



Botanical Notes

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• UNIVERSITY OF CALIFORNIA DAVIS BOTANICAL CONSERVATORY

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The Madeira Island Geranium: *Geranium maderense*

When geraniums were introduced to the gardening public back in the 1700s, they included the species we now refer to as those of the genus *Pelargonium*, or potted geranium, in among the ones of the true *Geranium*. By the time *Pelargonium* was split off as its own genus, it was too late to try to change the name that had been in use, and the common name geranium endures for both genera to this day.



As evident by its botanical name, *Geranium maderense* is a true geranium, and a spectacular one at that.

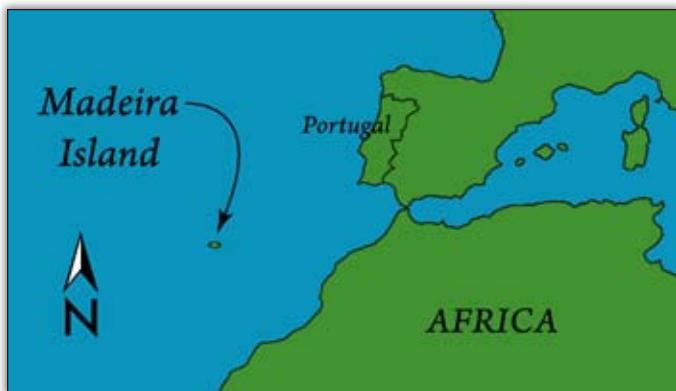
Geranium maderense grows to three feet tall and wide, and has large palm-shaped, coarsely toothed leaves that make it very attractive even

when it is not in bloom. In summer it produces giant bouquets of deep pink flowers on long panicles; their delicate petals contrasting beautifully with the coarse bright green leaves. This bold geranium can be seen in the planting beds on the southwest corner of the UC Davis Sciences Laboratory Building.

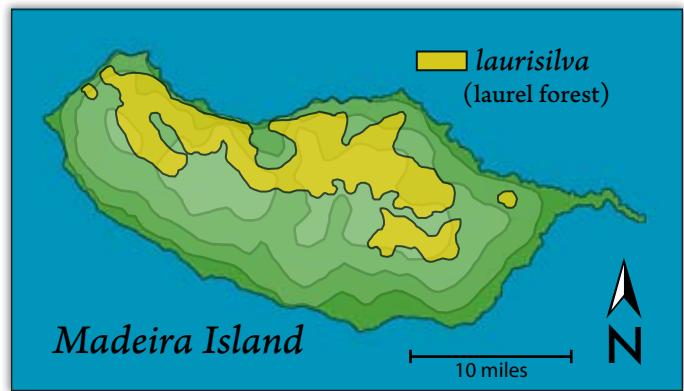


Geranium maderense at the Sciences Laboratory Building in February; displaying wonderful form and texture even in the winter months.

Geranium maderense is endemic to the island of Madeira, which is part of an archipelago off the north coast of Africa and is an autonomous region of Portugal. It's an understory plant within a what is known as a laurel forest, which is a humid subtropical forest made up



Located in the North Atlantic, Madeira Island is a remote and autonomous region of Portugal.



G. maderense is endemic to the Madeira Island laurisilva; a forest which at one time covered most of the island.

of small-leaved evergreen hardwood trees. The island was once covered by this forest, but over time has been largely destroyed to clear the land for agricultural use. What remains of the forest has been protected from further destruction since its declaration in 1999 as a World Heritage Site. Despite this protection, *Geranium maderense* is still only very rarely seen in the wild.

distinguishes them from their tender cousins in the genus *Pelargonium*. The specific epithet *maderense* refers to the island from which the



The shape of a typical *Geranium* schizocarp resembles a crane's bill, from which the genus gets its name.

plants are found; a latinized form that may be loosely translated as "of Madeira." Within the genus *Geranium* there are more than 400 other species, most of which are native to the Mediterranean region. On the family level, Geraniaceae comprises plants in the genera *Geranium*, *Pelargonium* and *Erodium* almost exclusively, with only a few straggling genera making up the balance. Families are grouped into orders, and Geraniaceae is located in the order Geriales, which contains just four other families: one from southern Africa and three that are endemic to South America.

Taxonomy

The name *Geranium* is derived from a Greek word meaning *crane*, presumably given to the plant because of the shape of the schizocarps, or seed pods, which resemble a long crane's bill. The common name for most plants of the genus is cranesbill, but they are also sometimes simply known as hardy geraniums, which mildly

Order - Geriales
Family - Geraniaceae
Genus - *Geranium*

Biology & Ecology

Geranium maderense is a biennial. Technically, biennial plants grow leaves the first year and then die after flowering the second year. However, it is possible for this species, like a perennial plant, to grow a succession of years without dying. Whether it is a perennial or biennial does not matter much to gardeners because the plants seed generously and the seeds germinate in the soil readily without becoming weedy. Having a continuous cycle of plants will ultimately alleviate non-blooming years, and provide fresh new plants that look good in the garden.

The geologic history of the islands making up the Madeira archipelago ties it to the Mediterranean region, where most other *Geranium* species are found. It is not known whether the modern *Geranium maderense* (and the related *G. palmatum*) occurs on the island as a result of a former land bridge with the region, or if seed from an ancestral species made it to the island long ago by bird or driftwood.

As the plants age, and especially as they flower, some of the older leaves begin to die and bend severely downward. These fleshy leaf stalks (petioles) return their water to the growing portion of the plant, but more importantly they serve to prop up the top-heavy plant. Gardeners should try not to “tidy them up” too much, and perhaps view the brown petioles as an architectural—and necessary—feature of the plant.



As the older leaves wither, their petioles begin to point downward and help stabilize the plant against winds.



Horticulture

The Madeira geranium is easy to grow and is not fussy about its conditions, however if you want it to perform its best in the garden here are a few things we've learned to help you along:

EXPOSURE

Sun to light shade. Best if it is not in full sun all day long. *Geranium maderense* is an understory plant and is adapted to partial shade or sun for only part of the day, so plant it in your garden accordingly. Also consider the wind when placing your plant, as the large herbaceous mass can be toppled by gusts or channeled winds.

SPACE

This *Geranium* is large, so give it plenty of space to grow away from paths or structures. It will commonly form a 3-4 foot mound of foliage, and the inflorescences of mauve flowers are held at least another foot above that. *Geranium maderense* looks attractive when several plants are grouped together, and will blend easily with each other to form a mass.

WATER

Geranium maderense is drought tolerant. Experiments show it can go months without any water at all, and then once watered will come back without a problem. Understory plants are often adapted this way due to the competition for water they face with larger plants. To look good in your garden a little water will go a long way with this plant, so water it regularly but keep it on the dry side.

FERTILIZER

Due to the volcanic origin of the island the soil on Madeira is generally acidic. Because the soil in the Davis area tends to be alkaline, fertilizing this plant with an acid fertilizer such as those used for *Azalea* and *Camellia* plants may be beneficial. Be cautious of over fertilizing herbaceous plants like this though, as it can make them grow too fast and they may become weak.

HARDINESS

Winter hardy to 23°. Once the plant goes to seed in the garden, a supply of seedlings is provided each spring should there have been a severe frost that killed the mother plant.

LIFE CYCLE

Technically a biennial, you can treat it as a perennial by cutting the plant back after it declines in late summer.



Sources

Geranium maderense is often available at the annual Botanical Conservatory plant sale (see the web site for details). If you just can't wait for the sale or you were unable to buy one from us, we found it being offered (at the time of this writing) through the following companies:

Annie's Annuals
Richmond, California
www.anniesannuals.com

Thompson & Morgan (seeds)
www.thompson-morgan.com



References

- Baldwin, Randy. "Geranium maderense." [Geranium maderense at San Marcos Growers.](#) 2001. San Marcos Growers. 26 Jan. 2009 <http://www.smgrowers.com/products/plants/plantdisplay.asp?plant_id=680>
- Schlüter, Thomas, and Martin H. Trauth. "Madeira." [Geological Atlas of Africa: With Notes on Stratigraphy, Tectonics, Economic Geology, Geohazards and Geosites of Each Country.](#) Berlin: Springer, 2006. 146-147.
- Yeo, Peter. "Two New Geranium Species Endemic to Madeira." [Boletim do Museu Municipal do Funchal](#) 23: art. 104 (1969): 26-31.
- Yeo, Peter. [Hardy Geraniums.](#) Portland, Or: Timber Press, 2002.

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greenhouse.ucdavis.edu/conservatory

An Invitation

We would like to see Botanical Notes as a collaboration between the Botanical Conservatory and those of you who garden with conservatory plants. Our goal is not only to encourage you to grow these unusual plants, but also to learn from your experiences and pass that information on to others. Your successes and your failures can help other local gardeners as they cultivate these plants in their own gardens. Each issue of Botanical Notes will be continually updated as we receive relevant information on its particular subject. If you would like to contribute to an existing issue of Botanical Notes, please email Ernesto Sandoval at:

jesandoval@ucdavis.edu.