

***JALTOMATA ATQUIPA* (SOLANACEAE): A NEW SPECIES OF
SOUTHERN PERU**

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ABSTRACT

A new species, *Jaltomata atiquipa* Mione & S. Leiva G. (Solanaceae), is described from Lomas de Atiquipa, Department Arequipa, Peru. Photographs of the novelty and a key to the *Jaltomata* Schldl. species of the South American lomas formations are provided.
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KEY WORDS: *Jaltomata atiquipa*, lomas, lomas formation, Peru, Solanaceae

Jaltomata is a diverse genus of about 60 species, growing from Arizona, USA south into Bolivia, on the Galápagos Islands (1 species) and in the Greater Antilles (1 species). Most of the species grow, and most of the morphological diversity can be found, in the Andes mountains of South America. Recent fieldwork has led to the discovery of numerous species (Leiva et al. 2007, 2008; Mione and

Spooner 2010; Mione et al. 2007). The purpose of this work is to describe a new species encountered during fieldwork in southern Peru, and to provide the first key to the *Jaltomata* species of the South American Lomas Formations. See Dillon (2005) for details about the Solanaceae of the Lomas Formations of South America.

Jaltomata atiquipa is distinguished from the species to which it is most similar, *J. diversa* (J. F. Macbr.) Mione, by the presence of a peduncle, pedicels and peduncles finely pubescent to glabrous; additionally the largest leaves are basally truncate. *Jaltomata diversa*, on the other hand, lacks a peduncle, the pedicels are densely pubescent, and leaves are rounded at the base. Furthermore, *J. atiquipa* is known only from a Lomas Formation, a low elevation fog-dependent community, while *J. diversa* is widespread in southern Peru at elevations between 2600-3600 m and does not grow in Lomas Formations.

***Jaltomata atiquipa* Mione & S. Leiva G., sp. nov. TYPE: Peru.**

Department Arequipa, Prov Caraveli, Lomas de Atiquipa, 15° 45' 38.3" S to 15° 45' 36.1" S X 74° 22' 24.5" W to 74° 22' 36" W, 842 – 996 m, among shrubs and in protection of a larger shrub, 17 Jan 2010, T.

Mione, S. Leiva G. and L. Yacher 804 (holotype, F; isotype, HAO).

Figures 1 – 4.

Frutex ad 1.5 m altus; folia grandiora basaliter truncata; inflorescentia 7 (-8)-floris, pedunculus ad 21 mm longus; corolla alba, crateriformis, pentaloba, ad 15 mm diametro ubi pressa et 10 maculas virides basi ferens; stamina 4 mm longa; styli albida, 6 mm longa.

Shrub to 1.5 m high, older branches/axes hollow, brown, glabrate with lenticels, to 1 cm diameter. Young stems green, puberulent, terete. Leaves (Fig. 3) alternate, sometimes geminate, the blade ovate, the larger leaves basally truncate (Fig. 3), sometimes basally oblique, the apex acute or subacute, sometimes acuminate, the margin subentire to toothed; younger leaves puberulent, becoming glabrate, the blade to 11 X 13 cm; petiole to 4.2 cm. Inflorescence axillary, to 7 (-12) flowered (Fig. 4). Peduncle (to 21 mm) and pedicel (to 11 mm) terete, green, finely pubescent to glabrous. Calyx green (Figs. 2, 4), planar at anthesis, 8 – 11 mm diam., the lobes triangular,

the margins ciliate. Corolla (Figs. 1, 2 & 4) white, crateriform, 5-lobed, 12 to 15 mm in diameter, 10 green maculae at base of corolla, the hairs of two types: 1) non-glandular uniseriate finger hairs to 0.8 mm long, and 2) stalked multicellular-headed glands 75 – 85 micrometers long (as illustrated in Mione and Serazo 1999). Stamen (Fig. 1) 4 mm long including anther, the filament whitish and glabrous except for hairs 0.2 mm long at base; anthers 1.1 - 1.4 mm long, cream-colored prior to dehiscence, emucronate. Pollen grains 25 – 30 μ m in diameter (n = 24 grains, mean 28.67 μ m), 58,250 – 99,500 per androecium (n = 5 flowers, mean 69,950 grains). Gynoecium glabrous, except for stigma papillae 0.03 mm long. The style (Fig. 2) whitish, 6 mm long; the stigma green, capitate (Fig. 2) with a shallow medial groove, exerted beyond the dehiscent anthers. The ovary green; the disk (orangish in color) approximately 60% the height of the ovary. Ovules 81 – 94 per ovary (n = 4 flowers, mean 89). Mature berries and seeds not seen, most likely orange and subspherical.

Etymology. The species epithet honors the people of the town of Atiquipa, near the type locality.

A key to the *Jaltomata* of the Peruvian lomas formations:

- 1. Floral nectar red/orange.....2
- 1. Floral nectar transparent.....4
- 2. Corolla tubular; shrub.....*J. umbellata* (R. & P.) Mione & M. Nee
- 2. Corolla very broadly campanulate; herbaceous or herbaceous and woody only at base.....3
- 3. Corolla lacking maculae.....*J. aspera* (R. & P.) Mione
- 3. Corolla having 10 green maculae.....Weigend & Forther 97/701, undescribed
- 4. Branches villous with gland-tipped hairs.....*J. hunzikeri* Mione
- 4. Branches essentially glabrous or villous on lower half.....5
- 5. Filaments essentially glabrous.....*J. atiquipa*
- 5. Filament villous along approximately the lower half.....6
- 6. Stamens included (inside of corolla); corolla 5-lobed.....
.....*J. lomana* Mione & S. Leiva
- 6. Stamens exerted; corolla 10-lobed..*J. truxillana* S. Leiva & Mione

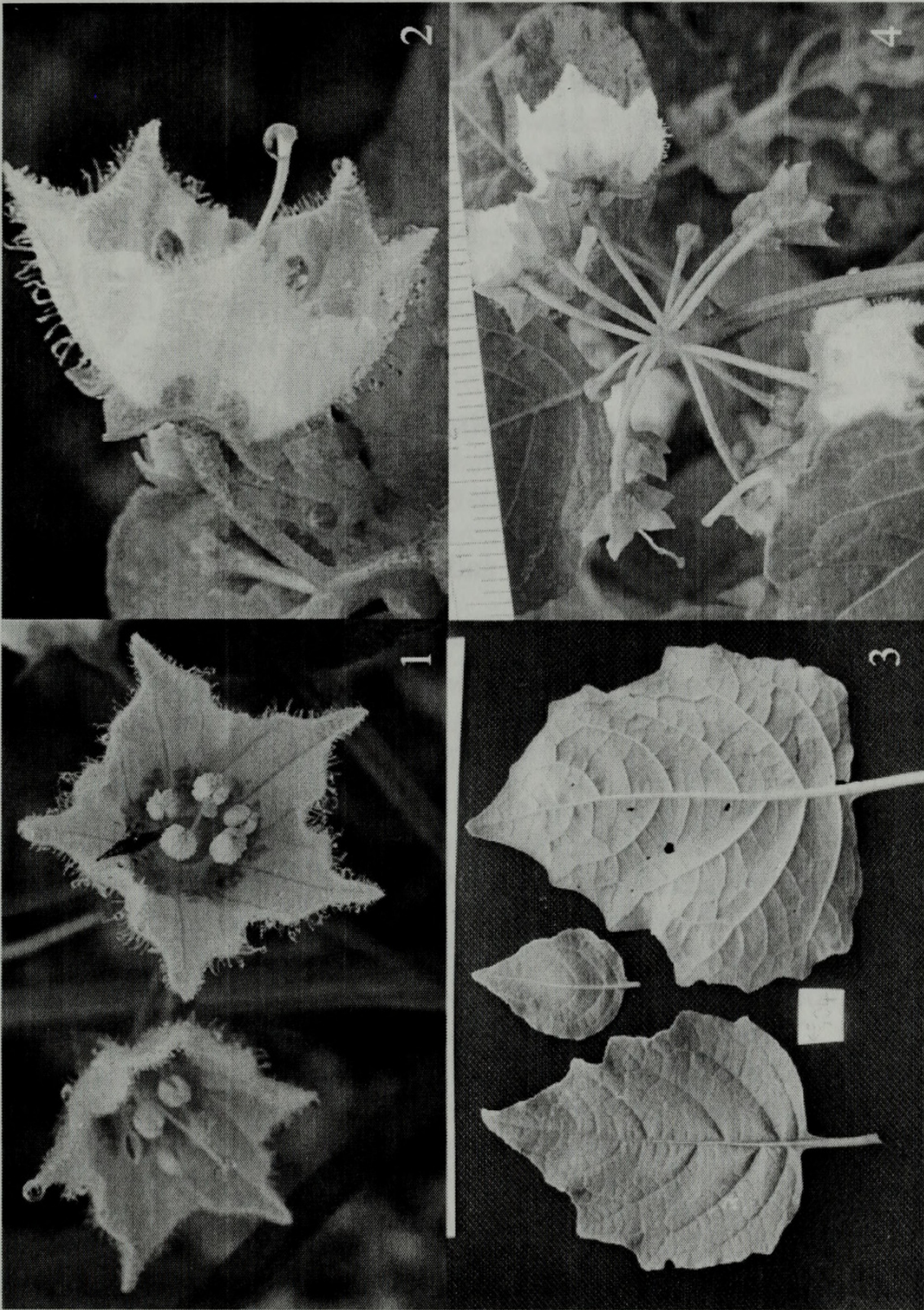
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Facing Page: Figure 1: Flowers of *Jaltomata atiquipa*, frontal view; bottom anther of right flower in the process of dehiscing; all other anthers dehisced. Figure 2: Side view of flower with exerted stigma/style; two dehiscent anthers (brownish) showing; green maculae visible in throat of corolla in figure 1 also visible here at base of corolla. Figure 3: Leaves on left and in middle showing adaxial face; leaf on right showing abaxial face. Figure 4: Inflorescence; corolla of flower at left abscised leaving the persistent style. In figures 1 and 2, corolla 12 – 15 mm in diameter; units along top edge of figures 3 and 4 are mm. Photos by T. Mione.





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