

DOLICHOTHELE

A genus very close to *Mammillaria* and having only a few species is *Dolichothele*. It means "long nipple," referring to the elongated tubercles which are a characteristic feature. In *Mammillaria* the tubercles are arranged in a regular series of spiral rows, but in *Dolichothele* there are no definite spirals noticeable. The flowers are quite large and always yellow.

Dolichothele longimamma is the oldest known species, first described in 1828 under *Mammillaria*. The long, soft, green tubercles are up to two inches long surmounted by small, round areoles bearing nine or ten pubescent, flexuous, white to yellow radial spines and one to three centrals of darker hue.

Dolichothele uberiformis has much shorter tubercles with fewer spines and no centrals.

Dolichothele sphaerica is a Texas species with butter-yellow flowers which are produced in profusion. The plant clusters heavily and its spines are smooth as distinguished from the soft hairy ones of the two preceding species. *Dolichothele* has watery sap.

THELOCACTUS

Thelocactus is another genus of pincushion cacti. The name, coined from the Greek, refers to the nipples which this group exhibits. The best known species is *Thelocactus bicolor* which is abundant even in Texas where I found large colonies in the Big Bend country around Marathon. The plants are simple, ribbed and very spiny, with pretty deep-pink to purple flowers appearing in spring and continuing into fall. The spiny armament is highly colored, and several varieties have been proposed to take care of the variations encountered. In *Thelocactus* are found several groups of unrelated plants which need more thorough study. One example is *Thelocactus uncinatus*, the Cat's Claw Cactus, which has at one time been placed in the following genera by various authors: *Echinocactus*, *Ferocactus*, *Hamatocactus*, and *Echinomastus*.

VARIETIES OF CACTI

NEOLLOYDIA

The genus *Neolloydia* contains only a few species which are rather small with spirally arranged nipped ribs and which bear large flowers on the new areoles at the top. The tubercles are grooved above. One species, *Neolloydia texensis*, is found in Texas, where it forms small clusters. It has white, widely spreading radial spines and one to three much stouter and longer blackish central spines. *Neolloydias* do not want to be kept too moist even in the growing season.

OTHER GENERA

Ancistrocactus, *Cochemiea*, *Bartschella*, *Echinomastus*, *Escobaria*, *Mamilloopsis*, *Neobesseyia*, *Pelecypora*, *Porfiria*, and *Solisia* are other small genera referred to the pincushion cacti, although some authors, known as lumpers, have now reduced a few of these names into synonymy under the two older genera, *Mammillaria* and *Coryphantha*. Most of these are a little difficult to grow, and so should be grafted on a stout stock.

Mamilloopsis senilis, for instance, is a beautiful small plant entirely covered with dense white spines, which prefers full sun and very porous soil and moderate amount of water in the summer season. Give it a little more water in winter and the plant will rot in a hurry.

The *Neobesseyas* are hardiest of the lot and can be grown outdoors in almost any part of the United States provided they receive perfect drainage, especially in winter and spring. *Neobesseyia similis* and *N. missouriensis* form nice clumps, which eventually fit a bucket. When grown outdoors the plants have a tendency to draw themselves into the ground for the winter but plump up the first thing in early spring. The flowers are quite large and of a peculiar pinkish-yellow hue followed by bright red globose fruits.

NIGHT-BLOOMING CEREUS

Night-blooming *Cereus*! How often have you heard this expression and how often has it been misapplied! Many people do not know that there are a great number of nocturnal cacti, and if they possess such a

plant they are under the impression that theirs is the night-blooming *Cereus*. Often a plant is called "night-blooming *Cereus*" when in reality it is wholly unrelated to it, as, for instance, the well known broad-leaf cactus, *Epiphyllum*. We must remember that the *Cerei* possess certain peculiarities that distinguish them from other cacti. In other words, every *Cereus* is a *Cactus* but not every *Cactus* is a *Cereus*.

In the great *Cactus* family there are more than fifty genera belonging to the subtribes *Cereanae* and *Hylocereanae*. Since the binomial system was established by Linnaeus in the eighteenth century, all of these have been included under the genus *Cereus* at one time or another. Many members of these two subtribes are day-blooming, but there is also a big group whose flowers do not open until dusk. The following is a list, alphabetically arranged, of mostly Britton and Rose genera of nocturnal cacti. The names represent those accepted by most modern cactologists, although slight differences of opinion do exist regarding a few of them, as is to be expected.

<i>Acanthocereus</i>	<i>Facheiroa</i>	<i>Peniocereus</i>
<i>Arthrocereus</i>	<i>Harrisia</i>	<i>Pilocereus</i>
<i>Binghamia</i>	<i>Hylocereus</i>	<i>Selenicereus</i>
<i>Browningia</i>	<i>Lemaireocereus</i>	<i>Stetsonia</i>
<i>Carnegiea</i>	<i>Leocereus</i>	<i>Strophocactus</i>
<i>Cephalocereus</i>	<i>Lophocereus</i>	<i>Trichocereus</i>
<i>Cereus</i>	<i>Mediocactus</i>	<i>Weberocereus</i>
<i>Dendrocereus</i>	<i>Monvillea</i>	<i>Werckleocereus</i>
<i>Eriocereus</i>	<i>Neoevansia</i>	<i>Wilmattea</i>
<i>Eulychnia</i>	<i>Nyctocereus</i>	<i>Zehntnerella</i>

Any of the above could be called "night-blooming *Cereus*," but to be technically correct the name is applicable only to the genus *Cereus* as it is understood today. However, the term is most frequently and popularly applied to certain species in the genera *Hylocereus* and *Selenicereus*, vine-like cacti producing the largest blooms in the *Cactus* family, and to the odd turnip-rooted *Peniocereus*. In my opinion, it would be prudent to confine this name to *Hylocerei* and *Selenicerei*, and the great majority of cactus-minded folks exercise this same thought.

The name *Cereus* is from the Greek, signifying a torch, and refers to the candelabra-like branching of the first species known. *Cereus* is perhaps the oldest name given to any cactus, for it was mentioned in literature as far back as the sixteenth century. It is not definitely known who first used the name. Philip Miller, the author of the famous *Gardener's Dictionary* published in the early eighteenth century, credits the genus to P. Hermann in 1698, but the name itself was in use for more than seventy years prior to that date.

The discovery of the cacti must have left an indelible mark in the minds of the first American explorers, who referred to them as torches or candelabra and thereby aided in giving the descriptive name, *Cereus*, to these curious plants. Miller, however, states that the plants were not called *Cereus* from their resemblance to a torch alone, but also from the fact that servants burned them as torches or tapers and carried them at nights before their masters. To make the torches, the spiny specimens were cut down, dried on the ground, and dipped in oil.

The earliest illustration of a *Cereus* is believed to be in Oviedo's *La Historia General de las Indias*, published in 1535. This work of Oviedo is the first natural history of America, one of the rarest and most important books on the New World. Oviedo gives a general view of Spain's new American empire and the policy which should be adopted toward its people by the monarchy. The book was partially suppressed in Spain because this Spanish historian dared to tell how the Indians were abused, and this apparently accounts for the book's signal rarity. The illustration is a curious and crude woodcut which does not lend itself to critical discussion but, because of its historical value, is quite fascinating.

The first colored figure of a *Cereus* presumably appeared in a modest little Aztec herbal in 1552, which happens to be America's earliest treatise on Mexican medicinal plants and native remedies. The exciting and unique manuscript was written in his native tongue by an Aztec physician, Martinus de la Cruz, and was translated into Latin by a compatriot, Juannes Badianus. For more than three hundred years it lay hidden on the shelves of the Vatican Library until Dr. Charles U. Clark brought it to light in 1929. The unidentified *Cereus* is there called *teonochtli*, which means "Divine Cactus," and the paragraph beneath the illustration is devoted to toothache and how it can be cured with the root of this plant.

Like Oviedo's earlier woodcut, the plant in the Badianus illustration defies critical naming beyond the fact that it appears to be a *Cereus* of some sort, perhaps related to *Lemaireocereus*.

Another interesting early illustration of a night-blooming *Cereus* (without the flowers of course) was published in 1576 by Lobelius in his *Stirpium Adversaria Nova*. The identical figure was reproduced fifteen years later in his *Icones Stirpium* and is now identified as *Cereus peruvianus*. The famous herbalist, Tabernaemontanus, made use of Lobelius' figure in his elaborate herb book on which he worked for thirty-six years before it was published in 1588-91. However, he apparently made a new woodcut, as the figure is slightly altered and reversed, although the revisions are noticeable only on close scrutiny. Many of the old herbals contain reproductions of the illustrations by Dodoens, Bock, Clusius, and Lobelius. Tabernaemontanus, for one, borrowed his cuts as did many others.

In 1716 Richard Bradley published one of the first excellent figures of a nocturnal *Cereus* in flower in his *History of Succulent Plants*. In a note to the reader he stated "whatsoever figures I shall publish, will be (as near as I can make them) perfect copies of those plants they are to represent and shall be engraved by the best hands." The figure, executed by H. Hulsbergh, who made many other plates for Bradley, shows expert workmanship and depicts a plant then known as *Cereus erectus maximus americanus*, etc., or as we know it today, *Cereus peruvianus*.

Worthy of mention here are two beautiful colored plates of *Selenicereus grandiflorus* executed by John Jacob Haid for Ehret's *Plantae Selectae*, edited by bibliographer Christopher Trew in 1754. They show, in practically exact color and natural size, figures of stem, flower, and fruit with their minute characteristics. There may be earlier color illustrations of a blooming nocturnal *Cereus* of which I am not aware, but it is doubtful if they can approach the beauty and exactness of Trew's publication. In 1760 Philip Miller published in his famous *Icones* another excellent color plate of *Selenicereus grandiflorus* under the descriptive name *Cereus scandens minor polygonus articulatus*, which he translates as "the lesser creeping jointed Torch-thistle with many angles," but it does not compare with the one in Trew's volume. Although the *Icones* was printed in 1760, the plates were executed earlier, that of the particular *Cereus* on May 25, 1756, along with five others.

PENIOCEREUS

Peniocereus Greggii, native to Arizona, Texas, and New Mexico, is the only native nocturnal cactus in the United States to which the name "night-blooming *Cereus*" is often applied. Its stems are few and unattractive—mere "dead-looking" branches of dull gray-green protruding inconspicuously or interlaced among desert bushes. It is a difficult cactus to find when not in flower, for its top growth hides in the shelter of creosote bushes or climbs into the sturdy branches of mesquite seeking protection from devastating winds and scorching sun. These stems are leafless, lifeless in color, and possess no particular beauty of form. The most surprising thing about the plant is the root, which is a fleshy tuber resembling an overgrown turnip or carrot and weighing anywhere from five to thirty pounds—a root weighing 125 pounds has been reported. In 1949 my partner and I picked up a tuber which weighed eighty-five pounds when we were plant hunting in Arizona. These massive tubers are underground water reservoirs, but the contents are so bitter that the plant is practically immune to attack by desert rodents. The *Peniocereus* produces one of the fairest flowers of the desert. The tiny, hairy buds begin to swell and open in June. The large petals unfold shortly after dark and spread out into lovely waxen blossoms as big as a saucer. They wither on the morning of the following day. While they are in full bloom they fill the air with a most exquisite perfume which can be detected for some distance and betrays the location of this elusive plant. The flowers are white with a lavender tint and measure four or five inches across.

Peniocereus Fosterianus is a sparingly bushy Mexican plant, which was discovered in the state of Guerrero by Mulford Foster in rather dense short growth of small shrubs where it likes to grow for its support. I described and named it in 1946 for its discoverer. It is a most peculiar *Peniocereus* with terete stems of pencil thickness, attaining a height of seven feet, and producing white nocturnal blossoms, about five inches long.

Peniocereus Macdougallii, another new species which I described, is from my Mexican expedition of 1947 and was found growing in a gorge

New Zealand may borrow from the society's library by paying postage and a few pence reading fee.

Cactus and Succulent Society of Australia

I haven't been able to ascertain when this society was founded, but it must have been in the early forties and then lagged until it was revived in 1947. The following year, *The Spine*, official quarterly organ, was launched as an ambitious project. Members bring plants for competition to the monthly meetings. Books from the society's library are available for the use of country and interstate members. Membership is 10/- per annum per person, or 15/- per annum for husband and wife, and 2/6 for juniors.

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DAY, HARRY A. *Flowers of the Desert*. 168 pp., 4 plates. Methuen & Co., Ltd., London. 1938. This is a small book, telling in simple language how to go about the cultivation of cacti and the other succulents. The author has assembled the various genera and species in more or less botanical relationship but, as he states, "in loose and incomplete manner." The first half of the book (82 pp.) is devoted to cacti and is an attempt to help the reader to grow cacti in the hope of obtaining floral display.

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