



Original Scientific Paper

Hieracium micevskii (Asteraceae), a new species from North Macedonia

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ABSTRACT:

Hieracium micevskii is described and illustrated as a species new to science from the western part of North Macedonia. Taking into consideration the morphological characteristics, its origin is assumed to be hybrid. The abundance of long rigid simple hairs indicates *H. olympicum* as one of its possible parental species, while their deeper dentation indicates a representative of *Hieracium* sect. *Pannosa* as the second.

Keywords:

Hieracium olympicum, *Hieracium* sect. *Olympica*, *Hieracium* sect. *Pannosa*, Compositae, holotype, hybrid origin.

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INTRODUCTION

During a revision of a collection of *Hieracium* L. from the vicinity of Kičevo, previously identified as *H. tommasinianum* K. Malý (TEOFILOVSKI 2011, fig. 168), it turned out that the plants could not be classified into any of the known species. In 2020 the locality was revisited and several additional specimens were collected. In the following year, the same *Hieracium* was accidentally spotted and collected near the road between Mavrovo and Debar. After additional analyses of all the available collections, it was concluded that they actually represent a thus far undescribed species.

MATERIALS AND METHODS

Representative specimens were collected and photographed in the field. The data regarding the habitats and size of the populations were recorded on the labels. The herbarium specimens are stored in the herbarium of the author and MKNH. A morphological description of the new species accompanied with suitable illustrations is provided. The dentation of the simple hairs is described according to the terminology proposed by GOTTSCHLICH (2009).

RESULT AND DISCUSSION

Hieracium micevskii Teofilovski, *sp. nov.* (Figs. 1-5)

Description: Pseudophylopodus to aphylopodus. *Stem* (22)40–85 cm tall, robust, erect, substrate, olive-green, tinged with purple below; simple hairs subvillosus between the lower leaves, dense in the middle to sparse or solitary in the upper part, whitish (to brownish), rigid, patent, dentate to deeply dentate, 8–15 mm long [in the upper part 6–10(15) mm]; stellate hairs sparse or absent in the basal part, moderately dense in the middle part, dense above; glandular hairs absent. *Synflorescence* panicle, in the upper 3/5–1/4 of the stem, with 1–6 developed and 2–10 aborted capitula; branches 3–9, arched erect, up to 10 cm long, with 1–3 capitula (the lower 1–2 aborted or the lower branches completely stunted), indumentum as in the upper part of the stem but simple hairs dentate; acladium 13–50 mm long. *Cauline leaves* 12–22, green to grayish-green and paler on the abaxial side; the lower 8–16 in a dense false rosette near the base to loosely gathered in the lower 1/3 of the stem or rarely all leaves ± evenly distributed and gradually reduced in size upwards, broadly elliptic, elliptic, broadly obovate to obovate, up to 150 × 85 mm, often acuminate, acute, abruptly to gradually narrowed

Table 1. Comparison of the main diagnostic characteristics of *H. micevskii* vs. *H. olympicum*, *H. pangaeum* and *H. tommasinianum*.

	<i>H. micevskii</i>	<i>H. olympicum</i>	<i>H. pangaeum</i>	<i>H. tommasinianum</i>
lower cauline leaves	broadly elliptic, elliptic, broadly obovate to obovate	broadly-, ovate- to oblong-lanceolate (-oblanceolate)	oblanceolate	broadly elliptic, elliptic, obovate, obovate-lanceolate to oblong-lanceolate
simple hairs of the leaves	deeply dentate	dentate	subplumose	denticulate
branches	short (up to 10 cm)	short	long (the lower one up to 20 cm)	usually long
accladium	13-50 mm	15-40(70) mm	up to 150 mm	up to 45(60) mm
developed capitula	1-6	(2)4-8(15)	-	4 to numerous
stellate hairs on involucre bracts	subdense to sparse	dense or bracts gray-tomentose	dense	usually sparse
glandular hairs on the involucre bracts	subdense, 0.2-0.8 mm long	sparse minute	sparse, 0.2 mm long	sparse to subdense

into 1-6 cm long winged petioles, margins wavy, with few lanceolate, acute, 2-8 mm long teeth, indumentum of whitish (to brownish), rigid, patent, deeply dentate, 8-15 mm long simple hairs, dense on both surfaces (sometimes sparse above) to subvillosum on the petioles, occasionally with few microglands on the margins; middle and upper 3-7, with short petioles or sessile, ovate to lanceolate, acuminate, acute, margins undulate, the lower one up to 6 cm long, gradually to abruptly reduced in size upwards, the upper most bract-like, both surfaces and particularly the margins with dense simple hairs to subglabrous above, simple hairs as in the basal leaves but dentate to deeply dentate, 10-17 mm long. *Bracts* linear lanceolate, acuminate, acute, indumentum as in the upper cauline leaves. *Peduncles* with dense stellate hairs and scattered to numerous simple hairs as in the branches but often with a darkish base; glandular hairs absent or few, up to 0.3 mm long. *Bracteoles* 2-4, with dense stellate and simple hairs. *Involucre* 11-14 mm long, globose at the base, bracts dark green and inner ones green, margins paler, lanceolate, acute, with dense, whitish (to brownish), dark based, \pm flexuous, 5-8 mm long simple hairs, with subdense or in the distal part sparse stellate hairs and subdense, apically or pale throughout, glandular hairs, 0.3-0.8 mm long. *Ligules* yellow, the apex glabrous. *Styles* yellowish with darkish microtrichomes. *Achenes* pale brown, 3.8-4.0 mm long. *Pappus* pale gray. *Flowering*: July-August.

Holotype: North Macedonia, the Radika River canyon, near the Mavrovo to Debar road, 2.5 km SE-E of Žirovnica village, in rocky shady places on the road construction site, limestone, 800 m a.s.l., N 41°40'3.52", E 20°36'51.13", 18.7.2021, leg. A. Teofilovski & Z. Nikolov, det. A. Teofilovski (Holotype: MKNH; Isotypes: herb. A. Teofilovski).

Other collections: North Macedonia, Kičevo, the Studenčica River canyon, near the road to Javorec village,

on the road side and in the degraded forest of *Quercus pubescens* and *Carpinus orientalis*, shallow, often eroded soils, 880-910 m a.s.l., N 41°31'13.91", E 20°52'33.68", 13.7.2009, 10.7.2009 & 25.8.2009 leg. & det. A. Teofilovski (TEOFILOVSKI 2011, fig. 168, sub. *H. tommasinianum* K. Malý); 4.8.2020, leg. & det. A. Teofilovski (herb. A. Teofilovski).

Distribution: According to the present knowledge, *H. micevskii* is endemic to the western part of North Macedonia. So far only two small populations are known, situated in the canyons of the Radika and Studenčica rivers. The distance between both populations is 27 km (Fig. 5).

Taxonomy: In terms of its robust habitus and dense patent indumentum with long simple hairs *H. micevskii* is similar to *H. olympicum* Boiss. and belongs to *Hieracium* sect. *Olympica* Gottschl. & Dunkel. It differs from the latter species at least in: the deeper dentation of the simple hairs of the basal leaves (deeply dentate vs. dentate) and stem (dentate to deeply dentate vs. denticulate to dentate); the broader shape of the lower cauline leaves [broadly elliptic, elliptic, broadly obovate to obovate vs. broadly-, ovate- to oblong-lanceolate (-oblanceolate)]; the involucre bracts with fewer stellate hairs (subdense to sparse vs. dense or bracts gray-tomentose) and stronger glandular indumentum (hairs subdense, 0.2-0.8 mm long vs. sparse minute). The similarity of *H. micevskii* to *H. olympicum* combined with the deeper dentation of the simple hairs of the leaves and stem indicates its possible hybrid origin. The latter characteristic suggests a representative of *Hieracium* sect. *Pannosa* as the second parental species together with *H. olympicum*. In the distribution area of *H. micevskii*, the mentioned section is represented with several taxa while *H. olympicum* is absent. The closest reported locality of the latter is situated 40-50 km SW, on the Albanian part of Mt. Jablanica (KITANOV 1948), while its occurrence in North Macedonia



Fig. 1. *Hieracium micevskii*, holotype



Fig. 2. *Hieracium micevskii*, involucre from the holotype



Fig. 3. *Hieracium micevskii*, a. plant on the type locality, b. involucre (Photo A. Teofilovski).



Fig. 4. *Hieracium micevskii*, detail of the middle part of the stem with a leaf from a plant on the type locality (Photo A. Teofilovski).

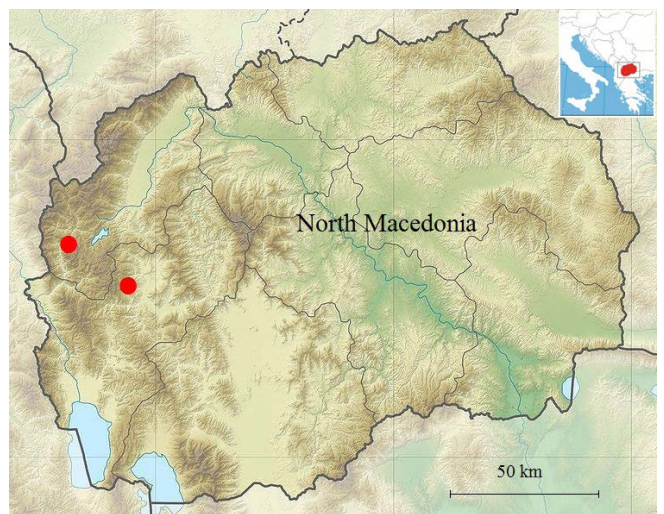


Fig. 5. General distribution of *Hieracium micevskii* (the western-most point indicates the type locality)

is confined to the SE part (Belasica and Ogražden Mts.) (VLADIMIROV *et al.* 2014; TEOFILOVSKI 2019).

Three species were previously described as supposed hybrids of *H. olympicum* and species belonging to *Hieracium* sect. *Pannosa*: *H. kritschimanum* Mattfeld & Zahn (*H. pannosum* – *H. olympicum*) (ZAHN 1928) (*H. olympicum* < *H. petrovae*, SZELĄG & VLADIMIROV 2019), *H. pangaeum* Szelaĝ & Vladimirov (*H. olympicum* > *H. petrovae*) (SZELĄG & VLADIMIROV 2019) and *H. jankolympicum* Gottschl. & Dunkel (*H. jankae* – *H. olympicum*) (GOTTSCHLICH & DUNKEL 2019). Among them the most similar to *H. micevskii* is the Greek local endemic *H. pangaeum*, differing at least in: subplumose simple hairs, longer branches (the lower one up to 20 cm), often arranged on the axils of all the cauline leaves, longer accladium (up to 15 cm), narrower lower cauline leaves (up to 15 × 3 cm) and fewer and shorter, 0.2 mm long, glandular hairs on the involucre.

Another similar species to *H. micevskii* is *H. tommasinianum* K. Malý, differing at least in: an indumentum of less dense simple hairs, simple hairs denticulate, the often narrower shape of the leaves, longer and repeatedly branched branches (up to 3 times) and more numerous developed capitula (4 to numerous). At the locality near Javorec village (Kičevo) both species grow close to each other.

A comparison of the main diagnostic characteristics of *H. micevskii* vs. *H. olympicum*, *H. pangaeum* and *H. tommasinianum* is presented in Table 1.

Etymology: The epithet is devoted to Acad. Prof. Dr. Kiril Micevski (1926 - 2002), the most prominent researcher of Macedonian flora.

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REZIME



Botánica
SERBICA

Hieracium micevskii (Asteraceae), nova vrsta iz Severne Makedonije

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Hieracium micevskii iz zapadnog dela Severne Makedonije je opisan i ilustrovan kao nova vrsta za nauku. Imajući u vidu morfološke karakteristike, pretpostavlja se da je njegovo poreklo hibridno. Gustina dugih krutih prostih dlaka ukazuje na *H. olympicum* kao jednu od mogućih roditeljskih vrsta, dok njihova veća nazubljenost ukazuje na nekog predstavnika iz *Hieracium* sect. *Pannosa* kao drugu roditeljsku vrstu.

Ključne reči: *Hieracium olympicum*, *Hieracium* sect. *Olympica*, *Hieracium* sect. *Pannosa*, Compositae, holotip, hibridno poreklo.