

Preservation of the Five Species of Louisiana Irises

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Five Species at Risk

Among the many species of North American irises, there are five in the series *Hexagona* collectively called 'Louisiana' iris. Each species is diverse in color, form, geographic origin and

habitat. These five species vary in color from blue to purple, pink, white, red, orange and yellow and are among the most varied in color and form of any North American wildflower. They are all cross fertile within the series, but not with other irises such as *Iris virginica*. Natural hybrids occur but are not common due to preferred habitat adaptations or differences in bloom date.

The diversity within each of these species is threatened by development, habitat destruction and wetlands loss. In 2015 the Society for Louisiana Irises (SLI) began a program to preserve that genetic and geographic diversity in permanent collections. An ultimate goal is to re-establish each of the species in protected nature preserves or arboreta in every one of the states in which they were once prevalent using the permanent collections as replenishing stock.

Native to 16 States and Provinces

The native distribution of these five species is wider than is generally appreciated. One or more of the species is native to 16 states and the province of Ontario. Distribution is most prevalent in the watersheds of the lower Missouri, Mississippi and Ohio Rivers, in the coastal areas from South Carolina to Florida and along the Gulf Coast. But it is only in Louisiana that all five species are or have been native.

The following maps from the Biota of North America Program (BONAP) show the native distribution of each species down to the county level. The color bright green indicates counties in which they are common. Yellow indicates counties in which they are rare. However, we do have a few specimens in our collection from counties that are not shown on the maps.

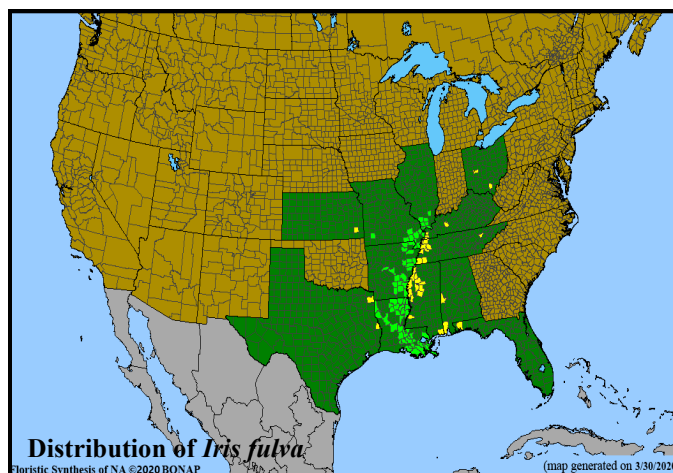
Louisiana irises in general spread slowly as rhizomes growing 2 to 12 inches per year, but they are distributed widely by floating seeds and rhizomes carried by rising and receding floodwaters. In particular *Iris fulva* is more extensive in the lower elevation flood plains of the Mississippi River western watershed than in the higher elevations on the east bank. Since water flows downhill, iris seeds and rhizomes naturally spread north to south down the Mississippi River and east to west but not in the reverse directions.

Diversity in Color, Form, Bloom Period and Cold Hardiness

Iris fulva ranges from copper-red to bright red, purple-red, orange, gold, lemon yellow and bi-



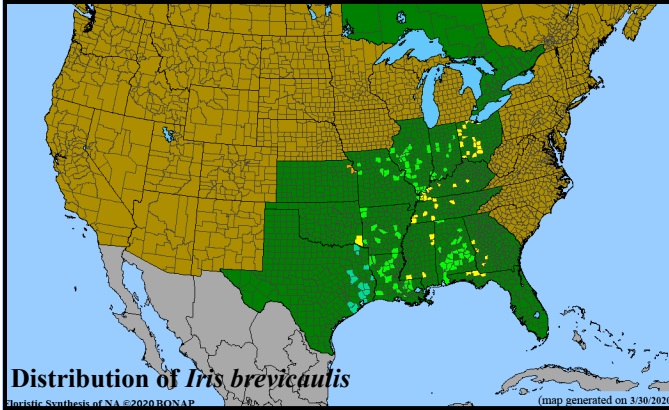
Charles Perilloux and road side *Iris giganticearuela* in Texas



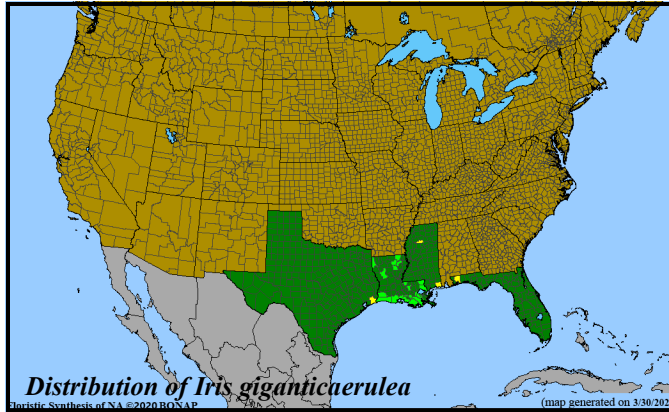
color, mono-toned and variegated. It ranges in stature from 10 inch tall in F25* 'Illinois Dwarf' up to 30 inches tall in some forms in Louisiana. Blooms vary in size from 1-1/2 inches to 4 inches wide.



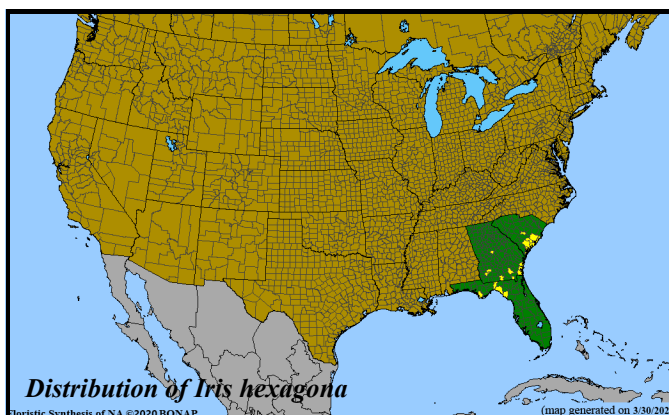
Iris brevicaulis is usually blue to purple, occasionally white and very rarely violet-pink and has significant variation in bloom form, pattern striping and foliage height. It is the shortest of the species, and the only one in which the blooms are held lower than the foliage. It is also the latest to bloom, generally 4 weeks later than *fulva*.



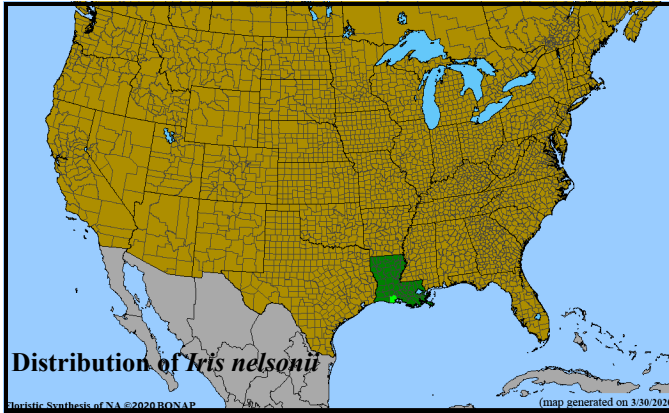
Iris giganteaerulea blooms vary from purple to light blue to white, rarely pinkish. They are often veined and are sometimes variegated. It is the tallest and most vigorous of the five species and has the largest rhizomes. Bloom size can vary from 5 to 7 inches, and foliage height is from 2.5 ft. to 6 ft. in its natural habitat. It is native to the coastal areas of Texas, Louisiana, Mississippi and Alabama.



Iris hexagona ranges from South Carolina to Florida and at one time was found in Louisiana. A sub-species, *Iris hexagona v. savannarum* is considered by some to be a separate species. Both are somewhat similar to *Iris giganteaerulea* in color and bloom form, but they are adapted to a somewhat different climate and soil. Propagation, in Louisiana gardens at least, is more challenging than that of *Iris giganteaerulea*, due to these differences.



Iris nelsonii is, by far, the rarest of the species being native to only a small cypress swamp south of Abbeville, LA. Its red to gold color is derived from *Iris fulva*. It can grow as tall as 4 or 5 ft. due to genetic influence from the tall *Iris giganticaerulea*. It has been used extensively in modern hybrids because of its rich mixture of genetic expression from the other species.



Preservation

The Society for Louisiana Irises is permanently preserving the genetic diversity of these five species in collections of live plants. The preservation effort has two aspects. The first is acquiring new specimens to represent as fully as possible the diversity of color, form and geographic origin. The second is to establish complete and verified collections in various locations.

The collections presently include more than 200 distinct irises. The greatest variation among the species is found in Louisiana, but the preservation collections also include more than 43 distinct clones from 11 other states. The foundation of our collection was established many years ago. Noted preservationist and garden author Caroline Dormon and professor Dr. Ira Nelson were among the first to collect Louisiana irises for their personal gardens. In following years, other irises were added to the collection, and we have added considerably more in the last 10 years.

Our collection stewards are located in different areas to protect against potential catastrophes such as hurricanes, severe freezes or droughts that could destroy an individual collection. We now have permanent, partial collections at 4 locations in Louisiana and in 4 other states as follows:

New Orleans, LA
 Baton Rouge, LA
 Livingston, LA
 Lafayette, LA
 Cleveland, TX

Patrick O'Connor and Mark Schexnayder, at City Park
 Charles Perilloux
 Kent Benton
 Jim Leonard, at Louisiana Iris Farms nursery
 Brian Shamblin

Rushsylvania, OH
Savannah, GA
Molalla, OR

Jody Nolin (President of the American Iris Society)
Stan Gray, at the Coastal Georgia Botanical Garden
Will Plotner (Past President of SIGNA)

These different locations also give us experience in the adaptability of individual clones to areas where they are not native. These collections are being maintained by and at the expense in time and resources of the stewards. However, SLI is a 501(c)3 non-profit organization and we hope to eventually obtain grants for partial support.

No single collection is yet complete. It takes time for new acquisitions to multiply sufficiently for sharing with other stewards. We also require photographic verification from each steward that we each have exactly the same clone in each collection. This is not as easy as it might seem, and it may take us five years for all the collections to be both complete and verified.

New Acquisitions

The last few years have seen significant new discoveries within Louisiana and in other states. Within the last four years, Kent Benton has discovered a total of 27 different *Iris brevicaulis* and 16 different *Iris fulva* variants in Livingston and other parishes east of Baton Rouge. While some have fairly subtle differences, the overall range of color and form is extraordinary from such a small region. This area is almost certainly the most diverse in *Iris brevicaulis* in all of America. Examples include B52 'Livingston Intense Blue', B46 'Livingston Pale Blue' and B44 'Livingston Dwarf Veined Light'. Especially important is a very rare white *Iris brevicaulis*, B28 'Louisiana Snow'. Previously the only known white *Iris brevicaulis* was 'Trail of Tears', not a wild collected iris but rather the result of a cross between two collected blue *Iris brevicaulis* by hybridizer Frank Chowning. The *Iris fulva* in this small area also show a wide range of colors as shown in F57 'Swamp Canary', F61 'Livingston Violet Purple', and F62 'EBR Burgundy Purple'.





We now have two *Iris brevicaulis* from Georgia (B70 ‘West Georgia Blue’ and an almost-white B71 ‘West Georgia White’) obtained by Kent Benton from Jim Rogers of Nearly Native Nursery of Fayetteville, Georgia. These came from Troup County, near West Point, Georgia and are the easternmost *Iris brevicaulis* in our collection. *Iris brevicaulis* was known to have been native to Georgia in the past, but is shown as rare in the current BONAP distribution maps. We also now



have our first *Iris hexagona* from Alabama (Wilcox County), and our first *Iris hexagona* from Georgia, near St. Marys in Camden County.

We recently learned from Houstonian Carol Price of the presence of *Iris giganticaerulea* (G27 ‘Sabine Ranch’) on a 12,000 acre private cattle ranch now owned by the Conservation Fund and located south of Beaumont, Texas adjacent to the McFaddin National Wildlife Refuge. This property is being privately managed to ultimately transfer it as a protected wildlife and habitat preserve. This would be our second *Iris giganticaerulea* from Texas, the other being ‘Big Tex’ (Barton, 2005), collected from near Matagorda Bay, about 180 miles to the southwest.

Carol and fellow SLI member Louise Jamail have also recently discovered two different *Iris giganticaerulea*, one a tall deep blue and the other a shorter medium purple. They also found large stands of white *Iris giganticaerulea*, with no blues within ¼ mile radius. This location is adjacent to the San Bernard Wildlife Refuge between the San Bernard and the Brazos Rivers south of Houston, Texas. The site also had white *Iris brevicaulis* blooming at the same time. These were earlier blooming and somewhat taller than usual, although the blooms were lower than the foliage. The stems were also zig-zag although not as much so as most *Iris brevicaulis*. It is likely that these have introgression of genes from *Iris giganticaerulea*. This is not surprising since similar early blooming *Iris brevicaulis* were discovered by Eric Dearing 100 miles upstream near College Station near the Navasota River, a tributary of the Brazos River. (The BONAP maps show this area as having *Iris brevicaulis*, *Iris giganticaerulea*, and hybrid *I. x flexicaulis* (*Iris giganticaerulea* x *Iris brevicaulis*)).



Two years ago we obtained two *Iris nelsonii* (N33 ‘E. Lawrence Red’ and N34 ‘E. Lawrence Gold’) and an *Iris fulva* (F71 ‘E. Lawrence Red Fulva’) from Andrea Sprott, the curator of Wind-song Gardens in Charlotte, NC. These came originally from preservationist and garden author Caroline Dormon, and Sidney Conger who sent them to fellow author Elizabeth Lawrence in the late 1950’s. (Lawrence is most noted for her pioneering book *A Southern Garden*, a collection of essays first published in 1942



N34 'E. Lawrence Gold'

and still in print.) These bloomed for us for the first time two years ago, more than 60 years after first leaving Louisiana. They have particularly distinct and attractive blooms from large rhizomes, and Caroline Dormon must have considered these among the best and most vigorous in her collection.

There are native *Iris fulvas* growing in central Arkansas within Toltec Indian Mounds State Park and prominently shown on their website. This *Iris fulva* was also shown in a 2001 catalog of Durio Nursery in Opelousas, LA, but has been lost to commerce. We are hoping for assistance from the Arkansas Native Plant Society in acquiring a few specimens

for our collection. Quite a few of the first hybridizers of Louisiana irises were from Arkansas and it is likely that Arkansas natives had some impact on their hybrids.

We also have prospects of an additional *Iris brevicaulis* and an *Iris fulva* from far southern Illinois, the northernmost area of cypress swamps in America. (This area is the natural flood plain between the Mississippi and Ohio Rivers.) Steve Poole, whose article on hybridizing appeared in the summer 2019 issue of the SLI's *Fleur de Lis*, has offered the original very hardy *Iris brevicaulis* that initiated his hybridizing effort, and is working with the state of Illinois to get either rhizomes or seeds from a colony of *Iris fulva* in a protected nature preserve. Steve commented that there were once large colonies of red, orange and yellow *Iris fulvas* in this same region, but now only soybean fields remain.



'Toltec Indian Mounds'

Our recent success in finding new irises suggests there are more out there to be found in Louisiana and especially in other states. But it will take naturalists with very keen observation skills and experience trekking through the woods and swamps to find them before they are gone. For this reason the SLI is cooperating with native plant societies, preservationists, state parks, wildlife officials and every hunter, fisherman, or forester we can contact.

The Future

Over the next few years, Stan Gray will be adding our complete collection of species irises to a large naturalistic planting in the Coastal Georgia Botanical Garden in Savannah. The 'Rivers of Irises' collection of hybrid cultivars that Stan developed has been a major success with visitors and receives extensive media coverage. It also introduces Louisiana irises to a new audience along the southern Atlantic coast. The native species there will emphasize preservation as well as provide a comparison with the modern hybrids from which they came. The moving of dirt is complete, initial plantings have been installed and first blooms occurred this spring.

Jim Leonard, owner of the Louisiana Iris Farms nursery, has been working with the newly developing Moncus Park in Lafayette. The park is a private non-profit with a large portion of the total acreage developed as a botanic garden. Jim is establishing a complete preservation collection for eventual placement in their areas dedicated to Louisiana irises. It is particularly appropriate that this collection will be safeguarded in the founding city of SLI and in what will eventually become one of the premier botanic gardens in America.

Our newest steward is the Past President of SIGNA, Will Plotner. He lives in Molalla, Oregon, south of Portland. While the very dry summers there are quite different from the humid regions from which our irises originated, Will has successfully grown Louisiana iris hybrids and a few forms of *Iris fulva* and *Iris brevicaulis* and has a lot of land and energy.

Selecting the Best Irises

When we started out in 2015, none of us anticipated finding more than 200 distinct irises to choose from for the permanent collections, and that number keeps growing. Permanently maintaining that many is probably not manageable long-term for most individual stewards not affiliated with a public garden. We will eventually work to choose some smaller number of clones that are most distinctive in color, form, habitat, geographic origin and vigor. Selection will of course be subjective, so whittling down will be done by a vote of the stewards. Individual stewards may maintain any number beyond those required for the core collections

First priority will be geographic diversity. When it comes to native plants, everyone is most interested in those that came from near where they live. We will keep in the permanent collection at least one of each species native to each state. We would especially like to see the species from Illinois and Texas in nature preserves in those states. Botanic gardens in individual states may also want some from other states that exhibit different colors or forms for comparison with their own state natives.

Re-establishing Species Colonies in the Wild

As we have been growing the preservation collection, our members in the Greater New Orleans Iris Society have been making substantial progress in re-establishing mainly *Iris giganticaerulea* at numerous locations in southeastern Louisiana and have established working relationships with local state universities in the area. Ultimately we hope to duplicate that model in other areas and states.

Contacts we have made recently through the Houston Zoo have identified private landowners interested in habitat restoration along the Texas coast. Hundreds of acres of family land near Anahuac have historically been “Salt-Grass Trail” cattle land that could again become a part of the coastal prairie and iris habitat. The 12,000 acres of Sabine Ranch have some existing *Iris giganticaerulea*, but it is an opportunity for large-scale re-plantings to once again achieve “miles of blue as far as the eye can see.” It will take some time and effort to propagate the Texas-native irises, but we may be able to get assistance from native plant societies, Master Gardeners, and the Friends of the Zoo. It could also be done very efficiently done by existing iris nurseries if grants become available.



Help Needed

We need the help of other native plant and species iris enthusiasts in adding to our collection of geographic diversity. There are quite a few states in which BONAP shows one or more of the Louisiana iris species, but from which we have few or no specimens. Please ask your friends, especially those in native plant societies, to be on the lookout for *Iris hexagona* in the south Atlantic region, and for *Iris fulva* and *Iris brevicaulis* in the areas shown by BONAP. These irises are a national treasure worthy of protection and greater appreciation not just in the Gulf South but also throughout their native range.

* *The designations, in this case F25, before the varietal names are the accession numbers used by the SLI Species Preservation Program. "F" stands for fulva, etc.*

Maps: Kartesz, J.T., The Biota of North America Program (BONAP). 2020. Taxonomic Data Center. (<http://www.bonap.net/tdc>). Chapel Hill, N.C. [maps generated from Kartesz, J.T. 2020. Floristic Synthesis of North America, Version 1.0. Biota of North America Program (BONAP).]