



## *Hieracium boratynskii* (Asteraceae), a new species in the *H. canescens* aggregate from the Sudetes in Poland

ZBIGNIEW SZELĄG

Pedagogical University of Cracow, Institute of Biology, Podchorążych 2, 30-084 Kraków, Poland

✉ [aszzelag@wp.pl](mailto:aszzelag@wp.pl); <https://orcid.org/0000-0002-7017-2823>

*Hieracium boratynskii* is a new, apomictic species described from the Karkonosze Mountains (Giant Mountains) in the Sudetes, SW Poland. It belongs to the *H. canescens* aggregate comprising taxa of presumably hybrid origin between *H. schmidtii* s. lat. and *H. levicaule* s. lat. The new species is illustrated with photos of the holotype and living plants; it is named in honour of Prof. Dr. Adam Boratyński.

Keywords: apomictic plant, Europe, Giant Mountains, *Hieracium*, Karkonosze Mountains, taxonomy

### Introduction

In 2017, I found plants morphologically intermediate between *Hieracium schmidtii* s. lat. and *H. levicaule* s. lat. in the Karkonosze Mountains (Giant Mountains) in the Sudetes, Southwestern Poland. I classified these plants as *H. canescens* agg. *sensu* Zahn (1935), a minor group which includes a few taxa in Austria, France, Germany, Norway, Poland and Switzerland (Zahn 1921, 1935; Euro+Med 2006–). The only previous records of the *H. canescens* agg. in the Sudetes, as well as in the whole Poland, are also from the Karkonosze Mountains and are based on Joseph Bornmüller's specimen described as *H. canescens* subsp. *chaunotrichum* nom. inval. (Zahn 1935: 755). However, Bornmüller's specimen belongs to *H. levicaule* s. lat. rather than *H. canescens* s. lat. (G. Gottschlich pers. comm. 2022). This may explain my failure to find plants that might be classified as *H. canescens* s. lat. at the *locus classicus* of *H. canescens* subsp. *chaunotrichum*.

The nearest locality of *H. canescens* s. lat. is in the Harz Mountains in Germany, disjunct from the Karkonosze Mountains by ca 400 km (Zahn 1921). The plants I found in the Karkonosze Mountains are morphologically different from *H. canescens* subsp. *zobelianum* (Zahn 1935: 754) from the Harz Mountains (see below); they are presumably a result of an independent hybridization event between local populations of *H. levicaule* s. lat. and *H. schmidtii* s. lat.

Considering the apomictic mode of reproduction, as indicated by the result of excision of plants grown in the garden, hereby I describe the plants found in the Karkonosze Mountains as a new species.

### *Hieracium boratynskii* Szelaġ, *sp. nov.* (Figs. 1–3)

**Type:**—POLAND. Sudetes, Karkonosze Mts., Kocioł Łomniczki glacial cirque, rocky and grassy slope with *Pinus mugo* on granite, 1370 m a.s.l., originally found on July 15, 2017, specimens from plants cultivated from seed in the author's garden, pressed on June 5, 2021, Z. Szelaġ (holotype KRAM; isotypes Herb. Hierac. Z. Szelaġ).

**Description:**—Phyllopodous. Stem 30–40 cm high, pale green, within synflorescence with numerous stellate hairs, very sparse yellowish glandular hairs 0.3–0.5 mm long, without or with very few pale simple hairs up to 1 mm long, in the middle only with sparse stellate hairs, at the base with sparse stellate hairs and few pale simple hairs up to 2 mm long. Rosette leaves 6–12 (up to 20 in cultivation), overwintering, present at anthesis, glaucous, lanceolate or elliptic-lanceolate, subentire or remotely and sharply denticulate to sinuate-dentate, 4–12 cm long and 1–2.5 cm wide, acute at the apex, gradually tapered to a ±winged petiole, covered by numerous pale simple hairs up to 2.5 mm long; on the upper surface glabrous or with sparse stellate hairs; on the lower surfaces with sparse pale simple hairs 1–2 mm long and a few stellate hairs along the midrib; on the margins with numerous stiff pale simple hairs up to 1.5 mm long, mixed with stellate hairs and microglands. Cauline leaves 1–3, rapidly reduced in size upwards; the lower ones up to 9 cm long and 1 cm wide, lanceolate, entire or nearly so, gradually tapered to a ±winged petiole; on the upper surface glabrous or with sparse stellate hairs; on the lower surfaces with sparse stellate hairs; on the margins with scattered stiff pale simple hairs up to 1 mm long, mixed with stellate hairs and few microglands. Upper cauline leaves bract-like, up to 1 cm long. Synflorescence with 6–10(–15) capitula (and usually some

capitula aborted). Synflorescence branches 1–2 (the lower ones up to 22 cm long), often in axils of all cauline leaves, with 1–3 capitula, covered by numerous stellate hairs. Acladium up to 4 cm long. Peduncles green, with dense stellate hairs, few to scattered yellowish glandular hairs 0.2–0.4 mm long and very few grey simple hairs up to 2 mm long. Bracteoles 2–4, lanceolate, covered by dense stellate hairs mixed with simple hairs. Involucres subglobose at the base, 11–12 mm long, covered by moderately dense indumentum. Involucral bracts in three rows, 1.0–1.1 mm wide at the base, lanceolate, acute at the apex; outer bracts blackish green, with dense stellate hairs along the margins, scattered grey dark-based simple hairs 0.8–1.1 mm long, and numerous yellowish glandular hairs 0.3–0.5 mm long (ratio of simple hairs to glandular hairs 2.5 : 1); inner bracts green with dark grey midrib and very sparse indumentum. Ligules yellow, glabrous at the apex. Styles yellow. Achenes black, 2.4–2.7 mm long. Pappus pale grey. Pollen in anthers sparse, irregular. Flowering: July.



**FIGURE 1.** Holotype of *Hieracium boratynskii* (KRAM).



**FIGURE 2.** *Hieracium boratynskii* in cultivation (rosette, capitulum).



**FIGURE 3.** *Hieracium boratynskii* in cultivation (synflorescence).

**Affinity:**—*Hieracium boratynskii* is similar to *H. canescens* subsp. *zobelianum* from the Harz Mountains but differs in its (1) glabrous or almost so upper surfaces of leaves, (2) peduncles with dense stellate hairs, and (3) involucre 11–12 mm long with numerous glandular hairs.

*Hieracium boratynskii* may have originated as a result of hybridization between *H. levicaule* s. lat., which is widespread in the Karkonosze Mountains, and the narrow-leaved *H. schmidtii* subsp. *jovimontis* (Zahn) Greuter (2007: 173). As no diploid populations of these taxa are currently known in the Karkonosze Mountains, such a hybridization, if at all possible, must be extremely rare. Otherwise, *H. boratynskii* is a relict taxon like many other hybridogenous, apomictic *Hieracium* species endemic to these mountains.

**Distribution and habitat:**—Endemic to the Karkonosze Mountains in the Sudetes, known only from the type locality. In 2017, the population of *H. boratynskii* comprised a few plants including three flowering ones. They were growing in subalpine rocky grasslands amongst *Pinus mugo*, at 1350–1370 m a.s.l. As *H. boratynskii* is a very rare and endangered species, its reintroduction is planned using plants cultivated in the garden.

**Etymology:**—The new species is named in honour of Prof. Dr. Adam Boratyński, Institute of Dendrology, Polish Academy of Sciences, Kórnik, for his noteworthy contribution to the knowledge of trees and shrubs of the Sudetes (Boratyński 1991).

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