



A new species of *Passiflora* supersection *Tacsonia* (Passifloraceae) from Amazonas, Northern Peru

BORIS ESQUERRE-IBAÑEZ

Universidad Nacional Pedro Ruiz Gallo, Ciudad Universitaria, Juan XXIII 391, Lambayeque, Perú; Asociación Lambayecana de Botánicos (ASLAB), Chiclayo, Perú. e-mail: kamijo002@gmail.com

Abstract

A new species, *Passiflora kuethiana* (Passifloraceae) is described and illustrated from Cordillera Calla Calla, Amazonas Department, Northern Peru. This species shares morphological characteristics more related with *Passiflora tripartita* and *Passiflora runa* on stipules and flowers but differs mainly from the former in the size, shape and color of the involucre, peduncles length and arrangement, and the latter in shape and margin of stipules. This species is considered as a new endemic to the Peruvian flora. Its location within the section *Elkea* according to the new classification of *Passiflora* is proposed. Comparative data of related species and a key to the species of the section *Elkea* from Northern Peru are too added.

Key words: Calla Calla, Chachapoyas, endemic, Leymebamba-Balsas, passionflower, section *Elkea*, subgenus *Passiflora*

Resumen

Una nueva especie, *Passiflora kuethiana* (Passifloraceae) es descrita e ilustrada de la Cordillera Calla Calla, Departamento de Amazonas, en el norte del Perú. Esta especie comparte características morfológicas más cercanas con *Passiflora tripartita* y *Passiflora runa* en las estípulas y flores pero difiere principalmente de la primera en el tamaño, forma y color del involucre, longitud y disposición de los pedúnculos; y de la segunda en la forma y margen de las estípulas. Esta especie es considerada como un nuevo endemismo para la flora peruana. Se propone su ubicación dentro de la sección *Elkea* de acuerdo a la nueva clasificación de *Passiflora*. Se añaden también datos comparativos de especies afines y una clave de las especies de la sección *Elkea* del norte del Perú.

Palabras clave: Calla Calla, Chachapoyas, endémica, flor de la pasión, Leymebamba-Balsas, sección *Elkea*, subgénero *Passiflora*

Introduction

The genus *Passiflora* Linnaeus (1753: 955) is the largest in the Passifloraceae with 520 species including herbaceous vines, lianas, shrubs and trees, distributed mainly in the tropical areas of the Neotropics (Ulmer & MacDougal 2004: 31). In the Andean Region of South America, *Passiflora* is present with a very representative group, the long-tubed flower species called “tacsonias” currently placed in subgenus *Passiflora* supersection *Tacsonia* (Jussieu 1789:398) Feuillet & MacDougal (2003:38).

Within this supersection, there is a diverse subgroup in Peru with pendent flowers, the section *Elkea* Feuillet & MacDougal (1997: 337). These species occur mainly in the northern and central Andean area of the country, some tolerating the generally negative human impact on their habitat, while others, such as *Passiflora tripartita* (Jussieu 1805: 395) Poirlet (1811: 843) and *Passiflora tarminiana* Coppens & Barney(2001: 8), have been cultivated for their nutritional interest and have spread to distant regions as New Zealand (Heenan & Sykes 2003: 217).

Studies of the species of supersection *Tacsonia* in Peru include Killip (1938), Macbride (1941), Killip & Cuatrecasas (1960) and Escobar (1980). The last species published in supersection *Tacsonia* from Peru were *Passiflora huamachucoensis* L.K.Escobar (1986:88), *Passiflora runa* L.K.Escobar (1986: 90) and *Passiflora trifoliata* var.

bracts that surround the base of the hypanthium, the length of the peduncles, and paired flowers in *P. kuethiana* (see above). It is noteworthy that after conducting observations during explorations and botanical collections in Andean Peru and observing numerous specimens in herbaria, the three known varieties of *P. tripartita* in the Peruvian territory generally have no slender peduncles, which are rather stout, solitary, and do not exceed 7.5 cm long in average. Besides, the involucre is always narrow on the hypanthium base, not broad.

Other species of supersection *Tacsonia* reported for the same area (Department of Amazonas, Peru) are *Passiflora anastomosans* (Lambert ex De Candolle 1828: 335) Killip (1927: 428), *P. cumbalensis* (Karsten 1859: 161) Harms (1894: 13) and *P. mathewsii* (Masters 1872: 539) Killip (1927: 428). *P. anastomosans* has horizontally oriented flowers and a ball-like perianth with zygomorphic androecium, leaves thick-coriaceous and lustrous above (versus pendent flowers, not ball-like perianth, actinomorphic androecium and not thick-coriaceous leaves in *P. kuethiana*). *P. cumbalensis* has a very elongated, glabrous hypanthium, upper leaf surface and ovary glabrous (versus elongated sparsely or finely pubescent hypanthium, leaves and ovary pubescent in *P. kuethiana*). *P. mathewsii* has horizontally oriented flowers with solitary short stout peduncles (versus pendent flowers with slender paired peduncles in *P. kuethiana*).

Acknowledgments

The author would like to thank Leopoldo Vásquez Núñez (Universidad Nacional Pedro Ruiz Gallo) for the invitation to the botany expedition in Amazonas Department in December 2013, Consuelo Rojas Idrogo and Guillermo Delgado Paredes to allow the morphological analysis in the Laboratory of Tissue Culture and Plant Genetic Resources (Universidad Nacional Pedro Ruiz Gallo), Eric Rodríguez Rodríguez (HUT), Josefa Escurra Puicón (PRG) and Isidoro Sánchez Vega (CPUN) for allowing me to deposit the type specimens in their herbaria; and to all the curators of consulted herbaria. I'm grateful to Yero Kuethe (Passiflora Project International), John MacDougal (Missouri Botanical Garden), editor and reviewers of this article for their criticism, language consults and valuable recommendations on the manuscript.

References

- Coppens, G., Barney, V.E., Jørgensen, P.M. & MacDougal, J.M. (2001) *Passiflora tarminiana*, a new cultivated species of *Passiflora* subgenus *Tacsonia*. *Novon* 11: 8–15.
<http://dx.doi.org/10.2307/3393199>
- De Candolle, A.P. (1828) *Prodromus Systematis Naturalis Regni Vegetabilis*, vol. 3. Treuttel & Würtz, Paris, 494 pp.
<http://dx.doi.org/10.5962/bhl.title.286>
- Escobar, L.K. (1980) *Interrelationships of the edible species of Passiflora centering around Passiflora mollissima (H.B.K.) Bailey, subgenus Tacsonia*. Ph.D. Dissertation, University of Texas, Austin, 647 pp.
- Escobar, L.K. (1986) New species and Varieties of *Passiflora* (Passifloraceae) from the Andes of South America. *Systematic Botany* 11: 88–97.
- Escobar, L.K. (1988) Passifloraceae—*Passiflora*. Subgéneros *Tacsonia*, *Rathea*, *Manicata* & *Distephana*. In: Pinto-Escobar, P. & Ruiz, P.M. (Eds.) *Flora de Colombia*, vol. 10. Colombia. Universidad Nacional de Colombia, Bogotá, pp. 1–143.
- Feuillet, C. & MacDougal, J.M. (1997) New infrageneric names in *Passiflora* (Passifloraceae). *Biollania*, Edición Especial 6: 335–340.
- Feuillet, C. & MacDougal, J.M. (2003) A new infrageneric classification of *Passiflora* L. (Passifloraceae). *Passiflora: The journal & Newsletter of Passiflora Society International* 13: 34–38.
- Harms, H. (1894) Plantae Lehmannianae in Columbia et Ecuador collectae. Passifloraceae. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 18 (beibl. 46): 1–14.
- Heenan, P.B. & Sykes, W.R. (2003) *Passiflora* (Passifloraceae) in New Zealand: a revised key with notes on distribution. *New Zealand Journal of Botany* 41: 217–221.
<http://dx.doi.org/10.1080/0028825X.2003.9512842>
- Holm-Nielsen, L.B., Jørgensen, P.M. & Lawesson, J.E. (1987) New Species of *Passiflora* subg. *Plectostemma* and subg. *Tacsonia* (Passifloraceae). *Nordic Journal of Botany* 7: 127–133.
<http://dx.doi.org/10.1111/j.1756-1051.1987.tb00925.x>
- IUCN (2001) *IUCN Red List Categories and Criteria. Version 3.1*. The World Conservation Union, Gland, 30 pp.
- Jussieu, A.L. (1789) *Genera Plantarum*. Herissant et Barrois, Paris, 498 pp.

<http://dx.doi.org/10.5962/bhl.title.7762>

- Jussieu, A.L. (1805) Mémoires sur les caractères généraux de familles tire des graines, et confirmés ou rectifiés par les observations de Gaertner. *Annales du Muséum National d'Histoire Naturelle* 6: 395.
- Karsten, G.K. (1859) *Plantae Karstenianae*. *Linnaea* 30: 143–165.
- Killip, E.P. (1927) New passionflowers from South America and Mexico. *Journal of the Washington Academy of Sciences* 17: 423–431.
- Killip, E.P. (1938) The American species of Passifloraceae. *Publications of the Field Museum of Natural History. Botanical Series* 19: 1–613.
- Killip, E.P. & Cuatrecasas, J. (1960) Supplemental notes on the American species of Passifloraceae with descriptions of new species. *Contributions from the United States National Herbarium* 35: 1–23.
- Linnaeus, C. (1753) *Species Plantarum*. Impensis Laurentii Salvii, Stockholm, 1200 pp.
<http://dx.doi.org/10.5962/bhl.title.669>
- Macbride, J.F. (1941) Flora of Peru. *Publications of the Field Museum of Natural History, Botanical Series* 13: 1–568.
- Masters, M.T. (1872) Passifloraceae. In: Martius, K. & Eichler, A. (Eds.) *Flora brasiliensis* 13 (1): 529–628.
<http://dx.doi.org/10.5962/bhl.title.454>
- Poiret, J.L. (1811) *Encyclopédie Méthodique. Botanique Supplément 2*. Chez H. Agasse, Paris, 876 pp.
<http://dx.doi.org/10.5962/bhl.title.826>
- Rodríguez, E. & Rojas, R. (2002) *El Herbario, administración y manejo de colecciones botánicas*. Herbarium Truxillense, Jardín Botánico de Missouri-Perú, Pasco, 31 pp.
- Skrabal, J., Tillich, H.J. & Weigend, M. (2001) A revision of the *Passiflora lobbii* group (Passifloraceae) including some species and subspecies. *Harvard Papers in Botany* 6: 306–338.
- Thiers, B. (2013) *Index Herbariorum: A global directory of public herbaria and associated staff*. New York Botanical Gardens Virtual Herbarium. Available from: <http://sweetgum.nybg.org/ih/> (accessed 15 May 2014)
- Tillett, S.S. (1988) *Passionis Passifloris II. Terminología*. *Ernstia* 48: 1–40.
- Ulmer, T. & MacDougal, J.M. (2004) *Passiflora: Passionflowers of the world*. Timber Press, Portland, Cambridge, 430 pp.