

A NEW SPECIES, A NEW COMBINATION, AND
NEW SYNONYMY FOR SOUTH AMERICAN
JALTOMATA (SOLANACEAE)

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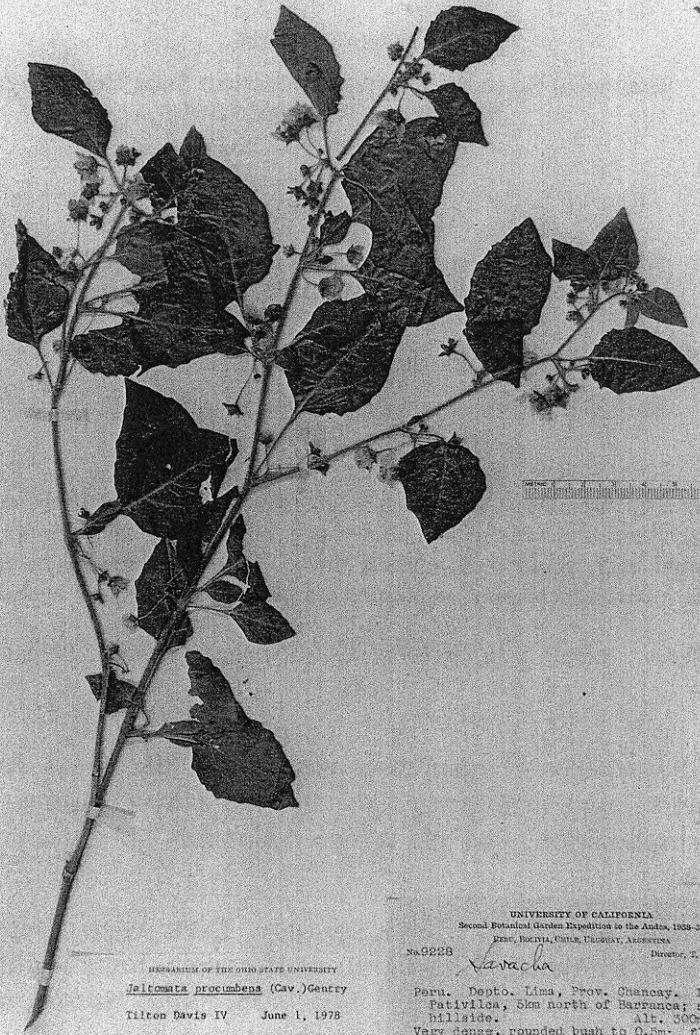
ABSTRACT. *Jaltomata hunzikeri*, a rare shrub of the coast of the department of Lima, Peru, is described and shown in a photograph. *Hebecladus sinuosus*, transferred as *J. sinuosa*, is a shrub that is widely distributed in the Andes. *Saracha lobata* and *S. sordideviolacea* are placed in synonymy with *J. dentata*.

Key Words: edible fruit, *Hebecladus*, *Jaltomata*, *Saracha*, Solanaceae

In the process of taxonomic revision of the genus *Jaltomata* we have found it necessary to describe a new species, make a new combination, and place two binomials in synonymy with another.

Jaltomata hunzikeri Mione, *sp. nov.* TYPE: PERU. Dept. Lima: Prov. Barranca, 5 km north of Barranca, lomas of Pativilca, 300 m, sandy hillside, 18 Sep 1938, *Stork, Horton, and Vargas C. 9228* (HOLOTYPE: GH; ISOTYPE: G, K, MO). Figure 1.

Planta fruticosa ad 1 m altitudine; axes juvenes, petioli, pedunculi, pedicelli, facies abaxialis calycis villosa, pilis uniseriatis, non ramosis, erectis, apice glandiferentibus; inflorescentia floribus 10 ut maximum; corolla breviter tubulosa, limbo 16–17 mm diametro, quinque lobis triangularibus, alba, annulo azureo prope extremum tubi; stamina 4.8–7 mm longitudine, filamenta villosa secus proximales 45–60 partes per centum longitudinis; stylus 6.0–7.7 mm longitudine.



HERBARIUM OF THE OHIO STATE UNIVERSITY
Jaltomata procumbens (Cav.) Genry
 Tilton Davis IV June 1, 1978

Jaltomata
 Determined by Tilton Davis IV
 Missouri Botanical Garden 1978

UNIVERSITY OF CALIFORNIA
 Second Botanical Garden Expedition to the Andes, 1928-29
 Peru, Bolivia, Chile, Paraguay, Argentina
 No. 9228
 Director, T. H. Goveas

Nevada
 Peru. Depto. Lima, Prov. Chancay. Lomas of
 Pativilca, 5 km north of Barranca; sandy
 hillside. Alt. 3000.
 Very dense, rounded bush to 0.5m; fl. corolla
 whitish with purple throat.
 Sept. 13, 1928

H. S. Stork
 O. B. Horton
 C. Vargas O.

Figure 1. *Jaltomata hunzikeri* Mione, in flower, Stork, Horton, and Vargas 9228, (HOLOTYPE: GH). Photo by S. J. H.

Shrub to 1 m high. Young axes, petioles, peduncles, pedicels, and abaxial face of calyx villous, the hairs uniseriate, unbranched (finger-type), erect and gland-tipped. Young axes with raised longitudinal ridges (an artifact of drying?). Older axes to 1.5 cm in diameter, terete and glabrate. Leaves alternate, often geminate, the blades ovate, to 8×5.5 cm, with 3–4 pairs of primary veins, the apex acute, the base somewhat truncate and often oblique, the younger blades densely pubescent, the older sparsely pubescent, the margin dentate or erose-dentate or repand and ciliate with gland-tipped hairs 0.12–0.42 mm long; petioles to 3 cm long. Inflorescences axillary or sometimes arising from branch dichotomies, umbellate, to 10-flowered including buds. Peduncle 4–9 mm long; pedicel 8.6–11.3 mm long. Calyx green at anthesis, stellate, the lobes triangular and 4.0–5.9 mm from pedicel to tip, 1.9–3.2 mm from pedicel to sinus, the margin ciliate with finger hairs 0.3–0.6 mm long, abaxially with both finger hairs 0.3–0.8 mm long and glands 55–70 μm long having multicellular heads and unicellular stalks (illustrated in Mione and Serazo 1999); calyx 10 mm in diameter with fruit (mature?). Corolla short-tubular (the tube not evident after pressing, but mentioned by collectors on label), the limb crateriform or broadly infundibular or rotate, 16–17 mm in diameter, white with blue ring near end of tube, with 5 triangular lobes, 6.2–11.0 mm from flower center to tip of corolla lobe, 4.0–7.3 mm from center to sinus, the margin ciliate with finger hairs 0.1–0.5 mm long. Stamens 4.8–7.0 mm long, the filaments villous on proximal 45–60% of the length, the finger hairs 1.0–1.5 mm long; anthers $1.3\text{--}1.5 \times 0.7\text{--}0.9$ mm, some basally sagittate. Pollen grains (stained 30 minutes in “cotton blue”) 26.25–31.25 μm in diameter (average 28.5 μm , $n = 24$). Style and ovary glabrous. Style 6.0–7.7 mm long, 0.1–0.2 mm wide at midlength; stigma capitate, not bilobed, 0.24–0.6 mm wide perpendicular to style, exserted 0–1 mm beyond dehisced anthers. Berry (mature?) 5 mm across, and very likely subspherical and orange or red at maturity.

PARATYPE: **Peru.** Dept. LIMA: Prov. Barranca, 5 km north of Barranca, talus slope of hill rising abruptly from low, narrow, coastal plain, 80 m, 5 Sep 1938, *Morrison and Beetle 9099* (GH).

The specimens (the type and paratype) of this species were treated as *Saracha villosa* (Zuccagni) G. Don by Macbride (1962). We do not agree, based on study of: 1) photos of the type

of *S. villosa* (G-DC, F neg. 6880, NY), 2) description of the hairs of the type of *S. villosa* (provided by G), and 3) the translation to English (by N. R. S.) of the Latin description within the prologue of *Atropa villosa* Zuccagni, basionym of *S. villosa*.

Jaltomata hunzikeri is similar to *J. cajacayensis* S. Leiva & Mione and *J. propinqua* (Miers) Mione & M. Nee, of the departments of Ancash and Lima, Peru, respectively; all three shrubs bear gland-tipped hairs and have a short-tubular corolla with a much broader limb. *Jaltomata hunzikeri* lacks corolla lobules, the stigma is at approximately the same height as the dehisced anthers, and grows at 80–300 m in the fog-dependent, coastal lomas habitat. The other two species have corolla lobules alternating with the larger lobes, have stigmas exerted several mm beyond the anthers, and grow above 1,800 m (Mione et al. 2000).

The specific epithet was chosen to honor Armando T. Hunziker, eminent Solanaceae taxonomist.

Jaltomata sinuosa* (Miers) Mione, *comb. nov.

Hebecladus sinuosus Miers, London J. Bot. 7: 352. 1848. Miers, Ill. S. Amer. Pl. 1: 151–2. 1850. TYPE: PERU. Dept. Amazonas: Chachapoyas, *Mathews s.n.* (HOLOTYPE: BM; ISOTYPE: G two sheets, K). *Saracha sinuosa* (Miers) Bitter, Repert. Spec. Nov. Regni Veg. 18: 101. 1922.

Saracha glandulosa Miers, Ann. Mag. Nat. Hist., ser. 2, 3: 450. 1849. TYPE: COLOMBIA. La Peña: Bogota, *Goudot s.n.* (HOLOTYPE: P, F neg. 39250; ISOTYPE: F). *Witheringia glandulosa* (Miers) Miers, Ann. Mag. Nat. Hist., ser. 2, 11: 92. 1853. Miers, Ill. S. Amer. Pl. 2: 20. 1857, t. 39a. *Jaltomata glandulosa* (Miers) Castillo & R. E. Schult., Rhodora 88: 292. 1986.

Saracha vestita Miers, Ann. Mag. Nat. Hist., ser. 2, 3: 449. 1849. TYPE: ECUADOR. “Minasurcu prope Quito” on types (“Minashuaicu” is the Defense Mapping Agency [1987] spelling), *Hartweg 1292* (HOLOTYPE: K; ISOTYPE: LD). *Witheringia vestita* (Miers) Miers, Ann. Mag. Nat. Hist., ser. 2, 11: 92. 1853. *Jaltomata vestita* (Miers) Castillo & R. E. Schult., Rhodora 88: 292. 1986.

Jaltomata whalenii S. Knapp, T. Mione & Sagást., Brittonia 43: 181. 1991. TYPE: PERU, Dept. Cajamarca: Prov. Contumazá, lecho de Río San Benito, alrededores de San Benito, 1300 m, *Sagástegui, Leiva, and Sagástegui 12471* (HOLOTYPE: HUT; ISOTYPES: IBE, MO, NY).

Jaltomata sinuosa is superficially similar to *J. sanctae-martae* (Bitter) Benítez of Colombia and Venezuela. Both species are shrubs, are villous with gland-tipped finger hairs, and bear rotate corollas. *Jaltomata sinuosa* has 3–5 flowers per inflorescence,

flowers 2.5–3.8 cm in diameter, and orange berries while *J. sanctae-martae* has up to 10 flowers per inflorescence, flowers to 1.8 cm in diameter, and according to Benítez de Rojas (1980), red berries.

DISTRIBUTION, HABITAT, USES, LOCAL NAMES. *Jaltomata sinuosa* occurs in disturbed habitats in the Andes from western Venezuela to Bolivia. The fruits are eaten (*Dillon et al.* 6193; *Leiva et al.* 2042; *Mione et al.* 672) and the local names include “tomatillo” (*Hawkes and García-Barriga* 100) and “uvilla de monte” (*Mione and McQueen* 468, 469).

REPRESENTATIVE SPECIMENS: **Venezuela.** MÉRIDA: Vicinity of El Royal, near La Toma, 2440 m, 4 Nov 1978, *Luteyn et al.* 6181 (MO, NY).

Colombia. CUNDINAMARCA: Cordillera Oriental, Monserrate, Valle del Río San Francisco, 2700–2900 m, 18 Jun 1948, *Hawkes and García-Barriga* 100 (K, US); Cordillera Oriental, western slopes, 20 km from Bogotá, via Salto de Tequendama-El Colegio road, 2470 m, 13 Jan 1976, *Luteyn et al.* 4817 (K, MO, NY).

Ecuador. IMBABURA: on road from Otavalo to Selva Alegre, 29.4 km from junction of Panamerican Hwy, 2900 m, 28 May 1991, *Spooner et al.* 5113 (CONN). PICHINCHA: canton Quito, Parroquia Nanegalito, quebrada Santa Rosa, steep slopes SW of Río Pichán, 2000 m, 12 Jan 1995, *Webster and Rhode* 31234 (DAV). TUNGURAHUA: vicinity of Ambato, Feb 1919, *Pachano* 138 (GH, NY, US). CHIMBORAZO: highway to Pallatanga from just S of Cajabamba, 32.1 km in from Panamerican Hwy, 3000 m, 10 Jan 1990, *Mione and McQueen* 468, 469 (CONN, NY). CAÑAR: outskirts of Asorgues, 2897 m, 27 Jun 1939, *Balls* B7327 (K, US). LOJA: road to La Toma on slopes of Cerro Villonaco, ca. 10 km W of Loja, 2440 m, 7 Mar 1965, *Knight* 583 (WIS).

Peru. AMAZONAS: 2 kms along road W of Chachapoyas, 2195 m, 13 Jan 1983, *King and Bishop* 9179 (G, K, MO, US); Mendoza, 1400–1500 m, 19 Aug 1963, *Woytkowski* 8153 (MO, NY). PIURA: Huancabamba, alrededores de Sapalache, 2400 m, 9 Jun 1997, *Leiva et al.* 2042 (CONN, HAO); Ayabaca, alrededor de Yacupampa (Ayabaca–Cuyas), 2702 m, 21 Sep 1996, *Leiva et al.* 1867 (CONN, HAO). CAJAMARCA: Cutervo, garden in village of San Andrés de Cutervo, 2050 m, 6 Nov 1990, *Dillon et al.* 6193 (F); Chota, 6° 33' 54" S, 78° 38' 42" W, 2300 m, 19 Jun 1999, *Leiva* 2374 and *Mione* 672 (CONN, HAO); Santa Cruz, ruta Chorro Blanco–Monteseco, 1750 m, 21 Jan 1996, *Leiva et al.* 1756 (HAO); Hualgayoc, entre Hualgayoc y Bambamarca, 2850 m, 11 Mar 1994, *Sánchez* 6868 (F); Celendín, desvío a Sorochuco, bajando Tahuán, 2900 m, 27 Dec 1988, *Sánchez* 4943 (F); San Miguel, 7° 00' 02" S, 78° 50' 41" W, 18 Jun 1999, *Leiva* 2369 and *Mione* 668 (CONN, HAO); Contumazá, alrededores de San Benito, 1300 m, 28 Mar 1985, *Sagastegui and Leiva* 12548 (BH, NY). LAMBAYEQUE: Ferreñafe, Cañaris, 2600 m, 24 Jun 1989, *Llatas* 2486 (F). CUZCO: Acomayo, 2900 m, Feb 1937, *Vargas* 201 (F, GH, MO); Machu Picchu, 2134 m, 2 Feb 1938, *Stafford* 1224 (K). APURÍMAC: Grau, Mancahuara, Oropeza Valley, 3000 m, 23 Jan 1939 *Vargas* 9798 (G, K).

Bolivia. LA PAZ: Prov. Bautista Saavadra, Charazani, 20 kms hacia Apolo, 2400 m, 5 Aug 1985, *Beck 11396* (NY); Prov. Larecaja, Sorata, Challapampa, ca. 2600 m, Jul–Aug 1863, *Mandon 429* (G two sheets).

The type specimens of *Saracha lobata* Bitter and *S. sordideviolacea* Bitter were both collected in Peru, department of Lima, province of Huarochirí, near Matucana. Both types were destroyed in Berlin; only photos are available for study. It was evident that these species belong to the genus *Jaltomata*, but given only photos of the types we were not able to decide whether these should be placed in synonymy with *Jaltomata* species, or transferred to *Jaltomata*. To solve this problem T. M., S. L. G., and L. Yacher visited Matucana in 1998 and collected specimens that match the photos. In the same region, at the type locality of *J. dentata* (R. & P.) Benítez, we collected conspecific specimens we identified as *J. dentata*. We conclude that *S. lobata* and *S. sordideviolacea* are synonyms of *J. dentata*.

Jaltomata dentata (R. & P.) Benítez, Rev. Fac. Agron. (Maracay), 9(1): 91. 1976. Basionym: *Saracha dentata* R. & P., Fl. Peruv. 2: 43. 1797, t. 179b. *Atropa dentata* (R. & P.) Spreng., Syst. Veg. 1: 699. 1815. *Bellina dentata* (R. & P.) Roem. & Schult., Syst. Veg. 4: 689. 1819. *Witheringia dentata* (R. & P.) Miers, Ann. Mag. Nat. Hist., ser. 2, 11: 92. 1853. TYPE: PERU. Dept. Lima: Prov. Canta, Obrajillo, 2732 m, *Ruiz s.n.* (LECTOTYPE: MA, not seen; ISOTYPE: G).

Saracha lobata Bitter, Repert. Spec. Nov. Regni Veg. 18: 103. 1922. TYPE: PERU. Lima–Oroya road, southwest of Matucana, 3,000 m, *Weberbauer 206* (HOLOTYPE: B, destroyed, F neg. 2553).

Saracha sordideviolacea Bitter, Repert. Spec. Nov. Regni Veg. 18: 104. 1922. TYPE: PERU. Lima–Oroya road, Matucana, 2,600 m, *Weberbauer 5258* (HOLOTYPE: B, destroyed, F neg. 2556).

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