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A NEW SPECIES OF *SIDA* SECT. *ELLIPTICIFOLIAE* (MALVACEAE)

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Abstract: A new species of *Sida* sect. *Ellipticifoliae,* **Sida floridana,** is described and accommodated in a revised key to the section. Additional notes are provided on selected taxa as an update to the most recent treatment.

Keywords: Malvaceae, *Sida, Sida* sect. *Ellipticifoliae,* Florida.

While completing a study of *Sida* L. section *Ellipticifoliae* Fryxell (Siedo, 1999) a collection from Lee Co., Florida (*W.C. Brumbach 5819*) was found to be anomalous within the section. Received as material of *Sida elliottii* Torr. & A. Gray, the specimens were clearly outside the boundary of any species known to the author. Consultation of several floras including Florida (Long & Lakela, 1971), Mexico (Fryxell, 1988, 1992), and numerous Caribbean islands (Adams, 1972; Britton, 1918; Britton & Millspaugh, 1920; Clement, 1953; Correll & Correll, 1982; Fawcett & Rendle, 1926; Fryxell, 1989; Gooding et al., 1965; Liogier, 1981; Questel, 1941, 1951; Urban, 1910, 1920) has provided no satisfactory placement for this specimen. In fact, it is unique within *Sida* and has features in common with at least two sections in the genus. The elliptic, serrate leaf blades coupled with the 9–12 apically pubescent mericarps compose a suite of characters allying this species to section *Ellipticifoliae.* Fryxell (1979, 1985, 1988) cites these features of the the leaves and mericarps as diagnostic in his description of the section and in subsequent treatments. Concomitantly, features such as the weakly rhombic leaf blades and the distally increasing density of the marginal teeth suggest a relationship to the type section. Section *Sida* is known by its rhombic leaves which are basally entire or with increasingly broader marginal teeth toward the base. However, the mericarps of this section are glabrous to glabrescent with scattered hairs, a feature which would exclude the plant in question. Based on calyx, leaf, and mericarp morphology it is decided the collection represents an undescribed species of section *Ellipticifoliae.*

A review of material from numerous herbaria in the United States (BRIT, F, FLAS, GH, LL, NY, TEX, US, and USF) yielded one additional collection of this species from Lee County, Florida (*S. Young & S. Herwitz 539* (USF)). This single specimen lacks adequate fruit material but is identical in floral and vegetative morphology to the Brumbach collection. A revised key is provided below in order to aid the identification of species. Information has also come to light concerning several other species in the section; specifically the location of three types and one new geographic record not reported in the most recent treatment (Siedo, 1999).

Sida floridana Siedo, sp. nov. (Figs. 1–3)

TYPE: **USA.** Florida. Lee Co.: Middle Captiva Island, dry soil in waste places, 29 Apr 1967, *W.C. Brumbach 5819* (HOLOTYPE: GH!; ISOTYPE: US!).

Herbae perenne; caulibus sparse stellato-puberulis vel glabris, ramis ascendentibus; foliis lineari-ellipticis vel anguste ellipticis leniter rhombiformibus, basaliter cuneatis, margine perfecte crenulato-serrato, nervis supra obsoletis vel nullis subtus prominulis viridi-flavis, breviter petiolatis cum stipulis petiolum subaequalibus; floribus axillaribus vel ad apicem congestis; calyce decemnervi, basi flavido vel flavo-viridi, lobis deltoideo-acuminatis vel minute caudatis; car-

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FIG. 1. Holotype of *Sida floridana* from the Gray Herbarium (*W.C. Brumbach 5819*).

pellis circa 9–12 apice bimucronatis sparse et antrorsum pubescentibus; seminibus puberulis ad apicem.

Erect, sparingly branched, perennial HERBS 1–2 m tall; stems sparsely and minutely, stellate-pubescent to glabrescent. LEAF blades 5–9 cm long, 1–1.8 cm wide, 4–7 times long as wide, linear-elliptic to narrowly elliptic, sometimes weakly rhombiform, basally cuneate, apically acute; margins crenulate-serrate with teeth becoming more dense and pronounced toward apex; lower surface sparsely stellate-pubescent with primary and secondary venation

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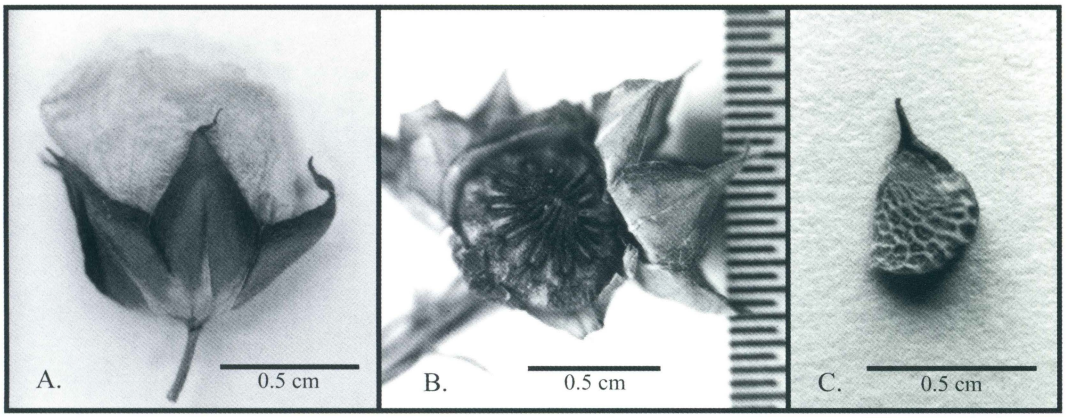


FIG. 2. Close-ups of *Sida floridana*; A. lateral view of dried flower with peduncle, B. apical view of schizocarp, C. lateral view of individual mericarp (all from *W.C. Brumbach 5819*).

prominently green-yellow; upper surface glabrescent with sparse, minute, stellate hairs and inconspicuous venation; petioles 4–7 mm long, sparsely stellate pubescent but relatively more so than the adjacent stem; stipules 4–9 mm long, approximately equaling or slightly exceeding the petiole, filiform to linear in shape and often curved or twisted in dextrorse or sinistrorse fashion, margins ciliate. FLOWERS axillary, solitary to somewhat congested apically (up to 5 flowers clustered very near apex of branch); peduncle 0.5–0.75 mm long, unarticulated; calyx 7–9 mm long, accrescent in fruit, longitudinally 10-costate with costae corresponding to each lobe and sinus, lobes essentially trullate with acuminate to minutely caudate apices often twisted in dextrorse or sintrorse fashion, tricolorous, yellowish to greenish cream-colored at base becoming green at middle, dark green at margin; corolla 3–3.5 cm in diameter, yellow; androecium a staminal column ca. 4 mm long with simple to branched translucent hairs along the column and lower portion of filaments; gynoecium of 9–12 filamentiferous styles enclosed by, but emerging from, the apex of the staminal column. SCHIZOCARPS 6–7 mm in diameter with simple or forked antrorse hairs apically, exposed portion (emergent from calyx) purple-black with the enclosed lower portion cream to slightly greenish, the entire fruit blackening with age; mericarps 9–12, each two-awned at apex, strongly reticulated dorso-laterally on lower hemisphere, notably bicolorous with apex purple-black and the lower dorsal and lateral surfaces cream-colored; seeds puberulent apically and ventro-apically but apparently deflated on these specimens.

ADDITIONAL SPECIMEN EXAMINED: **USA.** Florida. Lee Co.: Cayo Costa Island [La Costa Island], cabbage palm-live oak forest along central E-W path, 8 April 1991, *S. Young & S. Herwitz 539* (USF).

Sida floridana Siedo is superficially most similar to *S. elliottii* Torr. & A. Gray and is distinguished by its crenulate-serrate leaves and tricolorous calyx with acuminate to weakly caudate lobes terminating in a somewhat elongated apical tail often twisted in a dextrorse or sinistrorse fashion. *S. floridana* also has a unique glabrous appearance, though evenly pubescent throughout, due to the sparse and minute (<0.1 mm long) nature of the fine, stellate hairs. Its weakly rhombic leaf blades are similar to the rhombo-elliptic blades of *S. rubromarginata* Nash, though not as pronounced.

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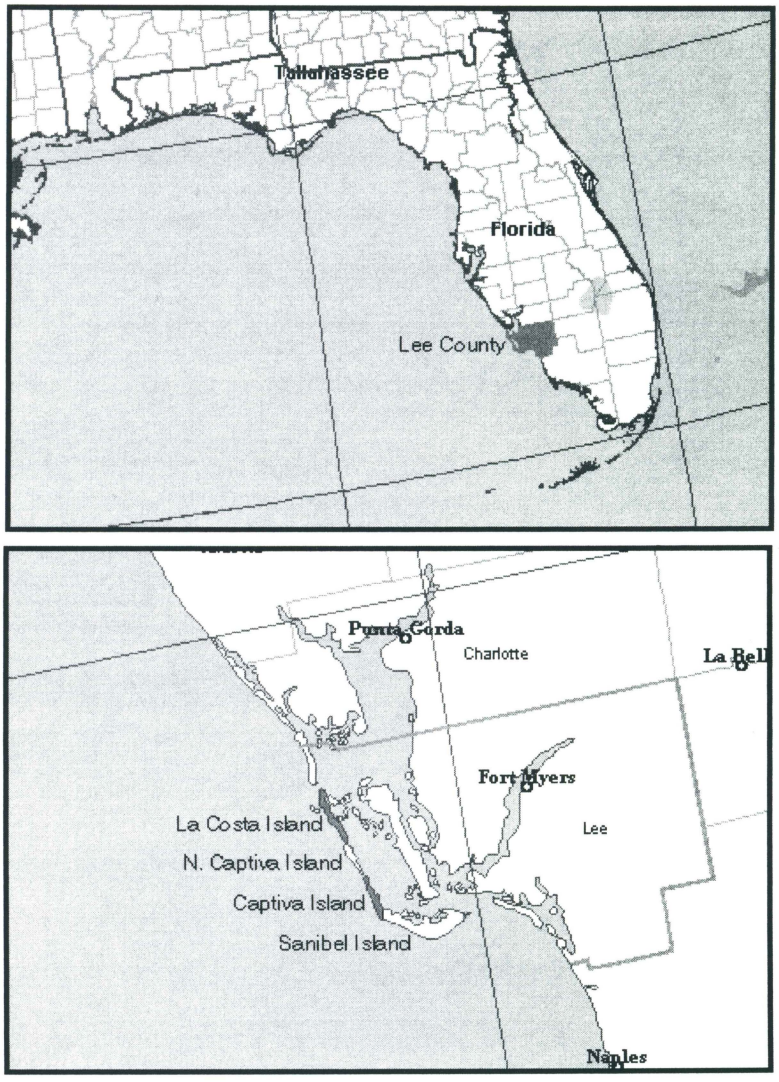


FIG. 3. Maps showing the location of Lee Co., Florida (dark grey, top) and a detailed view of the island chain consisting of La Costa, N. Captiva, Captiva, and Sanibel Islands with the distribution of *Sida floridana* indicated in dark grey (bottom).

The latter is easily separated from *S. floridana* by its articulated peduncle, serrate leaves, and long stipules which are broadly three nerved and approximately twice the length of the adjacent petiole.

Sida floridana Siedo is known only from Middle Captiva and La Costa Islands, Lee County, Florida (Fig. 3) where it prefers gravel and coarse sandy substrates. Along with *S. rubromarginata* Nash, this is the second known species of sect. *Ellipticifoliae* endemic to the state of Florida. While there is considerable endemicity data for Florida as a whole, little was found concerning the particular island chain where this species occurs. One example in the literature, *Lantana depressa* var. *sanibelensis* R. Sanders, is confined to the islands and coastal areas of this region of Florida and derives its name from Sanibel Island (Sanders, 1987), an is-

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land south of Captiva and La Costa Islands (Fig. 3).

Revised Key to the Species of *Sida* section *Ellipticifoliae*

1. Peduncles 6–20 cm long, 1.5–4.0 times as long as subtending leaves. Seeds glabrous.
   2. Laminae linear to lance-linear. Plant vestiture short-stellate, hairs < 0.2 mm long. Mericarps bluntly beaked apically, moderately to prominently reticulated dorso-laterally on lower hemisphere. Plants of western Texas and northern Coahuila . . . . . *S. longipes* A. Gray
   2. Laminae broadly to narrowly elliptic. Plant evenly pubescent with stellate-velutinous hairs ca. 0.5 mm long. Mericarps blunt apically and weakly reticulated dorso-laterally on lower hemisphere. Plants of southern Tamaulipas and central San Luis Potosí . . . . . *S. potosina* Brandegee
1. Peduncles 0.5–6.0 cm long, shorter than or only slightly exceeding subtending leaves. Seeds glabrous to apically pubescent.
   3. Laminae 1.0–4.5 cm long, narrowly to broadly oblong or elliptic, 1.5–6.0 times long as wide; apices obtuse, rounded or weakly acute. Mericarps blunt, rounded to 2-awned apically and weakly, if at all, reticulated dorso-laterally on basal hemisphere. Peduncles up to 2 cm long, not articulated.
      4. Laminae narrowly elliptic, 2–6 times as long as wide, serrate; upper surface stellate-pubescent with simple hairs sometimes present. Mericarps blunt to very weakly spinose apically (awns up to 0.3 mm long), smooth to weakly reticulated dorso-laterally on lower hemisphere. Seeds glabrous to sparsely pubescent apically . . . . . *S. linearis* Cav.
      4. Laminae elliptic to ovate, 1.5–3.0 times long as wide, dentate; upper surface glabrous to sparsely pubescent with simple hairs. Mericarps apically spinose (awns up to 1.0 mm long), lower hemisphere smooth. Seeds prominently pubescent apically with short, simple or forked hairs . . . . . *S. turneroides* Standl.
   3. Laminae 2–9 cm long, linear or lance-linear to narrowly elliptic or rhombo-elliptic, 4–21 times long as wide but if 4–7 times long as wide, leaves acuminate at apex and plants from Florida. Mericarps weakly to prominently 2-awned apically and dorso-laterally reticulated on lower hemisphere. Peduncles 0.5–6.0 cm long, articulated or not.
      5. Stipules 1.5–2.0 times the length of adjacent petiole, linear. Laminae narrowly rhombo-elliptic, 4–6 times as long as wide, glabrate above. Seeds pubescent apically and ventro-apically. Peduncles 0.5–2.0(–3.0) cm long, 0.5–0.75 times the length of the subtending leaf, articulated ca. 0.5–1.0 cm below the calyx. Plants of peninsular Florida . . . *S. rubromarginata* Nash
      5. Stipules 0.5 times to approximately equal the length of the adjacent petiole, falcate or subulate, not linear. Laminae linear, lance-linear to narrowly elliptic, 4–21 times as long as wide, but if 4–6 times as long as wide then leaves crenulate-serrate and peduncle unarticulated. Seeds glabrous to apically pubescent, usually ventro-apically glabrous. Peduncle 0.5–1.25 times the length of the subtending leaf but if articulated then 0.75–1.25 times the length of the subtending leaf. Plants of southeastern United States to Guatemala.
         6. Peduncles 2–6 cm, approximately equal or somewhat exceeding the subtending leaf; articulated 1–2 cm below the calyx with the articulation becoming most prominent on mature, fruiting peduncles. Flowers strictly axillary. Plants confined to Texas and Louisiana . . . . . *S. lindheimeri* Engelm. & A. Gray
         6. Peduncles 0.5–4.5 cm long, shorter than the subtending leaf (rarely exceeding it in *S. elliottii*); not articulated. Flowers axillary to aggregated apically. Southeastern United States to Mexico.
            7. Laminae margins crenulate-serrate, more densely so toward apex; lower surface venation prominently green-yellow with venation inconspicuous on upper surface. Plants sparsely, minutely stellate-pubescent to glabrescent, appearing glabrous. Calyx lobe apices acuminate to weakly caudate, notably tricolorous, yellowish-green at base becoming darker green distally . . . . . ***S. floridana*** Siedo
            7. Laminae margins evenly serrate, venation not conspicuous. Plants stellate pubescent on all surfaces, with the possible exception of upper leaf surfaces in

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S. elliottii, which are usually glabrate. Calyx lobe apices acute to weakly acuminate; essentially monochrome, green at base.

8. Plants decumbent to ascending, up to 0.5 m tall, diffusely branched basally and lacking a well-defined central axis. Flowers drying rose-colored, usually aggregated apically. Calyx stellate pubescent with simple to forked villous hairs along the costae. Peduncles to 2 cm long. Laminae stellate pubescent above . . . . . *S. neomexicana* A. Gray

8. Plants erect, to 1 m tall, few stemmed with a well-defined central axis, not diffusely branched at base. Flowers drying yellow, usually axillary (sometimes aggregated apically in southeastern US populations). Calyx with villous hairs present (southeastern US and southern Mexico to Guatemala) or absent (central to northern Mexico and southern Florida). Peduncles 0.5–4 cm long. Laminae usually glabrate, sometimes stellate pubescent above (southeastern United States excluding southern Florida) . . . . . *S. elliottii* Torr. & A. Gray

9. Calyx stellate-pubescent, usually villous-hirsute at base and along costae. Flowers axillary to apically congested. Laminae linear to narrowly elliptic, purplish along margins or not, glabrate to stellate/simple pubescence above. Plants up to 1 m tall. Distributed north of the 29° N parallel . . . . . *S. elliottii* var. *elliottii*

9. Calyx stellate-pubescent, villous hairs absent. Flowers axillary. Laminae linear, usually purplish along margins, glabrate above. Plants to 0.5 m tall. Distributed south of the 29° N parallel . . . . *S. elliottii* var. *parviflora* . . . . . Chapm.

Additional Notes

Types of three species in this section have been located subsequent to the previous treatment (Siedo, 1999) and are included here for reference (bold type indicates previously unreported herbaria):

Sida potosina Brandegee, Univ. Calif. Publ. Bot. 4: 184. 1911. Type: **MEXICO.** San Luis Potosí: Minas de San Rafael, Nov 1910, *C.A. Purpus 4906* (Holotype: UC; Isotypes: F!, GH!, MO, **NY!**, P, US!).

Sida rubromarginata Nash, Bull. Torr. Bot. Club 23: 102. 1896. Type: **USA.** Florida. Hillsborough Co.: Tampa, 24 Aug 1895, *Nash 2472* (Lectotype (designated: Lundellia 2: 120. 1999.): NY!; Isolectotypes: FLAS!, GH!, MASS, MO, OS, US!).

Sida turneroides Standl., Publ. Field Mus. Nat. Hist., Bot. Ser. 22: 90. 1940. Type: **MEXICO.** Tamaulipas: Jaumave, Sierra near San Lucas, 1932, *von Rozynski 514* (Holotype: F!; Isotype: NY!).

In addition, the following new county record of the rarely collected *Sida rubromarginata* Nash has been located in the Lundell herbarium (LL):

USA. FLORIDA: Leon Co.; Tallahassee, roadside, near Miccosukee, 31 Jul 1951, *C. Jackson 592* (LL).

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