

Guidelines for Begonia Nomenclature

Nomenclature is always an odd topic; because there is formal botanic nomenclature and then there are the horticultural or common garden names we use when we are casually talking about plants.

- Botanical nomenclature's purpose is to avoid confusion when communicating about plants, so it must be extremely specific. Each kind of plant is given a unique name according to rules that are published in the International Code of Botanical Nomenclature for Cultivated Plants (ICNCP).
- In horticultural industry and home gardening groups, the terminology is often more relaxed, and there is less need for accuracy.

However, it is good to know how to communicate in both forums. The following information is for the correct writing and publication of *Begonia* nomenclature.[1][2]

When using *Begonia* as a general term

Rule 1: Because *Begonia* is both the scientific and the common name of this genus, whenever you use the word *Begonia* as a singular reference, it is to be capitalized and italicized.

Rule 2: When referring to groups of begonias and add an "s" to the genus (begonia + s = begonias), it is then always considered a common name, not italicized and written in lower case. Unless it is the first word in a sentence, then it is capitalized.

Examples: Tuberous begonias, hostas, dahlias, camellias, and hellebores do well in this climate; I have lots of begonias in my garden, however the *Begonia* I like best is *Begonia coccinea*.

When using *Begonia* as the Scientific name:

Rule 1: At the beginning of an article (on first occurrence) the genus name should be spelled out, capitalized and italicized even if it is contained in the article's title. The species name (specific epithet) is always lower case and italicized.

Examples: *Begonia versicolor*, *B. nelumbiifolia*, and *B. multistaminea* are all examples of rhizomatous begonias.

Rule 2: At the beginning of a paragraph and after the genus has been established per Rule 1 above, the genus may be abbreviated. NOTE: The abbreviation *B.* is also always italicized.

Examples: Cane types begonias come in many shapes and sizes; *Begonia* 'Looking Glass', *B.* 'Corallina de Lucerna', *B.* 'Lenore Olivier' and *B.* 'Mrs. Hashimoto' offer some of the diversity seen in this plant type.

Rule 3: Once a different genus name has been mentioned in the article, the genus name for *Begonia* must be re-stated as per Rule 1, i.e., it must be fully spelled out and italicized. Once the genus name (in this case *Begonia*) has been re-established in the article, Rule 2 applies.

Examples: “. . . *B. fulgurata* has an interesting leaf pattern, as detailed as *Macodes petola*, but *Begonia fulgurata* is much faster growing.”

Rule 4: Always use the genus name *Begonia* or the genus abbreviation *B.* with a *Begonia* species name (species epithet). Never use a species epithet by itself. Do not write just *venusta* but *B. venusta* or *Begonia venusta* (per the above rules).

Examples: It is also incorrect to refer to a species as a type of *Begonia*, for example do not refer to *B. acerifolia* as “an *acerifolia*” or “an *acerifolia* form” or “an *acerifolia* hybrid” but write “a *B. acerifolia* hybrid” or “a form of *B. acerifolia*.” In other words, always keep the *B.* in front of all species names.

Rule 5: The species name should never be used without the genus in front; however, cultivar names may be listed without the genus name or abbreviation:

Examples: *B. bipinnatifida* or *B. socotrana*, but never written as simply *bipinnatifida* or *socotrana*. But cultivars may be listed either as *B.* ‘Gryphon’ or *B.* ‘Fedor’, or as ‘Gryphon’ or ‘Fedor’.

When using the names of *Begonia* Cultivars/Hybrids:

These names are frequently used incorrectly, they mean very different things to a botanist and the horticulturist or gardener often uses them very informally.

A hybrid refers to all seedlings resulting from any cross pollination, (except for a species crossing to itself), the result of mixing two different genotypes. The term hybrid refers to the entire group of seedlings produced. In general, the term hybrid is most accurately applied to natural hybrid between two species. However, the term hybrid is also frequently used to refer to a single clone derived from a cross involving two species.

Examples: Two natural hybrid populations of *B. cinnabarina* × *B. boliviensis* were observed in Bolivia’s Santa Cruz Department.

Examples: The artificial hybrid of *B. plebeja* × *B. masoniana* has not been named, however from this hybrid the cultivar, *B.* ‘Agnes Brin’ was selected and promoted in 2004.

A cultivar refers to an individual clone, or seedling selected from the hybrid group. Ideally this plant has been propagated vegetatively propagated and proven to be ‘true to type’ in that it does not readily sport or mutate. A cultivar is an individual plant, and each

plant with that cultivar name should be identical to all others with the same name. It is also possible to select a cultivar from a naturally occurring species.

Examples: *Begonia* 'Kyo-Kanoko', is a cultivar from Japan, but *B.* 'Anna Throop', *B.* 'Ming Toy', and *B.* 'Louise Chretien' all were created in other countries. Examples of cultivars selected from species, not hybrid origins include: *Begonia masoniana* 'Tricolor' and *B. ningmingensis* 'Chenshan Silver'.

When using cultivar names in publications, you must always establish the genus at the beginning of the paragraph, then you can use the (*B.*) abbreviation for subsequent cultivars.

The cultivar name is always capitalized and enclosed in single quotation marks. In general, if you are using single quotation marks to show a plant is a cultivar, it is not necessary to also write the word cultivar. The use of the quotation marks implies the plant is a cultivar; using both is like saying the word cultivar two times.

Examples: *Begonia* cultivar 'Martin's Mystery', *Begonia* cultivar 'Fragrant Beauty', and *Begonia* cultivar 'Manaus' are all trailing/scandent cultivars. They should simply be listed as: *Begonia*

'Martin's Mystery', *B.* 'Fragrant Beauty', and *B.* 'Manaus' are all trailing/scandent type cultivars.

Natural hybrids, subspecies, varieties, and forms.

Naturally occurring hybrids should be stated as such and should include parentage. To be correct the multiplication sign "x" (not a lowercase letter x) should be used when naming a natural hybrid or relaying the parent cross.

Rule 1: When before a genus name or species epithet, there is no space between (x) and the name, eg: x*Heucherella*, *Begonia* x*kapangan*, and *B.* x*malipoensis*, but (x) is not italicized.

Rule 2: When discussing the parent cross between two species, there should be a space between the multiplication sign and the two species, eg: *Begonia versicolor* x *B. hemsleyana*.

Examples: "... *B. crispipila*, and *B. balangcodiae*, and the natural hybrid which occurs between them. We name the natural hybrid *B. xkapangan*, which is the first natural hybrid reported in sect. *Petermannia*." To simply refer to the natural hybrid as an equation, it is correctly written: *Begonia* x*kapangan* (*B. crispipila* x *B. balangcodiae*). List the parent plants (female parent first, then male), if the sex of the parents is not known list the names alphabetically. If you do not know the name of the natural hybrid, or it has no published name, simply list the parents.

A subspecies refers to a division of the species, a grouping within a species used to describe geographically isolated variants, abbreviated "ssp. or subsp." and never italicized, within the scientific name.

Examples: Within the different locales in Bolivia, *Begonia micranthera* has diverged into several subspecies isolated from one another by geography. These are *B. micranthera* subsp. *micranthera* in the Santa Cruz Department, and *B. micranthera* subsp. *rhacophylla* in the Tarija Department.

A botanical 'variety' (often abbreviated as "var." and never italicized) arises when a species/or subspecies develops a distinctive characteristic, without geographic separation. This characteristic can usually be reproduced from seed of the parent plant, unlike a cultivar which is only required to be stable when reproduced from vegetative propagation. In general, it may be best to leave the word "variety" to botanical descriptions and refer to most horticultural selections as "cultivars" because this is an area of taxonomy that is changing rapidly. In fact, some varieties and forms, especially ones with only different flower or leaf colors are no longer recognized by taxonomists, but instead are now listed as cultivars.

Examples: Previously there were four botanical varieties of the species *Begonia hatacoa*, all were noted for difference in foliage color and to some degree growth habit; they are *B. hatacoa* var. *rubrifolia*, *B. hatacoa* var. *viridifolia*, *B. hatacoa* var. *hatacoa*, and *B. hatacoa* var. *meisneri*. These would now be listed as: *B. hatacoa* 'Rubrifolia', *B. hatacoa* 'Viridifolia', *B. hatacoa*, and *B. hatacoa* var. *meisneri*. If you are not sure which usage is correct, use an established taxonomic reference for Begonias, such as that found at <http://www.theplantlist.org>.

Other issues in nomenclature:

The U Number program is unique to begonias and has no real taxonomic standing. The U numbers given to plants (*B. U460*, *B. U501*, *B. U309*, etc.) are simply placeholders for plants which are otherwise unidentified. The system began when plant explorers would return with unnamed samples from the wilds, the assumption is, they are species and when writing for the *Begonian* they are treated as such.

This general rules for this group of plants are as follows. The 'U' is always capitalized, there is no hyphen, between the U and the number assigned, do not use single quotation marks, the entire name AND number are italicized.

In addition, according to the latest ICN, all the hyphens in species epithet should be removed and triple letters should be shortened to double.

Examples: *Begonia bonus-henricus* and *B. duncan-thomasii* should be written as *B. bonushenricus* and *B. duncanthomasii*, respectively.

Examples: *Begonia yiii* should be written as *B. yii*.

Synonyms, Trademark Names, Trade Designations, and Errors in naming

How botany addresses synonyms in the scientific nomenclature and how gardeners address synonyms in the common name is handled differently. In botanical nomenclature, a synonym(s) is the name(s) that a plant has been known by over time. In begonias, it is not unusual to find a plant where the genus and the species have changed multiple times since its discovery in the 1800's.

So, the botanical use for a synonym is to allow the reader to follow the plant through history and the changes in naming that occurred. These synonyms are listed alphabetically and followed by authorship in each name (there may be multiple authors for any given name).

Examples: *Begonia robusta* Blume, one of the parent species for the *B. Rex Cultorum* Group, has had many changes to its taxonomy over the years. Synonyms include: *Begonia robusta* var. *glabriuscula* (A.DC.) J. Door. ex F.A. Barkley & Golding, *Begonia robusta* var. *hirsutior* (Miq.) Golding & Kareg., *Begonia splendida* A.DC., *Casparya robusta* (Blume) A.DC., *Casparya robusta* var. *glabriuscula* A.DC., *Platycentrum robustum* (Blume) Miq., *Platycentrum robustum* var. *hirsutior* Miq., *Sphenanthera robusta* (Blume) Hassk. ex Klotzsch, and *Sphenanthera robusta* var. *viridis* Hassk. In the horticultural and gardening world most synonyms are the result of names (often referred to as Trade Designations) being changed for marketing purposes. The process began in the 1800's when a plant was named for a person in German, as an example, but then the plant needed to be renamed to appeal to the English or French. Simply switching between languages created duplicate names for many cultivars.

Examples: Frau (German) became Mrs. (English) became Mme. or Madame (French); Kaiser to Emperor to Empereur, Abendrot – Afterglow – Rémanence, Kolibri – Hummingbird – Colibri, and Morgenrote became Dawn and Aurora.

Later, errors in trade designations became a business issue. When a company named a plant and promoted it, they were invested in the plant. If a competitor could simply take the name and begin to sell as well, the investment went away. The concept of trademarks and plant patents allowed for protection of profits associated with names and genetics that were on the market. The trademark™ allowed ownership of the name (so technically the same plant can have multiple trademarks attached to it), the plant patent allowed ownership of the cultivar's genetics (one plant per patent), which in turn allowed there to be legal ramifications to unauthorized use of either name or genetics.

Examples: The trademark symbol (™) is used in the first year after filing for a trademark, once the trademark is granted, this shifts to the registered trademark symbol (®). If a plant is patented all marketing and advertising must include the patent name as well, if the patent name is applied for but not yet granted it is listed like this: Double Delight™ Primrose USPPAF, Can PBRAF (where USPPAF = United States Plant Patent Applied For, and Can PBRAF (Canada Plant Breeders Rights Applied For). If the patent is granted then the name would include the actual patent number instead of the abbreviated status, for example: Supertunia® Trailing Strawberry Pink Veined Petunia hybrid 'Constraw' USPP 13,539, Can 1,609.

Then there is simple error, where a new name is created because someone was simply careless along the way. Misspellings, language barriers, similar sounding names, general cussedness, and catalog misprints; all have been adopted at one point or another in the gardening world, creating erroneous names.

Examples: *Begonia* 'Don Miller' is also sold as *B.* 'Frosty' simply because a nursery liked the new name better and refused to change. *Begonia* 'Ruhrtahl' was sent by the German breeder to a collector in the United States only to have the name changed to *B.* 'Merry Christmas' because the collector felt the German name was meaningless. Finally, the *Begonia* 'Bettina Rothschild' was named for either Betty Salomon von Rothschild (1805–1886) or Bettina Caroline de Rothschild (1858-1892), either heiress to the Rothschild banking family being arguably one of the wealthiest women in Europe. However, the history of this dedication to one of these women was lost when the name was changed to *B.* 'Fireflush'. So, 'Bettina Rothschild' is the accepted cultivar name, and 'Fireflush' is a trade designation. The standard formula for writing these plants would be: *Begonia* 'Don Miller' (FROSTY), *Begonia* 'Ruhrtahl' (MERRY CHRISTMAS) and *B.* 'Bettina Rothschild' (FIREFLUSH).

1. *Taken in part from the American Hosta Society's Rules for the Rendition of Genus, Species and Cultivar Names, by W. George Schmid, Chair Classification and Nomenclature Committee, AHS.*
2. *The Royal Horticultural Society's Recommended Style for Printing Plant Names, RHS 2004.*