BioOne COMPLETE

Ipomoea cuprinacoma (Convolvulaceae): A New Morning Glory from Southwestern Mexico

Authors: Carranza, Eleazar, and McDonald, J. Andrew

Source: Lundellia, 2004(7) : 1-4

Published By: The Plant Resources Center, The University of Texas at Austin

URL: https://doi.org/10.25224/1097-993X-7.1.1

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://bioone.org/journals/Lundellia on 29 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

IPOMOEA CUPRINACOMA (CONVOLVULACEAE): A NEW MORNING GLORY FROM SOUTHWESTERN MEXICO

Eleazar Carranza[1] and J. Andrew McDonald[2]

[1]Instituto de Ecología, Centro Regional del Bajío, Pátzcuaro, México
[2]Section of Integrative Biology and Plant Resources Center, University of Texas, Austin, Texas 78712

Abstract: A new species of morning glory from southwestern Mexico, **Ipomoea cuprinacoma** (Convolvulaceae), is described. The species is assigned to *Ipomoea* series *Arborescentes* with other stout lianas and trees, and distinguished from *I. populina* on the basis of slender stems, canescent peduncles and leaf blades, exclusively axial inflorescences, and long, pale-coppery seed hairs.

Resumen: Se describe una especie nueva del suroeste de México, **Ipomoea cuprinacoma** (Convolvulaceae), la cual se ubica con otras lianas y árboles en *Ipomoea* series *Arborescentes. Ipomoea cuprinacoma* se distingue de *I. populina* por sus tallos incipientes delgados, pedúnculos y láminas canescentes, inflorescencias exclusivamente axiales, y comas seminales de color cobre pálido.

Keywords: *Arborescentes,* Convolvulaceae, Flora of Mexico, *Ipomoea.*

Ongoing plant collection programs of the Instituto de Ecología in Pátzacuaro, Mexico, continue to uncover new species from southwestern Mexico. A morning glory that ranges from Jalisco to eastern Guerrero, *Ipomoea cuprinacoma* E. Carranza & J.A. McDonald, is described herein and allied with *I. populina* House, a common liana of *Ipomoea* series *Arborescentes* (Choisy) D.F. Austin.

Ipomoea cuprinacoma E. Carranza & J.A. McDonald, sp. nov. (Fig. 1).

TYPE: **MEXICO.** MICHOACÁN: Mpio. Penjamillo, 2 km W of Penjamillo, *E. Carranza G. 5608* (HOLOTYPE: IEB; ISOTYPES: ENCB, MEXU, TEX.)

Ipomoea populina House primo adspectu maxime simili, sed caulibus apicem versus gracilibus, 1–2 mm latis, canis, laminis infra canis vel dense puberulis, sepalis inaequalibus, coma cuprina seminibus differt.

LIANAS twining, trailing, robust; stems ligneous, branching, 2–14 m long, to 5–7 cm wide at base, 1–2 mm at tips, new growth canescent, old growth glabrous or scarcely pubescent, striate, sparingly papillose. LEAVES simple, petiolate; petioles 2.6–11 cm long, 1–2 mm in diameter, tomentose, tomentulose or sparsely pubescent; blades ovate or ovate-elongate, (4.5–) 7–14 (–19) cm long, 4.0–10.5 cm wide, entire, acuminate at apex, truncate or cordate at base, chartaceous, green and densely to sparsely pilose above, canescent or densely pilose below, the hairs simple, T-shaped, 3 or 4-branched. CYMES axillary, simple, mono- or dichasial, flowers 1–5; peduncles 0.3–5.5 cm long, 1–2 mm in diameter, smooth or striate, canescent during inception, becoming glabrous and lignescent during anthesis and fruition, secondary peduncles 0.3–1.2 cm long, 1–2 mm in diameter; pedicels 0.5–2.5 cm long, 1–2 mm in diameter during anthesis, elongating and thickening somewhat (ca. 3 mm in diameter) during fruition, canescent during inception, becoming glabrous during anthesis and fruition. FLOWERS diurnal; sepals unequal, persistent in fruit, ovate or broadly elliptic, outer 5.5–8 mm long, 4–6 mm wide, inner 8–12 mm long, 6–9 mm wide, with apex obtuse or truncate, glabrous, coriaceous, and with margins entire, scarious; corolla infundibular, 5.5–8 cm long, tube 3.5–5.0 cm long, the base constricted, 6–8

Downloaded From: https://bioone.org/journals/Lundellia on 29 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

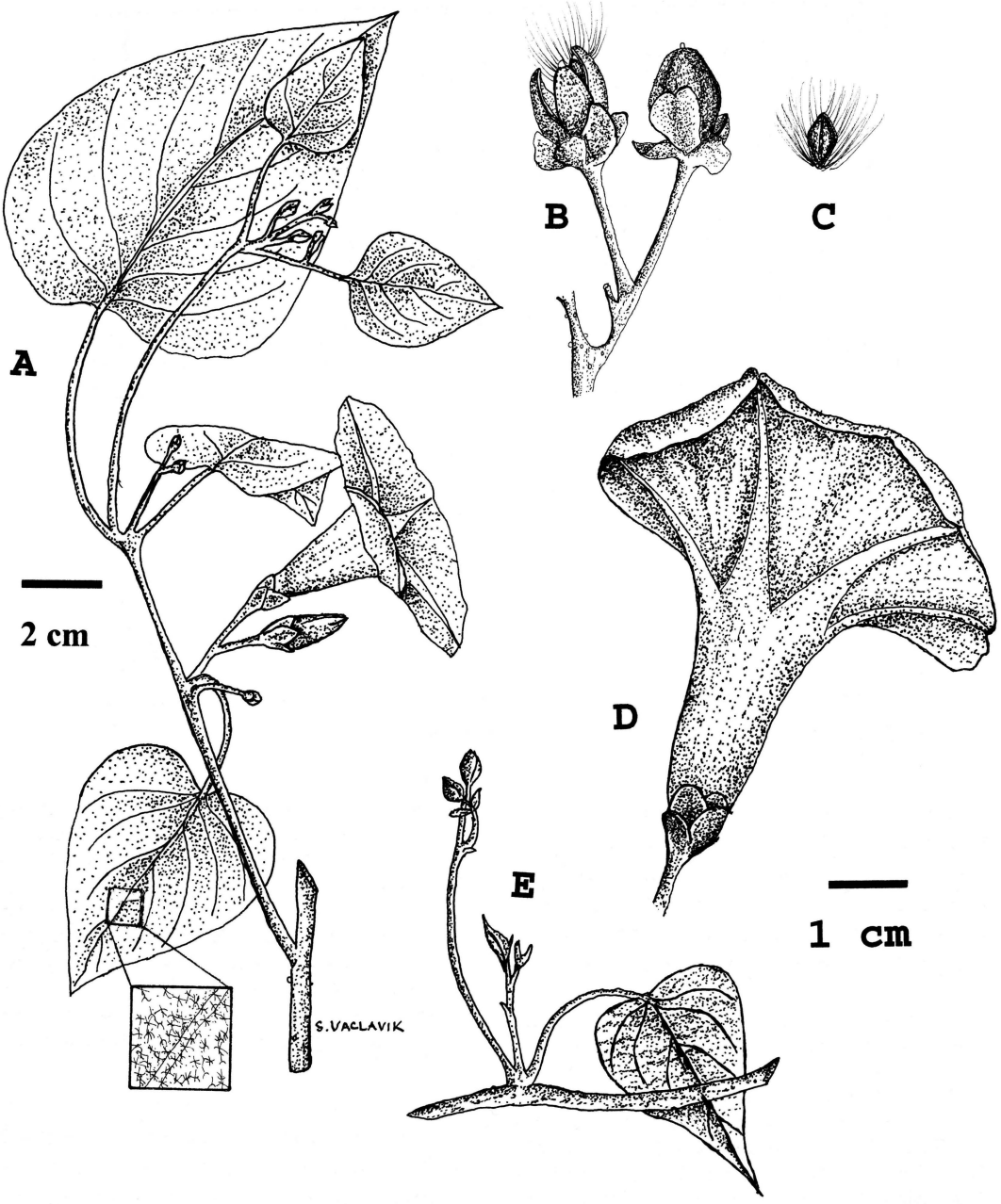


FIG. 1. *Ipomoea cuprinacoma.* Drawings by Ms. Susan Vaclavik are based primarily on the holotype and isotypes (*E. Carranza G. 5608*). A. Growth habit of fertile shoots. B. Infructescence. C. Mature seed. D. Flower. E. Slender new stem growth.

mm in diameter, the throat 1.8–2.5 cm in diameter (in a pressed condition), white with a broad purple collar inside, glabrous, limb white, slightly 10-lobate, plical zones glabrous, interplical zones sparingly pubescent; stamens unequal, included, 1.6–3.1 cm long, basally pubescent; style 3.4–4.2 cm long, glabrous; stigma subglobose, bilobate. FRUIT a broadly ellipsoid capsule, 1–1.7 (–2) mm long, 0.8–1.2 cm wide, 2-locular,

Downloaded From: https://bioone.org/journals/Lundellia on 29 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

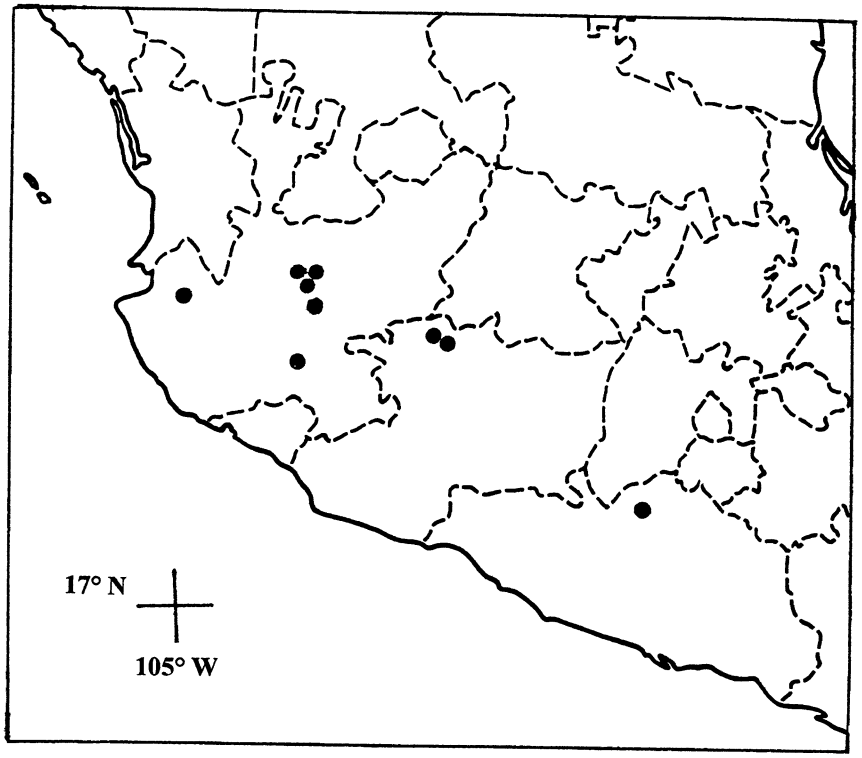


FIG. 2. Known distribution of *Ipomoea cuprinacoma.*

4-valvate, drying brown, lignescent, glabrous, the base of style persistent on apex until dehiscence; seeds (4)7–12 mm long, ellipsoid-triangulate, glabrous, brown, bearing long hairs on outer margins, comas 1–1.4 cm long, shiny, pale brown or copper.

ADDITIONAL SPECIMENS EXAMINED: **MEXICO. GUERRERO.** Km 98.3 on Hwy. 51 from Iguala to Arcelia, ca. 2 km W of Las Ceibitas, 1150 m, 2 Oct 1982, *H. Iltis, B. Benz & M. Burd 28692* (IEB, TEX). **JALISCO:** Mpio. Guadalajara, Barranca of Huetitán, below Guadalajara Zoological Park, 1450 m, 4 Jul 1990, *M. Cházaro, J. J. Guerrero & S. Carvajal 6265* (IEB, TEX); Mpio. Guadalajara, Barranca of Huetitán, below Guadalajara Zoological Park, 1400 m, 21 Aug 1990, *M. Cházaro & J.J. Guerrero 6377* (IEB, TEX); Mpio. Jocotepec, 3 km S of Zapotitán de Hidalgo, 1880 m, 1 Jun 1986, *J.A. Machuca & S. Carvajal 1467* (IEB, TEX), Mpio. Jocotepec, NW of Zapotitán in Arroyo de Huariche, 1800 m, 25 Aug 1991, *J.A. Machuca 6722* (IEB, TEX); Mpio. Jocotepec, Barranca de Sayula, W of San Pedro Tesistán, 1450 m, 5 Jul 1992, *Machuca 6882* (IEB, TEX); Mpio. Jocotepec, Barranca de Sayula, W of San Pedro Tesistán, 1750 m, 18 Jun 1995, *J.A. Machuca 7320* (IEB); Sierra La Difunta, trail to Las Lajas, S of Tepatitlán, 1600 m, 21 Aug 1994, *J.A. Machuca 7220* (IEB); Mpio. Zapopan, 0.5 km S of Hacienda del Lazo, 1050 m, 31 Jul 2001, *Carrillo-Reyes 2319* (IEB); Mpio. Mascota, Km 1 on road from Mascota to Juanacatlán, 1430 m, 12 Aug 2001, *Carillo et al. 2497* (IEB). **MICHOACÁN:** Mpio. Churintzio, Los Palos Amarillos Canyon, Sanguijuelas, *Labat 1834* (IEB); Mpio. Penjamillo, 2 km W of Penjamillo, *E. Carranza et al. 5790* (IEB); *E. Carranza & Silva 5028a* (IEB); Penjamillo, by banana plantation, *Diaz-Barriga & Pérez 7242* (IEB).

Ipomoea cuprinacoma fits comfortably within *Ipomoea* series *Arborescentes,* in the company of other Mexican lianas and arborescent morning glories. Most members of this distinctive group are trees (McPherson, 1981), several of which occur as dominant elements in tropical deciduous forests of southern Mexico (i.e., *I. pauciflora* Mart. & Galeotti, *I. murcoides* Roem. & Schult., and *I. wolcottiana* Rose). Anatomical and phylogenetic analyses of this distinctive group reveal that arborescent growth habits

Downloaded From: https://bioone.org/journals/Lundellia on 29 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

are derived in the genus (McDonald, 1991, 1992; McDonald and Mabry, 1992), suggesting that *I. cuprinacoma* and other lianas of the complex, such as *I. populina* and *I. praecana* House, may represent ancestral members of the group. The new species is most similar to *I. populina* on the basis of its thickened basal stems to 7 cm diameter, ovate leaves, simple axillary cymes, glabrous sepals, white corollas with purple-pigmented tubes, and ellipsoid-triangulate seeds that present long hairs along their outer margins. The new species is distinguished from *I. populina,* however, by slender incipient stems (1–2 mm in diameter), leaf blades that are canescent or densely sericeous below, canescent primordial peduncles and pedicels, and exclusively axial inflorescences (Fig. 1). Seed hairs of the new species are also distinguished by their pale-coppery sheen, hence the species epithet, *cuprinacoma* ('copper-colored hair'). In contrast, new stem growth of *I. populina* is more fleshy and robust, the tips from 2–4 mm in diameter, and maintaining a chlorophyllous, glabrous or glabrescent condition. *Ipomoea populina* also presents laminas that are glabrous or only sparingly pubescent above and below, incipient peduncles and pedicels that are glabrous or sparingly pubsecent (never canescent), flowers that are born terminally and in leaf axils, and white seed hairs.

As presently known, *Ipomoea cuprinacoma* occurs sporadically from Jalisco to western Guerrero (Fig. 2). The southernmost limits of the new species approach the western-most limits of *I. populina,* the latter of which ranges from western Guerrero to Nicaragua (McPherson, 1981). *Ipomoea cuprinacoma* is found in mountainous habitats from 1000–1900 m, and usually occupies tropical deciduous forests that are dominated by *Acacia, Bursera, Ceiba, Cordia, Heliocarpus,* and *Lysiloma,* or tropical deciduous oak forests that are ecotonal with this vegetation type.

Acknowledgements

The authors express gratitude to Ms. Susan Vaclavik for preparing the illustrations.

Literature Cited

McDonald, J. A. 1991. Origin and diversity of Mexican morning glories (Convolvulaceae). Anales Inst. Biol. Univ. Nat. Aut. México, Bot. 62(1):65–82.

———. 1992. Evolutionary implications of normal and anomalous secondary growth in arborescent *Ipomoea* (Convolvulaceae). Bull. Torrey Bot. Club 119:262–267.

———, **and T. J. Mabry.** 1992. Phylogenetic systematics of New World *Ipomoea* (Convolvulaceae) based on chloroplast DNA restriction site variation. Pl. Syst. Evol. 180:243–259.

McPherson, G. 1981. Studies in *Ipomoea* (Convolvulaceae) I. The Arborescens Group. Ann. Missouri Bot. Gard. 68(4): 527–545.

Downloaded From: https://bioone.org/journals/Lundellia on 29 Mar 2024
Terms of Use: https://bioone.org/terms-of-use