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## Searching for a new home

By ARCHBOLD BIOLOGICAL STATION

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Collecting stems of Titusville Scrub Balm to grow new plants for translocation. This team consisted of a collaboration bet Archbold scientists: Scott Ward (front left) and Haley Dole (back left), Floravista Inc.: Suzanne Kennedy (back right), and County EEL land manager: Jonny Baker (front right).

COURTESY PHOTO/STEPHANIE KOONTZ

Many plant and animal species in Florida are considered rare for one common reason: loss of

native habitat. Much of this loss is due to land conversion for agriculture, urban and suburban development, or lack of appropriate land management. Natural areas that these rare, threatened, and endangered plants and animals call home are becoming fewer and fewer. Furthermore, many of the remaining parcels are degraded, often due to years of fire suppression (fire is a natural and necessary feature of nearly all native Florida ecosystems), human disturbance (e.g. public dumping, off-road vehicles), or very invasive, non-native species.

Rare species persisting in these suboptimal habitats, in many cases, are unable to move to well-managed conservation properties. For example, Gopher Tortoises are highly unlikely to successfully cross a busy road to better habitat. Scrub Jays often fail to disperse and end up occupying low quality habitats embedded in neighborhoods with bird feeders providing abundant, but lower quality food for raising chicks. Plants, such as the Titusville Scrub Balm, are rooted to the ground and their seeds do not disperse far to new locations. In these cases, plants and animals may need to be rescued from unfavorable habitats and translocated to new parcels with long-term conservation protection.

In February, Archbold Biological Station's Plant Ecology Program traveled from their own Lake Wales Ridge in Highlands County, east to the Atlantic Coastal Ridge in Brevard County, to meet with long-time collaborator, Suzanne Kennedy of Floravista Inc. This coastal ridge shares some similar endemic species to the Lake Wales Ridge, but also has its own unique species. One of these is the endemic Titusville Scrub Balm (*Dicerandra thinicola*), found only on the Atlantic Coastal Ridge in Brevard County. "The Titusville Scrub Balm is known to occur at only a few scattered sites along a 12-mile stretch of this Ridge," describes Eric Menges, Program Director of the Plant Ecology Program at Archbold, "and even fewer sites on this Ridge are protected for conservation of Florida scrub habitat than on the Lake Wales Ridge."

One site this scrub balm occurs on is a city groundwater recharging site, providing it with limited protection. A second site is protected for conservation of Florida habitats, but is an introduced population, planted there by Kennedy and ABS scientists in 2002 and 2003. "With so few protected sites, this rare species needs translocations to help it persist," remarks Menges.

Translocating a species is more than just planting plants in a new location. “There is a lot that goes into a species translocation,” describes research assistant Stephanie Koontz. “We have to locate a recipient site that is under conservation protection, has the appropriate soil and habitat type, and an active land managing agency or organization willing and able to manage the site in a favorable way for this species.” Luckily for this team, Brevard County has its Environmentally Endangered Lands Program, established to acquire and manage natural areas within the county for conservation, recreation, and environmental education.

This program was approved by Brevard County voters in 1990 and is funded by voter approved ad valorem taxes. “Titusville Scrub Balm requires habitats in coastal Florida Scrub, managed with occasional fire (every 4 9 years), and yellow sand soils. Yes, these soils truly have a yellow hue to them and are different than traditional white sand soils,” explains Kennedy. “Several parcels managed by the Environmentally Endangered Lands program met these criteria and one, Indian Mound Station Sanctuary, was selected for the Scrub Balm translocation.”

In addition to locating a suitable recipient site for the translocation of Titusville Scrub Balm, the team also needed plants. “Moving plants by digging them up, potting them for transport, and then replanting them is not very easy, and often unsuccessful,” explains Koontz. “Soil disturbance can damage roots, changes in sun exposure and moisture can be stressful, and sometimes, plants just don’t survive the move, a reaction known as transplant shock. Furthermore, our goal is to create an additional site, not reduce another one.”

Previous work done by the Archbold Plant Ecology Program and collaborators at Bok Tower Gardens in Lake Wales, demonstrated stem cuttings of these mint species (*Dicerandra*) can establish their own root system. Bok uses a diluted rooting hormone solution, which triggers the stem to initiate root growth and establish a new plant. “After a few months of growth, these Titusville Scrub Balm plants will be ready for their new home!” exclaims Koontz. “And hopefully soon after, we will observe flowering, seed set, and seedling recruitment. These three steps are some of the key indications that the translocation, initially, is successful. Continued monitoring over several years will inform us if this new site is well established and able to persist over decades.”