

Commelina gigas

REDISCOVERED AND LOST

This article discusses another member of the family of wildflowers covered in The Joy of Weeds. Commelinaceae include Spiderwort and Dayflower.

by Daniel F. Austin

During a trip to Lake Okeechobee in May, 1914, John K. Small found a *Commelina* that he thought was different from the others that he knew. In his **Manual of the Southeastern Flora** published in 1933, he described the specimens as the new species, *Commelina gigas*.

From that point until now the plants have become a source of mystery.

The plants were so obscure that Clyde Brashier omitted the name entirely from his revision of *Commelina* published in 1966. Subsequently the plants seemed so uncommon that they came to be considered endangered in Florida.

At that point, I entered the picture and began study of them for the Fish and Wildlife Service, Office of Endangered Species.

Examination of the specimens from the original collections by J.K. Small at New York Botanical Garden showed some features about the plants not noticed by others. The plants have the large size that led Small to call them "gigas," or giant, but they also have three large blue petals. In fact, Small misled everyone by saying that the plants had only two large blue petals. His own specimens indicate his error.

With this confusion, it is not surprising that people have considered *C. gigas* endangered. No one could recognize the plants. As my students and I examined living and preserved material in our work on endangered plants in the late 1970s, we began to suspect that something other than a rare endemic Florida plant was involved.

No other native southern Florida *Commelina* has these three large

petals. Other *Commelina* species in the eastern United States do have similar flowers, but they differ in important traits.

There are three traits that historically have been used to distinguish between the various taxa of *Commelina* — spathe fusion (the base portion of the modified leaf surrounding the flower cluster is joined), number of blue petals, and comparative size of the three petals. Only three species in the eastern United States have been known for their three blue petals: *C. diffusa*, *C. gigas*, and *C. virginica*. The other species, *C. communis*, *C. elegans*, and *C. erecta*, have two blue petals and one which is white.

The petal size and color factors would seem to exclude all taxa except *C. diffusa* and *C. virginica* from consideration as the nearest relative to *C. gigas*.

In *C. virginica*, the margin of the spathe is fused basally. The spathe base margins are free in *C. gigas* (Small, 1933), and they are also free in *C. diffusa* (Wunderlin, 1982). This narrows the field to *C. diffusa* and *C. gigas* for possibly related plants. To complicate the situation, *C. diffusa* is not a native, but was introduced from Asia.

Simply a look at the names that have been applied to *C. diffusa* in the southeastern United States will indicate some of the variation in the plants. One variant group has been called *C. caroliniana* Walter, and another *C. longicaulis* Small. These synonyms and the morphological similarity made us compare *C. diffusa* with *C. gigas*.

After study of all of the wild plants we could find plus the material cultivated at Fairchild Tropical Garden and in our greenhouse, we

concluded that *C. gigas* is not a distinct species, and that it is, in fact, a giant form of a widespread tropical weed, *Commelina diffusa*. Thus, our endangered endemic is lost to synonymy.

Last summer (1985) I was studying the plants of Hawaii as a part of the team writing the flora of the islands. During a search of several islands, I came across plants that would be perfect candidates for *C. gigas* if they grew in Florida. These, on study, turned out to be *C. diffusa*. While the Hawaii plants are somewhat distinct in petal shape from our Florida members of the species, they are all part of a widespread tropical weed.

John Small simply mistook a giant form of this weed for an endemic species. His mistake should make all of us realize the ways that plants vary. We should make no sweeping conclusions on the basis of a local study, or we may find that what we consider a native, endemic, and endangered Florida plant is really an exotic weed.

References

- Austin, D.F., J.N. Jones, B.E. Tatje, and C.E. Nauman. 1980. Endangered and threatened plant species survey of southern Florida. Fish and Wildlife Service, Office of Endangered Species, Atlanta.
- Brashier, C.K. 1966. A revision of *Commelina* (Plum.) L. in the U.S.A. Bull. Torrey Bot. Club 93(1): 1-19.
- Radford, A.E., H.E. Ahles, and C.R. Bell. 1968. Flora of the Carolinas. University of North Carolina: Chapel Hill.
- Small, J.K. 1933. Manual of the Southeastern Flora. Chapel Hill: University of North Carolina Press.
- Ward, D.B. (ed.). 1979. Rare and endangered biota of Florida, Vol. 5, Plants. Gainesville: Univ. Presses of Florida.
- Wunderlin, R.P. 1982. Guide to the Vascular Plants of Central Florida. University Presses of Florida: Tampa.