

© Lectotype: → This is a substitute of the holotype when that is lost & is to be selected from the isotypes. When no holotype was designated by the author a specimen from the original material is selected to be the lectotype.

ⓑ Neotype: → When all original materials are missing a Neotype is selected from other materials.

## 2. Rules of Priority: →

In the case of a family or a taxon below the rank of a family i.e. genus, species etc. the earliest legitimate name should be considered as valid (or correct).

Limitation: → For this purpose 1st May 1753 is taken as the earliest date for all plants excepting the fungi, some algae & the Musci. Other than Sphagnaceae. This means the names appearing in Linnaeus's species Plantarum are the earliest names for the purpose of consideration of the Rule of Priority, those published earlier are not to be given priority.

Example: → Given below is the nomenclatural history of genus.

Polygala Linn. (1753).

Poligala Neck. (1768).

Polygaloides Agost. (1770).

Phylax Nor. (1790).

A/c to the rules of priority the earliest name Polygala Linn. is the correct name for the genus.

## 3. Names of Taxa: →

The genus: →

① Name of the genus is a substantive noun in singular number or words are treated as such.

- ① All scientific names of plants should be in Latin.  
 ② The rules of nomenclature are retroactive.
- Following are the imp. rules for naming  
Genera & species.

### 1. Nomenclatural types:

The nomenclatural type is that constituent element (a specimen, or a description or a figure) of a taxon to which the name is permanently attached. This need not be the most typical or representative element but is the original material on which the description of the taxon is based. The nomenclatural type of a genus is the species on which the generic name was based. While the nomenclatural type of sps & taxa below the rank of sps may be a herbarium material, a preserved specimen, an illustration or even a reference to an illustration published earlier. Thus the genus Mollugo Linn. has M. pentaphylla Linn. as the type sps & this sps is typical, typified by a specimen (Herm. 3:23 & 4:47) deposited in Hermann's Herbarium now in British Museum.

Following kinds of types are recognised.

- Ⓐ Holotype: → specimen or other element designated by the author or used by him as the nomenclatural type.
- Ⓑ Isotype: → This is a duplicate of the holotype.
- Ⓒ Syntype: → When more than one specimen are cited by the author without mentioning which is the holotype, each specimen is designated as syntype.
- Ⓓ Paratype: → Specimens cited along with the holotype are designated as paratype.

Q/ What is ~~the~~ binomial system of nomenclature? Discuss briefly the impt. rls for naming General species.

Ans/

Binomial system of nomenclature for plants was suggested by Carolus Linnaeus (1753) which has been elaborately discussed in his book Species plantarum. In this system the plants are given two names. One name is given to plants of one type known as genus & all other plants of similar kind with slight differences are denoted by a small explanatory word specific epithet. Plants, therefore, have one generic & other specific epithet. The scientific names are printed in italics & are underlined when typed or when written with hand. The generic name starts with the capital letter & specific with small letters. eg - Euphorbia hirta

Principles

Rules of Nomenclature:

The rules of naming diff. taxa of plants are embedded in a book known as the International code of Botanical Nomenclature. The code has been prepared after discussion & agreement between the botanists in the international botanical congress held in different places since 1867. the last of which the 13th session being held in Sydney in 1981. There are 5 guiding principles in the code & 75 articles giving the rules.

The guiding principles are noted below: -

- ① Botanical Nomenclature is independent of zoological nomenclature.
- ② Name of taxonomical groups should be governed by a rule of priority.
- ③ A taxon can have only one correct name.

(9)

- (ii) The name of the genus is always written with capital initial letters.
- (iii) For one kind of plant only one generic name is suggested which may be in Latin or may have Latin termination.
- (iv) Long names are abbreviated, adjective used as noun are also avoided.
- (v) Usually generic names of plants do not consist of two word unit joined by a hyphen eg - Sebastiania-schouneria.
- (vi) The names of the plants are in Latin or of Latin appearance.
- (vii) Such names may be suggested in honour of any eminent botanist as genus Theophrasta for Theophrastus the father of Botany, or on the basis of the place of their discovery eg: Pandanus from Malay, or on the basis of certain character eg - Cercocarpus (coiled fruit) or some generic names are of poetic origin eg - Nymphaea (From water lily).

### The Species:

The name of the species is a binary combination consisting of the name of the genus followed by a single specific epithet. [The specific epithet is an adjective & is of the same gender as the generic name, or is a noun apposition to the generic name. The specific epithet must not exactly repeat the generic name.] All specific & infra-specific epithets should be written with a small initial letter. [Formerly it was the custom to spell the epithets with a capital initial letter where the epithets were derived from the names of person. (eg - Crataegus Complanata Grayi), or were

## Effective & Valid Publications

Any printed matter widely circulated is regarded as effectively published. It is sufficient if the printed matter is distributed, at least to the biological institutions with libraries accessible to biologists generally.

The date of effective publication is the date on which the printed matter becomes available. Valid publication of a name of new taxon is necessary to have it effectively published, to have a correct form & to be accompanied by a description or diagnosis or a reference to a previously published description.

For the name of a new taxon to be valid it is necessary that the description or diagnosis should be in Latin those published earlier to 1st Jan. 1935 are considered valid even if the description or diagnosis were not in Latin. In case of algae the date has been fixed as 1st Jan 1958 instead of 1st Jan. 1935.

Publication of a new name of the rank of family or below i.e. genus, sps etc. on or after 1st Jan, 1958 is not considered valid if the type is not indicated.

The name of taxon below the rank of genus is not validly published unless the name of the genus to which it is assigned is validly published.

Author Citation : → He who first validly published the name of a taxon is the author of that name. It is necessary to cite the name of the author after the name of the taxon. Usually the names are cited in abbreviated forms.

- e.g. - Vitex linn.
- C. hirtella linn.

(6)

When the name is published jointly by two authors, the name will be linked up by means of et or an ampersand (&) in case there are more authors.

eg: Dilysopomy glaucensis Britton et Wilson  
S. alba niger Hasseltine et al.

When an author who validly publishes a name & ascribes it to another person (generally to the author who suggested the name, but failed to publish it validly or to an author who published the name before the starting point of the group), the name & later should be connected to the name of the person who validly published the name by an ex. eg

eg - Acalypha racemosa Willd. ex Bail.

When a genus or sp. is altered in rank or position but retains its name or epithet, the name of author who first published the name or epithet (basionym) must be cited in parentheses followed by the name of the author who effected the change. This is called double citation. eg - Leucaena latifolia (Linn) Gillis (1974)

Basionym: Mimosa latifolia Linn (1753)

[When citing the name of a taxon of garden origin, the name should be ascribed to Hort. (Hortulanorum) & connected to the name of author who published it, by an ex. eg - Cosmos denckarii Hort. ex Hook.]

Retention of specific & infra-specific epithets:

When a sp. is transferred to another genus, without change of rank the specific epithet must be retained

Rejection of names: → ① "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." (Art. 62).

- ② "A name must be rejected if it is used in diff. senses & so has become a long-persistent source of error."
- ③ "A name must be rejected if it is used in diff. senses & so has become a long-persistent source of error."