

LEPIDIUM SEYDELI (BRASSICACEAE), A NEW SPECIES FROM NAMIBIA

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Abstract. *Lepidium seydelii* (Brassicaceae), a new species from Namibia, is described and illustrated. It is easily distinguished from the closely related to *L. divaricatum* and all other southern African species of *Lepidium* by having pubescent, elliptic to elliptic-ovate fruit 1.3–1.6 × 1–1.2 mm and fruiting pedicels densely hirsutulous all around. A key distinguishing the four species of *Lepidium* native to Namibia is presented.

Keywords: Brassicaceae, Cruciferae, *Lepidium*, Namibia.

Lepidium L., the second largest genus in the family Brassicaceae (Cruciferae) after *Draba* L., includes at least 250 species (Al-Shehbaz, 2012) represented by native species on all continents except Antarctica (Al-Shehbaz, 1986). The limits of *Lepidium* have expanded a great deal based on extensive molecular, developmental, and morphological studies, and the interested reader should consult Al-Shehbaz & Mummenhoff (2011) for leads.

During work on a worldwide monograph of *Lepidium*, an unusual, Namibian, densely hirsutulous specimen of the genus was found among the undetermined South African material at the Missouri Botanical Garden. An attempt to identify it following Thellung (1906 a, b) and Marais (1970) clearly showed that it did not fit in any of the known native species in that part of the continent, and it is described below.

Lepidium seydelii Al-Shehbaz, *sp. nov.* Type: Namibia, Windhuk Bergland Avis, 20 April 1965, 1600 m, *B. Seydel* 4365 (Holotype: MO 2008117; Isotypes: B_10-0699398, B_10-0699399). Fig. 1.

Herbs, perhaps perennial, densely hirsutulous throughout. *Trichomes* slender, straight, spreading. *Stems* 20–30 cm, ascending, slender, few from base, much branched above the middle, hirsutulous with spreading trichomes 0.05–0.12 mm. *Basal leaves* not seen; middle cauline leaves oblanceolate, 1.5–2.5 cm × 3–6 mm, densely hirsutulous with spreading trichomes 0.05–0.22 mm, attenuate to petiole-like base, not auriculate, margin serrulate with up to 6 minute teeth on each side; upper leaves gradually reduced in size upwards, uppermost apically 3-toothed. *Racemes* ebracteate, corymbose, dense, much elongated in fruit but not so towards end of season, main branches up to 12 cm or more and with 100 or more fruit; rachis straight, densely hirsutulous as stem; fruiting pedicels 1.4–2 mm, densely hirsutulous all around, terete, wingless, ascending along proximal half, arcuate-recurved along distal half, persistent. *Sepals* ovate, ca. 0.4 mm, caducous, ascending, equal; petals white, erect, much shorter than sepals, ca. 0.1 × 0.05 mm, blade oblong, apex obtuse, claw absent; stamens 2, equal in

length, median; filaments 0.3–0.4 mm, glabrous, slender at base; anthers ovate, ca. 0.1 mm; nectar glands 4, toothlike. *Fruit* dehiscent, elliptic to elliptic-ovate, 1.3–1.6 × 1–1.2 mm, strongly angustiseptate, not inflated; valves papery, veinless, pubescent with spreading trichomes to 0.05 mm, smooth, strongly keeled, apically minutely winged; apical notch V-shaped, 0.05–0.12 mm deep; septum complete; style 0.05–0.12 mm, subequaling apical notch of fruit; stigma capitate, entire. *Seeds* 1 per locule, oblong, 0.7–0.85 × 0.4–0.5 mm, wingless, light brown, minutely reticulate; cotyledons incumbent.

Eponymy: This novelty is named in honor of R. Seydel who collected the type material.

Habitat: rocky, steep slopes.

IUCN Red List Category: *Lepidium seydelii* is known only from the type collections above. A full conservation assessment cannot be determined at this point and, therefore, according to the IUCN (2001) classification, I prefer to give it a Data Deficient (DD) criterion.

Lepidium seydelii is easily distinguished from all of its congeners in southern Africa by having pubescent fruit and fruiting pedicels densely hirsutulous all around. The other species always have glabrous fruit and fruiting pedicels either puberulent adaxially or glabrous. It is most closely related to *L. divaricatum* Ait., a species restricted to South Africa and Namibia. In addition to the differences above, it can also be distinguished from the latter species by having shorter fruiting pedicels (1.4–2 vs. 2–3.5 mm) and sepals (ca. 0.4 vs. 0.6–1 mm), style subequaling (vs. shorter than) the apical notch of fruit, and smaller petals (ca. 0.1 × 0.05 vs. 0.3–0.9 × ca. 0.1 mm), fruit (1.3–1.6 × 1–1.2 vs. 2.3–3.7 × 1.8–2.3 mm), and seeds (0.7–0.85 × 0.4–0.5 vs 1–1.3 × 0.5–0.7 mm).

Based on Marais (1970), Namibia (as Southwest Africa) has only three native species of *Lepidium*, including *L. desertorum* Eckl. & Zeyh., *L. divaricatum*, and *Coronopus integrifolius* (DC.) Spreng. (herein as *L. englerianum* (Muschl.) Al-Shehbaz. These and *L. seydelii* can easily be distinguished by the following key.

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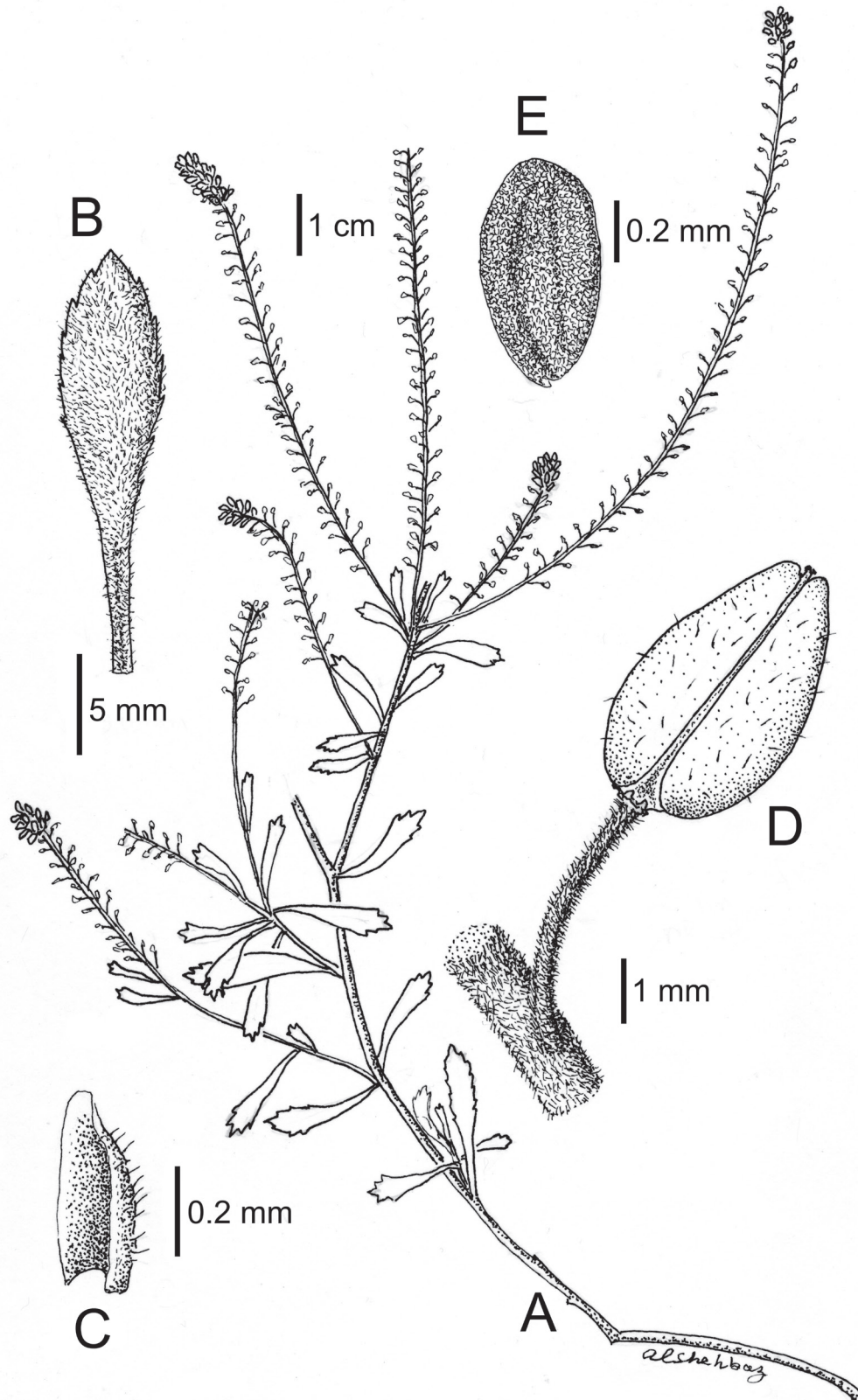


FIGURE 1. *Lepidium seydelii* Al-Shehbaz. A, plant; B, middle cauline leaf; C, sepal; D, fruit and fruiting pedicel with part of rachis; E, seed. Drawn by Al-Shehbaz from the holotype (MO 2008117).

KEY TO THE NATIVE NAMIBIAN SPECIES OF *LEPIDIUM*

- 1a. Fruit didymous, breaking at maturity into two, indehiscent segments not releasing seeds *L. englerianum*
 1b. Fruit elliptic, elliptic-ovate, obcordate, or obcordate-ovate, dehiscent, readily releasing seeds 2
 2a. Plants densely hirsutulous; fruiting pedicels densely hirsutulous all around; fruit pubescent *L. seydelii*
 2b. Plants puberulent; fruiting pedicels puberulent adaxially, glabrous abaxially; fruit glabrous 3
 3a. Fruit obcordate to obcordate-ovate, 1.6–2.1 × 1.4–1.8 mm; nectar glands filiform; petals absent; style exerted beyond apical
 fruit notch *L. desertorum*
 3b. Fruit elliptic to elliptic-ovate, 2.3–3.7 × 1.8–2.3 mm; nectar glands toothlike; petals 0.3–0.9 mm; style included in apical
 fruit notch *L. divaricatum*

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