

# A NEW SPECIES OF *CORDIA* SECT. *GERASCANTHUS* (CORDIACEAE) FROM A BRAZILIAN SEMIARID REGION

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**Abstract.** *Cordia obtusiloba*, a new species of *Cordia* section *Gerascanthus* (Cordiaceae), currently known to the hypoxerophytic caatinga of the state of Sergipe, Brazil, is described and illustrated. A distribution map, data on phenology, and conservation assessment are provided.

**Keywords:** Boraginales, Brazilian Northeastern, diversity, flora

Cordiaceae is a monophyletic family of the order Boraginales (Gottschling et al., 2005; Miller and Gottschling, 2007; BWG, 2016). Cordiaceae includes two genera, *Cordia* L. and *Varronia* P. Browne, together comprising approximately 350 species distributed in tropical and subtropical regions of the world, but predominantly in the Neotropics (Miller, 2001). In Brazil, both *Cordia* (57 species, 29 endemic) and *Varronia* (36 species, 21 endemic) are distributed in all phytogeographic domains (Amazon, Cerrado, Caatinga, Atlantic forest, Pampa and Pantanal) (Flora do Brasil, 2020).

Cordiaceae is morphologically characterized by a style with four stigmatic lobes, plicate cotyledons, undivided endocarp and the fruit being a drupe (Miller and Gottschling, 2007; BWG, 2016). *Cordia* overall includes tree species,

with leaf margin entire or dentate in the apical portion, broad paniculate or cymose inflorescences, and white, creamy, yellow, orange or red flowers (Miller and Gottschling, 2007; Stapf, 2007), being *C. trichotoma* (Vell.) Arráb. ex Steud. one species economically important. Currently, six sections are recognized to the genus: *Cordia* sect. *Cordia* L., *C.* sect. *Gerascanthus* (P. Browne) G. Don, *C.* sect. *Rhabdocalyx* A.DC., *C.* sect. *Pilicordia* A.DC., *C.* sect. *Superbiflorae* Taroda and *C.* sect. *Myxa* Endl. (Stapf, 2007; Miller, 2013).

During a taxonomic study of *Cordia* sect. *Gerascanthus* (Cordiaceae) in Northeastern Brazil, an unprecedented species for science was found in herbarium collections. For the new species, *Cordia obtusiloba*, a description, illustrations, conservation status, data on phenology, and distribution are provided.

## MATERIALS AND METHODS

This work was based on herbaria collections, and during taxonomic studies in Brazilian northeastern were consulted approximately 1,500 specimens in seventeen herbaria collections. At the MOSS and PEUFR collections we found an undescribed taxa of *Cordia* sect. *Gerascanthus*. The diagnosis and descriptions of the new species was based on specimens of the two above-cited herbaria, and digitized collections available at the Refflora-Virtual Herbarium of the Flora and Fungi (Flora do Brasil, 2020). All acronyms follow Thiers (continuously updated). Morphological

terminology for the descriptions follows Radford et al. (1974). Protologues and type specimens (photographs deposited in JSTOR Global Plants) of *C. trichotoma* and *C. alliodora* were compared to the new species. The specialized literature for *Cordia* sect. *Gerascanthus* was consulted (Miller, 2013; Guimarães et al., 2016). The conservation status assessment was based on the guidelines of the IUCN (International Union for Conservation Nature) Red List categories and criteria (IUCN, 2017).

## DESCRIPTION

***Cordia obtusiloba*** Pedro-Silva, T.S. Silva & J.I.M. Melo, *sp. nov.*

TYPE: BRAZIL. Sergipe: Nossa Senhora da Glória, 6 August 1982, *E.M. Carneiro 419* (Holotype: MOSS; Isotype: PEUFR). (Fig. 1–2).

*Shrubs* to trees. Branches cylindrical, pubescent, lenticellate. *Leaves* alternate, petiolate; petiole 0.3–1.4

cm long; leaf blade 2.1–10.8 × 3.4–0.8 cm, chartaceous, lanceolate, pubescent with simple and stellate trichomes; base acute to rounded and slightly asymmetric; margins entire; apex obtuse; eucamptodromous venation. *Inflorescences* 2.3–2.5 cm long, panicle, pedunculated; peduncle 2.5–3.2 long, tomentose. *Flowers* 1–1.2 cm long, monoclinal, dichlamydeous, actinomorphic; pedicel ca.

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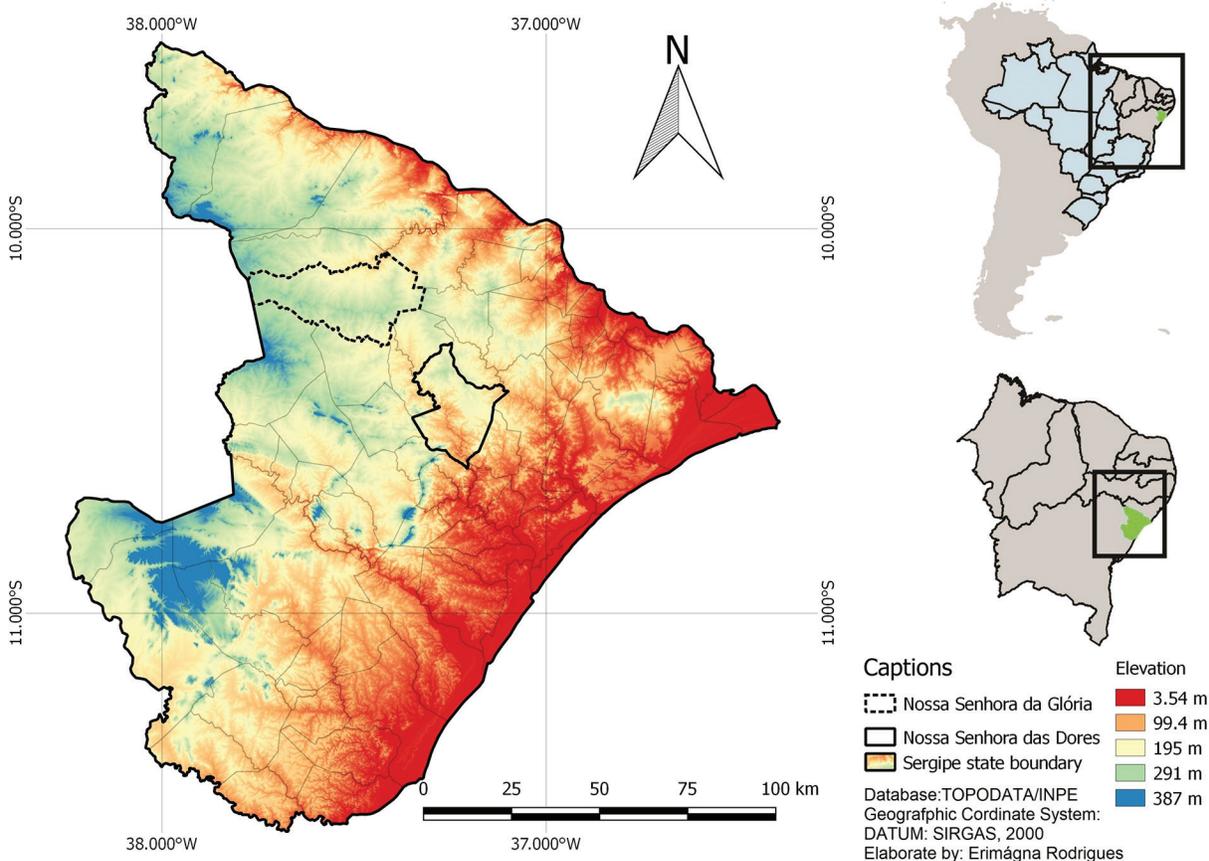


FIGURE 1. Known distribution of *Cordia obtusiloba* Pedro-Silva, T.S. Silva & J.I.M. Melo.

0.1 cm long; calyx  $7 \times 4$  mm long, gamosepalous, tubular-cylindrical, externally tomentose with simple and stellate trichomes, internally sericeous with simple trichomes, apex acuminate; corolla ca. 16 mm long, infundibuliform, five lobes presenting  $10 \times 5$  mm, obtuse, glabrous. Stamens five, epipetalous, homodynamous, filaments ca. 6 mm long, pilose on the corolla insertion with thickening in the middle portion; anthers oblongs ca. 2 mm long. Ovary ca. 2 mm long, slightly piriform, 4-locular, with 1 ovule per locule, presence of white glands in cross section, nectariferous disk present, axillary placentation; style ca. 10 mm long; stigmatic branches 2–2.5 mm long, erect. *Fruits* not seen.

**Etymology:** The specific epithet refers to the obtuse apex lobes of the corolla.

**Distribution and Ecology:** This species is recorded for two municipalities (Nossa Senhora das Dores and Nossa Senhora da Glória) associated to the hypoxerophytic caatinga in the semiarid region of the Sergipe state, northeastern Brazil at altitudes of 99 to 291 meters.

**Phenology:** Flowering in August.

**Preliminary conservation status:** It was collected for the first time four decades ago by E.M. Carneiro and, more recently, in 2014, by L.A.S. Santos in Nossa Senhora da Glória, and Nossa Senhora das Dores respectively. Our studies revealed only two specimens, making it impossible to assess the conservation status. For this reason, *C. obtusiloba* is classified as Data Deficient (DD), following the International Union for Conservation Nature criteria (IUCN, 2017).

*Cordia obtusiloba* is a representative of *C. sect. Gerascanthus* and morphologically it is similar to *Cordia alliodora* for the presence of stellate trichomes, tubular-cylindrical calyx, margin of the leaf entire, and costate calyx, but differs from this species for the absent ant domatia, lanceolate leaves, base acute and slightly asymmetric, apex of corolla lobes obtuse, and filaments pilose on the corolla insertion and thick in the middle portion.

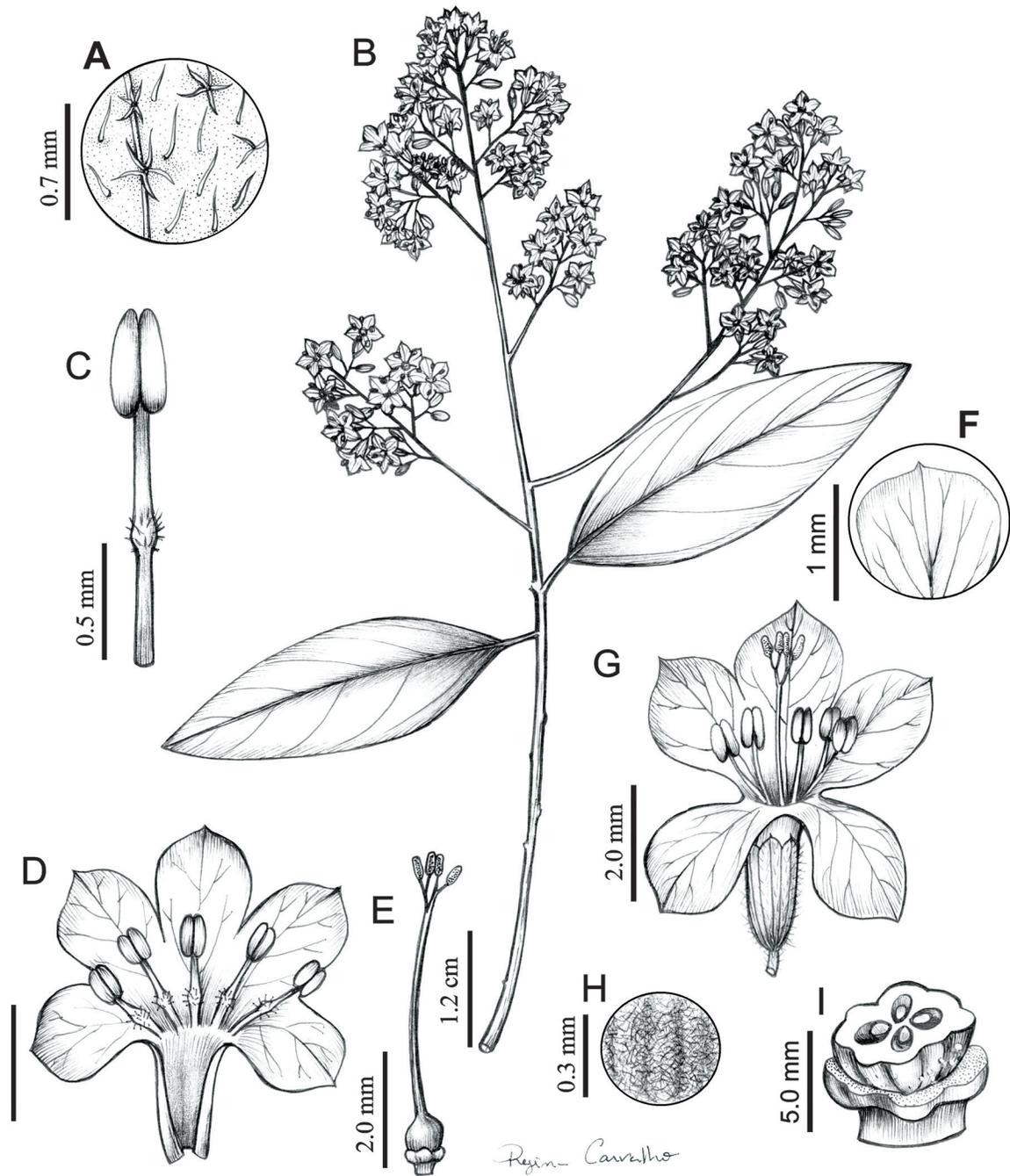


FIGURE 2. *Cordia obtusiloba* Pedro-Silva, T.S. Silva & J.I.M. Melo. A, detail of leaf surface; B, flowering branch; C, stamen; D, open corolla; E, gynoecium; F, detail of the obtuse apex of the corolla; G, flower; H, detail of the calyx; I, cross section showing glands in the gynoecium. Line drawings by Regina Carvalho based on the holotype.

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