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Hieracium lomniczkianum (Asteraceae), a new species in the *H. wiesbaurianum* aggregate from the Sudetes in Poland

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Abstract

Hieracium lomniczkianum is a new, apomictic species, discovered in the Karkonosze Mountains (Giant Mountains) in the Sudetes, SW Poland. It belongs to the *H. wiesbaurianum* aggregate which comprises taxa intermediate in characters between *H. bifidum* s.lat. and *H. schmidtii* s.lat. The new species is distinguished by a slender stem with small capitula, and by narrow, weakly dentate rosette leaves which are gradually tapered to a winged petiole.

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

Introduction

In 1994, at the ruins of the Prince Heinrich shelter, above the Wielki Staw glacial lake in the Karkonosze Mountains (Giant Mountains), the highest massive of the Sudetes, I collected two herbarium specimens which were initially determined by Dr. J. Chrtek jr., Průhonice, as *H. wiesbaurianum* s. lat. because the meagre material did not allowed for a more precise diagnosis. This was the first locality of this collective species in Poland, consequently it has been listed in the Polish flora checklist (Szeląg 1995 and later editions). Unfortunately, in 1996 the locality was ruined by planting of *Pinus mugo* and taxonomic position of these plants remained unexplained until now.

My on-going field studies in the Karkonosze Mountains (Szeląg 2022, 2023) led to discovery in 2019 of plants with the same morphology three kilometers away from those in the Łomniczka glacial cirque. Observation of these plants cultivated in the garden showed that they differed from other taxa of *H. wiesbaurianum* s. lat., including *H. wiesbaurianum* subsp. *subwiesbaurianum* Zahn (1921: 262) *nom. illeg.* known from the Czech side of the Karkonosze Mountains (Zahn 1921). Considering the apomictic seed production, as indicated by the result of excision of plants grown in the garden, I describe these plants as a new species.

Results

Hieracium lomniczkianum Szeląg, ***sp. nov.*** (Figs. 1−2)

Type:—POLAND. Sudetes, Karkonosze Mts., Kocioł Łomniczki glacial cirque, rocky and grassy slope with *Pinus mugo* on granite along a tourist path, 1370 m a.s.l., originally found on July 17, 2019, specimens from plants cultivated from seed in the author's garden, pressed on May 5, 2022, *Z. Szeląg* (holotype KRAM; isotypes Herb. Hierac. Z. Szeląg).

Paratype:—POLAND. Sudetes, Karkonosze Mts., northern slope of Mt. Smogornia, near the ruins of Prince Heinrich shelter, July 29, 1994, *Z. Szeląg* (Herb. Hierac. Z. Szeląg).

Description:—Phyllopodous with overwintering rosette leaves. Stem 25–40 cm high, slender, purplish at base; in lower and middle part with sparse stellate hairs, within synflorescence with numerous stellate hairs, and without or with very few dark, glandular hairs 0.2–0.4 mm long. Synflorescence branches 2–4, mostly monocephalous, up to 10 cm long. Acladium up to 2 cm long. Rosette leaves 6–10, up to 11 cm long and up to 2 cm wide, cuneate at base,

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

tapered to a winged, purplish petiole; 2–3 outer leaves (withering at anthesis) small, obovate, rounded at apex, entire; inner leaves lanceolate, acute at apex, remotely denticulate at the base of lamina and entire in upper half; upper surface somewhat glaucous and dull, almost glabrous or with scattered stellate hairs; lower surface purplish-green with sparse, pale simple hairs up to 1.5 mm long, without or with sparse stellate hairs (simple and stellate hairs somewhat numerous on the midrib); margins with numerous pale simple hairs up to 2.0 mm long, sparse stellate hairs and scattered, pale microglands 0.1 mm long. Cauline leaves 1(–2), reduced in size, cultrate or almost bract-like, sessile, entire, with similar indumentum to inner rosette leaves. Peduncles slender with dense stellate hairs and scattered to moderately numerous blackish glandular hairs 0.2–0.4 mm long. Bracteoles 2–3, dark green. Involucres 8–10 mm long, campanulate, with moderately dense indumentum. Involucral bracts in three rows; outer bracts shorter; dark green, with scattered, simple dark-based simple hairs up to 1.3 mm long, numerous, blackish glandular hairs 0.3–0.5 mm long (ratio of simple hairs to glandular hairs 1:2) and dense stellate hairs on the margins. Ligules orange-yellow, without cilia at apex. Styles yellow. Achenes black, 3.6–3.9 mm long. Pappus pale grey. Pollen in anthers few of irregular size. Flowering: July.

Affinity:—*Hieracium lomniczkianum* is distinguished by narrow, weakly dentate or almost entire rosette leaves, gradually tapered to a winged petiole and dull on both surfaces, as well as by the slender stem with small capitula.

It is morphologically similar to *H. wiesbaurianum* subsp. *subdiversifolium* (Zahn 1922: 265) (C.H.Zahn, Hieraciotheca Europaea No. 866!) from the Vrkoč basalt hill near Ústí nad Labem city in Czechia. It differs from *H. lomniczkianum* in having (*1*) wider, more dentate and spotted leaves, (*2*) the lack of stellate hairs on both leaf surfaces, (*3*) dark stigmas, and (*4*) the presence of simple hairs on peduncles.

In general habit *H. lomniczkianum* resembles also *H. cyathis* (Ley) Linton (1905: 30) from Wales originally described as *H. hypochoeroides* var. *cyathis* Ley (1898: 6) which differs, however, in more oval, glaucous and brown-spotted leaves and a short acladium (Rich *et al*. 2008).

Distribution and habitat:—Endemic to the Karkonosze Mountains in the Sudetes, known only from the type locality in the Łomniczka glacial cirque. In 2019, the population of *H. lomniczkianum* comprised not more than 15 plants including eight fruiting ones. They were growing in subalpine rocky grasslands amongst *Pinus mugo*, at 1370 m a.s.l. The second locality near the ruins of the Prince Heinrich shelter was destroyed in the 1990s.

Notes:—According to Zahn (1921), the collective species *H. wiesbaurianum* s. lat. [based on *H. wiesbaurianum* Uechtritz in Baenitz (1879: 5)] includes numerous taxa of presumably hybrid origin between *H. bifidum* s. lat. and *H. schmidtii* s. lat. Gottschlich (1996, 2023) considered that they are relicts of difficult-to-determine origin, not always co-occurring with *H. schmidtii* s. lat. According to Pugsley (1948) and Sell & West (1976), *H. hypochoeroides* Gibson (1843: 741) described from the British Isles also corresponds to the morphological formula *H. bifidum – H. schmidtii*. Consequently, Greuter (2007) made a number of nomenclatural changes, including the combination *H. hypochoeroides* subsp. *wiesbaurianum* (R.Uechtr.) Greuter (2007: 155).

The spotted leaves, the characteristic feature of *H. hypochoeroides* was reflected in the name of the species, whereas *H. wiesbaurianum* has leaves without spots. Therefore, I distinguish two groups of the taxa, i.e. the *H. hypochoeroides* agg. which comprises taxa with spotted and usually distinctly pubescent leaves which predominate in western and southern Europe, and the *H. wiesbaurianum* agg. which includes taxa with leaves without spots that are more common in central Europe (Zahn 1935).

Hitherto, the only representative of the *H. wiesbaurianum* agg. in the Karkonosze Mountains was *H. wiesbaurianum* subsp. *subwiesbaurianum nom. illeg.* Two localities of this taxon were located on the Czech side of the mountains (Zahn 1935), in the Dlouhý Důl valley, but not confirmed for many years (Šourek 1970), and in the Velká Kotelní jáma glacial cirque recently re-found by J. Chrtek and V. Zavadil and determined as *H. hypochoeroides* (Harčarik & Horáková 2018).

The illegitimate name *H. wiesbaurianum* subsp. *subwiesbaurianum* was replaced by *H. wiesbaurianum* subsp. *semiwiesbaurianum* Gottschlich (2005: 235). Since the original material cited in the protologue (Zahn 1921: 262) is heterogeneous, the name *H. wiesbaurianum* subsp. *semiwiesbaurianum* refers only to plants from Austria (Gottschlich 2005) whereas a part of specimens from Thuringia in Germany have been classified as *H. jenzigense* (Bornmüller & Zahn) Müller (2004: 138). It is highly probable that plants from the Czech side of the Karkonosze Mountains may also belong to a separate species.

FIGURE 2. Holotype of *Hieracium lomniczkianum*: involucres and rosette leaves.

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References

Baenitz, C. (1879) *Herbarium Europaeum Prospect*, Lief. 36. Braun & Weber, Königsberg, 8 pp.

Gibson, S. (1844) Note on an apparently undescribed *Hieracium*. *The Phytologist: a popular botanical miscellany* 1: 741–742.

Gottschlich, G. (1996) *Hieracium* L. *In*: Sebald, O., Seybold, S., Philippi, G. & Wörz, A. (Eds.) *Die Farn- und Blütenpflanzen Baden-Württembergs Band 6: Spezieller Teil (Spermatophyta, Unterklasse Asteridae) Valerianaceae bis Asteraceae*. E. Ulmer, Stuttgart, pp. 393–535.

Gottschlich, G. (2023) *Hieracium hypochoeroides* subsp. *reiteri*, ein neues *Hieracium*-Taxon aus dem Bundesland Salzburg (Österreich). *Mitteilungen aus dem Haus der Natur* 28: 21–24.

Harčarik, J. & Horáková, V. (Eds.) (2018) Flora Corcontica – additamenta III. *Opera Corcontica* 55: 111–126.

Ley, A. (1898) Two new forms of *Hieracium*. *Journal of Botany* 36: 6–7.

Linton, W.R. (1905) *An account of the British Hieracia*. West, Newman & Co., London, VIII + 96 pp.

Pugsley, H.W. (1948) A prodromus of the British *Hieracia*. *Journal of the Linnean Society of London (Botany)* 54: 1–356. https://doi.org/10.1111/j.1095-8339.1948.tb00273.x

Rich, T.C.G., McDonnell, E.J. & Lledó, D. (2008) Conservation of Britain's biodiversity: the case of *Hieracium cyathis* (Asteraceae) and its relation to other apomictic taxa. *Botanical Journal of the Linnean Society* 156: 669–680. https://doi.org/10.1111/j.1095-8339.2007.00747.x

Szeląg, Z. (1995) *Hieracium* L. *In*: Mirek, Z., Piękoś-Mirkowa, H., Zając, A. & Zając, M. (Eds.) Vascular plants of Poland a checklist.

Polish Botanical Studies, Guidebook Series 15: 100–107.

Szeląg, Z. (2022) *Hieracium boratynskii* (Asteraceae), a new species in the *H. canescens* aggregate from the Sudetes in Poland. *Phytotaxa* 541 (2): 209–212.
https://doi.org/10.11646/phytotaxa.541.2.11

Szeląg, Z. (2023) *Hieracium umbellonigritum* (Asteraceae), a new hybridogenous species from the Sudetes in Poland. *Phytotaxa* 589 (3): 289–292.
https://doi.org/10.11646/phytotaxa.589.3.8

Šourek, J. (1970) *Květena Krkonoš. Česky a Polsky Krkonošsky Narodni Park*. Academia, Praha, 451 pp.

Zahn, K.H. (1921) *Hieracium* L. *In*: Engler, A. (Ed.) *Das Pflanzenreich*, Hf. 77. W. Engelmann, Leipzig, pp. 1–288.

Zahn, K.H. (1935) *Hieracium* L. *In*: Graebner, P. (Ed.) *Synopsis der mitteleuropäischen Flora*, vol. 12 (2). Borntraeger, Leipzig, 790 pp.