



A revision of the genus *Menonvillea* (Cremolobeae, Brassicaceae)

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Abstract

Following the most recent phylogenetic analyses of *Menonvillea*, an updated taxonomic revision of the genus based on molecular and morphological data is presented here. *Menonvillea* currently includes 24 species distributed in Argentina and Chile. Three new sections, sects. *Cuneata*, *Menonvillea*, and *Scapigera*, are proposed. One subspecies is raised to the specific rank, and the new combination *M. marticorenae* is proposed. Descriptions, keys to all taxa, updated geographical distributions, maps, and illustrations are provided. Lectotypes for *M. filifolia*, *M. minima*, *M. purpurea*, and *M. flexuosa* f. *tomentosa* are designated.

Resumen

Sobre la base de los últimos estudios filogenéticos de *Menonvillea*, se presenta una revisión taxonómica basada en datos moleculares y morfológicos. Como resultado, *Menonvillea* incluye actualmente 24 especies distribuidas en Argentina y Chile. Tres nuevas secciones dentro del género son propuestas: Sect. *Cuneata*, Sect. *Menonvillea*, y Sect. *Scapigera*. Una subespecie es elevada al rango específico, y la nueva combinación *M. marticorenae* es aquí propuesta. Sinónimos, descripciones y claves para todos los taxones son provistos. La distribución actualizada de los taxones con sus mapas correspondientes son presentados, y varias especies son ilustradas. Adicionalmente lectotipos para *M. filifolia*, *M. minima*, *M. purpurea*, y *M. flexuosa* f. *tomentosa* también son designados.

Key words: Andes, Argentina, Chile, Cruciferae, taxonomy

Introduction

Menonvillea de Candolle (1821a: 236) is a genus of Brassicaceae (Cruciferae) distributed mainly along the Andes of Argentina and Chile, with some taxa growing in southern Patagonia (Santa Cruz Province in Argentina southward into Región Magallanes y Antártica in Chile) and others restricted to the Antofagasta desert in northern Chile (Al-Shehbaz, 2008, 2010; Al-Shehbaz & Marticorena, 1990).

Several taxa of *Menonvillea* were originally described in the genera *Hexaptera* Hooker (1830: 350), *Dispeltophorus* Lehmann (1832: 7), *Decaptera* Turczaninow (1846: 497), and *Cymatoptera* Turczaninow (1854: 309). Hooker (1830) included in *Hexaptera* taxa with 3-winged fruit valves (two lateral wings and one dorsal) and assigned to *Menonvillea* species with 2-winged valves (only two lateral wings). By contrast, Turczaninow (1846) included in *Decaptera* taxa with 5-winged fruit valves. Both *Cymatoptera* and *Dispeltophorus* have 2-winged valves and therefore do not differ from *Menonvillea* sensu Hooker (1830). Rollins (1955) monographed *Menonvillea* to include 29 species, placed the above-mentioned four genera in its synonymy, and indicated that the fruit wing number is variable and unreliable to delimit genera. He characterized *Menonvillea* by having schizocarpic silicles that break at maturity into two, 1-seeded, indehiscent, 2-, 3-, or 5-winged (or rarely wingless) mericarps. Al-Shehbaz (2008) accepted 23 species in the genus and later (Al-Shehbaz, 2010) described *M. zuloagaensis* Al-Shehbaz.

basal leaves, and coarsely papillate petals and stamens bases support the relationship of *M. zuloagensis* to *M. scapigera* and *M. famatinensis*. Although this species was not sequenced for the molecular analysis of Salariato *et al.* (2013), morphological characters analyzed herein support its placement in Sect. *Scapigera*.

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Appendix I. Numerical List of Taxa and Specimens Examined

Numerical List of Taxa

Menonvillea* Sect. *Cuneata

1. *Menonvillea cicatricosa* (Phil.) Rollins
2. *Menonvillea comberi* Sandwith
3. *Menonvillea cuneata* (Gillies & Hook.) Rollins
4. *Menonvillea frigida* (Phil.) Rollins
5. *Menonvillea macrocarpa* (I.M. Johnst.) Rollins
6. *Menonvillea nordenskjoeldii* (Dusén) Rollins
7. *Menonvillea patagonica* Speg.
8. *Menonvillea rigida* Rollins
9. *Menonvillea spathulata* (Gillies & Hook.) Rollins
10. *Menonvillea virens* (Phil.) Rollins

Menonvillea* Sect. *Menonvillea

11. *Menonvillea chilensis* (Turcz.) B.D. Jacks.
12. *Menonvillea constitutionis* (Phil.) Rollins
13. *Menonvillea filifolia* Fisch. & C.A. Mey.
14. *Menonvillea flexuosa* Phil.
15. *Menonvillea linearis* DC.
16. *Menonvillea litoralis* (Barnéoud) Rollins
17. *Menonvillea marticorenae* (Al-Shehbaz) Salariao & Al-Shehbaz
18. *Menonvillea minima* Rollins
19. *Menonvillea orbiculata* Phil.
20. *Menonvillea pinnatifida* Barnéoud
21. *Menonvillea purpurea* (Hastings) Rollins

Menonvillea* Sect. *Scapigera

22. *Menonvillea famatinensis* (Boelcke) Rollins
- 23.1. *Menonvillea scapigera* (Phil.) Rollins subsp. *longipes* (Rollins) Prina
- 23.2. *Menonvillea scapigera* (Phil.) Rollins subsp. *scapigera*
24. *Menonvillea zuloagaensis* Al-Shehbaz

Specimens Examined. Specimens are arranged by collector (with first initial, when known) in alphabetical order, followed by collector's number in increasing order (s.n. = without number), followed by species number in parentheses.