

**KEYS TO THE FLORA OF FLORIDA: 22,
DICERANDRA (LABIATAE)**

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ABSTRACT

Dicerandra (Labiatae) is represented in Florida by three species: one, *D. densiflora*, is monotypic; one, *D. linearifolia*, consists of two varieties; and one, *D. frutescens*, is believed best interpreted to be formed of 7 varieties. **Dicerandra frutescens** var. **christmanii**, var. **cornutissima**, var. **immaculata**, var. **modesta**, var. **savannarum**, and var. **thinicola** are recognized as new combinations. *Dicerandra densiflora* and *D. frutescens* are endemic to Florida. *Dicerandra frutescens* (typical) and certain of its varieties are rated as endangered. An amplified key is given to the Florida taxa. *Phytologia* 91(2): 270-276 (August, 2009).

KEY WORDS: *Dicerandra*, Labiatae, Florida flora.

The task of the present number is to formalize the change in rank of certain taxa within the woody mint, *Dicerandra* (Labiatae), as needed for uniform presentation within an amplified key to the Florida species.

Soon after arriving in Florida in 1958, the present author discovered in the herbarium (FLAS) specimens that seemed not to belong where they had been filed. Many had been collected by James B. McFarlin (1901-1969), from near Sebring, Highlands Co., and others from elsewhere in the peninsula. Trips to collection sites quickly found additional populations, and a small folder was assembled of notes and information that might eventually become meaningful. But in 1961 a request came from Lloyd H. Shinnors (SMU), for the

loan of the genus *Dicerandra*. With the advice of Erdman West, a selection of materials was made and dispatched to Texas.

The result was Shinners' publication (Sida 1: 89-91, 1962) of a synopsis of the genus, with the unnamed materials now named *Dicerandra frutescens*. Their distribution was from throughout the peninsula and showed no variances sufficient to bring attention.

But within the year Olga Lakela, then in Tampa (USF), found plants near the eastern shore of the peninsula which lacked dots on the lip of the corolla; she named it *Dicerandra immaculata* (Sida 1: 184-185, 1963). Lakela was followed by Robin Huck who ranged widely, throughout Florida, Georgia, and the Carolinas; she found further variation in north-central Florida which she named *D. cornutissima* (Phytologia 47: 313-316, 1981). A student of the peninsular scrub flora, Steven Christman, then encountered a different form in Highlands County, and a team of 6 investigators pooled their resources to name it *D. christmanii* (Huck et al., Syst. Bot. 14: 197-213, 1989). A bryologist, Harvey Miller, with close contacts among vascular systematists, was inspired to find and describe another species, *D. thinicola* (Phytologia 75: 185-189, 1993). A degree of order and understanding was brought to this burgeoning profusion of new entities by Huck & Chambers (Edinb. J. Bot. 54: 217-229, 1997) who found different ploidy levels and distinct though often overlapping ranges for all described taxa. Loose ends were tidied up by Huck (Novon 11: 417-420, 2001), in describing 2 infraspecific entities, *D. frutescens* ssp. *modesta*, and *D. immaculata* var. *savannarum*. A comprehensive summary of the entire nine-species genus, utilizing total genomic DNA and permitting the drawing of phylogenetic conclusions, was then assembled by L. O. Oliveira, R. B. Huck, M. A. Gitzendanner, W. S. Judd, D. E. Soltis and P. S. Soltis (Amer. J. Bot. 94: 1017-1027, 2007).

This body of recent literature is far too extensive for summation here. Clearly, past geologic changes have served to isolate small populations of the woody mint that Shinners called *D. frutescens*, permitting alteration in gene frequency and small changes in morphology that astute observers have now been able to detect.

Perhaps in time there will come an understanding of sea-level and climate changes that have influenced not only these taxa but other members of the complex Florida flora.

But from the standpoint of a conventional taxonomist, either lacking knowledge of source or denying himself the unearned luxury of determining a species based almost entirely on where it was found, the described morphological differences are insufficient. Other species in related genera are not so finely dissected, and it is inappropriate that these taxa bear names well beyond the usual meaning of their morphological basis. In essence, Lloyd Shinnery was right; the woody mints of this group are a single species, *Dicerandra frutescens*.

Dicerandra frutescens L. H. Shinnery var. *christmanii* (R. B. Huck & W. S. Judd) D. B. Ward, comb. et stat. nov. Basionym: *Dicerandra christmanii* R. B. Huck & W. S. Judd, in R. B. Huck, W. S. Judd, W. H. Whitten, J. D. Skean, R. P. Wunderlin, & K. R. Delaney, Syst. Bot. 14: 198. 1989. TYPE: United States, Florida, Highlands Co., Sebring, 10 Sept 1987, *Hansen & DeLaney 4825* (holotype, FLAS; isotypes, A, BHO, DUKE, F, FLAS, FTG, GA, K, MO, MSC, NCU, NY, SMU, TEX, UC, US, USF).

Dicerandra frutescens L. H. Shinnery var. *cornutissima* (R. B. Huck) D. B. Ward, comb. et stat. nov. Basionym: *Dicerandra cornutissima* R. B. Huck, Phytologia 47: 313. 1981. TYPE: United States, Florida, Marion Co., Fla. 484 & I-75, 19 Sept 1980, *Huck 2436* (holotype, NCU).

Dicerandra frutescens L. H. Shinnery var. *immaculata* (O. Lakela) D. B. Ward, comb. et stat. nov. Basionym: *Dicerandra immaculata* O. Lakela, Sida 1: 184. 1963. TYPE: United States, Florida, Indian River Co., U.S. 1, 30 Sept 1962, *Lakela 25440* (holotype, USF).

Dicerandra frutescens L. H. Shinnery var. *modesta* (R. B. Huck) D. B. Ward, comb. et stat. nov. Basionym: *Dicerandra*

frutescens L. H. Shinnars ssp. *modesta* R. B. Huck, Novon 11: 417. 2001. TYPE: United States, Florida, Polk Co., Dundee, 9 Sept 1999, Huck 5555 (holotype, FLAS; isotypes, MO, USF).

Dicerandra frutescens L. H. Shinnars var. *savannarum* (R. B. Huck) D. B. Ward, comb. nov. Basionym: *Dicerandra immaculata* O. Lakela var. *savannarum* R. B. Huck, Novon 11: 419. 2001. TYPE: United States, Florida, St. Lucie Co., Savannas State Preserve, 26 Oct 1996, Huck 5492 (holotype, FLAS; isotype, MO).

Dicerandra frutescens L. Shinnars var. *thinicola* (H. A. Miller) D. B. Ward, comb. et stat. nov. Basionym: *Dicerandra thinicola* H. A. Miller, Phytologia 75: 185. 1993. TYPE: United States, Florida, Brevard Co., Brandt Road, 5 Nov 1987, Reifler s.n. (holotype, MU; isotypes, USF, FTU).

The present paper, intended to address a subset of plant names which bear names at a level above that justified by their morphological differences, was initially limited to concern of the approach to take with *Dicerandra*, where a cottage industry has arisen to identify and name further variants of this heretofore unimportant woody mint. Every one of the many authors is (or has been -- Olga Lakela, 1890-1980; Lloyd Shinnars, 1918-1971) a close associate or friend of the present author. One trusts that friendship will not be weakened by the present author's nomenclatural diminution of their discoveries.

DICERANDRA Benth. Scrub Balmⁱ

1. Annual (or persisting a second year and developing a thickened collar at soil line, but not woody), unbranched or with few spreading to ascending branches well above base.
2. Peduncles absent or very short, the flowers numerous and crowded in axils of leaves or leafy bracts; anther horns abrupt, obtuse or barely acute. Pungently aromatic annual herb, to 0.4 m. Dry woods, pinelands, roadsides. North peninsula (Lafayette,

Suwannee, s. to Levy, Volusia counties); infrequent. Fall. Endemic. **Dicerandra densiflora** Benth in DC.

2. Peduncles (except at upper nodes) evident, usually well developed, few-flowered, the inflorescences rather loose; anther horns subulate, acuminate. Annual herb, to 0.4 m. Dry pineland, dry open hammocks. Fall. **Dicerandra linearifolia** (Ell.) Benth.

a. Corolla pale pink to white; anthers yellow; leaves narrow. West and central panhandle (e. to Leon, Wakulla counties); infrequent. var. **linearifolia**

a. Corolla dark purple; anthers reddish-brown; leaves wider. Central and east panhandle (Jackson to Suwannee), disjunct eastward (to Alachua, Duval counties); infrequent. var. **robustior** Huck

1. Perennial, woody below, with numerous erect to ascending branches from near base. Low shrub, to 0.6 m. Sand pine scrub. Summer-fall. Endemic. ENDANGERED (Federal, State listings).

SCRUB BALM. **Dicerandra frutescens** Shinners

a. Corolla without spots; corolla tube smoothly curved.

b. Habit upright; leaves narrowly oblanceolate, 1.5-4.0 mm. wide; corolla light lavender. East coast of peninsula (Indian River, St. Lucie counties); very rare. Endemic. ENDANGERED (Federal, State listings). [*Dicerandra immaculata* Lakela] Occasional white-flowered plants have been named forma **nivea** Lakela.

var. **immaculata** (Lakela) D. B. Ward

b. Habit lax; leaves rhombic, 1.2-12.0 mm. wide; corolla vivid pink. East coast of peninsula (St. Lucie County); very rare (two populations, with 200 individual plants). Endemic. [*Dicerandra immaculata* var. *savannarum* Huck]

var. **savannarum** (Huck) D. B. Ward

- a. Corolla with spots or blotches, at least on upper petals; corolla tube abruptly bent.
- c. Corolla reddish-purple; anther spurs >1 mm. long.
 - d. Leaves very narrow (± 1.0 mm. wide); style glabrous or with few hairs. North-central peninsula (Marion, Sumter counties); rare. Endemic. ENDANGERED (Federal, State listings). [*Dicerandra cornutissima* Huck]
var. **cornutissima** (Huck) D. B. Ward
 - d. Leaves broader (± 1.3 mm. wide); style hispid. Eastern coastal peninsula (Brevard County: Titusville); very rare (three known populations). Endemic. ENDANGERED (State listing). [*Dicerandra thinicola* H. A. Miller]
var. **thinicola** (H. A. Miller) D. B. Ward
- c. Corolla white or cream; anther spurs <1 mm. long; style with numerous stiff hairs; leaves narrowly oblong (1.3-2.5 mm. wide).
 - e. Anthers bright yellow, with few or no glands on connective; crushed leaves with wintergreen odor. Central peninsula (Highlands County: Sebring); very rare (five known populations). Endemic. ENDANGERED (Federal, State listings). [*Dicerandra christmanii* Huck & Judd]
var. **christmanii** (Huck & Judd) D. B. Ward
 - e. Anthers white or lavender, with abundant glands on connective; crushed leaves with minty fragrance.

- f. Inflorescence with 1-2 flowers per cyme; corolla white or rarely pink. Central peninsula (Polk, Highlands County: Lake Placid); very rare (nine extant populations). Endemic. ENDANGERED (Federal, State listings). var. **frutescens**
- f. Inflorescence with 2-3 flowers per cyme; corolla pinkish white, turning pink with age. Central peninsula (Polk County: Davenport); very rare (two known populations). Endemic. [*Dicerandra frutescens* ssp. *modesta* Huck] var. **modesta** (Huck) D. B. Ward

i. This paper is a continuation of a series begun in 1977. The "amplified key" format employed here is designed to present in compact form the basic morphological framework of a conventional dichotomous key, as well as data on habitat, range, and frequency. Amplified keys are being prepared for all genera of the Florida vascular flora; the present series is restricted to genera where a new combination is required or a special situation merits extended discussion.