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Author(s): Nora Zabinkova
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In the Preamble the statement, that the Code is to provide a stable method of naming taxonomic groups by means of the principle of priority, is immediately followed by the following sentence: "*Next in importance is the avoidance of the useless creation of names.*" In other words: stability of nomenclature and its usefulness.

The same sequence of thought is observed in Art. 14, priority followed by a restriction for usefulness.

My proposal is only to acknowledge this in the wording of the Code to read as follows:

(i) Principle III. The nomenclature of a taxonomic group is based upon priority of publication *unless expressly limited for the purpose of nomenclatural stability.*

The addition is printed in italics. It is in accordance with the cited sentence of the Preamble and with Art. 14, even as it stands now. It also conforms to a similar restriction in Principle VI, whereby the Rules are declared retroactive "unless expressly limited", and in Principle IV which says that there is only one correct name for each taxon "except in specified cases".

(ii) Art. 14. In order to avoid disadvantageous changes in the nomenclature of genera, families and intermediate taxa entailed by the strict application of the Rules, and especially of the principle of priority in starting from the dates given in Art. 13, this Code provides, in Appendices II and III, lists of names that are conserved (*nomina generica conservanda*) and must be retained as *useful* exceptions. *Conservation aims at retention of those generic names which best serve stability of nomenclature.*

The proposed changed wording is printed in italics. It gives clearer guidance to the subcommittees on conservation of generic names and removes ambiguity.

I may add that I have laid the text of this article before several experienced taxonomists and found them distinctly in favour. I am thankful to them for improvement of the wording. Some wanted to endorse the essence of the proposals in public, namely Dr. R. C. Bakhuizen van den Brink Jr., Dr. H. R. Fletcher, Dr. J. S. L. Gilmour, and Dr. H. W. Rickett.

NAMES OF TAXA ABOVE THE RANK OF ORDER

Nora Zabinkova (Leningrad)

The terms, denoting taxa below the rank of order are strictly regulated by the International Code of Botanical Nomenclature. They are formed by adding some suffix to the stem of the name of their type genus. They are always plural adjectives of the feminine gender agreeing grammatically with the substantive "plantae". So, for the names of families the suffix -ace with the ending -ae (-aceae), is used, for the names of subfamilies the suffix -e with the ending -ae (-eae) and so on.

The principles of naming taxonomic groups above the rank of order had not been worked out until recently. For instance, in Gobi's system of plants (Gobi, 1916) the same suffix is used for the designation of taxonomic groups of different ranks and, on the contrary, the names of taxonomic groups of the same rank are formed by adding different suffixes. So -ineae is used both for the terms denoting orders (Protascineae, Perisporineae etc.) and suborders (Pezizineae, Helwellineae etc.); in their turn, names of divisions are formed by adding now the stem -morpha (Protomorpha), now -phyta (Mycetophyta), or some others.

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As another example can be cited Engler's classification (Engler, 1954). It is composed in such a way that the names of subclasses, even belonging to the same class, are formed by means of different suffixes, e.g. -atae (Eusporangiatae, Leptosporangiatae), -idae (Osmundidae) and finally -filices (Primofilices); on the other hand, the terms denoting classes include -atae too (Articulatae) and at the same time many others (Lycopsida, Floridae).

Lately some attempts, more or less successful, have been made by proposing a system of stems and suffixes to introduce a stable method of naming taxonomic groups such as will enable everyone to judge by these names the rank of the group; but all systems until now proposed suffer from some defects, and, besides, they have not been universally recognized.

In this article we are trying to suggest some principles of naming taxa above the rank of order for the higher plants, if they were adopted, would allow a system of classification of plants uniform with respect to structure of terms to be drawn up.

Let us first examine the general principles of naming taxa above the rank of order which are recommended by the International Code. They are formed, in general, by adding some suffix to the stem of a generic name, or, for the highest categories (divisions and subkingdoms), to the stem of a word that denotes a character common to all plants pertaining to this taxon. The names of divisions, Euglenophyta, Bryophyta, Chlorophyta, Chrysophyta, for instance, include some Greek stems (Euglena - a generic name, Bryon - a moss, Chloros - green, Chrysos - gold) etc.

To these stems are added different word-elements of Greek or Latin origin. For the names of taxa above the rank of order (for higher plants) the International Code (1961) recommends:

1. For the names of divisions -phyta.
2. For the names of subdivisions -phytina.
3. For the names of classes -opsida.
4. For the names of subclasses -idae.

Novak (Novák, 1961), who follows these recommendations, has recognized in addition three taxa above the rank of division: subregnum, the name of which is formed by adding -bionta, phylum, that has an element -phytae and subphylum which ends in -phytinea. Thus the whole of Novak's system presents the following picture:

Subregnum -bionta (e.g. Cormobionta)
Phylum -phytae (e.g. Chlorophytae)
Subphylum -phytinea (e.g. Cormophytinea)
Divisio -phyta (e.g. Tracheophyta)
Subdivisio -phytina (e.g. Coniferophytina)
Classis -opsida (e.g. Pinopsida)
Subclassis -idae (e.g. Pinidae).

In his turn, Cronquist (1960) recognizes the rank subkingdoms too and keeps for it the element -phyta; therefore the names of subkingdoms for instance Thallophyta and Embryophyta, on the one hand, and the names of divisions on the other as Schizophyta, Bryophyta, Psilophyta etc., become uniform with respect to the structure of terms.

Firstly, we should approve the principle that is strictly determined by the International Code of Botanical Nomenclature for the names of taxa below the class, namely:

1. For the names of taxa of the same rank a certain element is used.
2. The same element is used only for the names of taxa of a certain rank.

In general, the choice of these elements can be arbitrary, but they should answer some linguistic requirements. Such terms will be applicable in every case. What are these requirements?

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1. The elements can be adjective-forming suffixes and endings, or stems of a noun; as we shall presently see, the first type of element is more suitable and therefore more widely distributed.

2. In combination with the first part of a word (that is commonly a generic name) they should not form terms which would be very long or difficult to pronounce. Consequently, they should not duplicate stems that are widely distributed in the names of genera. From this point of view the element -opsida, proposed by the International Code for the names of classes, is not appropriate, because there are many generic names which end in -opsis, e.g. Lycopsis, Phaulopsis, Amanitopsis, Gynandropsis, Balanops, Thujopsis, Cyrtandropsis, Morindopsis etc.

Similar arguments might be advanced with reference to the use of the element -phytina, proposed for the names of subdivisions. If it were necessary to form a name of class from a generic name, which ends in -opsis or a name of subdivision from a name of a genus, which ends in -phytum or -phyton the words composed would be very long and difficult to pronounce, for the element -opsi, and -phyt, would recur there twice.

The element -morpha (by which Gobi has formed the names of some divisions) is equally doubtful, as it is frequently found in botanical terms, e.g. xeromorphus, zygomorphus, dimorphus, heteromorphus and many others.

3. The word-elements used in nomenclature should not have any lexical meaning, or their meaning should be sufficiently broad; otherwise the naming of taxa of the same rank in other groups of plants would be absurd. Let us illustrate this with some examples.

There are two widely distributed names of subdivisions — Gymnospermae and Angiospermae. The element -spermae is derived from the Greek word -sperma, and therefore cannot be used for the names of subdivisions of Fungi, Algae, etc.

Similarly there are two names of classes Monocotyledones and Dicotyledones; the indication of the number of cotyledons prevents us from using these terms as names of classes of lower plants.

Finally, let us consider Cronquist's suggestion to use for the names of classes the element -ae, namely an ending without any suffix. The following objection may be made to this recommendation: most names of taxa of different ranks include the same ending -ae and thus the names of classes would not differ from those of other taxa. If the very absence of the suffix were to serve as a sign of distinction, it would still not be satisfactory, for there are many generic names including the element -e recommended by the International Code for the names of tribes. Thus, the name of a class, based on the generic names Thea, Olea, Hydrangea, Nymphaea formed according to Cronquist, would be similar to the names of tribes.

Hence, we propose as a basis for naming taxa above the rank of order the following principles:

1. To all groups of plants names of taxa below the rank of division should to be formed from the stem of a generic name by adding to it a certain suffix (preferably of Latin origin).

2. The names of taxa of the rank of division and above should be taken either from a character common to all the plants belonging to this taxon, or from any generic name.

To stems of these words are added elements -bionta and -phyta, sanctioned by long usage. The words, that designate a character should be of Greek origin to avoid hybrid names.

It is on these principles that a system of word-elements for naming taxa above the rank of order could be founded.

Subregnum -bionta (from Greek bios - life) — Examples: Thallobionta, Cormobionta (or Telomobionta).

Divisio -phyta (from Greek phyton - plant) — Examples: Rhodophyta, Phaeophyta, Bryophyta.

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Subdivisio -icae — Examples: Magnolicae, Cycadicae.

Classis -atae — Examples: Marchantiatae, Lycopodiatae, Cycadatae.

Subclassis -idae (from Greek -ides, similar) — Examples: Pinidae, Marsileidae.

If we introduce some intermediate taxon in the classification of plants, some additional word-elements could be adopted. Thus, the element -antes can be used for names of superclasses, -anae for names of superorders, etc.

The following proposals are made in relation to the names of taxa above the rank of order.

Proposal 1. Recommendation 16A to be read:

(a). The name of a division is taken either from character indicating the nature of the division as closely as possible, or from any generic name; it should end in -phyta. Words of Greek origin are generally preferable.

(b). The name of a subdivision based on some generic name (on a name of some type genus or its synonym) ends in -icae. Examples: Pinicae, Cycadicae.

(c). The name of a class is formed in a similar manner by adding -atae. Examples: Lycopodiatae, Marchantiatae.

(d). The name of a subclass is designated in a similar manner with -idae. Examples: Marattiidae, Pinidae.

Proposal 2. If any intermediate rank of taxon is introduced in the classification of plants some additional ending may be used: -antes for names of superclasses, -anae for names of superorders, etc.

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THE TAXA OF THE HIGHER PLANTS ABOVE THE RANK OF ORDER

A. Takhtajan (Leningrad)

In the systems of classification of the higher plants proposed during the last decades there reign extraordinary differences of opinion on the content and size of the higher taxa as well as on their nomenclature. There is even no generally accepted name for the higher plants. Though such lack of agreement in the designation of the higher taxa has no great importance in research work on systematics, it is still somewhat disturbing in tutorial activities both for teachers and students, by adding unnecessary difficulties to the study of systematics. This muddle considerably increased after 1952 when in the International Code of Botanical Nomenclature there were introduced rather unfortunate recommendations to use the ending -phytina for subdivisions and the ending -opsida for the classes.

As Mrs. Nora Zabinkova correctly states in her paper contributed to this number of Taxon, it is inadvisable to form names of taxa from generic names by means of the

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