

SOME NEW SOBRALIAE FROM COSTA RICA AND PANAMA

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ABSTRACT. A new species of *Elleanthus*: *E. carinatus* and three new species of *Sobralia*: *S. fragilis*, *S. geminata* from Costa Rica and *S. sotoana* from Panama are described and illustrated.

RESUMEN: Una nueva especie de *Elleanthus*: *E. carinatus* y tres nuevas especies de *Sobralia*: *S. fragilis*, *S. geminata* de Costa Rica y *S. sotoana* de Panama se describen y se ilustran.

KEY WORDS/PALABRAS CLAVE: Sobraliae, *Elleanthus carinatus*, *Sobralia fragilis*, *Sobralia geminata*, *Sobralia sotoana*, new species, Costa Rica, Panama.

Here we describe several new species that have been found in the last few years. All are cultivated in the Lankester Botanical Garden, have flowered here, and material has been pressed from the cultivated plants.

Elleanthus carinatus Dressler & Bogarín, *sp. nov.*

TYPE: COSTA RICA. Cartago: límite entre Turrialba y Jiménez, La Suiza, Pejivalle, Fila Rincón de la Esperanza, entre Río Atirro y Río Nubes, 9°46'43.3"N 83°37'36.0"W, 1150 m, bosque muy húmedo premontano, pressed from cult. 10 Aug. 2009, *R.L. Dressler 7069* (holotype: CR; isotype: JBL-spirit). FIG. 1, 8A.

Elleantho cynarocephalo (Rchb.f.) Rchb.f. affinis, bracteis brunneo-incarnatis pallentibus, petalis oblanceolatis, floribus e basi inflorescentiis primis aperientibus differt.

Roots to 8 mm in diameter. *Stems* to 90 cm (doubtless becoming taller); sheaths slightly scurfy. *Leaves* 22-30 x 4-5 cm, petiole ca. 5 mm, blades elliptic-lanceolate, acuminate, with 7 prominent veins beneath. *Inflorescence* capitate, ca. 4.5 x 4.0 cm; lower bracts green, upper bracts pale brownish pink. *Flowers* rose-purple, inflorescence bracts oblong, acute, ca. 2.5 x 7.0-8.0 mm, with prominent median keel distally, this ending in apicule or mucro. *Dorsal sepal* 11 x

3 mm, elliptic, acute. *Lateral sepals* 12.0 x 4.5 mm, symmetrical. *Petals* 10.5 x 3.0 mm, oblanceolate. *Lip* 14-15 x 15 mm, blade flabellate, emarginate, margins serrulate. *Pollinia* 8, obovate.

The genus *Elleanthus* is clearly a relative of *Sobralia*. In the field, larger plants with unbranched stems may be difficult to assign to either genus with confidence unless there are at least remains of an inflorescence.

Garay (1978) recognizes several sections within *Elleanthus*, and treats the members of Section *Cephalelyna*, mostly large or very large plants with capitate inflorescences and a prominent “mentum” beneath the column. For many years, most members of this group were called *Elleanthus capitatus*. Garay (1978) offers a key to the sections of *Elleanthus*, and treats ten distinct species in Section *Cephalelyna*. Now *E. capitatus*, sensu stricto, is a Peruvian species, while the *E. “capitatus”* of Mexico and Central America is *E. cynarocephalus*.

Most, if not all, of the species of this section commonly produce a clear, mucilaginous material on the inflorescence that may serve to protect the flowers and developing buds from insect damage. Neither of the Costa Rican plants that we discuss here produced appreciable mucilage, but flower parts of the new species here described definitely exuded some mucilage when preserved in FAA.

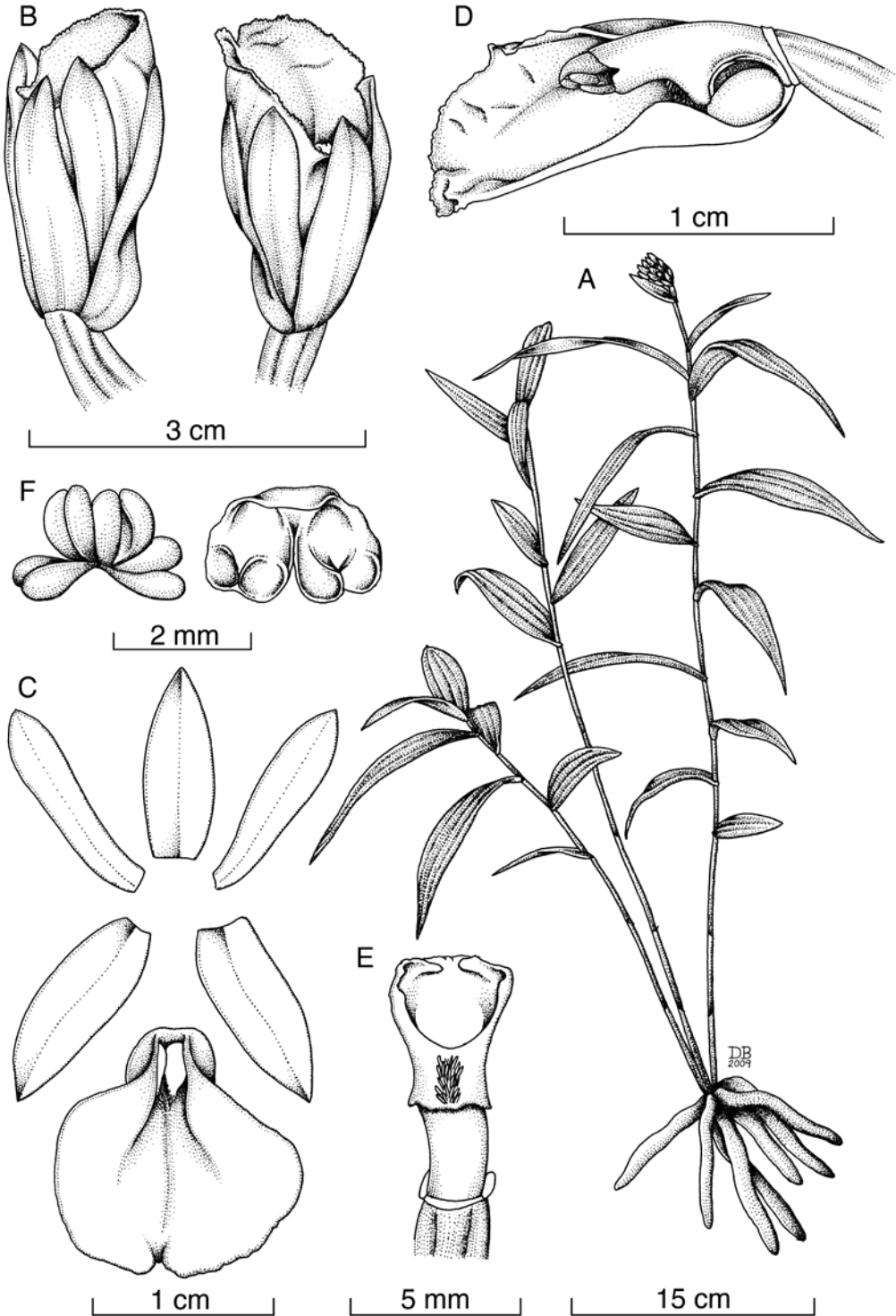


FIGURE 1. *Elleanthus carinatus* Dressler & Bogarín. A — Habit. B — Flowers. C — Dissected perianth. D — Column and lip, lateral view. E — Column, frontal view. F — Pollinarium and anther cap. Drawing by D. Bogarín from the holotype.

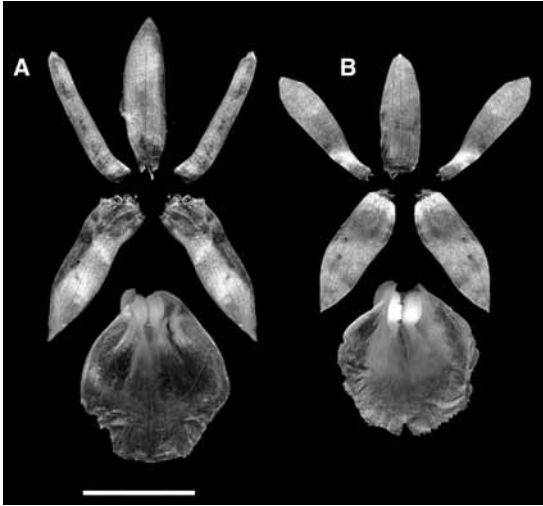


FIGURE 2. Comparison of the dissected perianth of: A — *Elleanthus cynarocephalus* (Dressler 6697). B — *E. carinatus* (Dressler 7069). Scale bar = 1 cm.

Until recently, we believed that there was only one member of Section *Cephalelyna* in Central America, but one of the “Sobralias” collected near Esperanza, in Cartago Province, developed a clearly capitate inflorescence, suggestive of Section *Cephalelyna*. As the inflorescence developed, it was clearly not the same as that of *E. cf. cynarocephalus*¹ that grew near it in the greenhouse. In both plants, the basal bracts of the inflorescence were green, but in *E. cf. cynarocephalus* the upper bracts are rose-purple. In our plant from near Esperanza, the upper bracts may best be described as “pinkish *café con leche*.” Further, the upper bracts are clearly carinate, with each keel ending in an apicule or a mucro. The upper bracts of the *E. cynarocephalus* are without keels, apicule or mucro. The flowers of these two plants are also distinct. In *E. cynarocephalus* the petals are linear or ligulate, as indicated by Garay (“linear-oblong”) for this species (Fig. 2). In *E. carinatus*, the base of the column (basal to the mentum) is much shorter than the rest of the column, while these are subequal in *E. cynarocephalus*; also, the mentum is larger in

¹ We have not seen authentic *E. cynarocephalus* from northern Central America or Mexico. For now, we treat our one species with rose-purple bracts as *E. cf. cynarocephalus*, though it may actually be referable to an unnamed species, or a South American species.



FIGURE 3. Comparison of the column of: A — *Elleanthus cynarocephalus* (Dressler 6697). B — *E. carinatus* (Dressler 7069). Scale bar = 5 mm.

E. carinatus than in *E. cynarocephalus* (Fig. 3). A striking difference in the available material is that the flowers of *E. carinatus* open from the base of the head upwards (Fig. 8A), while those of *E. cynarocephalus* open from the apex downward.

DISTRIBUTION: only known from Costa Rica.

ETYMOLOGY: from the Latin *carinatus*, keeled, referring to the marked keels on the bracts of the inflorescence.

Sobralia fragilis* Dressler & Bogarín, *sp. nov.

TYPE: COSTA RICA. San José: Dota, Falda este del Cerro Nara, 740-840 m, F. Pupulin 1099, D. Castelfranco & L. Spadari, 14 Jan. 1999, flowered in cult., 11 August 2009, *R.L. Dressler 7170* (holotype: CR; isotype: JBL-spirit). FIG. 4, 8B.

Species numerosis (circa 22) carinis farinosis labelli a congeneribus diversa.

Roots 3-6 mm in diameter. *Stems* 75-100 cm, 4-5 mm in diameter basally, 3.5-4 mm distally, dark purplish green mottled with pale green spots, young sheaths similar; leaves broadly elliptic, acute to acuminate, with 7 prominent veins beneath, 15-26.5 × 4-8.6 cm. *Inflorescence* ellipsoid, 3.5-5 × 0.8-1.2 cm, with 2-3 subtending foliar bracts 6-13 × 1.8-5.2 cm. *Ovary* sessile, 1.1-2.2 cm. *Sepals* greenish