Editorial: Why Do You Study That Ugly Plant?

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Editorial:

Why do you study that ugly plant?

At Archbold Biological Station in south-central Florida, we hosted three conferences and workshops this week, all focusing on rare plants. The most focused of the three meetings brought together about 15 people to discuss the conservation of Florida ziziphus (Ziziphus celata W.S. Judd & D.W. Hall). The small crowd was entirely made up of people with direct experience with this shrub: geneticists, ecologists, land managers, horticulturalists, and prescribed burn professionals. After updates on new research results and on-the-ground realities, we brainstormed on what next steps should be taken.

We call our group the Florida Ziziphus Ad-Hoc Recovery Team. It’s a group with no bylaws, structure, officers, or logo. While not officially recognized by any government agency, it is well attended by agency personnel that deal with this plant. Perhaps because this team is untethered by bureaucracy, it seems to function quite efficiently and smoothly. Meeting every two years, the discussions have been constructive and have led to the achievement of many goals in between meetings.

How did this group come to be? Plant ecologist Carl Weekley began learning about Florida ziziphus not long after its rediscovery (after being thought to be extinct) in 1987. Becoming concerned about the many conservation problems for this species, Carl brought in various experts and interested parties over the years.

The most obvious problem for Florida ziziphus was that it was reproductively challenged. This shrub almost never produced fruits in the wild. Carl embarked on a laborious series of hand pollinations to demonstrate that many plants were cross incompatible due to a particular mating system involving the S locus. Only plants of different mating types could produce fruits. It seemed that most populations did not contain more than one mating type. Plant material propagated by Bok Tower Gardens and grown outdoors in a garden setting did begin to produce fruits, as the collection brought together different mating types. Over the years as extensive genetic work was performed, it became clear that many “populations” consisted only of a single genotype (genetic individual). The plant is strongly clonal and clones may have once covered large areas. Today, most Florida ziziphus patches are small and occur on private land and in pastures. Over 90% of its natural habitat (sandhill) has been lost and much that remains is fire suppressed and overgrown. Nonetheless, it has been difficult to pin down what management would be beneficial to this species. Carl organized fires to rejuvenate individual plants, but the plant’s responses to microhabitat and weather seemed inconsistent.

It became clear that viable populations of Florida ziziphus would need to include multiple genotypes from different populations. Recovery efforts began in 1998, focusing on introductions and augmentations (now totaling ten) to protected natural areas, natural areas being the protected places that are looked to as safe havens for species on the brink. These introductions involved many groups in collaborations, particularly Archbold Biological Station, Bok Tower Gardens, US Fish and Wildlife Service, and land managing agencies. While the introductions have helped us learn more about the biology of this plant, they have been slow to develop into viable populations. Transplants survived but grew slowly, and usually took over a decade to become reproductive. To date, we have rarely seen fruit production and found only one second-generation seedling recruit.

Florida ziziphus may also have a perception problem. It is a large shrub with lethal thorns that have caused dozens of those working with plants to bleed profusely. I suppose one could say that many folks have given blood, sweat, and tears for this plant (given Florida climate, mainly sweat). Private ranch owners saw it as an impediment to grazing and some land managers were not enthusiastic about introductions of an endangered shrub with the potential for extensive clonal spread. Even nature lovers would not be wowed by its ordinary appearance, being leafless for part of the year and with small flowers found mainly in January.

For years, Carl had an office next to mine at Archbold. He was known for being able to deal brusquely with intruders, but he had to engage a certain VIP in conversation more than once. One day, the VIP charged into his office and asked “Why do you study this ugly plant?” I don’t know the details of Carl’s response, but I think it may have been along the lines of “it needs us.” The dozens of people who bled, cried, and perspired over this plant may have had a range of motivations, but a unifying reason was that we wanted to prevent (or at least forestall) this species’ extinction.

I’m sure many of you have been asked a similar question about your dedication to natural areas and conservation. Why do it? Clearly it isn’t the pay grade or the chance to be famous! Granted, you are fortunate enough to be able to spend time in beautiful places and work with awesome people. But isn’t the answer “natural areas need us”? It’s time for humans to make up for what we have done to this planet and regain some karma. Why do it? Because it needs doing. Because we should.

Eric Menges, Editor

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