

Binomial nomenclature

A basic tenet of VanDusen's guide training is the importance of using scientific binomial nomenclature when referring to plants. Every plant species has a Latin-based scientific or botanical name (ex. *Pseudotsuga menziesii* is the botanical name for Douglas-fir), consisting of the genus (*Pseudotsuga*) and specific epithet or species (*menziesii*). These are written in italics and are sometimes followed by a subspecies, variety or cultivar. For example, *Pseudotsuga menziesii* var. *glauca* is a variety of Douglas-fir known as Rocky Mountain Douglas-fir that occurs in BC's interior. A species has a single current botanical name, as legally governed by the International Code of Nomenclature, but can have multiple common names or none at all. Common names also vary among region or language and are not governed by any international standard.

As some visitors are put off by botanical names, why don't we use more user-friendly common names when referring to plants at VanDusen? No matter where you call home or what language you speak, we all use the same botanical names, so there is no confusion. That's why every plant at VanDusen is recorded in our database under its botanical name, which is always included on our plant labels as well. Botanical names also reflect evolutionary relationships, with two species belonging to the same genus being more closely related to one another than they are to species belonging to a different genus. For example, *Tsuga heterophylla* (western hemlock) and *Tsuga mertensiana* (mountain hemlock) are more closely related to one another than either is to *Picea sitchensis* (Sitka spruce).

What about synonyms? With ongoing scientific research on plant evolution using DNA and other advanced markers, a plant species may suddenly be reclassified and given a new botanical name. In this instance the previous name becomes a "synonym". A species can have many synonyms but only one currently accepted botanical name.

To demonstrate the confusion caused by common names, "Japanese umbrella pine" refers to two completely different trees growing at VanDusen. *Sciadopitys verticillata* is a conifer endemic to Japan, commonly called Japanese umbrella pine in English or kōyamaki in Japanese. A completely different conifer, *Pinus densiflora* 'Umbraculifera', is a dwarf cultivar of Japanese red pine that is commonly called Japanese umbrella pine in English or tanyosho in Japanese.

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