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MENONVILLEA ZULOAGAENSIS AND *MOSTACILLASTRUM HUNZIKERI* (BRASSICACEAE), TWO NEW SPECIES FROM ARGENTINA

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Abstract. Al-Shehbaz, I. A. 2010. *Menonvillea zuloagaensis* and *Mostacillastrum hunzikeri* (Brassicaceae), two new species from Argentina. *Darwiniana* 48(1): 59-63.

Menonvillea zuloagaensis from San Juan and *Mostacillastrum hunzikeri* from Catamarca and La Rioja are described, and their distinguishing characters from nearest relatives are given. A key to the long-petiolate, broad-leaved, Argentinean species of *Menonvillea* is presented.

Keywords. Argentina, Brassicaceae, *Menonvillea*, *Mostacillastrum*.

Resumen. Al-Shehbaz, I. A. 2010. *Menonvillea zuloagaensis* y *Mostacillastrum hunzikeri* (Brassicaceae), dos nuevas especies de Argentina. *Darwiniana* 48(1): 59-63.

Se describen e ilustran *Menonvillea zuloagaensis* (San Juan) y *Mostacillastrum hunzikeri* (Catamarca y La Rioja), y se discuten sus caracteres distintivos respecto de las especies morfológicamente más próximas. Se presenta además una clave para las especies argentinas de *Mostacillastrum* con pecíolos largos y láminas foliares anchas.

Palabras clave. Argentina, Brassicaceae, *Menonvillea*, *Mostacillastrum*.

During work on the account of the Brassicaceae (Cruciferae) for *Flora de la República Argentina*, two new species of *Menonvillea* DC. and *Mostacillastrum* O.E. Schulz were discovered. These are described below to make their names available for that Flora and for other works in progress.

Menonvillea zuloagaensis Al-Shehbaz, sp. nov. TYPE: Argentina. San Juan, Depto. Iglesia, Reserva de San Guillermo, Los Caserones, 3410 m s.m., 22-II-1981, *E. G. Nicora*, *E. R. Guaglianone*, & *A. M. Ragonese 8262* (holotype BACP). Fig. 1.

Species foliis 5(-7) palmatilobatis, fructibus non-alatis, et sepalis et petalis persistentibus a congeneribus diversa.

Perennial herbs, scapose, with compactly branched woody caudex, moderately to densely pilose throughout with straight trichomes 0.1-0.6 mm long. Stems 6-18 cm, erect to ascending, few from caudex, unbranched. Leaves basal, petiole 3-10 cm long; leaf blade suborbicular to reniform in outline, palmately 5(-7)-lobed, sometimes with additional pair of smaller lobes, 1-3 x 1-2.5 cm, cordate to subtruncate at base; lobes broadly ovate, entire, obtuse to subacute at apex; cauline leaves absent or 1, petiolate, much smaller than basal leaves. Raceme 30-50-flowered, ebracteate, corymbose, elongated considerably in fruit, slightly longer than leaves; rachis straight; fruiting pedicels divaricate to descending, 6-12 mm long, curved, slender, pilose. Sepals ovate, 2-2.5 mm, pilose, spreading, nonsaccate, persistent after fruit maturity; petals white, obovate, 3-3.5 x 1-1.5 mm, persistent; claw 1.5-2 mm long, dilated and papillate base; filaments free, erect, papillate at base, 1.5-2 mm long, persistent; anthers oblong, 0.5-0.6 mm long; nectar glands confluent, not petaloid. Fruits didymous, glabrous; valves wingless, 2.5-3 x 1.5-2 mm; gynophore 0.2-0.5 mm long; replum expanded apically; septum perforate; style 0.4-0.6 mm long; stigma capitate, somewhat 2-lobed. Seeds oblong, ca. 1.5 x 0.8 mm, wingless.

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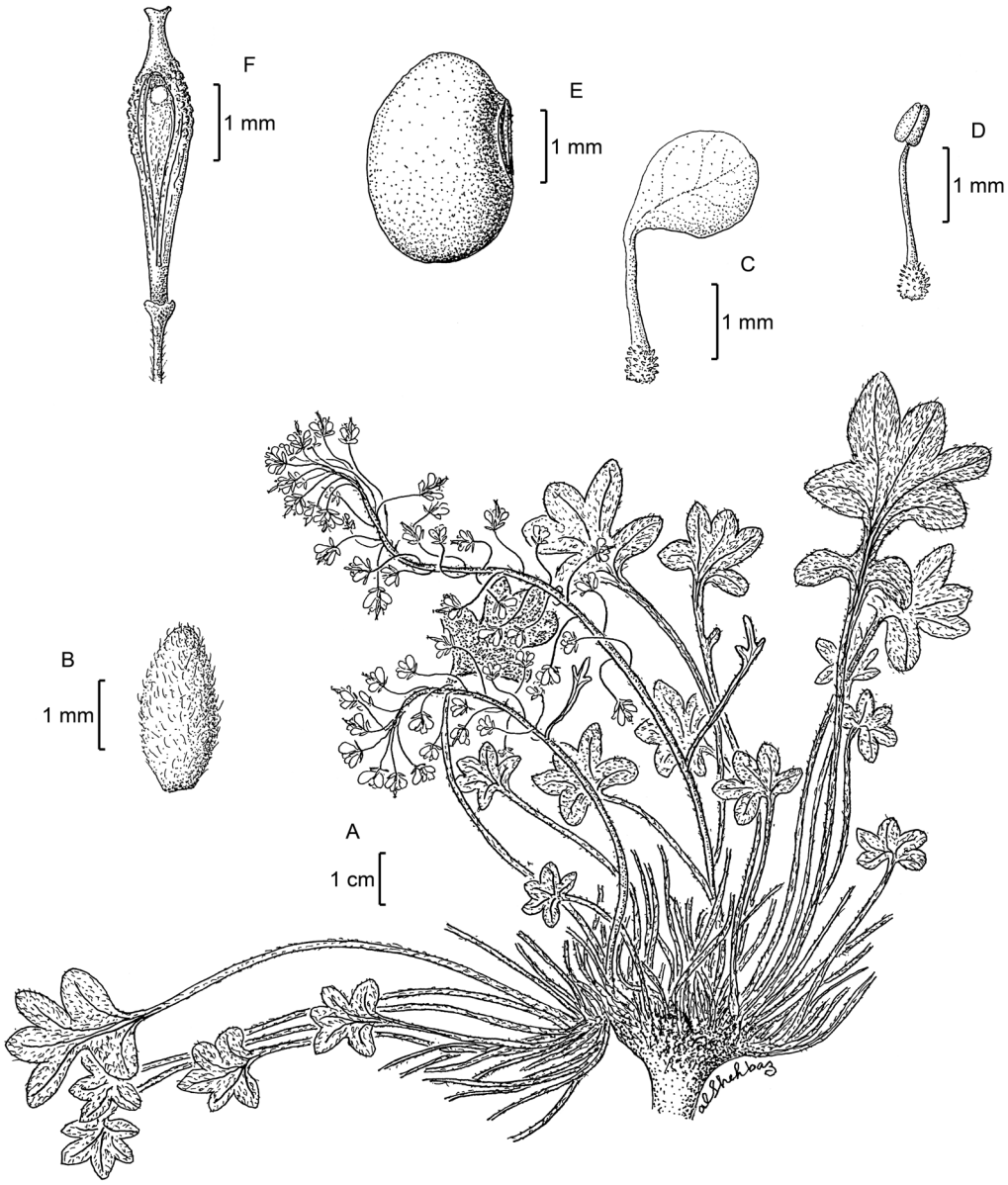

Fig. 1. Menonvillea zuloagaensis Al-Shehbaz. **A,** plant. **B,** sepal. **C,** petal. **D,** stamen. **E,** fruit valve. **F,** replum. Scales: A = 1 cm, B-F = 1 mm. Drawn by the author from *E. G. Nicora et al. 8262* (BACP).

Etymology. *Menonvillea zuloagaensis* is named in honor of Dr. Fernando Omar Zuloaga, director of Instituto de Botánica Darwinion, for his continuous support of research on the Argentinean Brassicaceae.

Distribution and habitat. *Menonvillea zuloagaensis* is known only from the type collection in San Juan province.

Observations. *Menonvillea* includes 25 species restricted to Argentina and Chile, with one species [*M. frigida* (Philippi) Rollins] reaching southern Bolivia. Five Argentinean species have rather long petiolate leaves with broad blades 1-6 cm wide and petioles 3-15 cm long. Of these, two [*M. hookeri* Rollins and *M. virens* (Philippi) Rollins] have ranges extending into Chile, and three [*M. zuloagaensis* (San Juan), *M. famatiensis* (Boelcke) Ro-

llins (La Rioja), and *M. scapigera* (Philippi) Rollins (Mendoza, Neuquén, Santa Cruz)] are endemic to Argentina. *Menonvillea zuloagaensis* is readily distinguished form all other species of the genus by having sepals, petals, and stamens persisting well after fruit maturity. It is the second species in the genus with wingless fruit valves; the other is Chilean annual *M. minima* Rollins. The long-petiolate five species are easily separated by the following key:

1. Sepals, petals, and stamens persistent after fruit dehiscence; fruit valves wingless; leaves palmately lobed . . . . . .*M. zuloagaensis*
1. Sepals, petals, and stamens caducous before fruit maturity; fruit valves 3- or 5-winged; leaves pinnately lobed or dentate 2
2(1). Leaves entire or apically 3-5-toothed; petal claw glabrous; median filaments free, glabrous . . . . . .*M. virens*
2. Leaves pinnately lobed or dentate along margin; petal claw papillate; median filaments united, papillate 3
3(2). Leaves dentate, 0.4-1 cm wide; flowering stems shorter than or rarely subequalling leaf length; seeds ca. 1.5 × 1 mm . . . . . .*M. famatiensis*
3. Leaves pinnatifid to pinnatisect, 1-3.5(-6) cm wide; flowering stems considerably longer than leaves; seeds 2.5-3.5 × 1.5-2 mm 4
4(3). Petals obovate to broadly spatulate, 3.5-5 mm long; fruit 6-10 x 6-9 mm; leaves 2-4(-6) cm wide; cotyledons accumbent . . . . . .*M. hookeri*
4. Petals linear to narrowly spatulate, (6-)7-10 mm long; fruit 4-6 x 3.5-5.5 mm; leaves 1-2 cm wide; cotyledons incumbent . . . . . *M. scapigera*

The type collection of *Menonvillea zuloagaensis* was cited by Kiesling (1994) as the sole collection of *M. scapigera* in the Flora of San Juan. However, the illustration of the species in that flora was based on a different material from another province. Boelcke and Romanczuk (1984) also listed the species from San Juan, and it likely that their record was also based on the misidentified type collection of *M. zuloagaensis*.

Mostacillastrum hunzikeri Al-Shehbaz, sp. nov. TYPE: Argentina. Catamarca. Depto. Capayán, Quebrada de San Jerónimo, unos 5 km al N.O. de Chubicha, 700-800 m, 24-I-1975, *A. T. Hunziker 22720* (holotype SI; isotype MO, CORD). Fig. 2.

Differt a Mostacillastro stenophyllo p*etalae spathualtis 2.5-3 mm longis, ungue tenui valde lamina angustiore, sepalis ascendentibus 1.5-2 mm longis, ovulis 48-78, et seminibus ovoideis 0.5-0.5 mm longis.*

Perennial herbs, glabrous throughout. Stems erect, 1-1.4 m, considerably branched above. Basal leaves not seen; middle cauline leaves sessile or short petiolate, linear or linear-lanceolate, 3-8 cm x 2-7 mm, entire or rarely dentate; uppermost leaves sessile, narrower, entire. Racemes corymbose, elongated considerably in fruit; rachis straight; fruiting pedicels slender, 7-15 mm long, ascending to divaricate, straight, glabrous. Sepals ovate, 1.5-2.5 x 0.5-0.8 mm, ascending, glabrous; petals white, spatulate, 2.5-3 x 0.7-1 mm, obuse; claw much narrower than blade; filaments 1.5-2 mm long; anthers oblong, ca. 0.5 mm long; ovules 48-76 per ovary. Fruits linear, terete, 1-2 cm x 0.7-1 mm, ascending to erect; valves not torulose, glabrous, with a prominent midvein; septum complete, veinless; style 0.3-0.8 mm long; stigma entire. Seeds ovoid, 0.5-0.6 x 0.4-0.5 mm.

Etimology. *Mostacillastrum hunzikeri* is named in honor of Armando Theodoro Hunziker (29 August 1919-12 December 2001) who collected all four sheets cited above.

Distribution and habitat. *Mostacillastrum hunzikeri* is endemic to Catamarca and La Rioja provinces, growing between 700-2200 m.

Observations. This new species blooms during December to January. It is most closely related to *M. stenophyllum* (Gillies ex Hook. & Arn.) O.E. Schulz, which it resembles in habit, foliage, and fruit morphology. It differs, however, from it by having much branched stems 1-1.4 m tall, ascending sepals 1.5-2 mm long, spatulate petals 2.5-3 mm long, slender claws much narrower than blade, ovoid seeds 0.5-0.6 mm long, and 48-78 ovules per ovary. By contrast, *M. stenophyllum* is a smaller plant with few-branched stems 0.2-0.5(-0.65) m tall, spreading sepals 3-5 mm long, oblong petals 4.5-7(-8) mm long, broad claws nearly as wide as blade, oblong seeds 1-1.5 mm long, and 24-46 ovules per ovary.

The holotype of *Mostacillastrum hunzikeri* was

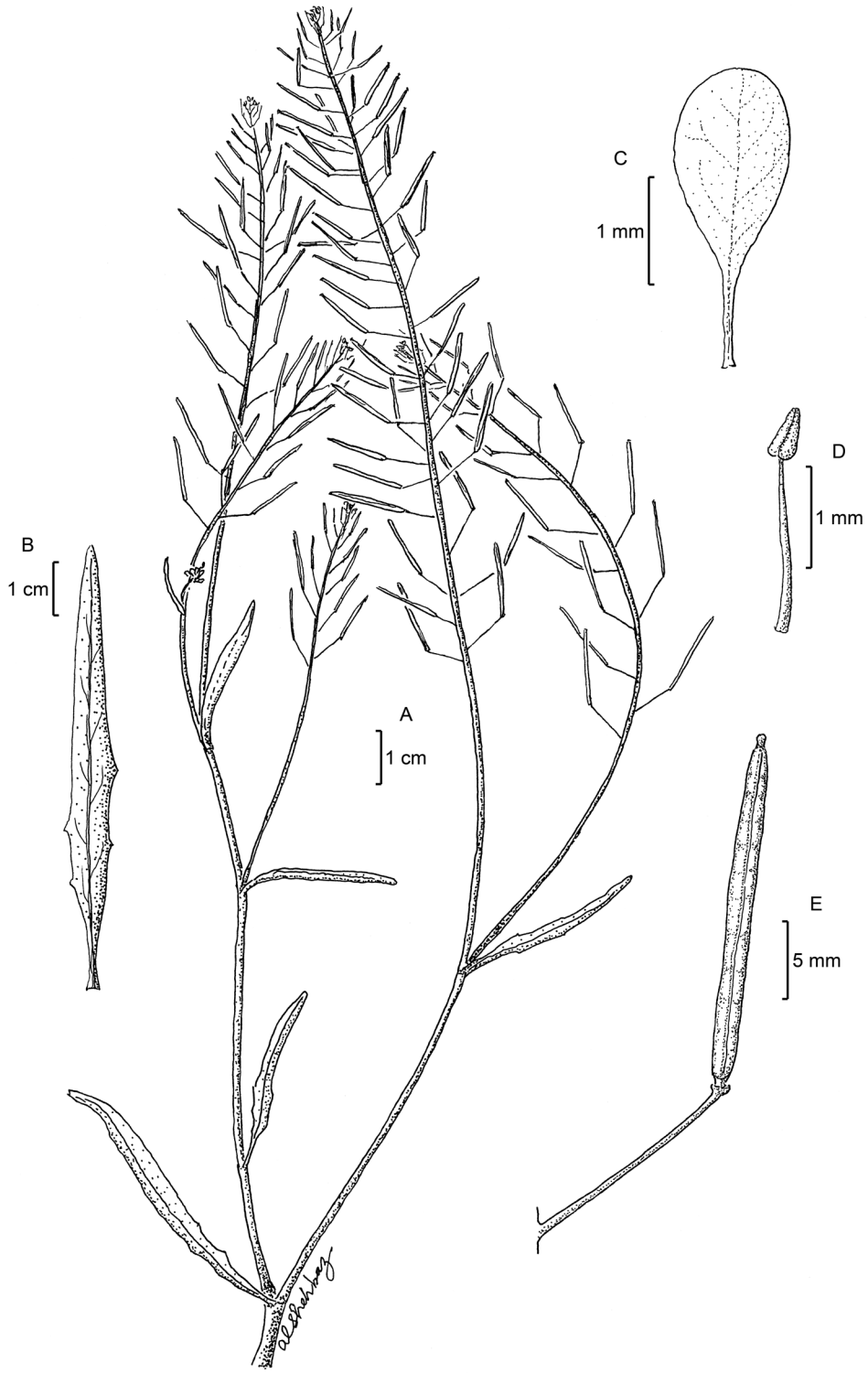

Fig. 2. *Mostacillastrum hunzikeri* Al-Shehbaz. **A,** portion of infructescene. **B,** middle cauline leaf. **C,** petal. **D,** stamen. **E,** fruit and fruiting pedicel. Scales: **A, B** = 1 cm, **C, D** = 1 mm, E = 5 mm. Drawn by the author from *A. T. Hunziker 22720* (SI).

cited by Romanczuk (1982) as *Sisymbrium elongatum* (O.E. Schulz) Romanczuk. However, as shown by Al-Shehbaz (2006), both Romanczuk and Schulz (1924) mishandled the typification and nomenclature of that species, and the plant they dealt with was *M. orbignyanum*. This species differs from both *M. hunzikeri* and *M. stenophyllum* by having fruits (3.5-)4-6(-7) cm long (vs. (0.8-)1-2(-2.8) cm long) and often reflexed (vs. ascending to divaricate) fruiting pedicels. It also differs from *M. hunzikeri* by the shorter stems (0.2-0.7 vs. 1-1.4 m), longer petals (4-5 vs. 2.5-3 mm long), and longer seeds (1.1-1.4 mm vs. 0.5-0.6 mm long), and it differs from *M. stenophyllum* by having spatulate petals with claws much narrower than blade (vs. oblong petals with claws as wide as blade) and more ovules per ovary (34-74 vs. 24-46).

Recent molecular studies (Warwick et al., 2002, 2006) clearly demonstrated that *Sisymbrium* is not represented by any native species in South America, and all of the native Argentinean species assigned to it by Romanczuk (1982) belong to the four genera treated by Al-Shehbaz (2006) and now assigned to the tribe Thelypodieae (Warwick et al., 2009).

Paratypes

ARGENTINA. **La Rioja**. Sierra de Velazco, cerca de la Mina, El Cantadero, 5-6-III-1944, *A. T. Hunziker 5185* (BAA, G).

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