



## DICERANDRA: HIGHLANDS COUNTY'S UNIQUE MINTS

by Dr. Eric Menges

Our new Highlands County chapter of the Florida Native Plant Society is named *Dicerandra*. What does that mean?

*Dicerandra* is a genus of plants in the mint family (Labiatae or Lamiaceae). All plants of the genus are found only on the southeastern U. S. coastal plain. All six known species have local distribution patterns, but the four perennials are especially restricted, being confined to very small areas in Florida. *D. immacululata* is found only in two counties in the Ocala area; *D. cornutissima* in two counties on the Atlantic coast.

Most restricted of all are the two Highlands County endemics *Dicerandra frutescens* and the recently discovered *D. christmanii*. *D. frutescens*, known as the Lake Placid scrub mint or scrub balm, grows only in Lake Placid and Venus at about a dozen sites. *D. christmanii* is even rarer, being restricted to a single ridge system near the Sebring airport. All the perennial *Dicerandra* species are allopatric, meaning their ranges do not overlap. Allopatric distribution patterns among closely related species are characteristic of birds and reptiles, but less often temperate plants. The very narrow ranges of the perennial *Dicerandra* are reminiscent of tropical plants. It is likely that the various species of *Dicerandra* have evolved apart recently, that is in the last few million years. Even within species, one can see variation from one group of populations to another. It is also possible that additional species remain undiscovered or undescribed.

One thing you notice about these mints is their strong smell. *D. christmanii* smells like Vick's vapo-rub; *D. frutescens* like spearmint. Cornell biologist Tom Eisner has isolated a chemical compound from *D. frutescens* that was not known to occur in nature. This compound (trans-pulegol) repelled insects in laboratory experiments. It is likely that the strong smells in mints and other plants have evolved to deter generalist herbivores. Although plants have to bear the cost of manufacturing these chemicals, their presence probably allows more flowers to be produced.

*Dicerandra frutescens* produces its flowers in August and September. The formerly drab, low, woody plants becomes a striking mound of small but pretty flowers. The flowers are cream initially, turning to white during the day, with prominent maroon spots. The flowers are visited primarily by bee-flies, flies that mimic bees to deter their own predators. These pollinators collect nectar, in so doing carrying pollen from plant to plant and allowing *Dicerandra* to produce fruit. As in all mints, the fruits have up to four seeds apiece.

You may have wondered where the name *Dicerandra* came from. The anthers (the sacs at the top of the stamens) in the *Dicerandra* flower deposit pollen on the bee-flies by an ingenious trigger consisting of two horns. The name *Dicerandra* means "two-spurred anther".

All the perennial *Dicerandra* grow in scrub on yellow sand, doing especially well in natural openings and lightly disturbed areas such as old firelanes and trails. At Archbold Biological Station, I am currently conducting field experiments to see exactly why the plants prefer open habitats. The answers may not be simple. For example, seedlings germinate mainly on bare sand, but survive better when in partial shade.

Although the preference for oak scrub on yellow sand limits distribution, the *Dicerandra* seem to be absent from what appears to be suitable habitat. The reasons for this are unknown. As is the case for many scrub organisms, these mints are threatened by human activity. *D. frutescens* is protected only at Archbold and at the Mundell's property; the other ten or so sites will likely be developed soon. *D. christmanii* is not protected at all.