonyms.

Examples.—The generic name *Spergularia* J. et C. Presl (1819) is conserved against *Alsine* L. (1753), emend. Reichb. (1832) (= *Delia* Dum. + *Spergularia*), although *Alsine* L. (1753), partim, is not included in the list of rejected names: *Spergularia* was conserved as including *Delia* (*Alsine* L., partim).—If the genus *Weihea* Spreng. (1825) is united with *Cassipourea* Aubl. (1775), the combined genus will bear the prior name *Cassipourea*, although *Weihea* is conserved, and *Cassipourea* is not.—If *Mahonia* Nutt. (1818) is reunited with *Berberis* L. (1753), the combined genus will bear the prior name *Berberis*, although *Mahonia* is conserved.—*Nasturtium* R. Br. (1812) was conserved only in the restricted sense, for a monotypic genus based on *N. officinale* R. Br.: hence, if it is reunited with *Rorippa* Scop. (1760), it must bear the name *Rorippa*. —The generic name *Swartzia* Schreb. (1791), conserved in 1905 against *Tounatea* Aubl., *Possira* Aubl. and *Hoelzelia* Neck., is thereby conserved automatically against the earlier homonym *Swartzia* Ehrh. (1787).

Art. 22. When a name proposed for conservation[6] has been provisionally approved by the Executive Committee, botanists are authorized to retain it pending the decision of the next International Botanical Congress.

Section 4. Nomenclature of the taxonomic groups according to their categories (Art. 23–35, Rec. VIII–XX).

§1. *Names of groups above the rank of family.*

Recommendations:

VIII. Names of divisions and subdivisions, of classes and subclasses, are taken from their chief characters. They are expressed by words of Greek or Latin origin in the plural number, some similarity of form and termination being given to those which designate groups of the same nature.

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[6] There is also to be provided a list of *Nomina conservanda familiarum* (Art. 23; Appendix II).

Examples: *Angiospermae, Gymnospermae, Monocotyledoneae, Dicotyledoneae, Pteridophyta, Coniferae.* Among Cryptogams old family names such as *Fungi, Lichenes, Algae,* may be used for the names of groups above the rank of family.

IX. Orders are . . . . . preferably **taken from** the name of one of their principal families, with the ending *-ales.* Suborders are designated in a similar manner, with the ending *-ineae.* But other terminations may be used for these names, provided that they do not lead to confusion or error.

Examples of names of orders: *Polygonales* (from *Polygonaceae*), *Urticales* (from *Urticaceae*), *Glumiflorae, Centrospermae, Parietales, Tubiflorae, Microspermae, Contortae.* Examples of names of suborders: *Bromeliineae* (from *Bromeliaceae*), *Malvineae* (from *Malvaceae*), *Tricoccae, Enantioblastae.*

§2. *Names of families and subfamilies, tribes and subtribes.*

Art. 23. Names of families are taken from the name of one of their . . . . . genera, **or from a synonym,** and end in *-aceae.*

Examples: *Rosaceae* (from *Rosa*), *Salicaceae* (from *Salix*), *Caryophyllaceae* (from *Caryophyllus,* a pre-Linnean genus).

Exceptions: (1) The following names, sanctioned by long usage, are treated as exceptions to the rule: *Palmae, Gramineae, Cruciferae, Leguminosae, Guttiferae, Umbelliferae, Labiatae, Compositae.* Botanists are authorised, however, to use as alternatives the appropriate names ending in *-aceae.* (2) Those who regard the *Papilionaceae* as constituting an independent family may use that name, although it is not formed in the prescribed manner.

To avoid disadvantageous changes in the nomenclature of families by the strict application of the Rules and especially of the principle of priority, a list of names which must be retained as exceptions will be provided (Appendix II) [This list has now been compiled].

Art. 24. Names of subfamilies (*subfamiliae*) are taken from the name of one of the genera in the group, with the ending *-oideae,* similarly for tribes (*tribus*) with the ending *-eae,* and for subtribes (*subtribus*) with the ending *-inae.*

Examples of subfamilies: *Asphodeloideae* (from *Asphodelus*), *Rumicoideae* (from *Rumex*); tribes: *Asclepiadeae* (from *Asclepias*), *Phyllantheae* (from *Phyllanthus*); subtribes: *Metastelmatinae* (from *Metastelma*), *Madiinae* (from *Madia*).

§3. *Names of genera and subdivisions of genera.*

Art. 25. Names of genera are substantives (or adjectives used as substantives), in the singular number and written with an initial capital, which may be compared with our family names. These names may be taken from any source whatever, and may even be composed in an absolutely arbitrary manner.

Examples: *Rosa, Convolvulus, Hedysarum, Bartramia, Liquidambar, Gloriosa, Impatiens, Manihot, Ifloga* (an anagram of *Filago*).

Recommendation X. Botanists who are forming generic names show judgment and taste by attenting to the following recommendations:—

(a) Not to make names very long or difficult to pronounce.

(b) Not to dedicate genera to persons quite unconnected with botany or at least with natural science nor to persons quite unknown.

(c) Not to take names from barbarous languages, unless those names are frequently cited in books of travel, and have an agreeable form that is readily adaptable to the Latin tongue and to the tongues of civilised countries.

(d) To indicate, if possible, by the formation or ending of the name the affinities or analogies of the genus.

(e) To avoid adjectives used as nouns.

(f) Not to give to a genus a name whose form is rather that of a subgenus or section (e.g., *Eusideroxylon,* a name given to a genus of *Lauraceae.* This, however, being legitimate, cannot be altered).

(g) Not to make names by combining words from different languages (*nomina hybrida*).

(h) **To give a feminine form to all personal generic names, whether they commemorate a man or a woman.**

Art. 26. Names of subgenera and sections are usually substantives resembling the names of genera. Names of subsections and other lower subdivisions of genera are preferably adjectives in the plural number agreeing in gender with the generic name and written with an initial capital, or their place may be taken by an ordinal number or a letter.

Examples: Substantives: ***Fraxinaster, Trifoliastrum, Adenoscilla, Euhermannia, Archieracium, Micromelilotus, Pseudinga, Heterodraba, Gymnocimum, Neoplantago, Stachyotypus.***— Adjectives: ***Pleiostylae, Fimbriati, Bibracteolata.***

Recommendations:

XI. Botanists constructing names for subgenera or sections will do well to attend to the preceding recommendations and also to the following:—

(a) To give, where possible, to the principal subdivision of a genus a name which recalls that of the genus with some modification or addition. Thus ***Eu*** may be placed at the beginning of the generic 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.

Examples: *Eucardamine* (from *Cardamine*), *Trifoliastrum* (from *Trifolium*), *Drabella* (from *Draba*).

(b) To avoid giving to a subgenus or a section the name of the genus to which it belongs, with the ending *-oides* or *-opsis:* but on the contrary to reserve this ending for a section which resembles another genus and by then adding *-oides* or *-opsis* to the name of that other genus, if it is of Greek origin, to form the name of the section.

(c) To avoid taking as the name of a subgenus or section a name which is already in use as such in another genus, or which is the name of a genus.

(d) To avoid in co-ordinated subdivisions of a genus the use of names in the form of a noun together with those in the form of a plural adjective; the former should be used chiefly for subgenera and sections, the latter for subsections, series and subseries.

XII. When it is desired to indicate the name of a subgenus or section (or other subdivision to which a particular species belongs) in connection with the generic name and specific epithet, the name of the subdivision is placed in parenthesis between the two (where necessary, the rank of the subdivision is also indicated).

Examples: *Astragalus* (*Cycloglottis*) *contortuplicatus; Loranthus* (Sect. *Ischnanthus*) *gabonensis.*

§4. *Names of species (binary names).*

Art. 27. Names of species are binary combinations consisting of the name of the genus followed by a single specific epithet. If an epithet consists of two or more words, these must either be united or joined by hyphens. Symbols forming part of specific epithets proposed by Linnaeus must be transcribed.

The specific epithet, when adjectival in form and not used as a substantive, agrees in gender with the generic name.

Examples: ***Cornus sanguinea, Dianthus monspessulanus, Papaver Rhoeas, Uromyces Fabae, Fumaria Gussonei, Geranium Robertianum, Embelia Sarasinorum, Atropa Belladonna, Impatiens noli-tangere, Adiantum Capillus-Veneris.—Scandix Pecten*** ♀ L. must be transcribed as ***Scandix Pecten-Veneris; Veronica Anagallis*** ∇ L. must be transcribed as ***Veronica Anagallis-aquatica.—Helleborus niger, Brassica nigra, Verbascum nigrum.***

Recommendations:

XIII. The specific epithet should, in general, give some indication of the appearance, the characters, the origin, the history or the properties of the species. If taken from the name of a person, it usually recalls the name of the one who discovered or described it, or was in some way concerned with it.

XIV. Names of men and women and also of countries and localities used as specific epithets, may be substantives in the genitive (*Clusii, saharae*) or adjectives (*Clusianus, dahuricus*). It will be well, in the future, to avoid the use of the genitive and the adjectival form of the same epithet to designate two different species of the same genus: for example ***Lysimachia Hemsleyana*** Maxim. (1891) and *L. Hemsleyi* Franch. (1895).

XV. In forming specific epithets botanists will do well to have regard also to the following recommendations:—

(a) To avoid those which are very long and difficult to pronounce.

(b) To avoid those which express a character common to all or nearly all the species of a genus.

(c) To avoid using the names of little-known or very restricted localities, unless the species is quite local.

(d) To avoid, in the same genus, epithets which are very much alike, especially those which differ only in their last letters.

(e) Not to adopt unpublished names found in travellers' notes, or in herbaria, attributing them to their authors, unless these have approved publication.

(f) Not to name a species after a person who has neither discovered, nor described, nor figured, nor in any way studied it.

(g) To avoid epithets which have been used before in any closely allied genus.

(h) To avoid specific epithets formed of two or more (hyphened) words.

(i) To avoid epithets which have the same meaning as the generic name (pleonasm).

§5. *Names of groups below the rank of species (ternary names).*

Art. 28. Epithets of subspecies and varieties are formed like those of species and follow them in order, beginning with those of the highest rank. When adjectival in form and not used as substantives they agree in gender with the generic name.

Similarly for subvarieties, forms and slight or transient modifications of wild plants, which receive either epithets or numbers or letters to facilitate their arrangement. The use of a binary nomenclature for subdivisions of species is not admissible. It is permissible to reduce more complicated names to ternary combinations.

Examples: *Andropogon ternatus* subsp. *macrothrix* (not *Andropogon macrothrix* or *Andropogon ternatus* subsp. *A. macrothrix*); *Herniaria hirsuta* var. *diandra* (not *Herniaria diandra* or *Herniaria hirsuta* var. *H. diandra*); *Trifolium stellatum* forma *nanum* (not *nana*). *Saxifraga Aizoon* subforma *surculosa* Engl. et Irmsch. is permissible for *Saxifraga Aizoon* var. *typica* subvar. *brevifolia* forma *multicaulis* subforma *surculosa* Engl. et Irmsch.

Art. 29. The same epithet may be used for subdivisions of different species, and the subdivisions of one species may bear the same epithet as other species.

Examples: *Rosa Jundzillii* var. *leioclada* and *Rosa glutinosa* var. *leioclada; Viola tricolor* var. *hirta* in spite of the existence already of a different species named *Viola hirta.*

Art. 30. Two subdivisions of the same species, even if they are of different rank, cannot bear the same subdivisional epithet, unless they are based on the same type. If the earlier subdivisional name (ternary combination) was validly published, the later one is illegitimate and must be rejected.

Examples: The ternary combinations *Biscutella didyma* subsp. *apula* Briq. and *Biscutella didyma* var. *apula* Halácsy (see Briquet, *Prodr. Fl. Corse*, II, 107, 108: 1913) may both be used because they are based on the same type, and the one includes the other.

The following is incorrect: *Erysimum hieraciifolium* subsp. *strictum* var. *longisiliquum* and *E. hieraciifolium* subsp. *pannonicum* var. *longisiliquum*—a form of nomenclature which allows two varieties bearing the same name in the same species.

Andropogon Sorghum subsp. *halepensis* var. *halepensis* Hack. is permissible: the two subdivisions bearing the same epithet but representing subordinate grades based on the same type, *A. halepensis* Brot., and thus being synonymous except that the epithet of the lower subdivision is used in a restricted sense.

Recommendations:

XVI. Recommendations made for specific epithets apply equally to epithets of subdivisions of species.

XVII. Special forms (*forma specialis*) are preferably named after the host species; if desired, double names may be used.

Examples: *Puccinia Hieracii* f. sp. *villosi; Pucciniastrum Epilobii* f. sp. *Abieti-Chamaenerii.*

XVIII. 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.

Examples: *Andropogon caricosus* subsp. *mollissimus* var. *mollissimus* Hackel; *Arthraxon ciliaris* subsp. *Langsdorfii* var. *genuinus* Hackel.

XIX. Botanists proposing new epithets for subdivisions of species should avoid such as have been used previously in the same genus, whether for species or for subdivisions of other species.

§6. *Names of hybrids and half-breeds.*

Art. 31. Hybrids or putative hybrids between species of the same genus are designated by a formula and, whenever it seems useful or necessary, by a name.

(1) *Sexual hybrids.* The formula consists of the names or specific epithets of the two parents in alphabetical order and connected by the sign ×. When the hybrid is of known experimental origin, the formula may be made more precise by the addition of the signs ♀, ♂, the name of the female (seed-bearing) parent being placed first.

The name, which is subject to the same rules as names of species, is distinguished from the latter by the sign × before the name.

(2) *Asexual hybrids* (graft hybrids, chimaeras, etc.). The formula consists of the names of the two parents in alphabetical order and connected by the sign +. The name has a "specific" epithet different from that of the corresponding sexual hybrid (if any), and is preceded by the sign +.

Examples of sexual hybrids: × *Salix capreola* (*Salix aurita* × *caprea*), *Digitalis lutea* ♀ × *purpurea* ♂; *Digitalis purpurea* ♀ × *lutea* ♂.

Examples of asexual hybrids: + *Solanum tubingense* (*Solanum* **Lycopersicum** + **nigrum**).

Art. 32. Bigeneric hybrids (i.e., hybrids between species of two genera) are also designated by a formula and, whenever it seems useful or necessary, by a name.

The formula consists of the names of the two parents connected by a sign, as in Art. 31.

The name consists of a new "generic" name usually formed by a combination of the names of the parent genera, and a "specific" epithet. All hybrids (whether sexual or asexual) between the same two genera bear the same "generic" name.

(1) *Sexual hybrids.* In the formula the connecting sign × is used. The name is preceded by the sign ×.

(2) *Asexual hybrids.* In the formula the connecting sign + is used. The name is preceded by the sign +. The "specific" epithet is different from that of the corresponding sexual hybrid (if any) between the same species.

Examples of sexual hybrids: × *Odontioda Boltonii* (*Cochlioda Noezliana* × *Odontoglossum Vuylstekeae*); × *Pyronia Veitchii* (*Cydonia oblonga* × *Pyrus communis*).

Examples of asexual hybrids: + *Laburnocytisus Adami* (*Laburnum anagyroides* + *Cytisus purpureus*); + *Pyronia Daniellii* (*Cydonia oblonga* + *Pyrus communis*).

Art. 33. Ternary hybrids, or those of a higher order, are designated like ordinary hybrids by a formula and, whenever it seems useful or necessary, by a binary name. Such as are trigeneric or polygeneric are given new "generic" names usually formed by a combination of the names of the parent genera.

Examples: × *Salix Straehleri* = *Salix aurita* × *cinerea* × *repens* or *S.* (*aurita* × *repens*) × *cinerea.*

Examples of new generic names: × *Brassolaeliocattleya* (composed of the three names *Brassavola, Laelia* and *Cattleya*); × *Potinara;* × *Vuylstekeara.*

Recommendation XX. Half-breeds or putative half-breeds may be designated by a name and a formula. Names of half-breeds are intercalated among the subdivisions of a species, and

are preceded by the sign ×. In the formula the names of the parents are in alphabetical order. When the half-breed is of known experimental origin, the formula may be made more precise by the addition of the signs ♀, ♂, the name of the female (seed-bearing) parent being placed first.

Art. 34. When different hybrid forms of the same parentage (pleomorphic hybrids; combinations between different forms of a collective species, etc.) are united in a collective group, the subdivisions are classed under the binary name of the hybrid like the subdivisions of a species under that of a species.

Examples: ×*Mentha niliaca* forma *Lamarckii* (= a form of the pleomorphic hybrid ×*M. niliaca* = *M. longifolia* × *rotundifolia*). The preponderance of the characters of one or other parent may be indicated in the formulae in the following manner: *Mentha longifolia* > × *rotundifolia*, *M. longifolia* × < *rotundifolia*. The participation of a particular variety may also be indicated, e.g., *Salix caprea* × *daphnoides* var. *pulchra*.

§7. *Names of plants of horticultural origin.*

Art. 35. Forms and half-breeds among cultivated plants receive fancy epithets preferably in common language, as different as possible from the Latin epithets of species or varieties. When they can be attached to a species, a subspecies, or a botanical variety, this is indicated by a succession of names.

The fancy epithet will be preceded by the letter "c."

Examples: *Pelargonium zonale* c. Mrs. Pollock.

Section 5. Conditions of effective publication (Art. 36).

Art. 36. Publication is effected, under these Rules, by sale to the general public or to botanical institutions, of printed matter or indelible autographs, or by distribution of these to specified representative botanical institutions.[7]

No other kind of publication is accepted as effective: communication of new names at a public meeting, or the placing of names in collections or gardens open to the public, does not constitute effective publication.

Where separates from periodicals or other works placed on sale are issued in advance, the date on the separate is accepted as the date of effective publication.

Examples: Effective publication without printed matter: *Salvia oxyodon* Webb et Heldr. was published in July 1850 in an autograph catalogue placed on sale (Webb et Heldreich, *Catalogus Plantarum hispanicarum . . . ab A. Blanco lectarum*, Paris, Jul. 1850, folio).—Non-effective publication at a public meeting: Cusson announced his establishment of the genus *Physospermum* in a memoir read at the Société des Sciences de Montpellier in 1770, and later in 1782 or 1783 at the Société de Médecine de Paris, but its effective publication dates from 1787 in the *Mémoires de la Société Royale de Médecine de Paris*, V, 1re partie, p. 279.

Section 6. Conditions and dates of valid publication of names (Art. 37–45, Rec. XXI–XXIX).

Art. 37. A name of a taxonomic group is not validly published unless it is both (1) effectively published (see Art. 36), and (2) accompanied by a description of the group or by a reference to a previously and effectively published description of it.

Mention of a name on a ticket issued with a dried plant without a printed or autographed description does not constitute valid publication of that name.

A name of a taxonomic group is not validly published unless it is definitely accepted by the author who publishes it. A name proposed provision-

[7] The preparation of a list of representative botanical institutions is referred to the Executive Committee (see App. VI).

ally (*nomen provisorium*) in anticipation of the eventual acceptance of the group, or of a particular circumscription, position or rank of a given group, or merely mentioned incidentally is not validly published.

Note. In certain circumstances a plate or figure with analyses is accepted as equivalent to a description (see Art. 43, 44).

Examples of names not validly published.—*Egeria* Néraud (*Bot. Voy. Freycinet*, 28: 1826) published without description or reference to a former description.—*Sciadophyllum heterotrichum* Decaisne et Planch. in *Rev. Hortic.* sér. 4, III, 107 (1854), published without description or reference to a previous description under another name.—The name *Loranthus macrosolen* Steud. originally appeared without a description on the printed tickets issued about the year 1843, with Sect. II. nn. 529, 1288 of Schimper's herbarium specimens of Abyssinian plants; it was not validly published, however, until A. Richard (*Tent. Fl. Abyss.* I, 340: 1847) supplied a description.—*Nepeta Sieheana* Hausskn. was not validly published by its appearance without a description in a set of dried plants (W. Siehe, *Bot. Reise nach Cilicien*, No. 521: 1896).

Art. 38. From January 1, 1935,[8] names of new groups of recent plants, the Bacteria excepted, are considered as validly published only when they are accompanied by a Latin diagnosis.

Note. This article legitimizes names of new groups effectively published from 1908 to 1934 with diagnoses in modern languages.

Art. 39. From January 1, 1912, the name of a new taxonomic group of fossil plants is not considered as validly published unless it is accompanied by illustrations or figures showing the essential characters, in addition to the description, or by a reference to a previously and effectively published illustration or figure.

Art. 40. A name of a taxonomic group is not validly published when it is merely cited as a synonym.

Examples: *Acosmus* Desv., cited as a synonym of the generic name *Aspicarpa* Rich., was not validly published thereby.—*Ornithogalum undulatum* Hort. Berol. ex Kunth (*Enum. Pl.* IV, 348: 1843), cited as a synonym under *Myogalum Boucheanum* Kunth, was not validly published thereby; when transferred to *Ornithogalum* this species must be called *Ornithogalum Boucheanum* (Kunth) Aschers. (in *Oesterr. Bot. Zeitschr.* XVI, 192: 1866).—Similarly *Erythrina micropteryx* Poepp. was not validly published by being cited as a synonym of *Micropteryx Poeppigiana* Walp. (in *Linnaea*, XXIII, 740: 1850); the species in question, when placed under *Erythrina*, must be called *Erythrina Poeppigiana* (Walp.) O. F. Cook (in *U. S. Dept. Agric. Bull.* no. 25, p. 57: 1901).

Art. 41. A group is not characterized, and the publication of its name is not validated, merely by mention of the subordinate groups included in it: thus the publication of the name of an order is not validated by mention of the included families; that of a family is not validated by mention of the included genera; that of a genus is not validated by mention of the included species.

Examples.—The family name *Rhaptopetalaceae* Pierre (in *Bull. Soc. Linn. Par.* II, 1296: maio 1897), which was accompanied merely by mention of constituent genera, *Brazzeia, Scytopetalum* and *Rhaptopetalum*, was not validly published, as Pierre gave no description; the family bears the later name *Scytopetalaceae* Engl. (in Engl. und Prantl, *Nat. Pflanzenfam. Nachtr.* I, 242: 1897, serius), which was accompanied by a description.—The generic name *Ibidium* Salisbury (in *Trans. Hort. Soc.* I, 291: 1812) was published merely with the mention of four included species: as Salisbury supplied no generic description, the publication of *Ibidium* was invalid.

Art. 42. A name of a genus is not validly published unless it is accompanied (1) by a description of the genus, or (2) by the citation of a previously and effectively published description of the genus under another name; or (3) by a reference to a previously and effectively published description of the genus as a subgenus, section or other subdivision of a genus.

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[8] Owing to the delay in publication of the Rules the Editors have put forward the date from 1932 (see statement by the Rapporteur Général; Fifth International Botanical Congress Report, p. 591: 1931).

An exception is made for the generic names published by Linnaeus in *Species Plantarum*, ed. 1 (1753) and ed. 2 (1762–63), which are treated as having been validly published on those dates (see Art. 20).

Note. In certain circumstances, a plate with analyses is accepted as equivalent to a generic description (see Art. 43).

Examples of validly published generic names: *Carphalea* Juss. (*Gen. Pl.* 198: 1789), accompanied by a generic description; *Thuspeinanta* Th. Dur. (*Ind. Gen. Phanerog.* p. x: 1888), accompanied by a reference to the previously described genus *Tapeinanthus* Boiss. (non Herb.); *Aspalathoides* (DC.) K. Koch (*Hort. Dendrol.* 242: 1853), based on a previously described section, *Anthyllis* sect. *Aspalathoides* DC.

Art. 43. The name of a monotypic new genus based on a new species is validated: (1) by the provision of a combined generic and specific description (*descriptio generico-specifica*), or (2) by the provision of a plate with analyses showing essential characters; but this applies only to plates and generic names published before January 1, 1908.[8a]

Examples: The generic name *Sakersia* Hook. f. (*Hook. Ic. Pl.* Ser. III. i. 69, t. 1086: 1871) was validly published, being accompanied by a combined generic and specific description of *S. africana* Hook. f. (nov. gen. et sp.), the only known species.—The generic name *Philgamia* Baill. (in Grandidier, *Hist. Madag., Pl., Atlas* III, t. 265: 1894) was validly published, as it appeared on a plate with analyses of *P. hibbertioides* Baill. (nov. gen. et sp.), published before January 1, 1908.

Art. 44. The name of a species or of a subdivision of a species is not validly published unless it is accompanied (1) by a description of the group; or (2) by the citation of a previously and effectively published description of the group under another name; or (3) by a plate or figure with analyses showing essential characters; but this applies only to plates or figures published before January 1, 1908.

Examples of validly published names of species: *Onobrychis eubrychidea* Boiss. (*Fl. Or.* II, 546: 1872), published with a description.—*Hieracium Flahaultianum* Arv.-Touv. et Gaut., published on a label with a printed diagnosis in a set of dried plants (*Hieraciotheca gallica*, nos. 935–942: 1903).—*Cynanchum nivale* Nyman (*Syll. Fl. Eur.* 108: 1854–55), published with a reference to *Vincetoxicum nivale* Boiss. et Heldr. previously described.—*Panax nossibiensis* Drake (in Grandidier, *Hist. Madag., Bot., Atlas* III, t. 406: 1896), published on a plate with analyses.

Examples of names of species not validly published are given under Art. 36 and 40.

Art. 45. The date of a name or of an epithet is that of its valid publication (see Art. 19, 37). For purposes of priority, however, only legitimate names and epithets published in legitimate combinations are taken into consideration[9] (see Art. 60). In the absence of proof to the contrary, the date given in the work containing the name or epithet must be regarded as correct.

On and after January 1, 1935,[10] only the date of publication of the Latin diagnosis can be taken into account for new groups of recent plants.

For new groups of fossil plants, on and after January 1, 1912, the date is that of the simultaneous publication of the description and figure (or if these are published at different dates, the later of the two dates).

Examples: Specimens of *Mentha foliicoma* Opiz were distributed by Opiz in 1832, but the name dates from 1882, when it was validly published by Déséglise (*Menth. Op.* in *Bull. Soc.*

[8a] Because of its punctuation the text of Art. 43 appears to mean that the application of both provisions (1) and (2) is limited to names published before January 1, 1908. It is possible that actually this limitation was intended to apply only to provision (2); in which case the comma after "(*descriptio generico-specifica*)" should be replaced by a semicolon, and the semicolon after "essential characters" by a comma. Compare Art. 44.—H.W.R.

[9] A *legitimate* name or epithet is one that is strictly in accordance with the Rules.

[10] See note to Art. 38.

Études Scient. Angers, 1881–82, 210); *Mentha bracteolata* Opiz (*Seznam*, 65: 1852, without description), takes effect only from 1882, when it was published with a description (Déséglise *loc. cit.* 211).—There is some reason for supposing that the first volume of Adanson's *Familles des Plantes* was published in 1762, but in the absence of certainty the date 1763 on the title-page is assumed to be correct.—Individual parts of Willdenow's *Species Plantarum* were published as follows: vol. I, 1798; vol. II, 2, 1800; vol. III, 1, 1801; vol. III, 2, 1803; vol. III, 3, 1804; vol. IV, 2, 1806; and not in the years 1797, 1799, 1800, 1800, 1800 and 1805, respectively, which appear on the title-pages of the volumes: it is the former series of dates which takes effect.[10a]

Botanists will do well in publishing to conform to the following Recommendations:—

XXI. Not to publish a new name without clearly indicating whether it is the name of a family or a tribe, a genus or a section, a species or a variety; briefly, without expressing an opinion as to the rank of the group to which the name is given.

Not to publish the name of a new group without indicating its type (see Recommendation IV).

XXII. To avoid publishing or mentioning in their publications unpublished names which they do not accept, especially if the persons responsible for these names have not formally authorized their publication (see Recommendation XV, e).

XXIII. When publishing names of new groups of plants, in works written in a modern language (floras, catalogues, etc.) to publish simultaneously the Latin diagnoses of recent plants (Bacteria excepted) and the figures of fossil plants, which will validate the publication of these names.

XXIV. In describing new groups of lower Cryptogams, especially among the Fungi or among microscopic plants, to add to the description a figure or figures of the plants, with details of microscopic structure, as an aid to identification.

XXV. The description of parasitic plants should always be followed by the indication of the hosts, especially in the case of parasitic fungi. The hosts should be designated by their Latin scientific names and not by popular names in modern languages, the significance of which is often doubtful.

XXVI. To give the etymology of new generic names, and also of new epithets when the meaning of these is not obvious.

XXVII. To indicate precisely the date of publication of their works and that of the placing on sale or the distribution of named and numbered plants when these are accompanied by printed diagnoses. In the case of a work appearing in parts, the last published sheet of the volume should indicate the precise dates at which the different fascicles or parts of the volume were published as well as the number of pages in each.

XXVIII. When works are published in periodicals, to require the publisher to indicate on the separate copies the date (year and month, if possible the day) of publication and also the title of the periodical from which the work is extracted.

XXIX. Separate copies should always bear the pagination of the periodical of which they form a part; if desired they may also bear a special pagination.

Section 7. Citation of authors' names AND OF LITERATURE for purposes of precision (Art. 46–49, Rec. XXX–XXXII).

Art. 46. For the indication of the name (unitary, binary, or ternary) of a group to be accurate and complete, and in order that the date may be readily verified, it is necessary to cite the author who first published the name in question.

Examples: *Rosaceae* Juss., *Rosa* L., *Rosa gallica* L., *Rosa gallica* L. var. *eriostyla* R. Keller.

Art. 47. An alteration of the diagnostic characters or of the circumscription of a group **without exclusion of the type** does not warrant the citation of an author other than the one who first published its name.

When the changes have been considerable, an indication of their nature and of the author responsible for the change is added, the words: *mutatis charact.*, or *pro parte*, or *excl. gen.*, *excl. sp.*, *excl. var.*, or some other abridged indication being employed.

[10a] The dates given are incorrect; see Torrey, Fl. N. Y. 7: xii and Schubert in Rhodora **44**: 147–150.—C.A.W.

Examples: *Phyllanthus* L. em. (emendavit) Müll. Arg.; *Myosotis* L. pro parte, R. Br.; *Globularia cordifolia* L. excl. var. (em. Lam.).

Art. 48. When a name of a taxonomic group has been proposed but not published by one author, and is subsequently validly published and ascribed to him (or her) by another author who supplied the description, the name of the latter author must be appended to the citation with the connecting word *ex*. The same holds for names of garden origin cited as "Hort."

If it is desirable or necessary to abbreviate such a citation, the name of the publishing author, being the more important, must be retained.

Examples: *Hevetia flexilis* Spruce ex Planch. et Triana; *Capparis lasiantha* R. Br. ex DC.; *Gesneria Donklarii* Hort. ex Hook., or *Gesneria Donklarii* Hook.

Where a name and description by one author are published by another author, the word *apud* is used to connect the names of the two authors, except where the name of the second author forms part of the title of a book or periodical, in which case the connecting word *in* is used instead.

Examples: *Teucrium charidemi* Sandwith apud Lacaita (in *Cavanillesia*, III, 38: 1930), the description of the species being contributed by Sandwith and published in a paper by Lacaita. *Viburnum ternatum* Rehder (in Sargent, *Trees and Shrubs*, II, 37: 1907)—in this latter example the second author's name, Sargent, forms part of the title of a book.

Art. 49. When a genus or a group of lower rank is altered in rank but retains its name or epithet, the original author must be cited in parenthesis, followed by the name of the author who effected the alteration. The same holds when a subdivision of a genus, a species, or a group of lower rank, is transferred to another genus or species with or without alteration of rank.

Examples: *Medicago polymorpha* L. var. *orbicularis* L. when raised to the rank of a species becomes *Medicago orbicularis* (L.) All. *Anthyllis* sect. *Aspalathoides* DC. raised to generic rank, retaining the name *Aspalathoides*, is cited as *Aspalathoides* (DC.) K. Koch. *Sorbus* sect. *Aria* Pers., on transference to *Pyrus*, is cited as *Pyrus* sect. *Aria* (Pers.) DC. *Cheiranthus tristis* L. transferred to the genus *Matthiola* becomes *Matthiola tristis* (L.) R. Br.

Recommendations:

XXX. Authors' names put after names of plants are abbreviated, unless they are very short. For this purpose preliminary particles or letters that, strictly speaking, do not form part of the name, are suppressed, and the first letters are given without any omission. If a name of one syllable is long enough to make it worth while to abridge it, the first consonants only are given (Br. for Brown); if the name has two or more syllables, the first syllable and the first letter of the following one are taken, or the two first when both are consonants (Juss. for Jussieu, Rich. for Richard). When it is necessary to give more of a name to avoid confusion between names beginning with the same syllables the same system is to be followed. For instance two syllables are given together with the one or two first consonants of the third; or one of the last characteristic consonants of the name is added (Bertol. for Bertoloni, to distinguish from Bertero; Michx. for Michaux, to distinguish from Micheli).

Christian names or accessory designations, serving to distinguish two botanists of the same name, are abridged in the same way (Adr. Juss. for Adrien de Jussieu, Gaertn. fil. or Gaertn. f. for Gaertner filius).

When it is a well established custom to abridge a name in another manner, it is best to conform to it (L. for Linnaeus, DC. for De Candolle, St.-Hil. for Saint Hilaire).

In publications destined for the general public and in titles it is preferable not to abridge.

XXXI. When citing a name published as a synonym, the words "as synonym" or *pro synon.* should be added to the citation.

When an author published as a synonym a manuscript name of another author, the word *ex* should be used to connect the names of the two authors.

Example: *Myrtus serratus* Koenig ex Steud. *Nomencl.* 321 (1821) pro synon., a manuscript name of Koenig's published by Steudel as a synonym of *Eugenia laurina* Willd.

XXXII. The citation of authors, earlier than the starting point of the nomenclature of a group, is indicated when considered useful or desirable, preferably between brackets or by the