

All about Bluebonnets

by Camelia Maier

Bluebonnet time is now, “when the sky falls on Texas” (A. L. Morgan). This is the time when the land, the sky, & the lakes are blue in Texas. Bluebonnets are our spring celebration. When did Texans first notice the magnificent populations of this endemic wildflower? How did the bluebonnet become the state flower?

The first who noticed and admired Bluebonnets were American Indians, who produced tales around these plants. In the early days, missionaries gathered the seeds of the wild Bluebonnets and planted them around their monasteries, giving rise to the myth that the plant was brought over from Europe. But Bluebonnets are mentioned in the pre-Columbian native American folktales, and there is solid botanical evidence that the flower is indeed an indigenous species. “The Legend of Bluebonnet” by Tomie de Paola tells the tale of a Comanche tribe that was praying to the gods for rain to end their famine and thirst. A member of the tribe, an orphan-girl named She-Who-Is-Alone, sacrificed her most prized possession, a doll, by burning it one night. The next morning Bluebonnet flowers were in bloom where the doll's ashes had settled, and the rain soon came.

Trained European naturalists sent to the new land of Texas to collect yet unknown plant and animal specimens were impressed with the beauty of the blue fields in spring. The first recorded observation might have been the one made by Jean Louis Berlandier, a twenty-year old Franco-Swiss botanical explorer, who on April 13, 1826 wrote in his journal: “The fields, strewn with flowers, were yet only a small thing compared with what we saw in the upper regions of Texas. A lupine, verbena, delphinium, some lilies, and a great many evening primroses contrasted with the tender green of the grasses, from which sprang flowers of various colors.” Thomas Drummond, a Scottish naturalist, collected Texas lupines and took them back to Sir William Jackson Hook, keeper of the Royal Botanic Gardens at Kew, England. Hook used the specimens collected by both Berlandier and Drummond to describe and name the two new lupine species discovered in Texas: *Lupinus subcarnosus* Hook & *Lupinus texensis* Hook. At that time the plants were not called Bluebonnets. [The Texas Bluebonnet, Jean Andrews, 1999 (ISBN 0-292-70447-3)]

Adopting a state flower of Texas was not an easy task back in 1901, when Texas’ elected leaders gathered for a regular session, which had choosing the state flower on the agenda. The previous year, the Texas Senate passed a resolution with little conflict, but in the House the debates were flying fast and furious over open cotton boll (“the white rose of commerce”) proposed by Phil Clement of Mills, Prickly-pear cactus proposed by John Nance Garner of Uvalde, aka “Cactus Jack” Garner, who later became U.S. Vice President, and Bluebonnet. When John M. Green of Cuero proposed Bluebonnet as the state flower, calls came from the House floor asking, “What the devil is a Bluebonnet?” Some of the elected leaders knew the flower as Wolf-flower, Buffalo clover, or ‘El conejo’ (the rabbit) and confusion arose in the chamber after mentioning so many common names. At that point, a group of women, members of the National Society of the Colonial Dames of America in the State of Texas, who had originated the idea of naming the Bluebonnet as the state flower, sent for a painting of the blooming *Lupinus subcarnosus* by Miss Mode Walker of Austin. When the painting was displayed in the chamber, it obviously made a huge visual impact on the legislators, since “deep silence reigned for an instant. Then deafening applause fairly shook the old walls” (Mary Daggett Lake). The painting made by Mode Walker measures 15 ¾” X 19 ¾” and is currently displayed in the Colonial Dames of America exhibit in the State of Texas Museum at the Neill-Cochran House, 2310 San Gabriel, in Austin. It can be viewed at

<http://www.texasnationalpress.com/texlog/article.php?story=20070331132753298&mode=print>.

Thus the bill designating the Bluebonnet or Buffalo clover (*Lupinus subcarnosus*) as the official state

flower of Texas was approved by the Regular Session of the 27th legislature and was signed by Governor Joseph D. Sayers on March 7, 1901. The common “Bluebonnet” name comes from the fact that the flower looks like the sunbonnets the pioneer Texas women wore to protect themselves from the powerful sun and strong winds of Texas. The plant is also known by other common names such as Texas lupine, Buffalo clover, and Wolf-flower (Lady Bird Johnson Wildflower Center at UT Austin). Texas State Wildflower Day is celebrated every April 24, and Burnet calls itself the “Bluebonnet Capital of Texas” and hosts an annual Bluebonnet Festival the 2nd week in April.

However, on that day of March 7, 1901, a seventy-year debate over which species should really be the state flower of Texas began. The legislators that approved *Lupinus subcarneus* as the official flower were not aware that several other species of *Lupinus* grew in the state. *Lupinus subcarneus* is a small, dainty Bluebonnet, found mostly in the coastal and southern parts of Texas, and some admirers of Bluebonnets were not too happy about the choice of this Bluebonnet species as the state flower, thinking that it was less attractive than *Lupinus texensis*, which is indeed showier and covers most of Texas. Therefore, off and on for about 70 years, the Texas legislature was encouraged to change the state flower to *L. texensis*. Finally, on March 8, 1971, the Legislature amended the 1901 statute to include both species of Bluebonnet known at the time, plus “any other variety of Bluebonnet not heretofore recorded” as the Texas state flower. So here we are today with six state flowers of Texas, all species of *Lupinus*: the originally chosen *L. subcarneus* and the opponent *L. texensis*, plus *L. havardii*, *L. concinnus*, *L. plattensis* and *L. perennis*, all of them being part of the Pea family of plants (*Fabaceae*).

Lupinus subcarneus, the original champion, also referred to as the Sandy-land bluebonnet, grows naturally in deep sandy loams from Leon County southwestward to LaSalle County and down to the northern part of Hidalgo County in the Valley. This species reaches peak bloom in late March and is difficult to maintain in clay soils.

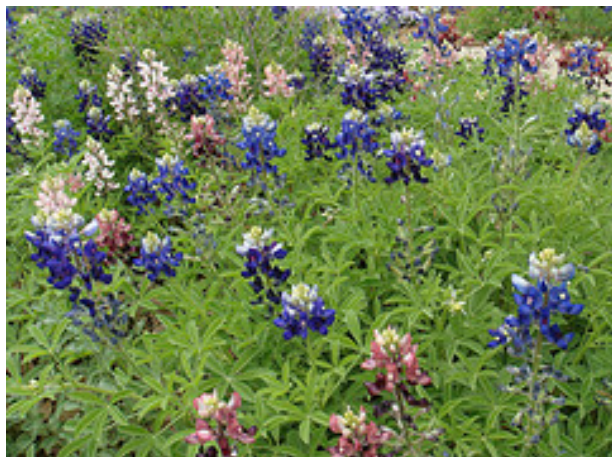
http://www.wildflower.org/gallery/result.php?id_image=20929

Lupinus texensis, the favorite of tourists and artists, provides the spectacular blue spring carpet of Central Texas and is widely known as THE Texas bluebonnet. The inflorescence (flowering stalk) composed to up to 50 fragrant blue flowers is tipped with white flower buds (like a bunny's tail, therefore named El conejo) and hits its peak bloom in late March and early April. It is the easiest of all the species to grow. This is the species often planted by highway departments and garden clubs. Texas Department of Transportation sows 33,000 pounds of wildflower seed along 79,000 miles of highways each year. Although pink and white varieties exist in native Bluebonnet populations, they are quite rare. http://www.wildflower.org/gallery/result.php?id_image=12952 A random genetic mutation does occasionally create an albino white bluebonnet naturally. In 1982, Texas naturalist Carroll Abbott, also known as "Mr. Texas Bluebonnet" had the idea of planting the design of our state flag with color varieties of Bluebonnet to celebrate the 1986 Texas Sesquicentennial. Thus a breeding program was initiated in 1985 to develop Bluebonnets with novel flower colors for use as bedding plants. 'Abbott Pink' was the first seed-propagated cultivar to be released from this project (Parsons and Davis, 1993). A second cultivar named 'Barbara Bush' with lavender flower color was released in 1994.

<http://aggie-horticulture.tamu.edu/plantanswers/flowers/bluebonnet/barbarabush.html>

The additional colors of our state flower are not genetically created by man; they exist encoded in the genetic material of the natural populations of Bluebonnets. Dr. Jerry Parsons, of the Texas Cooperative Extension in San Antonio, Texas, developed the “Barbara Bush Lavender” through recurrent selection. Dr. Parsons also followed the same process to develop the “Aggie Maroon” Bluebonnet. Needless to say, this is a favorite of Texas A&M alumni everywhere. <http://www.plantanswers.com/pp2.jpg>, <http://www.plantanswers.com/about.htm>

Photos of pink and maroon Texas bluebonnet along with the most common blue variety, taken by Camelia Maier in the yard of TF member Christina Wasson.



Lupinus havardii, the Big Bend or Chisos bluebonnet, is the most majestic of the Texas bluebonnets with flowering spikes up to three feet. It is found on the flats of the Big Bend country in early spring; it usually has seven leaflets and is difficult to cultivate outside its natural habitat.

http://www.wildflower.org/gallery/result.php?id_image=9052

Lupinus concinnus, the Annual or Bajada lupine, is an inconspicuous little lupine, only 2 to 7 inches tall including flowers, which combine elements of white, rosy purple and lavender. It is found sparingly in the Trans-Pecos region, blooming in early spring.

http://plants.usda.gov/java/largeImage?imageID=luco_009_ahp.jpg

Lupinus plattensis makes its way down from the north into the Texas Panhandle's sandy dunes and is the only perennial species in the state. It normally blooms in mid to late spring and is also known as the Dune bluebonnet, Plains bluebonnet, and Nebraska Lupine.

http://www.wildflower.org/gallery/result.php?id_image=9076

Lupinus perennis is the only member of the genus native to Louisiana or Texas which is specifically designated as poisonous in the Poisonous Plants of Pennsylvania database. However, the Texas Toxic Plant Database, based on Charles R. Hart's book "Toxic Plants of Texas," does not list any lupines at all, suggesting that poisoning of cattle by lupines is not a serious problem in Texas.

http://www.wildflower.org/gallery/result.php?id_image=9071

Among the above six species of bluebonnet, only Texas bluebonnet and Sandy-land bluebonnet are the *Lupinus* species endemic to Texas. The other Bluebonnet species have wider distribution.

Recently, on April 5, 2010, KXAN-TV in Austin aired a short documentary about the Texas bluebonnet's facing a deadly threat from an invasive weed named *Rapistrum*, also known as Turnip weed, Tall mustard, or Bastard cabbage, obviously from the Cabbage family of plants (*Brassicaceae*, http://www.texasinvasives.org/invasives_database/detail.php?symbol=RARU). *Rapistrum rugosum* was introduced from Europe a long time ago, grows faster and larger than most native Texas wildflowers, and can quickly turn a Bluebonnet patch into a mustard-colored field. Ecologist Mark T. Simmons, of Landscape Restoration Program at Lady Bird Johnson Wildflower Center in Austin, found out that Indian blanket, *Gaillardia pulchella*, reduces the invader *Rapistrum* by 80%. His study results were published in the scientific journal "Restoration Ecology" (Vol. 14, Issue 4, pages 609-615) in 2005. Simmons very suggestively titled his scientific article "Bullying the Bullies: The Selective Control of an Exotic, Invasive Annual (*Rapistrum rugosum*) by Oversowing with a Competitive Native Species (*Gaillardia pulchella*)". Oversowing infested areas with species with biological traits similar to those of the invasive species not only reduces productivity of the invasive species, but also may eliminate environmental damage associated with standard mechanical and chemical control techniques. Control of *Rapistrum* with herbicides has been problematic due to high mortality of native plants in the infested communities and subsequent perpetuation of a disturbed state that facilitates further regeneration of the invader from its seed bank. It seems that knowledge of native plants' traits may serve as an alternatively successful technique to protect and restore native plant communities by eliminating invader species.

Enjoy the explosion of bluebonnets this spring. The snow and frost we had since December in Texas had some benefits. For one, more bluebonnet seeds broke dormancy this spring and therefore larger and more intense blue carpets are available for wildflower lovers in the state of Texas and beyond.

Don't you love those bluebonnets?!