CAPPARIDASTRUM ALBOANNULATUM: A NEW SPECIES AND NEW RECORDS OF CAPPARACEAE FROM COLOMBIA

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Abstract. *Capparidastrum alboannulatum*, a new species of tree of the Capparaceae, endemic to western Colombia, is described and illustrated. Its conservation status is here assessed as endangered. In addition, *Capparidastrum discolor*, *C. mollicellum*, and *Quadrella isthmensis* subsp. *isthmensis*, all species of Capparaceae previously known only from Mexico and Mesoamerica, are reported as new records for the flora of Colombia and South America.

Keywords: Capparaceae, Colombia, *Capparidastrum alboannulatum*, endemic

Resumen. Se describe e ilustra *Capparidastrum alboannulatum*, una nueva especie de árbol de Capparaceae, endémica del occidente de Colombia. El estado de conservación de *Capparidastrum alboannulatum* aquí asignado es en peligro. Además, *Capparidastrum discolor*, *C. mollicellum* y *Quadrella isthmensis* subsp. *isthmensis*, todas estas especies de Capparaceae previamente conocidas como restringidas a México y Mesoamérica, se reportan por primera vez para la flora de Colombia y América del Sur.

Palabras claves: Capparaceae, Colombia, *Capparidastrum alboannulatum*, endémica

Capparidastrum (DC.) Hutch. (Capparaceae) is a Neotropical genus of shrubs and trees, comprising two subgenera (*Capparidastrum* subgen. *Capparidastrum* and *C.* subgen. *Pulviniglans*) and 24 species, ranging from western Mexico to Bolivia in dry, moist, and wet forests, from sea level to 1600 m (Cornejo and Iltis, 2008; Cornejo and Iltis, 2016; Mercado et al., 2020; Cornejo, in prep.).

The following new species and three new records of Capparaceae, all from Colombia, were found after the publication of Capparaceae for the *Catalogue of the Plants and Lichens of Colombia* (Cornejo and Iltis, 2016), and the synopsis of Capparaceae for the flora of Colombia (Mercado-Gómez et al., 2019).

Taxonomy

1. Capparidastrum alboannulatum Cornejo & W. Vargas, *sp. nov.* TYPE**:** COLOMBIA. Valle del Cauca: Mun. Palmira, vereda El Tenjo, margen del río Nima, en la cordillera Central, en transición entre piedemonte seco y bosque húmedo subandino, 3°31'4.62"N, 76°10'06.55"W, 1570 m, 20 April 2018 (fl, fr), *William Vargas 18923* (Holotype: ICESI; Isotype: COL). Fig. 1.

Capparidastrum alboannulatum is a new species from western Colombia that resembles *C. cuatrecasasianum* (Dugand) Cornejo & Iltis from Cundinamarca and Santander departments, but differs from the latter by the leaf blades glabrous (vs. densely pilose at least on veins beneath), the presence of a lower number of lateral veins, 7–9 (vs. 10–14), the flowers with an infracalycine white ring (vs. infracalycine white ring absent), larger floral nectaries, 6–7 mm wide (vs. 4–5 cm wide), and purplish-green ovary (vs. deep-purple ovary) at anthesis. It is also similar to *C. dugandii* Mercado-Gómez J. and M. E. Morales (2020) from Antioquia and Valle del Cauca in Colombia, but differs from the latter by the distinctively narrower leaf blades, 3–7 cm wide (vs. leaf blades 7.4–14.0 cm wide), flowers with an infracalycine white ring (vs. infracalycine white ring absent), purplish-green ovary (vs. yellowish-green to yellow ovary) at anthesis, seeds with a white embryo (vs. seeds with a light-yellow embryo), and a higher altitudinal pattern, at 1570 m (vs. 200 to 1200 m).

Tree to 5 m tall and 20 cm dbh; glabrous. Stipules not seen. *Leaf blades* chartaceous, elliptic to elliptic-obovate, 6–16 × 3–7 cm, cuneate to obtuse at base, acute and minutely apiculate at apex to barely obtuse, dark green and glabrous above, paler green and glabrous beneath; lateral veins 7– 9 on each side of the midrib; petioles 0.5–6.0 × 0.1–0.2 cm, glabrous, the pulvinus 2–7 mm, dark brown (dried). *Inflorescences* terminal, erect racemes, 6–15 cm, glabrous; central floral bract linear-lanceolate or narrowly oblong, ca. 3 mm, deciduous, the pair of lateral bracts narrowly triangular, ca. 1 mm, ± persistent; pedicels 2.0–2.5 cm, glabrous. Sepals deltoid, 4–5 × 7–8 mm, broadly divergent, yellowish-cream without, light green within, shallowly erose at margins. Floral nectaries conspicuous, ca. 2–3 × 6–7 mm, pink (fresh), black (dried). *Corolla* buds just preceding anthesis subglobose. Petals ovate-elliptic to elliptic, 16–20 × ca. 7–8 mm, divergent, more-or-less entire to erose at margins, green and glabrous without. Stamens ca. 27–40; filaments 5–7 cm; anthers ca. 3.0–3.5 mm, dorsifixed in basal third, white. Gynophore 6–7 cm, purplish at distal half, pink at base (fresh), glabrous. Ovary sublanceolate, 6–7 × 2 mm, inconspicuously ribbed, purplish green (fresh), glabrous; stigma truncate (fresh). Infructescences with gynophores 6–9 cm × ca. 3 mm, green (fresh). *Fruits* ovoid to irregularly obovoid, 3.5–8.0 × 3–7 cm, at maturity yellow, glabrous; fruit wall 4–8 mm thick,

Jorge Mercado, Rodrigo Botina, and Jorge Vélez-Puerta shared with the senior author their field images of *Capparidastrum dugandii*.

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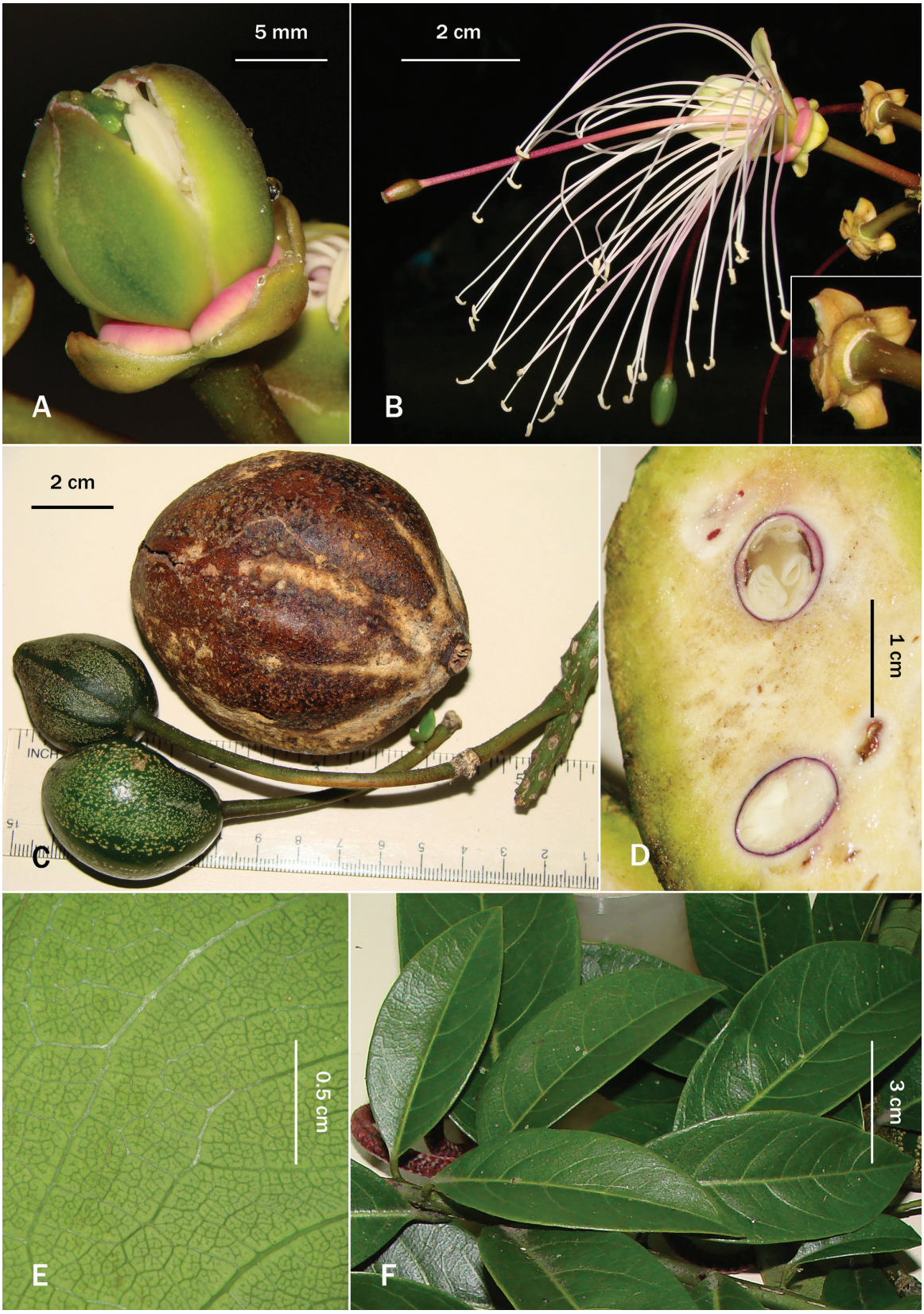

FIGURE 1. *Capparidastrum alboannulatum* Cornejo & W. Vargas. **A**, flower bud, lateral view; **B**, flower at anthesis, lateral view, and abaxial view of calyx at lower right square, note the white ring at the infracalycine zone; **C**, fruits; **D**, close up of a sectioned fruit, note the cut-open seeds with white embryos and convolute cotyledons; **E**, close up of reticulate tertiary veins, abaxial view; **F**, mature leaves, adaxial view. Photographs based on the holotype, *W. Vargas 18923* (ICESI). Photos by William Vargas.

coriaceous, flexible; pulp creamish white. Seeds 7–20, ca. 0.8 × 0.7 cm. Embryo white, convolute.

The placement of this new taxon in *Capparidastrum* subgen. *Pulviniglans* is supported by morphological evidence as the presence of glabrous leaves, 4 cushion-shaped rounded floral nectaries and pepo fruits. *Capparidastrum alboannulatum* may resemble two other species from Colombia, *C. cuatrecasasianum* and *C. dugandii*, but differs from both by the characters described in the diagnosis. This novelty is the only species in *Capparidastrum* and among all Neotropical Capparaceae that has flowers with a distinctive infracalycine white ring.

Etymology: the epithet *alboannulatum* of this taxonomic novelty refers to the white ring present at the base of calyx.

Habitat and distribution: known only from the type. *Capparidastrum alboannulatum* occurs in the Río Nima dry Andean foothills in Valle del Cauca, western Colombia. The type locality is characterized by steep slopes, with small alluvial valleys and hills dominated by secondary vegetation and pastures. It is found associated with species of the genera *Miconia* Ruiz & Pav., *Croton* L., *Casearia* Jacq., *Nectandra* Rol. ex Rottb., *Cinnamomum* Schaeff., *Ocotea* Aubl., *Ficus* L., and *Piper* L., among others. The fruits are consumed by rodents, but when they fall to the ground, they are also eaten by livestock, making their regeneration more difficult. It is a little known species without current uses. The populations are reduced to a few individuals, most of them seedlings and juveniles.

Conservation status: at present, the native vegetation of the area where *Capparidastrum alboannulatum* occurs is disturbed by selective timber cutting, deforestation, and forest fragmentation due to the advancement of the agricultural frontier and cattle farming. Therefore, the preliminary status of Endangered (EN B1ab[iii]) (IUCN, 2012) is assigned to this species.

In addition, three new records for the flora of Colombia and South America were found while studying the collections of Capparaceae in COL herbarium. Those are reported here for first time.

2. *Capparidastrum discolor* (Donn. Sm.) Cornejo & Iltis, Harvard Pap. Bot. 13(2): 233. 2008.

Basionym: *Capparis discolor* Donn. Sm., Bot. Gazette 24: 389. 1897. TYPE. COSTA RICA. Bois du Rodeo de Pacaca, 1100 m, January 1891, *H. Pittier 3537* (Holotype: CR [not seen]; Isotypes: BR [2, fragm. and photo at WIS], US [1392173]).

Synonym: *Morisonia discolor* (Donn. Sm.) Christenh. & Bing, The Global Flora 4: 139. 2018.

COLOMBIA. Antioquia. Mun. Amalfi, vereda Peldar, mina La Viborita, 6°55'N, 75°04'W, 1490–1600 m, 3 Oct 1992, *R. Fonnegra and Curso Palinología SEM 4537* (COL).

Distribution: the cited collection represents the southernmost record of this species, extending the geographical range from Mexico to Colombia.

3. *Capparidastrum mollicellum* (Standl.) Cornejo & Iltis, Harvard Pap. Bot. 13(2): 234. 2008.

Basionym: *Capparis mollicella* Standl., Proc. Biol. Soc. Wash. 37: 44. 1924. TYPE. MEXICO. Nayarit: La Bajada, 80 m, 1923, *J. G. Ortega 103* (Holotype: US [1111324]; Isotype: K [000220516]).

Synonym: *Morisonia mollicella* (Standl.) Christenh. & Bing, The Global Flora 4: 141. 2018.

COLOMBIA. Antioquia. Mun. Mutatá, Hoya del Río León o Bacubá, villa Arteaga, Las Caucheras, on a Hill nearby, rainforest, 140 m, 3 Oct 1961, *J. Cuatrecasas and L. Willard 26202* (COL).

Distribution: the cited collection represents the southernmost record of this species, extending the geographical range from Mexico to Colombia.

4. *Quadrella isthmensis* (Eichler) Hutch. subsp. ***isthmensis***, Gen. Fl. Pl. 2: 308. 1967.

Basionym: *Capparis isthmensis* Eichler in Martius, Fl. Bras. 13: 269. 1865. TYPE. COSTA RICA. "Habitat ad Costa Rica et Veraguas Americae Centralis," without date, *C. Hoffmann and J. Warszewicz 217* (Lectotype: B, B fragm. at M, WIS, designated by Iltis and Cornejo, 2010).

Synonym: *Morisonia isthmensis* (Eichler) Christenh. & Bing, The Global Flora 4: 141. 2018.

COLOMBIA. Chocó. Mun. Acandí, camino Sapzuro-la Maloka, rainforest, 25 Jul 2005, *S. E. Hoyos-Gómez, A. Upegui, E. Norena and I. Loaiza 362* (COL).

Distribution: the cited collection represents the southernmost record of this species, extending the geographical range from Mexico to Colombia.

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