

JALTOMATA ANDERSONII (SOLANACEAE):
A NEW SPECIES OF PERU

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ABSTRACT. *Jaltomata andersonii* (Solanaceae), here named, is distributed on the western slope of the Andes, in the Departments of Ancash and Lima, Peru, from 2300 to 3400 m of elevation. This species differs from others of the genus by having an unarticulated axis connecting the flower to the plant where all others have both a peduncle and a pedicel. The following combination of features also characterize this species: the hairs of leaves and axes are gland-tipped; the petiole is no longer than 1 cm; the flowers are solitary; the corolla is broadly crateriform-rotate, purple, and up to 3.7 cm in diameter; and the filaments are extremely villous at their bases.

Key Words: Andes, flora of Peru, *Jaltomata andersonii*, Solanaceae

The genus *Jaltomata* Schldl. includes about 45 herbaceous and shrubby species divided into two subgroups. The purple/black-fruited subgroup (six species) comprises perennial herbs having rotate corollas, and is distributed from Arizona, U.S.A. to Bolivia. The orange and red-fruited subgroup (39 species) includes shrubs having rotate, crateriform, infundibular, tubular, or urceolate corollas, and occurs on continental South America except for two species, one of the Galápagos Islands and the other of the Greater Antilles. The purpose of this paper is to report a new species of the Peruvian Andes discovered during fieldwork in 1998.

Mione and Coe (1992) placed the following binomials in synonymy with *Jaltomata aspera* (Ruiz & Pav.) Mione: *Saracha ciliata* Miers, *S. lacrima-virginis* Bitter, and *S. urbaniana* Bitter & Dammer. The type specimens of all of these binomials have a single relatively large flower per inflorescence, and were collected either on the west slope of the Andes or in the lomas [a fog-fed desert habitat of the west coast of

South America having a high level of endemism (Dillon 1997)]. The new species here described also has a single flower per inflorescence and is from the west slope of the Andes. Given these similarities, one may wonder if one of the aforementioned binomials represents the earliest name of the species here described.

None of the above binomials represent the earliest name of this species for the following reasons. The type specimens of the above *Saracha* binomials have both a peduncle and a pedicel, and were described as producing red nectar. According to the protologue of *Jaltomata aspera* (Ruiz and Pavón 1799) the type was collected in Amancaes and the flower is violet in the middle (“in centro violacea”). Amancaes is located within lomas habitat, and is within several hundred meters of sea-level [according to a specimen label of *J. aspera* collected at Amancaes (*Weberbauer 5246a*, us), and Dillon, Field Museum of Chicago, pers. comm.]. The description of the flower as violet in the middle suggests that the type produced red floral nectar, and red floral nectar has been documented for *J. aspera* (Vilcapoma S. and Granda P., Universidad Nacional Agraria La Molina, pers. comm.). In contrast, the species here described has a single unarticulated axis joining the flower to the plant (Figure 1A), lacks red nectar, and grows at high elevations, not in the lomas habitat. Thus, all of the above *Saracha* binomials are synonyms of *J. aspera*, as originally reported (Mione and Coe 1992).

TAXONOMIC TREATMENT

Jaltomata andersonii Mione, *sp. nov.* TYPE: PERU. Dept. Lima: prov. Huarochirí, highway from Lima to La Oroya between km 82 & 83, 2500 m, with *J. propinqua* (Miers) Mione & M. Nee, 16 Jan 1998, T. Mione, S. Leiva G. & L. Yacher 622 (HOLOTYPE: NY!; ISOTYPE: CONN!). Figure 1.

Herba perennis usque ad 20 cm alta, petiolo usque ad 1 cm longo, foliis et axibus pilos digitiformes, glanduliferos apice ferentibus, flore solitario, corolla purpurea, late crateriformi-rotata usque ad 3.7 cm cruciatim, filamentis maxime villosis basi.

Much branching, presumably perennial, herb to 20 cm, the hairs of the younger axes and leaves gland-tipped. Leaves alternate, sometimes geminate, the blades ovate, 4–7.5 cm long (to 10.5 cm on *Spooner et al. 7364a*) × 2–3.5 cm wide, 3–4 pairs of primary veins, the apex often somewhat acuminate, the base usually cuneate and symmetrical or

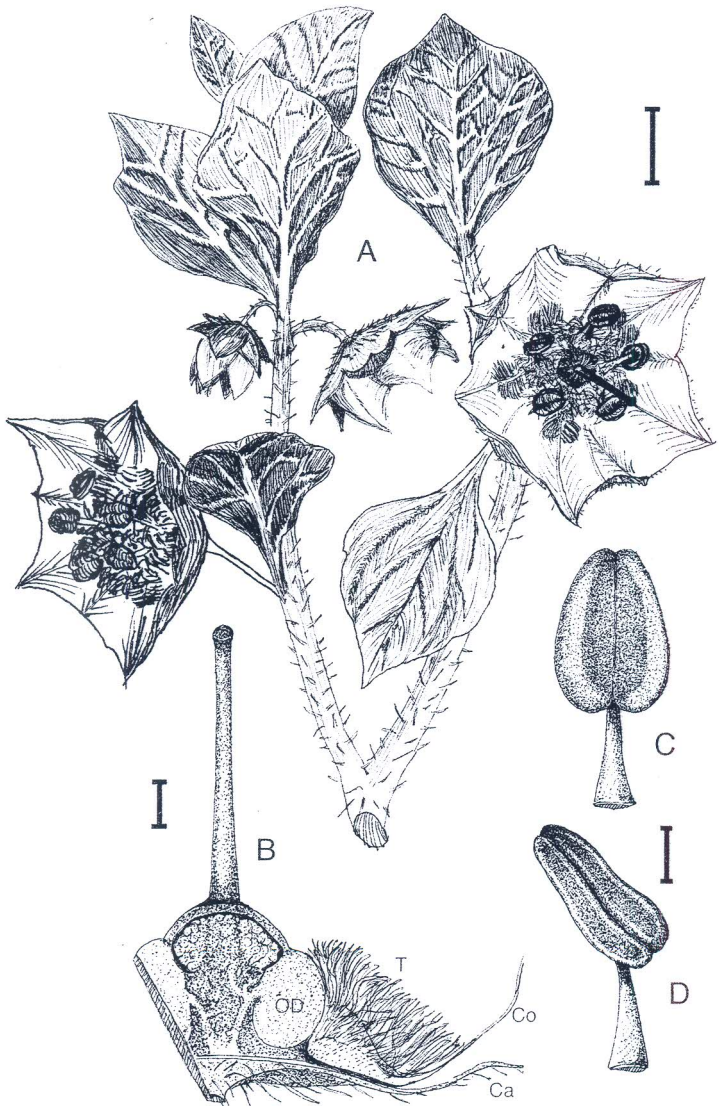


Figure 1. *Jaltomata andersonii*. A. Branch with flowers and leaves; B. Partial flower, longitudinal hand-section with lower left excised, Ca - calyx, Co - corolla, OD - ovarian disk, T - trichomes at base of stamen, the stamen otherwise removed; C and D. Anther and part of filament, dorsal and lateral views, respectively. Bar = 1 cm in A, and 1 mm in B and C. Drawn by Luis Serazo from T. Mione, S. Leiva G. & L. Yacher 620.

nearly so, adaxially densely pilose due to erect finger hairs, abaxially sparsely pubescent (nearly glabrous on *Laudeman 5365*), the margin nearly entire to sinuate-dentate, ciliate, the petiole to 1 cm long. Peduncle unarticulated, villous, 13–18 mm long; flower solitary. Calyx green, rotate, 16–21 mm across at anthesis, the lobes triangular with an acute apex, abaxially with a raised costa, bearing gland-tipped finger hairs to 3 mm long, and stalked multicellular glands (illustrated in Mione and Serazo 1999) 85–100 μm long, adaxially with a uniform covering of erect, glandless hairs 0.24–0.3 mm long, the margin with two classes of hairs: gland-tipped finger hairs to 2.8 mm long and glandless hairs to 0.1 mm long; calyx to 25 mm across with fruit. Corolla broadly crateriform-rotate, 5-lobed (Figure 1A), to 3.7 cm in diameter, purple with 5 pairs of dark-green maculae in a proximal ring, each pair of maculae straddling the main vein that extends radially to the tip of a corolla lobe, closing for the night, the margin ciliate, with glandless finger hairs to 0.6 mm long; both faces of corolla with abundant, evenly distributed stalked multicellular glands 85–100 μm long. Stamens 5, 6.9–7.2 mm long, filaments straight, extremely villous at base (Figure 1A, B); anthers (Figure 1C, D) 1.9–2.8 mm on pressed specimens, to 3.9 mm long on specimens preserved in alcohol in Peru, drying brown, or yellow if covered with pollen. Style straight (Figure 1B), 5.7–6.3 mm long, 0.15–0.36 mm wide at midlength. The stigma the same width as the distal end of the style, 0.21–0.3 mm wide (pressed), 0.36 mm wide (preserved in alcohol in Peru), both measured perpendicular to the length. Ovarian disk broad, girdling base of the ovary (Figure 1B). Gynoecium glabrous, except for stigma papillae to 13 μm long; ovary glabrous but appearing villous (Figure 1B) because of the dense vestiture of the stamen bases. Berries of unknown color, probably orange or red, 12 mm across (measured on *Laudeman 5365*).

SPECIMENS EXAMINED: PERU. Dept. Ancash: prov. Bolognesi, Chiquián, 3150–3400 m, cultivated grounds below the village, with *Agave americana* and *Mutisia*, 5 Feb–2 Apr 1997, *M. Weigend* & *N. Dostert 97/173* (F). Dept. Lima: prov. Cajatambo, Baños de Churin, 2591 m, among rocks, Feb 1946, *C. Laudeman 5365* (K); prov. Canta, Cuesta de Huamantanga, 10.8 km NW from the Lima to Canta road on the road to Huamantanga, 2720 m, 7 Apr 1999, *D. Spooner*, *A. Salas*, *R. Torres* & *R. Hoekstra 7364a* (herbarium of T.M., MOL not seen); prov. Huarochirí, Lima to La Oroya highway, at km 73 walk up to 2300 m of elevation, dry treeless hillside, sandy soil with rocks, with Cactaceae, *Carica candicans*, *Lycianthes* sp., and *Schinus molle*, 15 Jan 1998, *T. Mione*, *S. Leiva G.* & *L. Yacher 616* (NY), *S. Leiva G.*, *T. Mione* & *L. Yacher 2122* (F, HAO); Lima to La Oroya highway, km 83, 2550 m, roadside with *Agave*, 16 Jan 1998, *T. Mione*, *S. Leiva G.* & *L. Yacher 620* (CONN), *S. Leiva G.*, *T. Mione* & *L. Yacher 2127* (HAO).

DISCUSSION

Jaltomata andersonii is distributed on the west slope of the Andes, in the departments of Ancash and Lima, Peru. It grows in treeless, usually dry, rocky habitats. It flowers in January, February, and March. We did not interview local people about uses, but the fruits may be eaten, given that ripe fruits of several other South American species of this genus are consumed (e.g., Mione and Coe 1996; Mione and Serazo 1999; Mione et al. 2000, 2001).

Jaltomata andersonii is most similar to *J. aspera*. Both have one relatively large flower per inflorescence, and are much-branching, low-growing perennial herbs that occur on the western slope of the Andes. *Jaltomata andersonii* grows to a height of 20 cm, while *J. aspera* grows to 50 or 60 cm (pers. obs.; Ruiz and Pavón 1799). *Jaltomata aspera* has both a pedicel and a peduncle, the corolla is light green, filaments are either glabrous or very sparsely pubescent at base, red floral nectar is produced, and it grows from 200 to 2290 m of elevation. In contrast, *J. andersonii* has an unarticulated axis (by definition a peduncle, though the peduncle may have been lost by reduction) connecting the flower to the plant, the corolla is purple (brown and whitish green on *Weigend* 97/173), the filaments are extremely villous at their bases (Figure 1 A, B), red nectar is not produced, and it grows at elevations from 2300 to 3400 m. *Jaltomata aspera* grows both in the lomas and the Andes, while *J. andersonii* grows only in the Andes. Furthermore, the hairs of the leaves and stems of *J. aspera* are rigid and glandless [as observed on living plants of *Mione et al.* 615; described as hirsute by Macbride (1962)] while the hairs of *J. andersonii* are soft to the touch and gland-tipped (as observed on living plants of *Mione et al.* 616, 620, & 622). We were able to see both of these species in bloom during January of 1998 because of the rains associated with the El Niño event of 1997/1998.

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