

DRABA BRUCE-BENNETTII (BRASSICACEAE), A REMARKABLE NEW SPECIES FROM YUKON TERRITORY, CANADA

IHSAN A. AL-SHEHBAZ¹

Abstract. *Draba bruce-bennettii* (Brassicaceae), a new species from Yukon (Canada), is described and illustrated. It is easily distinguished from the closely related to *D. aleutica* and *D. macounii* by having linear to linear-oblong basal leaves pubescent adaxially with simple trichomes and abaxially with 2–4-rayed forked trichomes, oblong fruit pubescent with simple and forked trichomes, fruiting pedicels pilose with simple trichomes, and yellow, obovate petals 5–6.5 × 2.5–3.2 mm.

Keywords: Brassicaceae, Canada, Cruciferae, *Draba*, Yukon Territory

Draba L., the largest and most complex genus in the family Brassicaceae (Cruciferae), includes at least 390 species (Al-Shehbaz, 2012) represented in the Americas by more than 200 species centered mainly in the Rocky Mountains and along the Andes from Colombia to the tip of Patagonia (author's compilation). The United States and Canadian species have recently been well covered, and as many as 17 species were added within the past eight years (Al-Shehbaz, 2009, 2013; Al-Shehbaz & Mulligan, 2013; Al-Shehbaz & Windham, 2007; Al-Shehbaz et al., 2010; Elven & Al-Shehbaz, 2008). These findings clearly indicate that our knowledge of the genus in North America is far from being complete, and with intensive fieldwork in the poorly explored parts, it is expected that several more novelties will be added. The following new species was discovered during the study of specimens of Canadian *Draba* that were sent to the author for determination.

Draba bruce-bennettii Al-Shehbaz, *sp. nov.* Type: Canada, Yukon Territory, Langham Mountain, 19 July 2012, 62.25057°N, 138.04092°W, 1898 m, B. A. Bennett & S. G. Cannings 12-0195 (Holotype: MO 6598201; Isotype: BABY 8349). Fig. 1.

Plants perennial, scapose, pulvinate and 4–6 cm in diam.; caudex many branched, with persistent petioles of previous seasons, some branches terminated in sterile rosettes. *Basal leaves* rosulate, densely imbricate; petiole-like base thin, 2–4 mm, becoming indurated and stramineous in subsequent years; blade linear to linear-oblong, 5–8 × 0.7–1.5 mm, entire, abaxially pubescent with stalked 3- or 4-rayed trichomes 0.2–0.4 mm, adaxially and ciliate margin pubescent with straight, subsetose, simple trichomes (0.5–)0.7–1.2 mm; midvein obscure; cauline leaves of flowering stems absent. *Racemes* ebracteate, 1–4-flowered, sometimes appearing 1-flowered due to abortion of all but one flower bud, not or hardly elongated in fruit; peduncle 1–4 mm, pilose, hidden by imbricated leaves; rachis straight; fruiting pedicels 4–11 mm, divaricate, straight, pilose with soft, simple trichomes 0.6–1 mm, emerging

above rosettes. *Flowers:* sepals oblong, 2–3 mm, caducous, sparsely pubescent with simple and forked trichomes; petals bright yellow, obovate, 5–6.5 × 2.5–3.2 mm, cuneate to a minute claw-like base; filaments 2.5–3 mm, dilated at base; anthers oblong, 0.3–0.4 mm. *Fruit* oblong, 3.5–4.5 × 2.5–3 mm, laterally ca. 2 mm wide at base; valves inflated basally into a pouch, latiseptate distally and at margins, not twisted, densely pubescent with simple and short-stalked forked trichomes 0.1–0.2 mm; style 0.2–0.4 mm; stigma distinctly wider than style; ovules and seeds 8–14 per fruit. *Seeds* oblong-ovate, slightly flattened, 0.9–1.4 × 0.5–0.6 mm, wingless.

Eponymy: This novelty is named in honor of Bruce Andrew Bennett, director of the BABY herbarium in recognition of his extensive fieldwork in western Canada, especially Yukon Territory, and for gathering the type collections.

Additional specimen examined: Canada, Yukon Territory, Tritop Mountain, 19 July 2012, 62.21593°N, 137.51984°W, 1836 m, B. A. Bennett & S. G. Cannings 12-0205 (MO 6598200).

Distribution: known thus far only from Langham and Tritop mountains in southwestern Yukon.

Habitat: in tundra on unglaciated volcanic (andesite) bedrock dominated by moss and lichens amongst *Dryas ajanensis*/*Salix arctica* tundra with *Anthoxanthum monticola*, *Saxifraga tricuspidata*, *Minuartia arctica*, and *Carex microchaeta*.

IUCN Red List Category: *Draba bruce-bennettii* is known only from the two collections above. Although the collection labels indicated that it is somewhat common, a full conservation assessment cannot be determined at this point and, therefore, according to the IUCN (2001) classification, I prefer to tentatively give it a Data Deficient (DD) criterion.

Draba bruce-bennettii is most closely related to *D. aleutica* E. Ekman (Aleutian Islands, Pribilof Islands (St. Paul), Alaskan Peninsula near Ugashik, and Ogilvie

I am grateful to Bruce A. Bennett (BABY) for sending his Canadian collections of the Brassicaceae for verification of their identities and for providing data on the habitat and communities where the above novelty grows. Thanks also to Jeff Bond and Charlie Roots (Geological Survey of Canada) for information on the rock formation on which the novelty grows, as well as to Heather Cole for providing distribution data on *Draba macounii*. I also thank Gustavo A. Romero and Deborah Smiley for their editorial advice. Partial funding for this research was supported by the United States National Science Foundation grant DEB-1252905, for which I am profoundly grateful.

¹Missouri Botanical Garden, 2345 Tower Grove Avenue, St. Louis, Missouri 63110, U.S.A.; ihsan.al-shehbaz@mobot.org

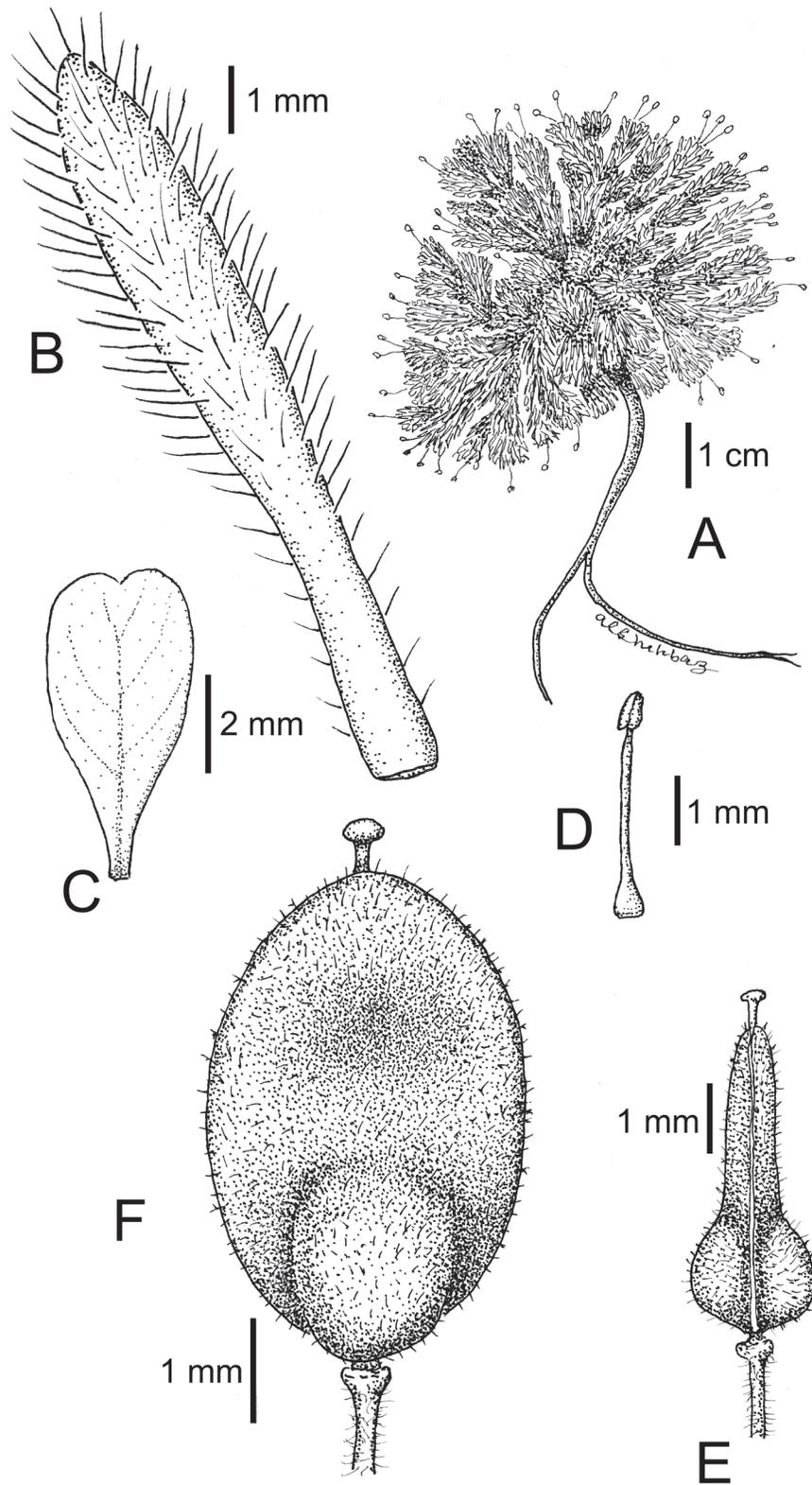


FIGURE 1. *Draba bruce-bennettii* Al-Shehbaz. A, plant; B, leaf; C, petal; D, stamen; E, fruit side view; F, fruit front view. Drawn by Al-Shehbaz: A, from paratype, *Bennett & Cannings 12-0205* (MO 6598200); B-F from the holotype, *Bennett & Cannings 12-0195* (MO 6598201).

and Montana Mts. in Yukon) and *D. macounii* O. E. Schulz (Alberta, Alaska, British Columbia, Montana, Northwest Territories, Yukon), which it resembles by lacking the cauline leaves and by having basally inflated fruit, yellow petals, and leaf indumentum of simple and 2–4-rayed trichomes. It differs from *D. aleutica* by having linear to linear-oblongate (vs. spatulate to obovate) basal leaves 0.7–1.5 (vs. 2–4.5) mm wide and abaxially with 2–4-rayed and adaxially simple subsetose trichomes (vs. both surfaces glabrous or with simple and 2-rayed trichomes), bright yellow (vs. yellowish green or pale yellow) and obovate (vs. linear-oblongate) petals 5–6.5 × 2.5–3.2 mm (vs. 3–4 × 0.5–0.8 mm), oblong (vs. broadly obovoid to subglobose) fruit 2.5–3 (vs. 3–4.5) mm wide and covered with simple and forked (vs. glabrous or only with simple) trichomes, 8–14 (vs. 4–8) ovules and seeds per fruit, and seeds 0.9–1.4 × 0.5–0.6 mm (vs. 1.4–1.8 × 0.9–1.1 mm). From *D. macounii*, the new species differs by having pulvinate

(vs. non-pulvinate) plants with linear to linear-oblongate (vs. oblongate to obovate) basal leaves 0.7–1.5 (vs. 2–4) mm wide, 1–4-flowered (vs. 3–13-flowered) racemes, straight (vs. curved) fruiting pedicels pilose all around (vs. glabrous or pubescent only abaxially) with simple (vs. simple and 2-rayed) trichomes, obovate petals 5–6.5 × 2.5–3.2 mm (vs. spatulate and 2.7–4 × 1–2 mm), and oblong (vs. ovoid) fruit 3.5–4.5 × 2.5–3 mm (vs. 4–8 × 2–4.5 mm) that are rounded (vs. acute) apically and pubescent with simple and 2-rayed trichomes (vs. glabrous).

Draba bruce-bennettii is remarkable among the North American species of the genus and can easily be separated from them by a combination of having latiseptate fruit distinctly pouched basally, strongly ciliate and densely imbricate leaves pubescent adaxially with subsetose trichomes, and 1–4-flowered racemes of which the pedicels appear solitary and slightly emerging above the rosettes.

LITERATURE CITED

- AL-SHEHBAZ, I. A. 2009. Two new North American species of *Draba* (Brassicaceae): *D. heilii* from New Mexico and *D. mulliganii* from Alaska. *Harvard Pap. Bot.* 14: 83–86.
- . 2012. A generic and tribal synopsis of the Brassicaceae (Cruciferae). *Taxon* 61: 931–954.
- . 2013. *Draba henrici* (Brassicaceae), a new species from northern New Mexico. *Harvard Pap. Bot.* 18: 91–93.
- AND G. A. MULLIGAN. 2013. New or noteworthy species of *Draba* (Brassicaceae) from Canada and Alaska. *Harvard Pap. Bot.* 18: 101–124.
- AND M. D. WINDHAM. 2007. New or noteworthy North American *Draba* (Brassicaceae). *Harvard Pap. Bot.* 12: 409–419.
- , ———, AND R. ELVEN. Pages 269–347 in FLORA OF NORTH AMERICA EDITORIAL COMMITTEE, EDS. *Draba*. Vol. 7. Oxford University Press, New York.
- ELVEN, R. AND I. A. AL-SHEHBAZ. 2008. *Draba simmonsii* (Brassicaceae), a new species of the *D. micropetala* complex from the Canadian Arctic Archipelago. *Novon* 18: 325–329.
- IUCN. 2001. IUCN Red List Categories and Criteria, Version 3.1. Second edition. Prepared by the IUCN Species Survival Commission. IUCN, Gland, Switzerland, and Cambridge, United Kingdom. <http://www.iucnredlist.org/technicaldocuments/categories-and-criteria/2001-categories-criteria> (accessed August 14, 2015).