

Transfer of *Saracha weberbaueri* Dammer subspecies *pallascana* Bitter, also known as *Saracha pallascana* (Bitter) Macbride, to *Jaltomata pallascana* (Bitter) Mione (Solanaceae)

Transferencia de *Saracha weberbaueri* Dammer subespecie *pallascana* Bitter, conocida como *Saracha pallascana* (Bitter) Macbride, a *Jaltomata pallascana* (Bitter) Mione (Solanaceae)

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Abstract

Saracha weberbaueri Dammer subspecies *pallascana* Bitter, later treated as *Saracha pallascana* (Bitter) Macbride, is here transferred to the genus *Jaltomata* as *J. pallascana* (Bitter) Mione. This species is known only from the northern edge of department Ancash, Peru at 3,350 – 3,700 meters of elevation, and grows along stone walls and among other woody plants.

Key words: Transfer, *Saracha weberbaueri*, *Jaltomata pallascana*, Solanaceae.

Resumen

Saracha weberbaueri Dammer subspecies *pallascana* Bitter, later treated as *Saracha pallascana* (Bitter) Macbride, is here transferred to the genus *Jaltomata* as *J. pallascana* (Bitter) Mione. This species is known only from the northern edge of department Ancash, Peru at 3,350 – 3,700 meters of elevation, and grows along stone walls and among other woody plants.

Palabras clave: Transferencia, *Saracha weberbaueri*, *Jaltomata pallascana*, Solanaceae.

Introducción

Jaltomata is a neotropical genus of about 50 species of the economically important nightshade family. The species of this genus belong to two distinct groups strongly supported by morphological (Mione et al. 1993) and chloroplast DNA characters (Mione et al. 1994). These two lineages have separate centers of diversity, one in Mexico/Central America and the other in South America. The 12 or so species of the Mexican subgroup extend from Arizona, USA (Mione & Bye 1996) to Bolivia (Leiva et al. 1998); these are mostly herbaceous, have black fruits and rotate corollas.

The South American subgroup includes at least 38 species distributed: in the Andes from Venezuela to Bolivia, in a Peruvian coastal desert habitat receiving all of its moisture from fog (Dillon 2005), on three of the Galápagos Islands (D'Arcy 1982), and in the Greater Antilles (Mione 1992). These are mostly shrubs, and have red or orange fruits (Fig 1C), except one species has pale-green fruits. The corolla form varies markedly, and may be rotate, crateriform, infundibular, tubular or urceolate depending on the species. Perhaps the most interesting features of the South American subgroup are corolla form diversity and bright red-orange nectar (Fig 1A) present in at least 13 of the species (Mione & Anderson 1996, Leiva 1998, Hansen et al. 2007).



Fig. 1. *Jaltomata pallascana* (Bitter) Mione. **A.** Flor en antesis; **B.** Flor en vista lateral; **C.** Bayas (Mione 783, CCSU)

This paper is a contribution to the ongoing studies by Leiva, Mione and Yacher, who are determining how many species of *Jaltomata* grow in northern Peru while documenting the geographic distribution of these species (Mione 1992, Mione & Coe 1996, Mione & Leiva 1997, Leiva 1998, Leiva et al. 1998, Leiva & Mione 1999, Mione 1999, Mione et al. 2000a, Mione et al. 2000b, Mione et al. 2004, Mione & Granda 2006, Leiva et al. 2007a, Leiva et al. 2007b, Mione et al. 2007).

Georg Bitter described a new subspecies: *Saracha weberbaueri* Dammer subspecies *pallascana*. We studied Bitter's (1924) paper and determined that the described species is a *Jaltomata*, not a *Saracha*. To confirm this, in May of 2008 we went to the type locality, in the difficult to reach northern edge of the department of Ancash. We are apparently the first botanists to collect this species since the type specimen was collected 88 years ago, and the first to photograph the large green flowers having

bright red nectar (Fig. 1A and described in the protologue). This taxon has been poorly known in part because the holotype was destroyed in Berlin during World War II. Based on our field studies we conclude that it was correct for Macbride (1930) to have treated this taxon as a species. However, it was incorrect for Macbride (1962) to have placed this taxon in synonymy with *S. weberbaueri* Dammer, the latter now *Jaltomata weberbaueri* (Dammer) Mione. Mione and Coe (1992), following Macbride (1962), incorrectly placed *S. weberbaueri* Dammer subsp. *pallascana* Bitter in synonymy with *Jaltomata weberbaueri* (Dammer) Mione. Alvarez (1996) correctly listed this taxon among those excluded from the genus *Saracha*.

Jaltomata pallascana (Bitter) Mione, comb. nov.
(Fig. 1A-C).

Saracha weberbaueri Dammer subspecies *pallascana* Bitter, Repertorium Specierum Novarum Regni Vegetabilis 19: 267-269. 1924. TYPE: Peru, Department Ancash, province Pallasca, in the valley of Rio Pelagatos, in an area with bushes alternating with patches of grass, not common, 3,600 - 3,700 m, 29 Mar 1920, Weberbauer 7225 (B, destroyed, photos at NY & WIS, F neg. 2559; Isotypes F, US). *Saracha pallascana* (Bitter) Macbride. Field Museum of Natural History, Botanical Series 8: 110. 1930.

Specimens examined:

Peru, Department Ancash, province Pallasca: parked at 08°10'39" S, 77°52'34" W, walked downhill (away from Lago Pelagatos) on road about 4 or 5 min, estimated 3,600 m, 19 May 2008, Mione, Leiva & Yacher 783, Leiva, Mione & Yacher 4429; Pasto Bueno, a few min by vehicle downhill from 08°10'39" S, 77°52'34" W, 3,550 m, along the edge of a small agricultural plot and roadside, 19 May 2008, Mione, Leiva & Yacher 784, Leiva, Mione & Yacher 4433; 08°14'45" S, 77°54'18" W, 3,352 m, 20 May 2008, Mione, Leiva & Yacher 790, Leiva, Mione & Yacher 4441; between 08°14'45" S, 77°54'18" W and Tauca, 3,500 m, roadside, growing in/among other vegetation, 20 May 2008, Mione, Leiva & Yacher 791, Leiva, Mione & Yacher 4442.

Literature cited

- Alvarez, A.** 1996. Systematics of *Saracha* (Solanaceae). A thesis, University of Missouri-St. Louis.
- Bitter, G.** 1924. Repertorium Specierum Novarum Regni Vegetabilis 19: 267-269.
- D'Arcy, W. G.** 1982. *Jaltomata werffii* (Solanaceae), a new species from the Archipelago De Colon (Galápagos Islands). Phytologia 52(1): 9-10.
- Dillon, M. O.** 2005. The Solanaceae of the *Lomas* Formations of Coastal Peru and Chile. pp. 131-156. In: A Festschrift for William G. D'Arcy, The Legacy of a Taxonomist. Edited by R. C. Keating, V. C. Hollowell and T. B. Croat. Monographs in Systematic Botany from the Missouri Botanical Garden Press, volume 104. ISBN 1-930723-45-8
- Hansen, D. M., J. M. Olesen, T. Mione, S. D. Johnson and C. B. Müller.** 2007. Coloured nectar: distribution, ecology, and evolution of an enigmatic floral trait. Biological Reviews 82: 83-111.
- Leiva G., S.** 1998. Las especies del genero *Jaltomata* Schlech. (Solanaceae: Solaneae) del norte de Perú. Universidad Nacional Mayor de San Marcos, Escuela de Post-Grado, Facultad de Ciencias Biológicas, Maestría en Botánica Tropical, Lima, Peru.
- Leiva G., S., T. Mione, and V. Quipuscoa S.** 1998. Cuatro nuevas especies de *Jaltomata* (Solanaceae: Solaneae) del Norte de Perú. Arnaldoa 5(2): 179-192.
- Leiva G., S. & T. Mione.** 1999. Dos nuevas especies de *Jaltomata* Schlechtendal (Solanaceae: Solaneae) del Norte de Perú. Arnaldoa 6(1): 65-74.
- Leiva G., S., T. Mione & L. Yacher.** 2007a. Tres nuevas especies de *Jaltomata* Schlechtendal (Solanaceae) del Norte del Perú. Three new species of *Jaltomata* Schlechtendal (Solanaceae) from Northern Peru. Arnaldoa 14(1): 29 – 44.
- Leiva G., S., T. Mione & L. Yacher.** 2007b. Cuatro nuevas especies de *Jaltomata* Schlechtendal (Solanaceae) del Norte del Perú. Four new species of *Jaltomata* Schlechtendal (Solanaceae) from Northern Peru. Arnaldoa 14(2): 219–238.
- Macbride, J. F.** 1930. Spermatophytes, Mostly Peruvian-II. 3. Peruvian Solanaceae. Field Museum of Natural History, Botanical Series 8: 110.
- Macbride, J.F.** 1962. Flora of Peru, Field Museum Bot. 13, part V-B, No. 1.
- Mione, T.** 1992. Systematics and evolution of *Jaltomata* (Solanaceae). Doctoral Dissertation, The University of Connecticut, Storrs.
- Mione, T. and F. G. Coe.** 1992. Two new combinations in Peruvian *Jaltomata* (Solanaceae). Novon 2: 383-384.
- Mione, T., G. J. Anderson and M. Nee.** 1993. *Jaltomata* I: Circumscription, description and new combinations for five South American species. Brittonia 45(2): 138-145.

- Mione, T., R. C. Olmstead, R. K. Jansen and G. J. Anderson.** 1994. Systematic Implications of chloroplast DNA variation in *Jaltomata* and selected physaloid genera (Solanaceae). American Journal of Botany 81(7): 912-918.
- Mione, T. and G. J. Anderson.** 1996. *Jaltomata*: An Introduction, and Preliminary Observations On The Red/Orange Floral Nectar. Solanaceae Newsletter, by the New York Botanical Garden, Vol. 4, Nº. 2. pp. 51-57.
- Mione, T. and R. Bye.** 1996. *Jaltomata chihuahuensis* (Solanaceae): A new combination and observations on ecology and ethnobotany. Novon 6(1): 78-81.
- Mione, T. and L. A. Coe.** 1996. *Jaltomata sagastegui* and *Jaltomata cajamarca* (Solanaceae), Two New Shrubs from Northern Peru. Novon 6: 280-284.
- Mione, T. and S. Leiva G.** 1997. A new Peruvian species of *Jaltomata* (Solanaceae) with blood-red floral nectar. Rhodora 99: 283-286.
- Mione, T. 1999. *Jaltomata* II: New Combinations for five South American species (Solanaceae).** Brittonia 51(1): 31-33.
- Mione, T., S. Leiva G., N. R. Smith, and S. J. Hevner.** 2000a. A new species, a new combination, and new synonymy for South American *Jaltomata* (Solanaceae). Rhodora 102: 385-391.
- Mione, T., S. Leiva G. and L. Yacher.** 2000b. Three new species of *Jaltomata* (Solanaceae) from Ancash Peru. Novon 10: 53-59.
- Mione, T., S. Leiva G. and L. Yacher.** 2004. *Jaltomata andersonii* (Solanaceae): a new species of Peru. Rhodora 106: 118-123.
- Mione, T. & A. Granda P.** 2006. Lectotypification of *Jaltomata weberbaueri* (Solanaceae). Rhodora 108: 403-404.
- Mione, T., S. Leiva G. and L. Yacher.** 2007. Five new species of *Jaltomata* (Solanaceae) from Cajamarca, Peru. Novon 17: 49-58.