

The Woolly Croton

Host for Two Endemic South Florida Butterflies

by Mark Salvato

The native shrub woolly croton (*Croton linearis* Jacq.) is part of the pineland forests of South Florida. This particular croton species is of special interest due to its co-evolved relationship with two endemic butterflies – the Florida leafwing (*Anaea troglodyta floridalis* Comstock and Johnson) and the Bartram's hairstreak (*Strymon acis bartrami* Comstock and Huntington) – both use woolly croton as their sole host plant.

Croton linearis is not a threatened species and it continues to exist in several scattered and sometimes very localized areas on the mainland where stands of slash pine (*Pinus elliottii* var. *densa*) remain. However, on the lower Florida Keys, the plant has all but disappeared as forests have been cleared for development. The one exception is Big Pine Key, which maintains a large population. As a result of the plant's dispersion on the mainland and an enormous reduction in the host density that once covered several keys, populations of the two butterflies have been drastically affected in recent decades. In response, the status of the leafwing and hairstreak butterflies are being evaluated. If these species are deemed threatened, then a captive-propagation and release program, one similar to that done for the endangered Schaus' swallowtail, may be considered. Such a captive breeding program would obviously require a large rearing stock of the host.

So, as I began a year-long census of these butterflies in South Florida in early 1997, I also sought to find a source for *Croton linearis*. Although some species of *Croton*, for example *C. grandulosus* and *C. punctatus*, were of brief interest for beach erosion control purposes after Hurricane Andrew, they are now hard to find. *Croton linearis* wasn't used for such purposes and it's by no means an ornamen-

- continued on page 10

Wooly Croton

continued from page 9

tal plant. Thus, purchasing this plant in native nurseries wasn't an option and without grant funding, I was unable to have it specially grown.

In February 1997, permission was obtained from The Nature Conservancy to collect cuttings from their tract of land on Big Pine Key. Cuttings as well as seeds were brought back to greenhouses on the University of Florida campus in Gainesville. These cuttings were of several different diameters and lengths. Each were dipped in root hormone and placed in mediums of different mixtures. Seeds were placed in vermiculite. About 120 cuttings from this initial batch were taken to the Sanibel-Captiva Conservation Foundation (SCCF) Native Plant Nursery.

During the first few weeks, the cuttings looked fine at both locations, but this didn't last. The project was put aside for two months; however, root hormone was reapplied every few weeks in hopes of a change. By May, the cuttings started to root heavily and growth was rapid after that. Seeds started to rise in June and have continued to, even during the cold winter months in the outdoor Gainesville greenhouses. Dee Serage of SCCF and I collected more cuttings in July and the success rate of cuttings and seeds to adult plant has been high.

Wooly croton blooms sporadically throughout the year, but major flowers normally occur during the rainy season, especially July and August. The species is dioecious and ranges in size up to about a meter (Hennessey and Habeck, 1991). The plant is found throughout Monroe and Dade Counties in areas that have or recently had slash pines.

Two forms of the plant exist. One form, characterized by long tapering leaves and abundant foliage, is found on Big Pine Key and was at one time widespread throughout the keys of Key Deer National Wildlife Refuge (Dickson 1955). Although this form appears to be quite a hardy plant, given the limestone substrate it grows on, it does quickly lose out in competition from other shrubs, especially invasives such as Brazilian

pepper. Prescribed burns have not been performed on a regular basis on several of the lower keys for quite some time, and as a result, many of the lower herbaceous plants have suffered.

On the mainland, another form of *Croton linearis* exists. My focus on this form of the plant has been at Long Pine Key within Everglades National Park. In contrast to the Key variety, these crotons have shorter, more oval leaves, and the plant itself isn't nearly as foliated. The plant's density at this site is not half the size it was when last surveyed by Michael Hennessey and Dale Habeck in the late 1980s. Here, as in the Key Deer Refuge, due to a lack of prescribed burns, the plant is being strangled by other plants as well as parasites. What does exist in the Everglades is mostly concentrated around Gate 4 at Long Pine and fortunately, enough seems to be there to support a year-round population of Florida leafwings. However, Bartram's hairstreaks have not been seen since the start of the census at this site. Given that these smaller butterflies are normally localized around their host, the hairstreak's absence at Long Pine is of some concern.

About 65 miles separate the mainland from Big Pine Key. Interestingly enough, some of the Big Pine Key variety seeds have produced plants of the Everglades form, and vice versa. Florida International University has a prescribed burn program set to start soon within Key Deer Refuge. With any luck, this program and others like it will allow wooly croton to return to many of the pineland keys along that 65-mile stretch, giving the butterflies some much needed additional habitat. ✨

AUTHOR'S NOTE: Not much appears to be written about *Croton linearis*, yet it can be successfully propagated from cuttings and is vital to the success of Florida leafwings and Bartram's hairstreaks. Interested readers could propagate these plants and do the butterflies a great service!

EDITOR'S NOTE: Space does not permit for printing of the author's references. For more information, contact the author at the following address: Mark Salvato, 1109 NW 41st Ave, #5, Gainesville FL 32609, or 352-372-3505, ext. 520 at the Division of Plant Industry.