BIOL 157: PRINCIPLES OF SYSTEMATICS

LESSONS 8 & 9

PRIORITY AND

ACCEPTANCE OF SCIENTIFIC NAMES

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PRIORITY

- PRINCIPLES OF PRIORITY
- The valid name of a taxon is the oldest available name applied to it, unless that name has been invalidated or another name is given precedence by any provision of the Code or by any ruling of the Commission.

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- For this reason priority applies to the validity of synonyms, to the relative precedence of homonyms, the correctness or otherwise of spellings, and to the validity of nomenclatural acts (such as acts taken under the Principle of the First Reviser and the fixation of name-bearing types).
- **Advantage**: Priority promotes stability.

ACCEPTANCE OF SCIENTIFIC NAMES

- To be accepted by the ICBN, plant names have to be **effectively and validly published** to be legitimate and correct.
- The processes below should be observed;

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1. Effective publication

- A name becomes effectively published when it is published in printed form and made available to the general public,
- or at least to botanical institutions with libraries accessible to botanists generally;

2. Unacceptable practices;

- *It is not effected by communication of new names* ***at a public meeting****,*
- *by the* ***placing of names in collections or gardens*** *open to the public,*
- *by* ***the issue of microfilm made from manuscripts, typescripts or other unpublished material****,*
- *by* ***publication online****,*
- *or by dissemination of distributable electronic media*

3. Valid publication;

- In order to be validly published, a name of a taxon must have these 4 characteristics;
- (1) effectively published
- (2) published in an approved form,

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- (3) accompanied by a description or diagnosis
- or by a reference to a previously and effectively published description or diagnosis.
- (4) for taxa of the rank of genus and below, a nomenclatural type and its location must be indicated.

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- The description consists of an obligatory diagnosis in Latin; and
- (i) describing the main characters that distinguish that species from other similar species, and
- (ii) an optional, full description in an international language.

3. LEGITIMATE NAMES

- Legitimate names are those that are in accordance with the rules of the International Code of Botanical Nomenclature.
- Any name that violates one or more rules of the ICBN is known as an illegitimate name

4. AUTHOR CITATION

- All scientific names of plants at and below the rank of family have *authors.*
- *An author is* the person who first validly published the name.
- The botanical code requires that when a plant name is written in full, it if followed by the author's or authors' names.

- For example,

1. the full name (including authorship) of the family Rosaceae is Rosaceae Jussieu ; because **de Jussieu** first formally named the family.

2. Author names are often **abbreviated,** such as Haemodoraceae R. Br. (for Robert Brown)

- or *Liquidambar styraciflua* L. ("L." being the standardized abbreviation for Linnaeus).

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3. If a species is moved to a different genus, the author's name is placed in parentheses, followed by the name of the author who made the new combination.

- E.g. *Radinosiphon leptostachya* (Baker) N.E. Brown.
- This species was first published as *Lapeirousia leptostachya* Baker by Gilbert Baker, but Nicholas Edward Brown later transferred it to the new genus *Radinosiphon*.

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4. 'Ex' is used to connect the names of two persons.

- The first person only proposed a name but never validly published it. The second person validly published the name.
- E.g. *Agrostis montevidensis* Spreng. ex Nees.
- Sprengel proposed the name by writing it on a label of the specimen and mentioning it in an article
- Or ..

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- even suggesting it in a letter but did not publish it validly.
- Subsequently, Nees von Esenbeck published the name validly.
- It is permissible to omit the first name although for clarity sake both authors are usually cited.

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5. **‘In’** is used to connect the names of two persons,

- the second of which was the editor,

or overall author,

- of a work in which the first was responsible for validly publishing a name.

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- The second name may be omitted for the sake of brevity. e.g. Tricholaena konus Schrad. In Schult.

- This means Schrader validly published the genus name in a publication by Schultes.

Nomenclatural Types

- The second principle of the ICBN states that scientific names must be associated with some physical entity, known as a **nomenclatural type** or simply **type**.
- A nomenclatural type is almost always a specimen, e.g., a standard herbarium "sheet" specimen, but it may also be an illustration.

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- The type serves the purpose of acting as a reference for the name, upon which the name is based.
- If there is ever any doubt as to whether a name is correct or not, the type may be studied.

Types of Nomenclatural types

- These are made up of the holotype, isotype, syntype, etc.
- A **holotype** is the one specimen or illustration upon which a name is based, originally used or designated at the time of publication.
- It serves as the definitive reference source for any questions of identity or nomenclature.

- It is recommended that a holotype be deposited in an internationally recognized herbarium and cited as one of the criteria for the valid publication of a name.
- **Holotypes** constitute the most valuable of specimens and are kept under safe keeping in one (usually a major) herbarium.

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- 2. An **isotype** is a duplicate specimen of the holotype, collected at the same time by the same person from the same population.
- The ICBN recommends that isotypes be designated in the valid publication of a new name.

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- Isotypes are valuable in that they are reliable duplicates of the same taxon and may be distributed to numerous other herbaria to make it easier for taxonomists of various regions to obtain a specimen of the new taxon.

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- 3. A **lectotype** is a specimen that is selected from the original material to serve as the type when no holotype was designated at the time of publication, if the holotype is missing, or if the original type consisted of more than one specimen or taxon.

- 4. A **neotype** is a specimen chosen to act as a type when the original material is lost.

- 5. **syntype**, which is any specimen has been cited in the original work when a holotype was not designated;
- alternatively, a syntype can be one of two or more specimens that were all designated as types.

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- 6. **paratype**, a specimen cited but that is not a holotype, isotype, or syntype.
- **7. epitype**, a specimen (or illustration) that is selected to serve as the type if the holotype, lectotype, or neotype is ambiguous with respect to the identification and diagnosis of the taxon