

ENGLEROCHARIS BLANCA-LEONIAE (BRASSICACEAE), A NEW SPECIES FROM PUNO, PERU

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Abstract. *Englerocharis blanca-leoniae* is described and illustrated, and its relationship to the closely related *E. peruviana* is discussed. As a result, *Englerocharis* now includes five species, all except the latter are narrowly endemic to Peru and known from single collections. The generic limit is expanded to accommodate the new species, and a key to the five known species of the genus is presented.

Resumen. Se describe y se ilustra *Englerocharis blanca-leoniae*, y se discute su relación con *E. peruviana*, la especie más cercanamente relacionada. Como resultado, *Englerocharis* ahora incluye cinco especies, todas, excepto la última nombrada, endémicas de Perú y conocidas de una sola colección. Se expanden los límites genéricos para acomodar la nueva especie y se presenta una clave para identificar las cinco especies conocidas del género.

Keywords: Brassicaceae, Cruciferae, IUCN Red List, Peru, *Englerocharis*

Most of the remote areas of the Peruvian Andes remain poorly explored, and botanical explorations during the past several years have resulted in the discoveries of many species of Brassicaceae (Cruciferae), especially in the genera *Brayopsis* Gilg & Muschl., *Descurainia* Webb & Berth., *Draba* L., *Eudema* Humb. & Bonpl., *Lepidium* L., *Neuontobotrys* O.E.Schulz, and *Weberbaueria* Gilg & Muschl., to name some (Al-Shehbaz, 2004, 2010; Al-Shehbaz and Cano, 2011; Al-Shehbaz and Montisenos, 2009; Al-Shehbaz et al., 2013). Such field studies lead to the expansion of all these genera, as well as *Englerocharis* Muschl., a genus that remained monospecific since the discovery of its first species by Muschler (1908) some 107 years ago. However, fieldwork in Peru, especially by one of us (A. Cano) and his students expanded the genus to include five species, including the one described below (see Al-Shehbaz, 1989; Al-Shehbaz and Cano, 2011; Al-Shehbaz et al., 2012).

Englerocharis blanca-leoniae Al-Shehbaz, P. Gonzáles & A. Cano, *sp. nov.* TYPE: PERU. Departamento Puno: Provincia Carabaya, Distrito Macusani, Pacaje–Chacopata, 13°57'04.23"S, 70°26'42.18"W, 4897 m, 17 March 2014, Paúl Gonzáles 3059 (Holotype, USM; Isotype, MO). Figs. 1–2.

Herbs perennials, scapose; caudex simple, to 1 cm in diameter, covered with dry, persistent petiolar remains of previous years. *Basal leaves* rosulate, green; petiole

2.5–3.5 cm, expanded at base and to 4 mm wide, sparsely pubescent; blade oblanceolate, 1.5–2.5 × 0.5–1 cm, moderately sericeous on both surfaces with antrorsely appressed simple trichomes 0.4–0.8 mm, base attenuate, margin entire, apex obtuse to subacute. *Scapes* 6–8 cm, glabrous along proximal half, sparsely appressed pubescent distally, apically with 3–5 leafy bracts subtending base of raceme. *Racemes* 14–20-flowered, slightly elongated in fruit; rachis straight, sparsely appressed pubescent, 0.7–1.5 cm; bracts subinvolucrate, not subtending basal flowers, linear-oblanceolate, 1–1.8 cm × 1.5–4 mm; fruiting pedicels straight, erect-ascending, 1–2 mm, sparsely antrorse pubescent, persistent. *Sepals* narrowly oblong, 2–2.5 mm, persistent and 3.5–5 mm in fruit, sparsely antrorse pubescent; petals white, narrowly oblanceolate, 2–2.5 × ca. 0.5 mm; filaments ca. 1.5 mm; anthers ca. 0.5 mm; ovules 18–22 per ovary. *Fruit* linear-oblanceolate to linear, 8–11 × 1.7–2 mm, terete, more than twice as long as persistent calyx; valves antrorsely puberulent with simple trichomes 0.1–0.3 mm, dehiscing basipetally, with somewhat distinct midvein; septum membranous, complete or with a longitudinal slit when fruits fully mature; style 0.3–0.6 mm; stigma entire. *Seeds* ovoid, light brown, 0.9–1.1 × 0.5–0.6 mm.

Eponymy: This novelty is named in honor of Dr. Blanca León (Honorary Professor at Universidad Nacional Mayor de San Marcos; Plant Resource Center, University of Texas at Austin), who helped a great deal in promoting Peruvian-American botany in the past few decades.

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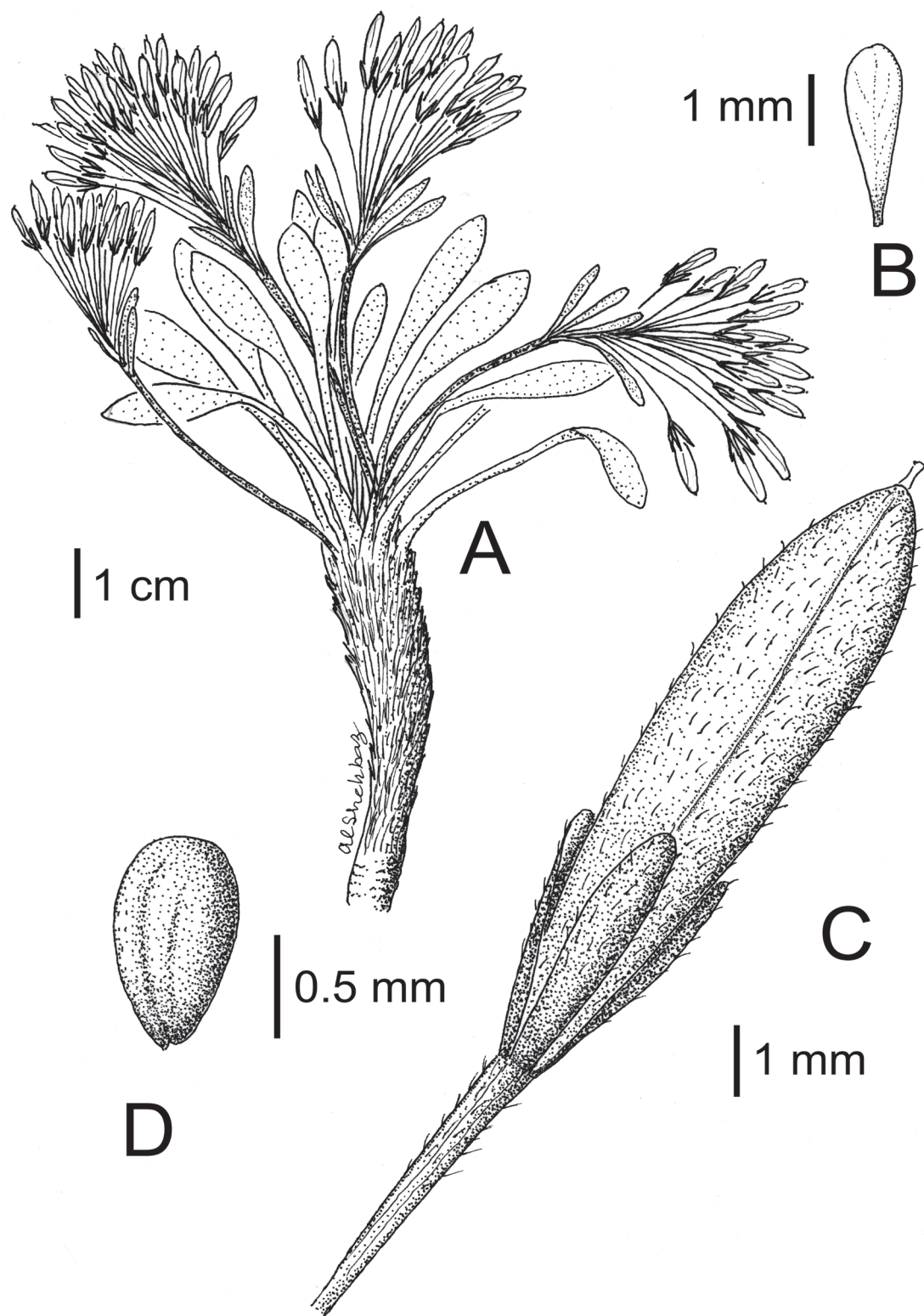


FIGURE 1. *Englerocharis blanca-leoniae* Al-Shehbaz, Gonzáles & A. Cano. **A**, Plant; **B**, petal; **C**, fruit and fruiting calyx; **D**, seed. Drawn by Al-Shehbaz from the holotype (USM).



FIGURE 2. *Englerocharis blanca-leoniae* Al-Shehbaz, Gonzáles & A. Cano. Photo by Paúl Gonzáles.

Distribution: Peru (Puno). Known only from the type collection.

IUCN Red List Category: *Englerocharis blanca-leoniae* is only known from the type collection and is therefore given the assessment of Data Deficient (DD) according to the IUCN (2001) criteria.

Distinguishing characters: *Englerocharis blanca-leoniae* is most closely related to *E. peruviana* Muschl., which it resembles in having 8–20-flowered racemes, persistent calyces 3.5–6 mm in fruit, and pubescent fruits that dehisce from the apex towards base (basipetally). It differs from the latter by having linear to linear-oblong fruits more than two times longer than the fruiting calyx, styles 0.3–0.6 mm

in fruit, fruiting pedicels 1–2 cm long, smaller petals 2–2.5 mm long, and 18–22 ovules per ovary. By contrast, *E. peruviana* has oblong to elliptic fruits less than two times longer than the fruiting calyx, styles 1–2 mm in fruit, fruiting pedicels 0.5–1 cm, longer petals 5–6 mm, and 10–16 ovules per ovary. Furthermore, *E. blanca-leoniae* is a taller plant (6–8 cm) with racemes elongated in fruit, compared to the much shorter (2–3 cm) plants of *E. peruviana* with compact racemes not elongated in fruit.

The generic description is amended below to accommodate the new species, and a key to the five species of *Englerocharis* is presented to facilitate their easy identification.

ENGLEROCHARIS MUSCHL., BOT. JAHRB. SYST. 40: 276. 1908.

Type species: *E. peruviana* Muschl.

Herbs perennial, scapose, cespitose, often cushion forming, with thick, simple or branched caudex densely covered with persistent, flattened petiolar bases of previous years. *Trichomes* simple, soft, antrorsely appressed, sericeous. *Multicellular glands* absent. *Stems* absent or distinct. *Basal leaves* rosulate, petiolate, not fleshy, simple, entire or dentate, densely sericeous, rarely glabrous or ciliate; cauline leaves absent or present as bracts.

Racemes few- to many-flowered, lax or dense, ebracteate or with 2–5 basal bracts, subumbellate, slightly elongated or not elongated in fruit; rachis straight; fruiting pedicels ascending, persistent, slender or thickened, distinct or obsolete. *Sepals* oblong, oblong-ovate, or oblong-spatulate, free, green and foliaceous, persistent, erect, glabrous or pubescent, equal, base of inner pair not saccate; petals white, erect at base with flaring blade, longer than or subequaling sepals; blade obovate to narrowly oblanceolate,

apex rounded; claw undifferentiated from blade; stamens 6, slightly exserted or included, erect, slightly tetradynamous; filaments filiform, wingless, unappendaged, not dilated at base, glabrous, free; anthers oblong, not or apiculate at apex; nectar glands 1, confluent and subtending bases of all stamens, lateral nectaries semiannular; ovules 8–22 per ovary; placentation parietal. *Fruit* dehiscent, capsular siliques, oblong, elliptic, to linear, terete, not inflated, sessile,

unsegmented; valves papery, with an obscure midvein, glabrous or puberulent, not keeled, smooth, wingless, unappendaged; gynophore absent; replum rounded, visible; septum complete, membranous, veinless; style distinct and to 2 mm, cylindric, persistent, glabrous; stigma capitate, entire. *Seeds* subbiseriate, wingless, ovoid, plump, on filiform funicles; seed coat smooth, not mucilaginous when wetted; cotyledons incumbent, entire.

KEY TO THE SPECIES OF *ENGLEROCHARIS*

- 1a. Basal leaves 7–9-dentate, 10–15 mm wide *E. dentata*
 1b. Basal leaves entire, 2–8 mm wide 2
 2a. Racemes 2–4-flowered; fruit valves glabrous; sepals 1.8–2.2 mm 3
 2b. Racemes 8–20-flowered; fruit valves pubescent; sepals (3–)4–6 mm 4
 3a. Leaves green, lanceolate, glabrous or sparsely sericeous adaxially; style 1–1.7 mm *E. pauciflora*
 3b. Leaves silvery gray, oblanceolate, densely sericeous adaxially; style 0.2–0.3 mm *E. ancashensis*
 4a. Fruits oblong to elliptic, 4–6(–7) mm, less than twice longer than persistent calyx; style in fruit 1–2 mm; petals 5–6 mm; ovules 10–16 per ovary; fruiting pedicels 0.5–1.0 cm *E. peruviana*
 4b. Fruits linear-oblanceolate to linear, 8–11 mm, more than twice longer than persistent calyx; style in fruit 0.3–0.6 mm; petals 2–2.5 mm; ovules 18–22 per ovary; fruiting pedicels 1–2 cm *E. blanca-leoniae*

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