
The Palmetto

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The Nuance and Wit of Carolus Linnaeus

by Daniel F. Austin

"What's the use of their having names," the Gnat said, "if they won't answer to them?"

"No use to them," said Alice; "but it's useful to the people that name them, I suppose."

Lewis Carroll, Alice in Wonderland

Anyone having even the slightest contact with biological names has encountered Linnaeus, usually reduced to the abbreviation of "L.". Carl von Linné, a Swedish botanist who lived 1707-1778, has been dubbed the "father of taxonomy" because he was the first to make consistent use of two words for scientific names, called binomial nomenclature (or simply binomials). Carolus Linnaeus, as he wrote his name in Latin, was the first to use genus and species names for plants, animals, rocks, minerals, and even diseases (he was a licensed physician, though he went through medical school in less than two weeks).

As "foreign" as these Latin and Greek names may be to non-biologists, they are still better than the long sentence names (polynomials) in use before 1753. Compare, for example, the differences between *Caryophyllum saxatilis foliis gramineis umbellatus corymbosis* and *Gypsophila fastigata* - both of them scientific names for baby's breath!

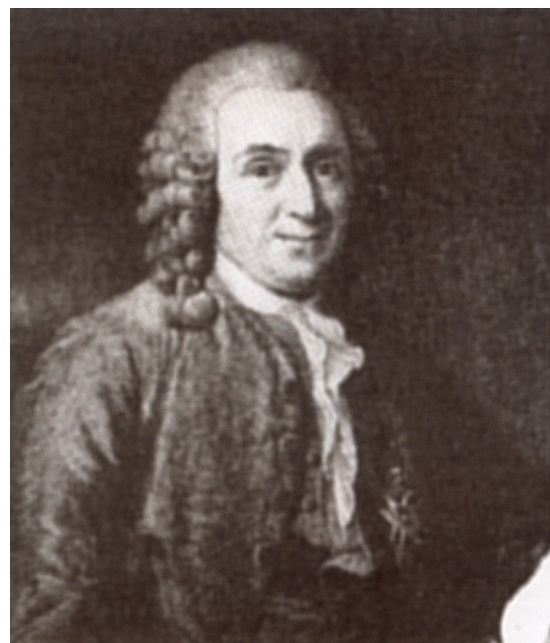
Binomials also are far better than the dozens of common names that a single species may have. One white water lily, for

example, has at least 245 local common names in four European languages!

An aspect of Linnaean names rarely appreciated, however, is their sporadic underlying humor. The most obvious example of Linnaeus' whimsey is his name for our own species, *Homo sapiens*, (the wise one). However, he was so egocentric that some think that he considered himself the best individual of our species. Some also think that his name for our species was not a wry comment on humans in general, but a description of himself!

Perhaps it is the comparative rarity of the dual-meaning, humorous, and even bawdy names applied by Linnaeus that led to his being misunderstood and neglected as a humorist, for most of the names he assigned were commonplace.

Many of the epithets he applied were based on names already in use in Latin or Greek. We have, from classical times, *Acer*



American Museum of Natural History

(maples), *Quercus* (oaks), *Ricinus* (castor bean), *Rhus* (sumac), and the like. Moreover, a number of words clearly honor physicians/ botanists who had gone before, such as *Avicennia* (black mangrove), named for the Persian physician, Avicenna (or Ibn Sina), 980-1036; *Cordia* (geiger tree), dedicated to Valerius Cordus, a German herbalist who

lived from 1515-1544; *Dioscorea* (true yams), commemorating Pedanios Dioscorides, a Greek physician, 1st century A.D.; and *Malpighia* (Barbados cherry), named for Marcello Malpighi, an Italian anatomist and physician, 1628-93.

Other names were obviously intended to strengthen professional ties, as in *Kalmia* (laurel), for his Swedish student, Pehr Kalm, 1716-4779; *Rudbeckia*, after Linnaeus's professor, Olaf Rudbeck, 1630-1702; and *Waltheria* (Sterculiaceae), for August Friedrich Walther, a German botanist, 1688-1746.

Other organisms received descriptive species names, as did the opossum, *Didelphis marsupialis*, (the animal with a pouch or marsupium); the southern flying squirrel, *Glaucomys volans* (the white mouse that flies); the sugar maple, *Acer saccharum* (the maple with sugar); the gray snapper, *Lutjanus griseus* (griseus = gray); ginseng, *Panax quinquefolia* (a "panacea" with five leaves); and Caesar's weed, *Urena lobata* (from "Uren", the Malabar Indian name for the plants, plus lobata = lobed, referring to the leaves).

Linnaeus also took names from history, foreign languages, and other less obvious sources. He named the water lilies *Nymphaea* after the water nymphs of Greek legend. Indeed, in one case, he went a step further and gave us not only a double-meaning word, but one with a triple message - *Musa*, the banana. According to different sources, this genus was named from musz, which is the Arabic word for banana; or after Anton-ius Musa (63-14 B.C.); or perhaps for the nine Greek muses themselves.

From among the muses, Linnaeus selected *Thalia* for our arrowroot in southern Florida and tropical America. Various sources list this genus as being derived from the name of Johann Thal, a German physician who died in 1583. Apparently these people have overlooked the most obvious source - the muse Thalia, who presided over comedy. Definitely Linnaeus did not miss the double meaning in that!

Everyone seems to agree that Carl named *Polymnia* (Asteraceae) after the muse Polyhymnia, who presided over sacred poetry. Augustin DeCandolle later

got in the act and named *Erato* (Asteraceae), and Carl Martius gave us *Euterpe* (Arecaceae). Other names commemorating muses are *Calliope pectoralis* (Himalayan rubythroat), *Trochilus calliope* (a hummingbird), *Clio pyramidata* (a pteropod mollusk), *Clione sulphurea* (a sponge), *Terpsichore delapidans* (an annelid), and *Choreutes nemorana* (a shortened form of Terpsichore; a butterfly) and *Heliconius meloponene* (an alternative spelling of the muse Melpomene; a butterfly). Biologists seem to have neglected only *Urania*, or maybe I have just missed their use of her name.

Linnaeus named *Helenium* (Asteraceae) after Helena (Helen of Troy), wife of King Menelaus of Sparta. Carl also gave us *Artemisia* ancient name of the mugwort (Asteraceae), in memory of Artemisia, wife of Mausoleus (whence our word mausoleum). He called our colic-root *Aletris* after a female Greek slave who ground wheat, apparently in allusion to the "mealy" look of the flowers. *Circaea* (enchanter's night-shade), a member of the Onagraceae, was based on Circe, the enchantress. He even gave us *Siren lacertina* (the greater siren) for some aquatic amphibians. The association on these was certainly not beauty, so he must have been talking about their relationship with water and the Greek legends of temptresses.

Other names meant to be descriptive at the time are almost lost on us now. Consider the herbs called *Commelina* (day flowers). Linnaeus named these plants after the three Dutch brothers Conimelijn. In his time, the allusion was obvious because they were either contemporaries of Linnaeus or recently dead. Since the plants have three petals, two blue and one white, Linnaeus was reminded of these brothers. Two of the Commelijns (Jan and Kaspar) were prominent botanists (the two blue petals), while the third died young and was less well known (the small white petal).

Equally obscure to us today is the origin of the legume genus, *Bauhinia*. It is fairly obvious to a historian that the name commemorates the Bauhin brothers, but which one - Johann or Caspar? In reality, Linnaeus was honoring both - the plants have twin leaflets.

Even some of the designations that Linnaeus intended as serious have turned out to be humorous from our perspective. Linnaeus was a deserving biologist, but he was a deplorable geographer. His concept of the New World apparently consisted of Canada, Virginia, Carolina, and Florida. We see these regions appearing repeatedly in scientific names such as *Branta canadensis* (Canada goose), *Prunus virginiana* (chokecherry), *Centurus carolinus* (red-bellied woodpecker), and *Sylvilagus floridanus* (cottontail rabbit).

One of the species showing his faulty concept of American geography is *Ipomoea carolina*, a name he proposed for another morning glory. Although Carl obviously thought it was from Carolina, this particular plant is restricted to small areas in the Bahamas and Cuba. The vine has never been found anywhere in North America, much less the Carolinas. Linnaeus undoubtedly did not intend comedy in this instance, but he gave us a chuckle anyway.

One of my students recently brought me an example of this 18th century botanist's caprice, in which his humor has been obviously misunderstood. In his book, *Systema Naturae*, 1758, Linnaeus named the blue whale - the largest animal that has ever lived on earth - *Balaenoptera musculus*. The genus *Balaenoptera* means, literally, "whale wing", in reference to the dorsal fin. The species *musculus* means "little mouse". The largest organism known on earth Linnaeus named little mouse! *Musculus* is a double-meaning word, also meaning muscle, but Linnaeus cannot have mistakenly used it because he also named the house mouse at the same time - *Mus musculus*.

Richard Ellis, in his 1988 volume, *The Book of Whales*, knew these facts, yet he wrote (page 57): "The word *musculus* is Latin for 'muscle'. . . He then noted that earlier writers had confused the matter" by suggesting that Linnaeus might have been in a jocular mood when he named the whale. Linnaeus absolutely delighted in words with double meanings. Undoubtedly he knew that people would wonder which he meant, the little mouse or the muscle, when he named the blue whale.

One doesn't have to look far to find other examples of Linnaeus' humorous double meanings scattered about. Consider *Ipomoea nil*, a blue-flowered morning glory. Most people assume that Linnaeus was not impressed with the beauty of the plant and named it nil, meaning - in Latin "nothing". Instead, this humorist from 200 years ago was actually using an Asian word, possibly from Sinhalese (from Sri Lanka) or Arabic. In both languages nil means "blue". Linnaeus clearly knew what he was doing.

The most repulsive description I have found applies to the plants which were later placed in the same family with those that give us that delightful substance, chocolate. Linnaeus named certain trees from India *Sterculia foetida*. The genus was based on the name of Sterculius, the Roman god of manuring, from the Latin word *stercus*, meaning "dung, or excrement". *Foetida*, the specific epithet, means "having an offensive smell". One of my students nicknamed our specimen tree on campus the septic-tank tree because the flowers are so putrid.

In the same book in which Linnaeus named *Sterculia*, he named *Theobroma cacao* - "food of the gods called cacao". Chocolate now may be considered "food of the gods" because of its delicious taste, but Linnaeus was probably making a snide reference to the exclusive use of these plants in the Americas by the elite.

As a result of Linnaeus' naming, we now have the "food of the gods" in the same family as the "god of feces" - Sterculiaceae. It may be biologically accurate, but it's hardly a pleasant commentary.

Looking around at other plants and animals, we find even more earthy meanings in their names. Linnaeus' vulgar titles should not be too surprising, since he launched his medical career by specializing in treatments for venereal diseases.

He named marine barnacles *Balanus*. This genus is based on the Greek word *balanos*, usually translated as "acorn". But R.W. Brown's book, *Composition of Scientific Words*, has a variety of meanings listed under *balanos*, including a sexual meaning. You may dismiss this as an exceptional case, but if we look at some

other plants we find the genus *Chrysobalanus* (coco plum). Most books translate this as "golden acorn or fruit," but from Brown's list, it may be rendered with another English meaning. Linnaeus surely saw this duality.

We have no need to speculate on his intent when we study the Orchidaceae. The name of this family is based on *Orchis*, a pantemperate terrestrial orchid. Though this Greek word meaning "testicle" is based on ancient usage according to M. L. Fernald in the 8th edition of Gray's Manual, Linnaeus chose to continue its application. Perhaps the most notorious of Linnaeus' indelicate names for plants, at least in southern Florida and the Caribbean, is *Capparis cynophallophora*. Oswald Tippo and Bill Stern, in their book, *Humanistic Botany*, relate the story of this plant, and translate the technical name as the Caribbean caper "which bears a dog's male organ."

Although Linnaeus was comfortable naming plants after male anatomy, he seems to have been less prone to use female parts, with one marked exception. There is a legume genus Linnaeus called *Clitoria*. One species of this blue-flowered vine has been brought into cultivation under the popular name "butterfly pea". Probably few of those growing the plants are aware of the generic name and its anatomical origin.

The first publication by Linnaeus to receive notoriety was his volume, published in 1735, on the sexual system. He entitled the concept *Nuptiae plantarum* - "marriages of plants", and it ostensibly produced an artificial system of filing and retrieving specimens and information about the organisms known to the scientific community. Linnaeus based the system on the number of "male" and "female" parts in the flowers of plants. For example, he had one category that he called, in Latin, *Pentandria-Monogynia*. To a botanist, this meant a plant with a flower having five stamens and a single style and ovary. Thus interpreted, it seems straight forward enough. But to Johann George Seigesbeck, an influential botanist in Russia at the time, it meant something else. The least lascivious translation of the category might be "a woman with five husbands", but the clear allusion of most

interpretations is that the woman was not legally married to any of the men.

Siegesbeck so strongly disliked what he considered the crude and licentious nature of Linnaeus' book that he had it banned from use in Russia. Whenever he had an opportunity, Siegesbeck spoke out against Linnaeus and denigrated his ideas, concepts, and methods. To get revenge, Linnaeus struck back. He picked out the most ugly, small-flowered plant (an insult within an insult) he could find, and dedicated its name to Siegesbeck. Hence, today we have *Siegesbeckia*, a group of nine species of daisy relatives (Asteraceae) native to the Old World.

Although native to the India region, this herb was introduced into Europe where it has become a pest plant. Apparently the fruits become entangled in the fur of sheep and are contaminants in shorn wool. There is a delicious irony here, in that Linnaeus accidentally predicted that this plant would become a weed, causing problems at least for those in the wool industry.

Linnaeus is not the only one who sprinkled humor throughout the names of the plant and animal kingdoms. Consider two plant examples, *Bastardia* (Malvaceae), named by the German botanist, C. S. Kunth, and *Schizea* (the fern in the family Schizaeaceae), named by the Englishman, Sir J. E. Smith. The first of these genera was supposedly named for Toussaint Bastard, a French botanist who lived from 1784-1846. Surely Kunth did not miss the meaning that most people think of when they first see the name - the word is spelled the same in English and German.

The second name is remarkably similar to a German word for feces, although it is declared to be based on the Greek word meaning "to split". This splitting is supposed to be a reference to the incised leaf blades of some species.

I cannot resist including my favorite fossil name as well, the fossil python from the East Indies *Montypythonoides riversleighensis*. Monty Python (a British comedy television show) as the source for the generic name is obvious; the species is named after the Sleigh River near which the fossil was found.

I suggest that, when confronted with a new scientific name, you accept the words as a challenge. Find out what they mean. Usually they are not so mysterious and difficult as they seem, for they are often descriptive, and occasionally humorous.

After all, coming up with names for the known half-million plants and a million or

so animals has been a difficult job. There are just so many descriptive terms that can be used before they begin to run out. Subtle and dual meanings not only break the monotony for the creator of the name, but help us remember the Latin name as well. I propose Carolus Linnaeus as not

only the "father of taxonomy", but also the "father of humor in science"!

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