

Species Names and Species Codes

Proper Use of Species Codes

Botany is an old and venerable science, replete with the convention of centuries. As ecologists, we are called upon to write about plant species in ways that communicate precise information to our readers. Here are some examples of species descriptions and explanations.

Complete Botanical Name

The complete botanical name includes the genus and species as well as the person who originally described the species and the person who has most recently described the species. For example, Douglas-fir can be described as a single species, *Pseudotsuga menziesii* (Mirbel) Franco, or by one of two defined varieties, *Pseudotsuga menziesii* (Mirbel) Franco var. *glauca* (Beissn.) Franco and *Pseudotsuga menziesii* (Mirbel) Franco var. *menziesii*. The name in parentheses is the person who originally published the species name and description. The second name is the author of the current botanical characterization, often abbreviated. The abbreviations are from a standard list (see the International Plant Names Index at: <http://www.ipni.org>).

Botanical Name

The botanical name is *Genus species* or sometimes *Genus species* var. *variety*. Genus, species and variety are always italicized (underlined with handwriting or typewriter); the abbreviation “var.” is not italicized. The first letter of the genus is always capitalized, but the first letter of species is never capitalized (example: *Tiarella trifoliata* var. *unifoliata*).

Abbreviated Genus

An abbreviation for genus is often used after the full name is reported and there is no further possibility of confusion. For example, a study of the species of *Picea* in boreal Alaska might refer to *P. glauca* and *P. mariana* (white and black spruce, respectively). However, in a study of Cascade Range forests, abbreviating genus as “P.” could be confusing because several taxa begin with this letter (e.g. *Pseudotsuga menziesii*, *Pinus contorta*, *Pinus monticola*, and *Picea englemannii*).

Genus Only

In the context of a comparative study, or a study coincidentally with a species list including only one representative of a genus, the genus name alone can be used. The genus is always italicized and capitalized (underlined with handwriting or typewriter). If you chose to use genus only, be sure that you have defined the botanical name in a key or where it is mentioned the first time.

Nomenclature

When your work may be read by people unfamiliar with the local flora, define the reference. In our region, this would be done with the sentence, “Nomenclature follows Hitchcock and Cronquist (1973).” With all the phylogenetic work being done, many species are being renamed or reclassified. For example, black cottonwood is now known as *Populus balsamifera* var. *trichocarpa*, but most people still know it as *Populus trichocarpa*. Defining the nomenclature as Hitchcock and Cronquist (1973) lets you blissfully continue to use the old and familiar name.

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Codes for Plant Species Names in the Pacific Northwest

When collecting field data, it is more efficient to record species using codes rather than full names. In the Pacific Northwest, a standard coding system can be found in Garrison *et al.* (1974) ([ASCII file](#), [PDF file](#)). These codes use the first two letters of the genus and the first two letters of the species. If several species share the same four letters, a number is appended, starting with “2” (e.g., *Populus tremuloides* is POTR, but *Populus trichocarpa* is POTR2). These numbering conventions are provided in Garrison *et al.* (1974). Varieties are indicated by adding the first letter of the variety name (e.g., *Tiarella trifoliata* var. *trifoliata* is TITRT). Garrison codes are always capitalized. Sometimes you will hear people refer to plants in the field or elsewhere in some incomprehensible way – often this is the pronunciation of the Garrison code (e.g., TITR is pronounced “Tighter”). If a plant can only be identified to genus, it is coded by the first five letters of the genus (e.g. *Arctostaphylos* sp. is ARCTO); if only to family, then the first six letters of the family name are used (e.g., Poaceae is POACEA). If you chose to use the Garrison code in writing, be sure that you have defined it when you first use it.

Six letter code

Other systems for coding plants names exist. A six letter code — the first three letters of the genus and the first three letters of the species — is used in the USFS Fire Effects Database and by other federal programs.

Abbreviation for “Species”

Genus sp. means a single species (unidentified) of the given genus. *Genus* spp. means two or more species of the given genus. The abbreviations “sp.” and “spp.” are not italicized.

Common Name

The common name is just that – whatever name people in a particular location or discipline use for a plant. You will commonly go to presentations where the scientific name is used on the slides, but the presenter uses the common name while speaking. A common name can be used in scientific writing as long as the botanical name is used at the first reference (e.g., *Pseudotsuga menziesii* (Douglas-fir)). The common name is more appropriate when the species are few and a manuscript is targeted to a knowledgeable readership. Do not abbreviate common names. However, botanical names and their abbreviations are usually preferred.

This Class

Since writing space is limited, context is generally understood, and we are working either from the Wenatchee Forest species list or the readings, use the Garrison code. PNW overstory species need not be defined at first reference. Other species do. Example: “The most abundant shrubs in the ABAM stand included *Menziesia ferruginea* (MEFE) in wetter sites and *Berberis nervosa* (BENE) in drier sites. MEFE and BENE...” We prefer that you use the nomenclature of Hitchcock and Cronquist, but you may use more recent species names if the nomenclatural source is identified. Using the Garrison codes will save you valuable space in your writing assignments.