

A NEW PERUVIAN SPECIES OF *JALTOMATA*  
(SOLANACEAE) WITH BLOOD-RED FLORAL NECTAR

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ABSTRACT. *Jaltomata paneroi* (Solanaceae) of northern Peru is described and illustrated. This is the only species in the genus that has a green, campanulate-rotate corolla 23–25 mm across and 5–10 mm deep. This species, and at least six others of the genus, provide red floral nectar. This species is self-compatible and its berries are eaten by humans.

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

The genus *Jaltomata* Schldl. includes about 35 species of herbs and shrubs and is widely distributed in Latin America. As part of ongoing taxonomic work on this genus (Leiva G. 1995; Mione et al. 1993; Mione and Bye 1996; Mione and Coe 1996), we describe a new species.

***Jaltomata paneroi*** Mione & S. Leiva, *sp. nov.* TYPE: PERU. Dept. Cajamarca: Prov. Cajamarca, carretera Cajamarca-Celendín, approx. 9 km NW de La Encañada, frente al poblado de Quinuamayo, 3324 m, 2 Jul 1987, *José L. Panero, I. Sanchez, S. Leiva G. and C. Sagástegui 854* (HOLOTYPE: CONN; ISOTYPES: CPUN; specimens of plants grown from seeds of the type collection: CONN, MO, NY). Figure 1.

Frutex pilis dendriticis simplicibusque dense vestitus. Folia dense pubescentia. Pedunculi et pedicellique breves. Corolla campanulato-rotata, viridis, 10-lobata, nectar copiosum rubrum ad basim exudans.

Perennial shrub to 1.5 m high with a dense vestiture of short, dendritic and unbranched, uniseriate trichomes. *Leaves* simple, ovate, the apex acute, the margin entire or subentire, to 6 cm long × 4 cm wide, densely pubescent on both surfaces with intermixed unbranched, forked, and dendritic trichomes to 0.5 mm long, the





Figure 1. *Jaltomata paneroi*, drawn from *Leiva and Guevara 1130*. (A) Habit. (B) Flower. (C) Corolla expanded. (D, E, F) Stamen in ventral, dorsal, and lateral view, respectively; these share a scale bar. (G) Gynoecium. (H) Berry with calyx.



trichomes never gland-tipped. *Inflorescence* umbelliform, 3–4 (6)-flowered. *Peduncles* axillary, 3–5 mm long; *pedicels* 7–10 mm long, both densely vestitured. *Calyx* 13 mm in diameter during anthesis (flattened against ruler for measuring), abaxially densely pubescent, the lobes acuminate, at fruit maturity to 25 mm diameter. *Corolla* campanulate-rotate, green, 5 lobes alternating with 5 smaller lobules, 23–25 mm in diameter when pressed, 5–10 mm deep; corolla veins with dendritic trichomes abaxially. *Nectar* blood-red, copious, produced in the base of the corolla. *Stamens* 5, elongating during anthesis, ultimately 9–10 mm long; *filaments* pubescent at base, with unbranched or occasionally forked trichomes to 0.6 mm long; *anthers* 2.0–2.9 mm long prior to dehiscing, 1.5–1.6 mm long after dehiscing. *Pollen* grains 61,000–121,000 per flower, 35–40  $\mu\text{m}$  in diameter. *Style* 7.3–10.7 mm long; *stigma* bilobed, 0.84–1.0 mm  $\times$  0.78–0.88 mm, exserted beyond anthers 1.5–4.5 mm; *ovules* 110–180 per ovary. *Infructescence* one- or two-fruited. *Berries* 10–11 mm  $\times$  14–15 mm, glabrous, orange in greenhouse. *Seeds* 1.52–1.68 mm long  $\times$  1.24–1.41 mm wide  $\times$  0.44–0.52 mm thick, suborbicular to reniform, alveolate.

*Jaltomata paneroi* occurs in Peru in the Department of Cajamarca between 3200 and 3550 meters of elevation along roadsides with shrubs. The type was collected on a very steep slope with acidic black soil, in an area that is generally moist but somewhat dry in July and August. Flowering and fruiting occur in June and July. This is the only species in the genus that has a green, campanulate-rotate corolla 23–25 mm across and 5–10 mm deep, producing blood-red nectar in its base. This species is similar only to *Saracha herrerae* C. V. Morton of southern Peru (soon to be transferred to *Jaltomata*), which also produces blood-red nectar in the base of its corolla. The latter species is glabrate and has larger (to 4.5 cm in diameter and to 2 cm deep) cream to white corollas. Although not validly published until now, *J. paneroi* was described by Mione (1992) and Leiva (1995). The specific epithet was chosen to honor José L. Panero, who sent the holotype and seeds to T. M.

Flowers of *Jaltomata paneroi* remain open 3–5 days ( $n = 5$  flowers) in the greenhouse (observations were made at the University of Connecticut, Storrs). Anthers remain undehiscent for a few hours after anthesis. Filaments are parallel to the style during the life of the flower, and the corolla remains open at night. In



contrast, in many other *Jaltomata* the filaments are oriented such that the dehiscent anthers are positioned a few mm away from the stigma, and the corolla closes at night, reopening the next morning. A few fruits were set in a pollinator-free greenhouse (without manual pollination) during the spring of 1992. Thus the species seems to be self-compatible, as are all other *Jaltomata* tested to date (Mione and Coe 1996). This brings the number of species that provide red nectar to seven in the genus (Mione and Anderson 1996). Fruits of *J. paneroi* are eaten and considered tasty (Leiva 1995).

OTHER SPECIMENS EXAMINED: **Peru.** Dept. CAJAMARCA: Prov. Cajamarca, Jalca de Kumulca (ruta a Celendín), 17 Jun 1975, A. Sagástegui A. *et al.* 8111 (F, HUT, MO, NY); Quinuamayo, entre La Encañada y jalca de Kumulca, 17 Jun 1975, Sánchez 1613 (F, CPUN); La Encañada-Kumulca (ruta a Celendín), 28 Jun 1994, Leiva and Guevara 1130 (F, HAO, HUT).

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#### LITERATURE CITED

- LEIVA G., S. 1995. Las Especies del género *Jaltomata* Schlech. (Solanaceae: Solaneae) del Norte del Perú. M. S. thesis, Universidad de San Marcos, Lima, Peru.
- MIONE, T. 1992. The systematics and evolution of *Jaltomata* (Solanaceae). Ph.D. dissertation, Univ. Connecticut, Storrs, CT.
- AND G. J. ANDERSON. 1996. *Jaltomata*: An introduction, and preliminary observations on the red/orange floral nectar. *Solanaceae Newsletter* 4(2): 51–57, published by The New York Botanical Garden.
- , ———, AND M. NEE. 1993. *Jaltomata* I: Circumscription, description and new combinations for five South American species. *Brittonia* 45: 138–145.
- AND R. BYE, JR. 1996. *Jaltomata chihuahuensis* (Solanaceae): A new combination and observations on ecology and ethnobotany. *Novon* 6: 78–81.
- AND L. A. COE. 1996. *Jaltomata sagastegui* and *Jaltomata cajamarca* (Solanaceae), two new shrubs from northern Peru. *Novon* 6: 280–284.



Mione, Thomas and Leiva González, Segundo. 1997. "A new Peruvian species of Jaltomata (Solanaceae) with blood-red floral nectar." *Rhodora* 99, 283–286.

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