

NOTES ON SEVERAL ARGENTINEAN AND CHILEAN SPECIES OF *LEPIDIUM* (BRASSICACEAE)

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Abstract. *Lepidium graminifolium* is reported for the first time for South America. New first records are given for *L. argentinum*, *L. brevicale*, and *L. santacruzense* from the Argentinean provinces San Juan, Mendoza, and Chubut, respectively. *Coronopus leptocarpus* is lectotypified and the status of the types of *C. leptocarpus* var. *microcarpus*, *L. abrotanifolium* var. *steinmannii*, *L. boelckeanum*, and *L. inclusum* are briefly discussed.

Keywords: Argentina, Brassicaceae, Chile, Cruciferae, *Lepidium*

Lepidium L. (ca. 270 spp.), the fourth largest genus in the Brassicaceae (Cruciferae), is represented by native species on all continents except Antarctica. Its limits were expanded in the past two decades to include the genera *Cardaria* Desv., *Coronopus* Zinn, *Cyphocardamum* Hedge, *Lithodraba* Boelcke, *Stroganowia* Kar. & Kir., *Stubendorffia* Schrenk, and *Winklera* Regel (Al-Shehbaz et al., 2002; Al-Shehbaz & Mummenhoff, 2011; Al-Shehbaz, 2021). Except for the monospecific *Cyphocardamum* and *Lithodraba*, molecular phylogenetic studies (e.g., Mummenhoff et al., 2001, 2009, and references therein) have shown that the other five genera are polyphyletic and nested within *Lepidium*. The features on which all seven genera were recognized as distinct from *Lepidium* are artificial and

independently evolved within *Lepidium*. Therefore, a more-inclusive *Lepidium* is far more acceptable and practical than recognizing ill-defined, much smaller genera.

The South American species of *Lepidium* have been subjected to several recent studies (e.g., Al-Shehbaz 2010, 2012, 2017), and the continent includes 12 naturalized and 55 native species, including 32 narrowly endemic: Argentina (10), Chile (7), Bolivia (6), Ecuador (4), Peru (4), and Brazil (1).

The present paper is based primarily on an undergraduate degree thesis by the first author (Schiavinato, 2015) and a world monograph of *Lepidium* (in progress) by the last author.

NEW RECORDS

1. *Lepidium graminifolium* L. This species is native to southern Europe, northwestern Africa, the Caucasus, and southwestern Asia (Syria, and Turkey). It is naturalized elsewhere in Europe and western Asia. It was recorded for North America as a ballast plant, but, despite being a short- to long-lived perennial, the species never became established on the continent (Al-Shehbaz and Gaskin, 2010). The following first record for South America may also represent an early introduction that has not become naturalized in Argentina, which has nine of the 12 alien species on the continent.

Lepidium graminifolium is a perennial easily distinguished by a combination of linear, entire cauline leaves not auriculate at the base, 6 stamens, and elliptic to ovate-elliptic fruits, (1.8–)2–3 × (1.4–)1.8–2 mm, that have an obsolete apical notch and exserted style. The new record is based on: Argentina. Buenos Aires, La Plata Partido, La Plata, 15 October 1932, A. L. Cabrera s.n. (BAA [00008189], BAB [66708]).

2. *Lepidium argentinum* Thell. The following collection represents the first record of the species from San Juan Province.

Argentina. San Juan, Iglesia Department, Quebrada de

Agua Negra, 7 November 1980, R. Kiesling 2987 (BAA [00008191], NY, SI).

3. *Lepidium brevicale* Barnéoud. Al-Shehbaz (2012) treated this name as a synonym of *L. reichei* Phil. ex Reiche because it was considered to be a later homonym of *L. brevicale* Hoppe ex W.D.J. Koch. However, further study of the literature clearly showed that the last name was a *nomen nudum*. Therefore, Barnéoud's name should be recognized instead of *L. reichei* Phil. ex Reiche. *Lepidium brevicale* is reported here for the first time from Mendoza Province.

Argentina. Mendoza, Tunuyán Department, Valle del Arroyo Grande, between Puesto de Gendarmería “Alferez Portinari” and the bridge over Arroyo Arenal, 21 January 1963, O. Boelcke 10163 (BAA-00008192).

4. *Lepidium santacruzense* Al-Shehbaz. This species was previously known only from the type collection (Al-Shehbaz, 2010) that was made from Santa Cruz Province in 1963. The following collection is the second for the species and the first record for Chubut Province.

Argentina. Chubut, Florentino Ameghino Department, Punta Tombo, 19 September 1970, J. Daciuk XIII-11 (BAA [00008190]).

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TYPIFICATIONS

1. *Coronopus leptocarpus* Boelcke. This taxon was described by Boelcke (1975) from his Chilean collection, *Boelcke 7309*, and he indicated that its holotype and isotype are deposited at SI and BAA, respectively. The holotype was not found by two of the authors (DJS and IAS) or by the curatorial staff of SI, so we conclude that it has been lost. However, there are two isotypes at BAA (BAA [00007661] and BAA [00007662]), and, as per Article 9.3 of the International Code of Nomenclature for algae, fungi, and plants (Turland et al., 2018), we designate the former BAA isotype as the lectotype. It is the most complete specimen of the two and has a handwritten annotation by Boelcke.

Coronopus leptocarpus Boelcke. Type: Chile, Biobío, Arauco Province, Playa Laraquete, 11 November 1955, *O. Boelcke 7309* (Lectotype: [designated here]: BAA [00007661]; Isolectotype: BAA [00007662]).

2. *Coronopus leptocarpus* var. *microcarpus* Boelcke. Boelcke (1975) described this variety from a unicate, *Barros 2722*, and the holotype is SI [094831].

The following specimen is an isotype that was not previously recorded.

Chile, Maule, Curicó Province, Vichuquén, Llico, 20 October 1938, *E. Barros 2722* (BAA [00007665]).

3. *Lepidium abrotanifolium* Turcz. var. *steinmannii* Thell. This taxon was lectotypified by Al-Shehbaz (2010) from a

unicate. The following specimen is an isosyntype that was not previously recorded.

Bolivia. Tarija, Cercado Province, Tarija, *K. Fiebrig 2772* (BAA [00004778]).

4. *Lepidium boelckeanum* Prina. This species was described by Prina (1993) from the collection *Troiani & Prina 8193*, and he indicated that its holotype and isotype are deposited at SRFA and BACP, respectively. The BACP collections were dismantled in 2004, and almost all of the Brassicaceae holdings were moved to BA and BAA (see Thiers, continuously updated). A recent search by the first author resulted in locating the isotype at BA, so the following adjustments should be made.

Lepidium boelckeanum Prina. Type: Argentina. La Pampa, Chapaleufú Department, between Bernardo Larroudé and Río Quinto, *H. O. Troiani & A. Prina 8193* (Holotype: SRFA; Isotype: BA [93599]).

5. *Lepidium inclusum* O.E. Schulz. This is a synonym of the earlier published *L. pseudodidymum* Thell. The former name was previously known only from the holotype. Below is the first report of isotypes.

Argentina. Tierra del Fuego, Río Grande Department, Río Grande, *A. Castellanos s.n.* (Isotypes: BA [7757], BAA [00001162], BAA [00004228]).

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