# On the Gender of Scientific Plant-names

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American horticulturists who are not familiar with either a classical or modern foreign language are often puzzled by the presence of, and the rules governing, gender in the scientific names of plants, and except for pronunciation, this factor is more likely than any other to make the use of such names seem difficult. Modern English itself retains little trace of grammatical gender, so the very concept may seem strange to those who speak and read only English. Even the professional taxonomist familiar with Latin, however, occasionally encounters difficulty in determining the gender of particular generic names and sometimes even he is led astray.

The following discussion of this minor but often troublesome aspect of nomenclature is rather general, for it seems unlikely that there are many readers of PRINCIPES whose horticultural or botanical interests are confined to the palms alone. Certain rules which may not be pertinent to any existing palm-names but which may have application to the names of other plants (or, possibly, to palm-names yet to be published) have therefore been included. Though the names of palms have been used as much as possible, they are necessarily limited in number and it has not always been possible to find among them examples to illustrate particular points.

Most modern scientific names are derived from Latin words or from latinizations of Greek words, and, since gender is an integral element of the grammar of both Latin and Greek (as well as of many modern languages), it is also an integral element of these scientific names. In Latin, three genders are distinguished—masculine, feminine, and neuter—and all nouns are considered to fall into one of these three categories. The gender of nouns, furthermore, is either "natural" or "grammatical." Natural gender indicates the actual sex of the object denoted by the noun: *vir* (man) and *equus* (horse) are both male, and therefore grammatically masculine; *femina* (woman) and *equa* (mare) are female, and therefore grammatically feminine. Grammatical gender, on the other hand, is only a formal distinction as to sex, in objects or concepts where no sex actually exists: *mensa* (table) is a feminine noun; *mons* (mountain) is masculine; *flumen* (river) is neuter. For convenience, the terms "masculine," "feminine," and "neuter" will herein be abbreviated to "m.," "f.," and "n." respectively.

Now, the name of a genus of plants is always a noun, and, as such, must have gender. Generic names which are words borrowed directly from Latin or, in Latin form, from Greek (whether or not originally used as names of plants) retain the gender which was assigned to them by the ancients (e.g., *Euterpe* [f.], *Calamus* [m.], *Rhododendron* [n.]). Most generic names, however, are modern compounds, formed from two or more Latin or Greek words, and in their present form were unknown in classical times. Such compounds assume the gender of their last component word (e.g., *Ceroxylon* [n.], from the Greek works *keros* [m.], meaning

"wax," and *xylon* [n.], meaning "tree").

A third group of names includes those taken from the names of persons living in relatively recent times (i.e., not mythological beings or actual persons of classical times). These are ordinarily formed by adding "-a" or "-ia" to the personal name, and are considered feminine, whether honoring a man or a woman (e.g., *Washingtonia* [f.], named for George Washington; *Roystonea* [f.], named for Roy Stone, an American engineer).

Still other names may be taken or derived from languages other than Greek or Latin (e.g., *Cocos* [f.], from the Portuguese; *Areca* [f.], from the vernacular of the East Indies). These are often called "barbaric" names, because the term *barbarus* as used by the Romans meant "foreign." It is interesting to note that the Romans applied this originally Greek term to anything or anyone not Roman or Greek, but the Greeks always included even the Romans within its meaning.

The name of a genus may also be formed in an arbitrary manner (e.g., *Lobivia* [f.], an anagram of Bolivia; *Trilisa* [f.], an anagram of the generic name *Liatris*). Neither the barbaric names nor such contrived names have any prescribed gender in Latin, of course. When thus used as generic names, they are treated as though they were good Latin, however, and the original author of each name is privileged to ascribe to it the gender he chooses. When he has failed to indicate clearly any gender for it, the choice of the next subsequent author who does so should be accepted.

The name of any species is a binomial —that is, it consists of two words (e.g., *Livistona chinensis*); the first is the generic name, the second is the specific epithet. As has been already pointed out, the generic name is a noun with a definite gender assigned to it. The specific epithet is either another noun or an adjective, modifying or describing the generic name. (Whatever may be said here concerning the specific epithet will apply equally to any sub-specific epithet also—whether in the category of subspecies, variety, or form, or even of a cultivar—so long as it is a Latin and not a vernacular name.)

When the epithet is a noun, it may stand in apposition to the generic name, like an attributive noun in English (e.g., *Phoenix rupicola*, "the rock-dweller Phoenix"; *Ceroxylon Beethovenia*, *Beethovenia* being the name of a genus in which this species was at one time placed, and here used as a specific epithet more or less to commemorate that previous placement; *Sabal Etonia*, *Etonia* being an Amerindian name for this palm); or, it may be a noun (frequently the name of a person) in the genitive—equivalent to the English possessive case—(e.g., *Veitchia Merrillii*, "Merrill's Veitchia"; *Archontophoenix Alexandrae*. "[Princess] Alexandra's Archontophoenix"; *Bactris savannarum*, "Bactris of the savannahs"). Such possessive nouns usually terminate in one of the following inflections: -ae, -iae, -i, -ii, -is, -arum, -orum, -ium (-um). Whether in apposition, or in the possessive, such words, being nouns, have their own gender independent of that of the generic name, and therefore in no way indicate the gender of the latter. It is in this way that many apparently ill-assorted combinations (in respect to gender) occur, such as *Arctium Lappa*, *Cypripedium Calceolus*, *Liriodendron Tulipifera*, *Sedum Rosea*. In each of these instances the gender of the specific epithet is different from that of the generic name: old pre-Linnaean names, once used as

generic names, have here been made to serve as specific epithets.

When the specific epithet is an adjective, the termination of that word changes according to the gender of the generic name with which it is coupled; in Latin, an adjective always "agrees" in gender with the noun which it modifies or describes. The adjective *albus* (white) may be used to illustrate the variation in form which the specific epithet may undergo when it is used in genera of different genders: *Rosa* [f.] *alba, Hyoscyamus* [m.] *albus, Allium* [n.] *album.* In these examples, the termination of the specific epithet in each instance happens to be the same (-a, -us, -um) as that of the noun (generic name) it modifies. However, *alba, albus,* and *album* are respectively the feminine, masculine, and neuter forms of this word and remain so even though the generic names with which they are associated do not also have the endings "-a," "-us," and "-um." Thus, we have the combinations *Lychnis* [f.] *alba, Aster* [m.] *albus, Rhododendron* [n.] *album.*

Latin adjectives as a group have almost as great a variety of possible terminations or endings as do the nouns, though each one is constant in so far as its own masculine, feminine, and neuter forms are concerned. In some instances there may be no difference between the masculine and feminine forms, and in some others the form is the same for all three genders. The following will exemplify these various sorts and serve as models for the inflection (variation from gender to gender) of similar adjectives.

| Masculine | Feminine | Neuter |
|---|---|---|
| *albus* | *alba* | *album* |

(also *glaucus, mexicanus, nanus, pauciflorus, pumilus, regius, et al.*)

*niger* *nigra* *nigrum*
(also *glaber, pulcher, ruber, scaber, et al.*)

*miser* *misera* *miserum*
(also *asper, filifer, setiger, tener, et al.*)

*acer* *acris* *acre*
(also *campester, paluster, silvester, terrester, et al.* Some of these have alternate masculine forms (e.g., *silvestris, terrestris*) and then are similar to *laevis* in their variation.)

*laevis* *laevis* *laeve*
(also *acaulis, domingensis, gracilis, humilis, mollis, nobilis, tenuis, et al.*)

*atrox* *atrox* *atrox*
(also *adsurgens, bicolor, elegans, repens, simplex, sabaloides, urens, et al.*)

*elatior* *elatior* *elatius*
(also *durior, latior, minor, et al.*)

An adjectival specific epithet, then, reflects and frequently reveals the gender of the generic name. In *Rhapis excelsa,* the feminine ending of *excelsa* indicates that *Rhapis* is a feminine name, for example: *Penstemon ovatus* and *Dictyosperma album* are similarly revealed as masculine and neuter names, respectively. Adjectives which do not vary in form (e.g., *atrox, ingens*) are of no help as gender-indicators, of course.

Apart from actually learning by rote or from experience the genders of individual names of plants, one may be guided by certain general rules for determining the grammatical gender of Latin nouns. Exceptions to such rules are numerous, however, and not always reasonably explained. Neither all the rules nor all the exceptions can be practically set forth here, but those offered should help anyone who knows "little Latin and less Greek" to acquire at least

a feeling for the subject of grammatical gender.

*Feminine Names*

Generic names ending in "-a" and "-e" are usually feminine (e.g., *Erythea, Euterpe*). However, a group of names ending in "-ma", and, in particular, those ending in "-derma", "-nema", "-sperma", "-stemma", "-stigma", "-stoma", are of Greek derivation and are neuter (e.g., *Acrostigma, Eustoma, Ptychosperma*); however, even some Greek roots ending in "-ma", like "-gramma" and "-osma" are feminine (e.g., *Cryptogramma, Diosma*). Plant-names terminating in "-is" are almost invariably feminine (e.g., *Rhapis, Kentiopsis, Nomocharis*); even *Hemerocallis*, which really is not, "should be treated as feminine in order to bring it into conformity with all other generic names ending in '-is'," according to the present code of nomenclature. Names with terminations such as "-as", "-es", "-ops", and "-x" will also usually prove to be feminine (e.g., *Aiphanes, Chamaerops, Thrinax*), but exceptions are numerous. The rules recommend also that a few names whose classical gender is masculine should be treated as feminine to conform to historic botanical usage: *Adonis, Diospyros*, and *Strychnos*. Similarly, *Orchis* and *Stachys*, which were masculine in Greek but feminine in Latin, are recommended to be treated as feminine now.

*Masculine Names*

Modern compound names ending in "-us (-os)" are, as a rule, masculine (e.g., *Chrysalidocarpus, Lithocarpos*). Even compounds ending in "-anthus (-anthos)" and "-chilus (-chilos)" (e.g., *Chionanthus, Dianthus, Lissochilus*), which are Greek neuter nouns, "have generally been treated as masculine [in the past], hence botanists are recommended to assign that gender to them," to quote the recommendations of the *International Code of Botanical Nomenclature* (1956). Some original Latin plant-names ending in "-us" are also masculine (some of horticultural importance are: *Acanthus, Amaranthus, Crocus, Daucus, Helleborus, Hyacinthus, Juncus, Lupinus, Phaseolus, Raphanus, Ricinus, Rosmarinus, Rubus, Zizyphus*), but the majority are feminine in gender, in spite of the ordinarily characteristic masculine termination. The more common of these feminine names are: *Aesculus, Alnus, Buxus, Carpinus, Cedrus, Cissus, Citrus, Cornus, Corylus, Cupressus, Dictamnus, Elaeagnus, Euonymus, Fagus, Ficus, Fraxinus, Hyssopus, Juniperus, Laurus, Malus, Melilotus, Mespilus, Morus, Myrtus, Pinus, Platanus, Populus, Prunus, Pyrus, Quercus, Rhamnus, Sambucus, Syagrus* (now a genus of palms), *Taxus, Ulmus*. Compounds terminating in these names (e.g., *Cephalotaxus, Nothofagus*) are feminine also. This apparent anomaly exists because names of plants were usually considered feminine by the ancients, though exceptions to the general rule occur.

*Neuter Names*

The commonest word-endings which can rather surely be expected to indicate a neuter name are "-um" and "-on" (e.g., *Rhapidophyllum, Borassodendron*). However, compound words ending in the Greek terms "-pogon", "-codon", "-odon", "-stemon" (e.g., *Andropogon, Platycodon, Penstemon*), and a few others such as *Erigeron*, are masculine; but those ending in "-mecon", meaning "poppy" (e.g., *Dendromecon*), are feminine. Latin names (of plants) ending in "-er" are generally neuter also; those most likely to be encountered are *Acer, Cicer, Papaver, Piper*, and *Zingiber* (*Amelanchier* [f.] is of "bar-

(continued on page 70)

long. The petiole is pale below as is the rachis, the former measuring 6.5-12 or rarely as much as 33 cm. in length, the latter 10.5-23 cm. long. Pinnae are 3 or 4 on each side, rich shining green above, paler dull green below. All have acute to acuminate tips and are sigmoid (elongate S-shaped) in outline, the terminal pair is broadest and 14-16 or rarely 21 cm. long on the upper margin, 5.5-9 cm. along the rachis with one side lower than the other; lower pinnae are progressively smaller, those near the middle 11-14 or to 21 cm. long, 2.5-3 or to 4.5 cm. wide, those at the base 7.5-9 (rarely to 18) cm. long, 1-1.5 (rarely to 3) cm. wide. Each pinna has prominent central and submarginal nerves and 1-3 pairs of inconspicuous secondary nerves on each side, at least the central nerve somewhat elevated and keeled on the upper surface. Arching inflorescences nodding at the tip appear below the leaves, the male subtended by 3, the female by 4 tubular brown bracts, the lower of which is inserted about 1 cm. above the flattened base. Peduncles measure 16-21 cm. long, the staminate bearing 4-7 spreading-pendulous slender green branches 6-14.5 cm. long from a rachis 1-2 cm. long, the female with 4-8 slender stiffer branches 5.5-13 cm. long from a rachis 1.5-2 cm. long, these branches becoming vermilion as the fruit matures. Strongly ribbed (when dry) yellowish-green male flowers are about 2 mm. high and essentially superficial and spirally arranged on the branches of the inflorescence, the sepals united in a deeply and imbricately 3-lobed calyx 0.75 mm. high, the petals shortly united and laterally compressed into a linear base, then expanded and again united by their tips so that the corolla opens by lateral slits. The 6 stamens are about as high as the 3-angled truncate pistillode, with very short filaments and anthers that are entire at the tip, divided at the base. Female flowers have not been available for study but the nerved (when dry) perianth persists at the base of the fruit, the calyx being 0.7 mm. high and shallowly 3-lobed, the petals imbricate and about 2 mm. high. There is no evidence of staminodes. The fruit is orange, sickle-shaped and acute at the tip, measuring 1.1-1.4 cm. long, 3-4 mm. in diameter. Fruit coats are thin but the mesocarp is rather strongly fibrous, the endocarp membranous, enclosing a seed 9 mm. long, 2 mm. in diameter, with the embryo borne at the middle.

## PLANT NAMES

(continued from page 67)

baric" origin, not original Latin). Neuter names are also to be found among those ending in "-ma" as is noted in the discussion of feminine names.

No really workable generalizations can be made for generic names having terminations other than those already noted—the genders of such names must be learned by practice and by consulting reliable authorities. Unfortunately, the reliability of many otherwise trustworthy texts is only relative in the matter of grammatical gender; even the most revered taxonomists, past and present, have occasionally gone astray in this tangled forest. Some names and name-elements have been so consistently assigned an incorrect gender, in fact, that the International Code recommends that certain of these continue to be so treated, "in accordance with botanical custom." Such of these which apply to commonly cultivated plants have been mentioned above.