

Convolvulaceae neotropicae novae vel minus cognitae III: *Jacquemontia austiniana* J.R.Grande sp. nov. (*Convolvulaceae*), a new species from the Venezuelan Guayana

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Abstract. As a part of a taxonomic update of the family *Convolvulaceae* Juss. for Guayana Shield, the species *Jacquemontia austiniana* J.R.Grande sp. nov., is described and illustrated as new to science. This species is characterized by its linear-subulate bract, ovate-lanceolate external sepals, conspicuously acuminate, villose, with the margins ciliate, and a relatively large and infundibuliform corolla. To date, this is the only species of *Jacquemontia* Choisy endemic to the Guayana Shield; its relationships within the genus are still to be elucidated.

Keywords. *Convolvulaceae*, Daniel Austin, Guayana Shield, *Jacquemontia*, Venezuelan Guayana.

Resumen. Como parte de la actualización taxonómica de la familia *Convolvulaceae* Juss. para el escudo guayanés, se describe e ilustra *Jacquemontia austiniana* J.R.Grande sp. nov., como nueva para la ciencia. Esta especie se caracteriza por tener brácteas lineal-subuladas, sépalos externos ovado-lanceolados, conspicuamente acuminados, villosos y con el margen ciliado, además de una corola infundibuliforme y relativamente grande. Hasta el momento, esta es la única especie de *Jacquemontia* Choisy endémica del escudo guayanés. Sus relaciones dentro del género quedan aún por dilucidar.

Palabras clave. *Convolvulaceae*, Daniel Austin, escudo guayanés, Guayana venezolana, *Jacquemontia*.

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INTRODUCTION

The recent taxonomic work on *Jacquemontia* Choisy (*Convolvulaceae* Juss.) includes revisions for Peru (O'Donnell 1960), the Neotropical north of Colombia (Robertson 1971), and Brazil (Buril 2013), as well as several treatments for local floras and catalogues (v. gr., Austin 1982; Tapia 2008), two generic segregates (*Odonellia* K.R.Robertson and *Daustinia* Buril & A.R.Simões; Robertson 1982; Buril & al. 2014, 2015), and the description of new species from Argentina (Krapovickas 2009), Bolivia (Krapovickas 2009), Paraguay (Krapovickas 2009), and the extra Guyano-Amazonian Brazil (Simão-Bianchini 1999; Simão-Bianchini & Pirani 2005; Krapovickas 2009; Buril & al. 2012a, 2012b; Buril & Alves 2011, 2013). Despite this, species-rich areas such as the Chaco and Cerrado biomes from Brazil, Paraguay and Bolivia, as well as the Caribbean forests and shrublands from Venezuela and Mexico, remain undercollected and several species complexes wait for revision.

The Guayana Shield, geologically c. 1,200,000 km² and floristically c. 2,000,000 km², harbors a tremendous plant diversity, with a high percentage of endemism (Huber 1994, 1995; Steyermark & al. 1995–2005; Huber & Foster 2003; Funk & al. 2007), but it is relatively poor in species of the *Convolvulaceae*. Including the species here described, seventeen genera and one hundred and eight species have been reported growing there. Of them, only one genus (*Lysiosyles* Benth.) and nine to eleven species are endemic. After the parts 'I' and 'II' of the series (Grande Allende 2011; Grande Allende & al. 2011), and as a product of a continued revisionary study of the family *Convolvulaceae* from the Neotropics (in progress since 2009), one new species of *Jacquemontia* is here described. It was first noted by Daniel F. Austin, with whom I was working to publish it. His untimely death inspires me to dedicate him this beautiful species.

MATERIAL AND METHODS

The dry material of the genus *Jacquemontia* from the Guayana Shield housed at CICY, CTES, INPA, MER, MERC, MERF, MO, MY, MYF, and VEN herbaria was reviewed and identified. Measurements were performed directly on dried specimens, using a stereoscopic microscope to study the pubescence. Relevant literature was also reviewed, and the species concepts confirmed with the examination of the available type specimens at Jstor Plant Sciences (<https://plants.jstor.org/>) and reviewed herbaria. The following description is based upon dried plants from MO, MY, and VEN, as well as from the corresponding field notes of accompanying labels.

RESULTS AND DISCUSSION

Jacquemontia austiniana J.R.Grande sp. nov. Type: Venezuela, Amazonas State, “a lo largo del camino entre Yavita y Pimichín, a 1 km de Yavita”, 02°55' N, 67° 25–30' W, 125 m a.s.l., forest, soil of white sand, 21 Apr. 1970, *J.A. Steyermark* and *G.S. Bunting* 102888 leg. (holo-: VEN-95197!; iso-: MO-1176116). Fig. 1.

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Species haec figura foliorum inflorescentiarum bractearumque Jacquemontiae pentanthei affinis, sed corolla longiora et relative angustiora, sepalis externis ex ovato lanceolatis conspicue acuminatis cum pubescentia villosa (non obrullatis ac glabrescentibus) et alabastro sepalis apice uncinatis (non sepalis apice strictis) differt.

Scandent herb. Stems thin, to 1.5 mm diameter, ribbed, with villose and relatively lax pubescence, generally concentrated or limited to intercostal depressions, equally distributed only over short fragments along stems, made up exclusively by trifid hairs. Leaves alternate, remote; petioles 0.95–2.5 cm long, $\frac{1}{5}$ – $\frac{1}{4}$ of the total length of the leaf (both in young and mature leaves), delicate, tricostate, one rib dorsal, remaining two lateral, with discrete wings, adaxially canaliculate, villose; leaf blades 3.2–5.8 × 1.4–2.7 cm, membranous, more or less firm, light green, ovate, the base cordate (subcordate in apical younger leaves), the margins discretely and irregularly sinuous, the apex acuminate, rarely acute, with a conspicuous apicule or seta to 3 mm long, with conspicuous purplish-reddish dots, especially abaxially, where sparsely villosule, adaxially glabrescent, the hairs with only one or two arms well developed, frequently one of the arms much more long or wide than the remaining two. Inflorescences axillary, dense, 5–14-flowered; peduncles 5.4–9.3 cm long, conspicuously longer than leaves, with the same width, pubescence and type of hair than the stems that subtend them; bracts and bracteoles to 8.5 × 0.5 mm, linear-subulate, conspicuously villose. Flowers with the sepal apices uncinated in bud,

extended or slightly arched extrorsely in anthesis. Sepals paleaceous, the two external 10–10.5 × 2.5 mm, subequal, ovate-lanceolate, slightly falcate, turning thinner toward margins, the margins itself hyaline, ciliate, the cilia somewhat larger than remaining hairs, with only one arm developed (another two arms rarely present, and then very reduced), conspicuously acuminate at the apex, with purplish-reddish dots as in leaves, villose, sparsely so toward the middle portion, densely villose toward apex, especially over the acumen; middle sepal 10 × 2.5–3 mm, similar to the external pair, generally with an oblong body and with a minor acumen, dorsally glabrescent, with some hairs to the apex of the middle portion and along the acumen, margins ciliate, reddish dots scarce, restricted to the apical portion of the body and, especially, the acumen; internal sepals 7–7.5 × 2.5–2.8 mm, subequal, oblong-ovate, the pubescence restricted to the acuminate portion, red dots absent or very scarce in the apex of the acuminate portion. Corollas 2.4–2.8 cm long, bluish (pure blue or blue with more or less developed purplish cues according to the locality and apparently to the advance of the anthesis process), infundibuliform, the limb with setaceous appendages (or apicules) 1 mm long. Stamens 2.5 cm long, fused in the base (both between them and with the adjacent corolla), arising from the very base of the corolla, sparsely papillate in the widened free basal portion; filaments 0.8–0.9 cm long, subequal; widened basal portion 2.5 mm long, papillate; anthers 2 × 0.8 cm, oblong, equal, the pollen whitish, just reaching the base of the reflexed stigma. Pistil 1.3–1.4 cm long; ovary c. 1 mm diam., glabrous, cuspidate in the apex; style 1.1–1.2 cm long, glabrous; stigmata bifid, ellipsoid, somewhat flattened, with a rugose surface, reflexed, the unequal pair 1–1.4 mm long. Fruits and seeds unknown.

Etymology.—*Jacquemontia austiniana* sp. nov. is named to honor Daniel F. Austin (1943–2015), foremost scholar of the family *Convolvulaceae*, and author of many contributions to its taxonomy, systematics, ethnobotany, and economic botany, including reviews for Venezuela (Austin 1982), the Amazon basin (Austin & Cavalcante 1982), the Venezuelan Guayana (Austin 1998), and the Guayana Shield (Austin 2007).

Distribution and habitat.—According to the information provided by the herbarium labels, *J. austiniana* sp. nov. is restricted to forests on sandy plains and granitic boulders, from 90 to 150 m a.s.l., in the central Guayana Shield. One photograph in Cárdenas & al. (2008) probably corresponds to this species, but the peduncles are shorter than leaves. Just in case it is, the distribution area of *J. austiniana* sp. nov. should be extended considerably westward, including the western Guayana Shield (a distinct biogeographic province after Huber 1994).

Affinities.—The type specimens of *J. austiniana* sp. nov. were cited by Austin (1982, 1998) as *J. cf. pentanthos* (Jacq.) G. Don (“*J. pentantha*”). Other herbarium specimens have been also identified either as *J. guyanensis* (Aubl.) Meisn., *J. holosericea* (Weinm.) O’Donell or *J. grandiflora* Meisn. *Jacquemontia austiniana* sp. nov. could be differentiated, however, by the villose and tawny pubescence, as well as the ovate-lanceolate and conspicuously acuminate external pair of sepals. The additional species that seem to be also morphologically related include *J. ferruginea* Choisy (especially *J. ferruginea* var. *ambigua* Meisn.) from Brazil, as much as *J. corymbulosa* Benth. and *J. prominens* Helwig from

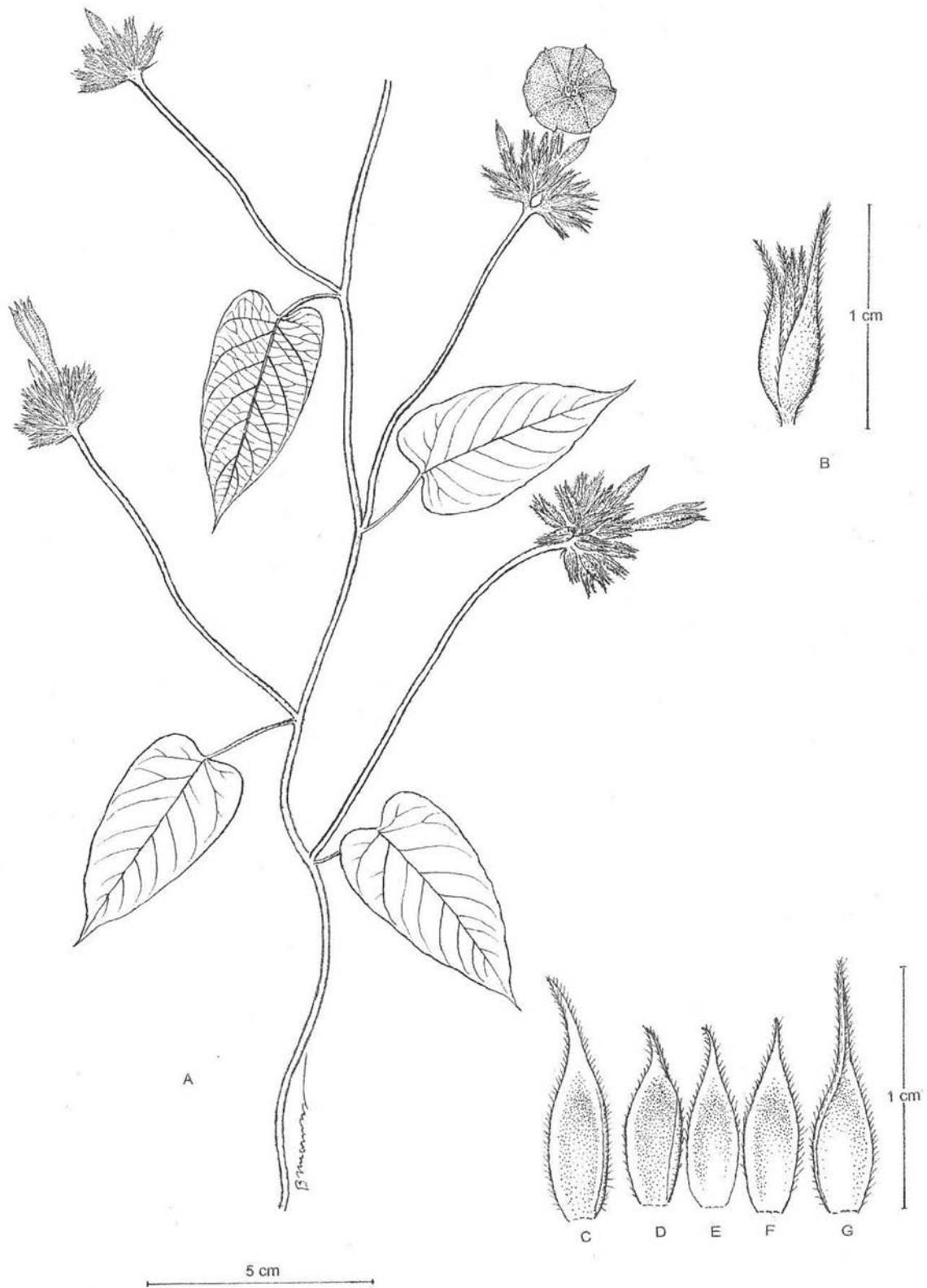


Fig. 1. *Jacquemontia austiniana* J.R.Grande sp. nov.: **a**, habit; **b**, flower bud; **c**, **g**, external pair of sepals, inside view; **d**, **f**, internal pair of sepals, inside view; **e**, medial sepal, inside view [*J.A. Steyermark and G.S. Bunting 102888 leg. (VEN-95197)*].

the northern Andes. All of them, however, have tomentose or tomentose-villose pubescence, and lanceolate-trullate (*J. ferruginea*), trullate (*J. prominens*), or rhombic-elliptic (*J. corymbulosa*) external sepals. The relationships seem to be stronger with *J. guyanensis*, but this species lacks the conspicuously acuminate leaf apex of *J. austiniana*, as much as the conspicuous purplish-reddish dots of sepals and leaves. The pubescence is, moreover, tomentose and ferruginous (vs. pubescent or glabrescent and tawny in *J. pentanthos*, villose and tawny in *J. austiniana*), and shape of the external pair of sepals is ovate (vs. trullate in *J. pentanthos*, and ovate-lanceolate in *J. austiniana*).

Additional notes.—The apices of sepals and leaves tend to be correlated in shape. The herbarium specimen Bunting *et al.* 3758, in fact, has both of them especially developed.

Additional specimens examined (paratypes).—VENEZUELA. **Amazonas State:** “Dpto. Atures, transecto desde las orillas del río Sipapo hasta la cumbre del cerro Pelota, aguas abajo de la base del río Autana”, 4°46' N, 67°43' W, 90–150 m s.n.m., *laja* vegetation, 12 Oct. 1983, F. Guánchez 2675 leg. (VEN 261013!); “Dpto. Casiquiare, alrededores de Yavita (río Temi) y cerca de la carretera Yavita–Pimichín hasta el km 5 hacia Pimichín”, 125–140 m a.s.l., 6–19 Jul. 1969, G.S. Bunting, L.M.A. Akkermans and J. van Rooden 3758 leg. (MY, VEN 297036!).

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