

A NEW SPECIES OF SABAL (PALMAE) FROM FLORIDA

SCOTT ZONA

Zona, Scott (Department of Botany, Claremont Graduate School, Claremont, CA 91711). A new species of *Sabal* (Palmae) from Florida. *Brittonia* 37: 366-368. 1985.—*Sabal miamiensis*, a species endemic to the Miami pinelands of south Florida, is described and illustrated. It is shown to be morphologically and ecologically distinct from *S. etonia* and *S. palmetto*.

The genus *Sabal* (Palmae) consists of over 20 species distributed throughout the Caribbean region (Bailey, 1944). It has been divided into two subgenera, *Sabal* ("Eusabal") and *Inodes* (Small, 1933). In Florida, subgenus *Sabal* is represented by *S. minor* (Jacq.) Pers., and subgenus *Inodes* is represented by *S. etonia* Swingle ex Nash and *S. palmetto* (Walt.) Lodd. ex J. A. & J. H. Schultes. A recent taxonomic investigation (Zona, 1983) has brought to light a new species from the Miami area which is described as *S. miamiensis*.

In 1901, J. K. Small collected specimens of a very large-fruited *Sabal* which he (1903) called *S. megacarpa* (Chapm.) Small. This name is based on *S. adansonii* var. ? *megacarpa* Chapman (1883) which was described from a specimen collected in Miami by A. P. Garber. Chapman designated no types, but his Garber specimen is, in fact, *S. etonia*. Small's description and specimens differ from those of Chapman in a very important character: fruit size. Small (1913a) treated *S. etonia* as a synonym of *S. megacarpa* but later (1913b) reversed his nomenclatural treatment. By 1933, he was uncertain about the application of the *megacarpa* epithet and listed *S. adansonii* var. ? *megacarpa* as a possible synonym of *S. etonia*.

Small's collections are labeled *S. megacarpa*, but that name is correctly a synonym of *S. etonia*, a species described earlier by Nash (1896). Small's large-fruited species from Miami is described herein as new.

Sabal miamiensis Zona, sp. nov. (Figs. 1 & 2)

A *Sabal palmetto* differt caule subterraneo, foliis 3-6, foliolis in quoque folio 35-65, hastula 1.5-5.0 cm longa, fructu 15-19 mm diam, seminibus 10-11 mm diam.

Plants similar to *S. palmetto* but acaulescent, with 3-6 yellow-green leaves, petiole 40-60 cm long, 1-2 cm wide; hastula narrowly triangular, 1.5-5 cm long; segments 35-65, bifid, filiferous, 50-76 cm long, 1.5-3.5 cm wide. Inflorescence paniculate, horizontal-arcuate, loosely branched with 3 orders of branching. Flowers subsessile, perfect, white; calyx cup-shaped, 1-1.4 mm long, 3-lobed; petals 3, 3.3-3.7 mm long, ovate; stamens 6, as long as petals; connate at the base and basally adnate to the petals; gynoeceium composed of 3 fused carpels, 2.5-3.5 mm long; ovary superior; stigma papillose. Fruit a 1-seeded berry developing from one carpel, globose, shiny, black, 15-19 mm in diam with a thick fleshy pericarp; seed oblate, concave on the funicular end, 10-11 mm in diam, brown; embryo sublateral; endosperm homogeneous, bony.

TYPE: UNITED STATES. FLORIDA. Dade Co.: Coconut Grove, 2-5 Nov 1901, J. K. Small & G. V. Nash s.n. (HOLOTYPE: NY; ISOTYPES: BH, F, US).

Distribution: In the Miami pinelands on the rocky ridges and Everglades Keys of Dade and Broward Counties, Florida. A description of the Miami pinelands may be found in Harper (1927).

Additional specimens examined: UNITED STATES. FLORIDA. Broward Co.: Ft. Lauderdale, 19-25 Nov 1903, Small & Carter s.n. (FLAS, US). Dade Co.: North Miami, Avery 1591 (FLAS), Zona

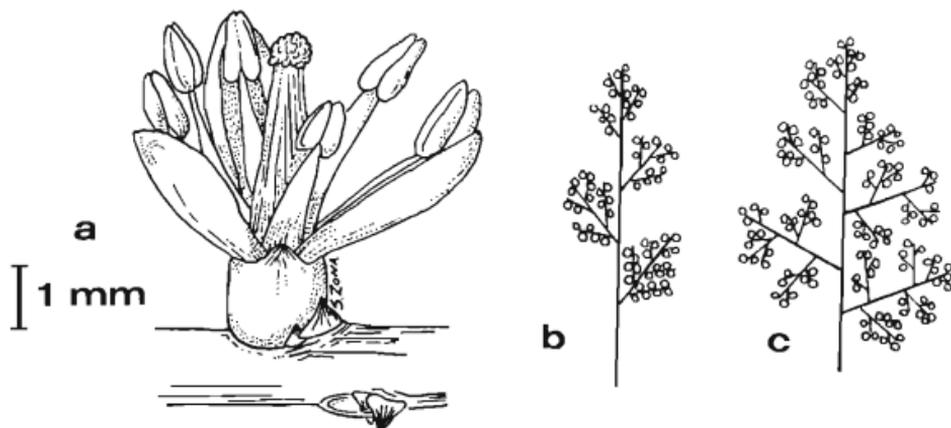


FIG. 1. Reproductive structures of *Sabal*. A. Flower of *Sabal miamiensis*. B. Schematic diagram of the inflorescence of *Sabal etonia*. C. Schematic diagram of the inflorescence of *Sabal palmetto* and *Sabal miamiensis*.

69 (FLAS); Interama, *Avery 1575* (FLAS); Miami, 16 Apr 1932, *Cook & Prestley s.n.* (US), Nov 1904, *Small s.n.* (FLAS, NCU, US); W of Kendal, *Small & Betheuser 12742* (NY, USF), *Small & Betheuser 12746* (GA, NY, USF).

Sabal miamiensis shows affinity with *S. palmetto* in the posture and degree of branching of the inflorescence (Fig. 1). Both species occur in the Miami pinelands. It differs in having a subterranean trunk, fewer, smaller leaves, smaller hastulae, and yellow-green rather than blue-green leaves (Table I). *Sabal miamiensis* is similar to *S. etonia* in acaulescence, leaf number, and lamina color, but *S. miamiensis* is distinct in degree of branching and posture of the inflorescence and its larger leaves and hastulae (Table I). The habitat of *S. etonia* is the xerophytic sand pine scrub of the Lake Wales and Atlantic Coastal Ridges. *Sabal miamiensis*

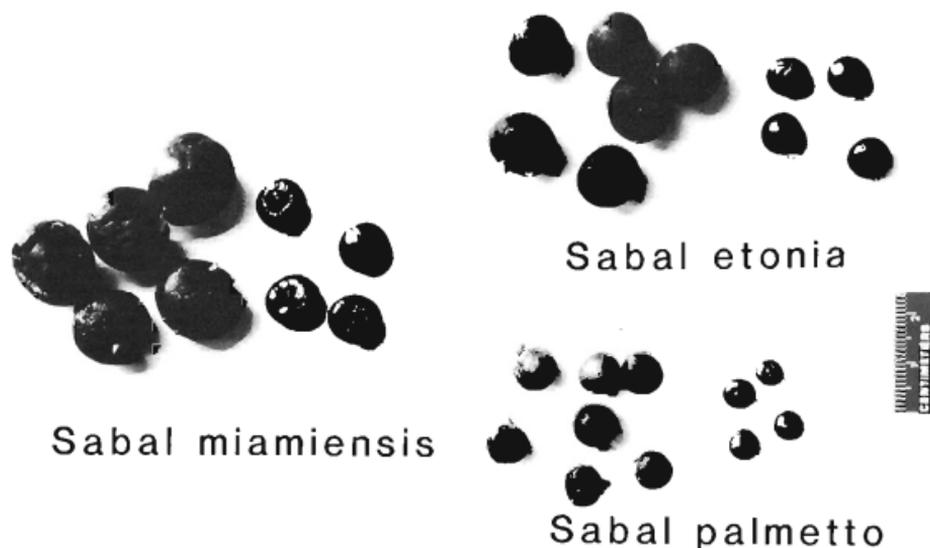


FIG. 2. The fruits and seeds of the Florida species of *Sabal* subgenus *Inodes*.

TABLE I
THREE SPECIES OF *Sabal* COMPARED

	<i>S. etonia</i> N = 119	<i>S. miamiensis</i> N = 18	<i>S. palmetto</i> N = 191
Habitat	scrub	Miami pinelands	mesic to hydric hammocks, tidal flats, pinelands, etc.
Trunk	subterranean, usually	subterranean	aerial, usually
Leaf number	3-5	3-6	14-40
Petiole width	0.6-2.1 cm	1-2 cm	1.9-4 cm
Lamina color	yellow-green	yellow-green	blue-green
Hastula length	1-2.7 cm	1.5-5 cm	2.8-13.2 cm
Inflorescence	erect, dense	horizontal-arcuate, loose	horizontal-arcuate, loose
Orders of branching	2	3	3
Fruit diameter	11-15 mm	15-19 mm	9-14 mm
Seed diameter	6-11 mm	10-11 mm	5-9 mm

is distinct from both *S. palmetto* and *S. etonia* in its very large fruits and seeds (Fig. 2).

Sabal miamiensis is intermediate between *S. palmetto* and *S. etonia* in many characters and may have originated as a hybrid of the two species. This possibility is further supported by the similar flowering times of these species in the Miami area. *Sabal miamiensis* has fruit and seed sizes greater than those of either presumed parent, a fact suggesting that *S. miamiensis* has undergone a slight morphological divergence from the presumed ancestral hybrid.

The clearly recognizable differences in ecology and morphology among these species (Table I) are such that lumping *Sabal miamiensis* with either *S. etonia* or *S. palmetto* would result in a taxon with major internal discontinuities. The three species seem to be separated phenetically by fairly equal gaps.

The habitat of *Sabal miamiensis* is fast disappearing because of extensive urban development in the Miami area. *Sabal miamiensis* is in danger of extinction unless it can be brought into cultivation or its habitat can be preserved.

Acknowledgments

This work is a portion of my M.S. research at the University of Florida. I thank my advisor, Dr. Walter S. Judd, for his guidance and critical suggestions. I gratefully acknowledge the curators of BH, F, FLAS, GA, NCU, NY, US, and USF for the loans of specimens.

Literature Cited

- Bailey, L. H. 1944. Revision of the palmettoes. *Gentes Herb.* 6: 365-459.
 Chapman, A. W. 1883. *Flora of the southern United States*, 2nd ed. American Book Co., New York.
 Harper, R. M. 1927. Natural resources of southern Florida. *Florida State Geol. Surv. Ann. Rep.* 18: 25-192.
 Nash, G. V. 1896. Notes of some Florida plants, II. *Bull. Torrey Bot. Club* 23: 95-108.
 Small, J. K. 1903. *Flora of the southeastern United States*. Published by the author, New York.
 ———. 1913a. *Flora of the southeastern United States*, 2nd ed. Published by the author, New York.
 ———. 1913b. *Flora of Miami*. Published by the author, New York.
 ———. 1933. *Manual of the southeastern flora*. Univ. North Carolina Press, Chapel Hill.
 Zona, S. 1983. A taxonomic study of the *Sabal palmetto* complex (Palmae) in Florida. M.S. thesis, Univ. of Florida, Gainesville.