

# TYPE CONCEPT

## #Nomenclatural Type:

Definition of Nomenclatural type: Seven points-

Nomenclatural type is — (i) A specimen (or illustration) (ii) based on which the first description (i.e. called protologue) has been made, (iii) Name is attached to that specimen permanently. (iv) Specimen along with that name Preserved permanently in a herbarium, (v) Description along with that name appeared in a printed form, (vi) Providing the details of the specimens preferably with the citation where the species is permanently preserved providing acronym.  
If these points are fulfilled then the species will be as Nomenclatural type

The Code recognizes several kinds of type, depending upon the way in which a type specimen is selected. These include:

## Holotype:

**A holotype of a name of a species or infraspecific taxon is the one specimen or illustration either (a) indicated by the author(s) as the nomenclatural type or (b) used by the author(s) when no type was indicated. As long as the holotype is extant, it fixes the application of the name concerned (Art. 9.1).**

For the purpose of typification, a specimen is a gathering, or part of a gathering, of a single species or infraspecific taxon made at one time, disregarding admixtures. It may consist of a single plant, parts of one or several plants, or of multiple small plants. A specimen is usually mounted either on a single herbarium sheet. It is now essential to designate a holotype when publishing a new species. If a specimen designated by the author serves all seven points mentioned in the definition of Nomenclatural type- then it is Holotype.

Ex- *Polygala jacobii* Chandr. **Chandrabose 28777A** (CAL) Holotype.  
(\*Please see the example in the box to understand this)

## Isotype:

**An isotype is any duplicate of the holotype; it is always a specimen (Art. 9.5).**

Isotype is always a specimen which is a duplicate of the holotype, collected from the same place, at the same time and by the same person. *Often the collection number is also the same, differentiated as A, B, C, etc.*

Ex- *Polygala jacobii* Chandr. **Chandrabose 28777 B** (MH) Isotype.  
(\*Please see the example in the box to understand this)

## Paratype:

**A paratype is any specimen cited in the protologue that is neither the holotype nor an isotype, nor one of the syntypes if in the protologue (Art. 9.7).**

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When author use one gathering (such as which bear flowers) as Holotype and Isotype(s) then different gathering *i.e.* collected at different time (such as bearing fruits) cited in the protologue is/are paratype(s).

Ex- *Polygala jacobii* Chandr. **Rangachari s.n (Acc No- 2441)** (MH) paratype.

(\*Please see the example in the box to understand this)

\*Example- M. Chandrabose published a new species *Polygala jacobii* Chandr. in **Bulletin Botanical Survey of India** vol.9 (1-4) in 1967. So, this publication is the protologue (See the download section for PDF of this original Research Paper). The holotype of *Polygala jacobii* Chandr. *Bull. Bot. Surv. India* 9(1-4): 1967. is **Chandrabose 28777A** (CAL) and the **isotypes Chandrabose 28777 B-K (MH)** were collected from, the bank! of Noyil river, Coimbatore town, Madras State, at an altitude of about 467 m., on 9-5-1965. They also mentioned about specimen collected by Rangachari & Tadulingam Acc No- 2441 to 2445 and Acc No- 2463 (MH) deposited in MH. These are paratypes.

## Syntype:

**A syntype is any specimen cited in the protologue when there is no holotype, or any one of two or more specimens simultaneously designated in the protologue as types (Art. 9.6).** Any one of the two or more specimens cited by the author when no holotype was designated, or any one of the two or more specimens when simultaneously designated as types called Syntype.

Duplicate of a syntype is an isosyntype.

## Lectotype:

**A lectotype is one specimen or illustration designated from the original material as the nomenclatural type, if the name was published without a holotype, or if the holotype is lost or destroyed, or if a type is found to belong to more than one taxon (Art. 9.3).**

A lectotype is selected from isotypes or syntypes. In lectotype designation, an isotype must be chosen if such exists, or otherwise a syntype if such exists. If no isotype, syntype or isosyntype (duplicate of syntype) is extant, the lectotype must be chosen from among the paratypes if such exist.

## Neotype:

A specimen or illustration selected to serve as nomenclatural type as long as all of the material on which the name of the taxon was based is missing; a specimen or an illustration selected when no holotype, isotype, paratype or syntype exists.

## Epitype:

A specimen or illustration selected to serve as an interpretative type when the holotype, lectotype or previously designated neotype, or all original material associated with a validly published name, is demonstrably ambiguous and cannot be critically identified for purposes of the precise application of the name of a taxon. When an epitype is designated, the holotype or previously designated lectotype must be cited.

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Please Remember Each Name (Each validly published binomial name) should have a nomenclature type, regardless of the fact that name is a correct name or synonym. So please remind yourself “Name has types, species do not have types”

For Example-

*Hibiscus vitifolius* L. 1753 is a valid name so it has a type (specimen)- LINN 875.33 which is kept in herbarium of the Linnean Society, London (LINN) similarly,

*Hibiscus obtusifolius* Wild. 1800 is also a valid name and also has type (specimen) which is preserved in Berlin Herbarium, Germany (B)

Later studies of both the type specimen suggested that *Hibiscus vitifolius* L. 1753 and *Hibiscus obtusifolius* Wild. are actually same species. So, what would be the correct name of this species?

According to the rule of priority *Hibiscus vitifolius* L. 1753 became the correct name and *Hibiscus obtusifolius* Wild. 1800 became the synonym. Now this does not change their types. The type of *Hibiscus obtusifolius* Wild. 1800 is remain the same (Picture on the right) and The type of *Hibiscus vitifolius* L. remains the same. (Picture on your Left.)



So, these examples are given to make you understand if it is a validly published name, each name has a type and preservation of these type specimen is important for further study (as you have seen comparison of type specimen only suggested that they belong to one species). Please find the Research Paper where a new species *Polygala jacobii* has been described. You will have your Concept crystal clear.