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HIERACIA BALCANICA III. A NEW SPECIES IN *HIERACIUM* SECT. *CERNUA* (ASTERACEAE) FROM BULGARIA

ZBIGNIEW SZELĄG

Abstract. *Hieracium werneri* Szeląg, *sp. nov.* from the Rhodope Mountains in southern Bulgaria is described and illustrated. This has previously been confused with *H. grisebachii* A. Kern., which also has naked involucres and semi-amplexicaul cauline leaves. The new species is triploid (2n = 27) and reproduces apomictically. Its distribution, ecology and a morphological relationships to the most closely species in *H*. sect. *Cernua* are given.

Key words: Asteraceae, *Hieracium*, taxonomy, chromosome number, Balkan Peninsula, Rhodope Mts

Zbigniew Szeląg, Institute of Botany, Polish Academy of Sciences, Lubicz 46, PL-31-512 Kraków, Poland; e-mail: azszelag@wp.pl

INTRODUCTION

Hieracium grisebachii A. Kern. was described from the Oetz valley in Tyrol, Austria (Kerner 1881) which is, so far, the only locality (occurrence area) of this species in the Alps. Zahn (1921–1923) thought the specimens collected by I. Urumov in the Rhodope Mountains in southern Bulgaria represent the same species as plants from the Alps. This view has been generally followed and was accepted by *Flora Europaea* (Sell & West 1976). After revision of Urumov's specimens, which were collected 'Ad Čepalare m. Rhodope' (stored at SOM) and 'In graminiosis m. Rhodope' (stored at W), and comparison of them with specimens from the Alps, I questioned the occurrence of *H. grisebachii* in the Balkans (cf. Szeląg 2004). Zahn (1938) reported *H. grisebachii* also from Javorovo and Bela Cerkva in the Rhodope Mountains, however, no corresponding specimens were found either in herbarium SOM, where Urumov's collection is deposited, or in any other herbaria visited.

In July 2004, in order to clarify the taxonomic position of Rhodopean specimens, I carried out field work in the Central Rhodope Mountains and found six localities of the species that had been hitherto recognized as *H. grisebachii*. This plant is quite frequent in vicinity of the towns Smoljan and Čepalare and in the massif of Goliam Perelik. After examination of the herbarium specimens and living plants in the wild, and especially after cultivating plants in the garden, both from the Rhodope Mountains and the Alps, I concluded that the Rhodopean plants differed from the Alpine plants in several important features. It was also found that the plants from the Rhodope Mountains are triploid (2n = 27) and reproduce apomictically (Szeląg & Vladimirov, in prep.), like *H. grisebachii* from the *locus classicus* in the Oetz valley in Tyrol (Schuhwerk & Lippert 1999). Based on morphological differences, and considering its apomictic mode of reproduction, I decided to describe the Rhodopean plants as a new species. *Hieracium grisebachii* remains thereby an Alpine endemic.

Hieracium werneri Szeląg, *sp. nov.* (Fig. 1)

= *H. grisebachii sensu* Zahn *in* Engler, Das Pflanzenreich **IV/280**: 1020. 1922, *quoad plantas bulgaricas.*

Species nova e Hieraciorum *sectione* Cernua R. Uechtr., Hieracio grisebachii A. Kern. *valde similis*, *sed foliis caulinis dentatis, apice acutis, superioribus quidem triangulari-lanceolatis et ad basim latissimis; foliis basalibus* (*florendi tempore emarcidis*) *supra pilis brevibus subdensis vestitis; ramis floriferis, foliis caulinis et capitulis in plerisque duplo numerosibus; inflorescentiis densibus distinguitur.*

Fig. 1. Holotype of *Hieracium werneri* Szeląg, *sp. nov.*

HOLOTYPE: Bulgaria, Central Rhodope Mts, Mt. Snežanka, 41°38′10″N/24°40′54″E, along the forest road from Pamparovo, 1860 m a. s. l., 18 July 2004, *Z. Szeląg 04/0051* (KRAM) – ISOTYPES: B, Herb. Hierac. Z. Szeląg – PARATYPES: Ad Čepalare m. Rhodope, 1907, *I. Urumov* (SOM 89701, 89702, 89703, 89704, 89705, 89706, 89708); Distr. Kistendil, Skakavica, 1911, *I. Urumov* (SOM 89699, 89700); In graminiosis m. Rhodope, 1911, *I. Urumow* (W *s.n.* – two sheets); *Ca* 3 km south of Pamparovo, grassy places in the forest, near the road to Smoljan, 1700 m a.s.l., 16 July 1972, *F. Černoch 23387* (BRNM 516689); Bulgaria, Central Rhodope Mts: Pamparovo 41°38′09″N/24°42′03″E, grassy slope along the road to Smoljan, 1660 m a.s.l., 16 July 2004, *Z. Szeląg* (Herb. Hierac. Z. Szeląg); *Ca* 2 km south of the Mt. Černi vrh, 41°37′10″N/24°39′49″E, granite rocks on the road, 1480 m a.s.l., 16 July 2004, *Z. Szeląg* (Herb. Hierac. Z. Szeląg); *Ca* 0,5 km southwest of the lakes Smoljanski jezera, 41°36′57″N/24°40′06″E, on the spruce forest margin, 1470 m a.s.l., 16 July 2004, *Z. Szeląg* (Herb. Hierac. Z. Szeląg); Along the road from Smoljan to the Perelik chalet, 41°37′16″N/24°38′02″E, on the beech forest margin, 1660 m a.s.l., 16 July 2004, *Z. Szeląg* (Herb. Hierac. Z. Szeląg); Between the Perelik chalet and the Mt. Goliam Perelik, 41°36′20″N/24°35′31″E, rocky grasslands on granite, 1950 m a.s.l., 16 July 2004, *Z. Szeląg* (Herb. Hierac. Z. Szeląg).

DESCRIPTION. Phyllopodous. Stem 35–60 (–80) cm high, in the upper half glabrous only within synflorescence with few stellate hairs, in the lower half with sparse to scattered 3 mm long, pale, simple hairs. Rosette leaves (withered at anthesis) lanceolate ± rounded at apex, with numerous, 0.8–1.1 mm long, simple hairs on the both surfaces and 1.0–1.5 mm long on the margins. Cauline leaves 6–10(–14) gradually reduced upward, lanceolate, acute at apex, sharply denticulate, somewhat coriaceous, glabrous on both surfaces; the lower-cauline leaves 9–12 cm long and 0.7–1.2 cm wide, sessile, broadest in the upper third, narrowing to a long, winged petiole, with scattered, 1 mm long, simple hairs on the margins; the mid-cauline leaves semi-amplexicaul, triangular-lanceolate, broadest at the base, with sparse, up to 2 mm long, simple hairs, numerous microglands, and few stellate hairs on the margins; the upper-cauline leaves sessile, linear-lanceolate, with numerous microglands and sparse stellate hairs on the margins. Synflorescence with 5–15(–30) ± nodding to nearly erect capitula. Synflorescence branches 1–5(–10) short, confined to upper part of stem, with 2–5 capitula. Acladium <1 cm long. Peduncles mostly shorter than involucre, green, with scattered to numerous stellate hairs and microglands. Bracteoles 1–3, lanceolate, blackish-green, glabrous or with few simple hairs at apex. Involucres 10 mm long, campanulate. Involucral bracts in two rows, up to 2 mm wide at the base, lanceolate, obtuse at apex, dark green to blackish, glabrous, the inner bracts with tuft of hairs at the apex. Ligules yellow, glabrous at apex. Styles discolored with dark microtrichomes. Achenes (3.0–)3.2–3.5 mm, brown. Pollen in anthers few, irregular of heterogeneous size. Triploid (2n = 27), apomictic. Flowering: end of July and August.

NOTES. The main features of *H. werneri* differentiating it from *H. grisebachii* are its acute, denticulate cauline leaves. Hairs on the upper surface of the rosette leaves of *H. werneri* can be seen only at early stages as they are withered by anthesis. In the garden-grown plants, the number of cauline leaves, synflorescence branches and capitula doubles in *H. werneri* compared to *H. grisebachii* (Fig. 2). In the field this feature is of limited use due to varied and incomparable environmental conditions.

ETYMOLOGY. The species epithet honours Professor Werner Greuter, the Director of the Botanic Garden and Botanical Museum Berlin-Dahlem in the years 1978–2006, for his contributions to the knowledge of the Balkan flora.

DISTRIBUTION AND HABITAT. *Hieracium werneri* occurs in the Central Rhodope Mountains in southern Bulgaria (Fig. 3). At the *locus classicus* on the Mt. Snežanka *H. werneri* inhabits rocky-grass slopes on the spruce forest margins together with *Linum capitatum* Kit., and open places along the forest road with predominant *Hypericum rhodopaeum* Friv. In the massif of Goliam Perelik, *H. werneri* grows in the secondary, subalpine rocky grasslands on granite with *Bruckenthalia spiculifolia* (Salisb.) Rchb., *Festuca airoides* Lam. and *Vaccinium vitis-idaea* L. at an altitude of 1900–1970 m a.s.l. The localities wit abundant *H. werneri*, numbering scores of individuals, are situated lower, along the road from Smoljan to

Fig. 2. Comparison of the garden cultivated specimens: A – *Hieracium werneri* Szeląg from the *locus classicus,* B – *Hieracium grisebachii* A. Kern. from the Oetz valley in Tyrol.

the Perelik chalet in the beech forest belt. The lowermost locality was found near the tourist path near Smoljanski jezera, *ca* 0.5 km southwest of the lake, at an altitude of 1470 m a.s.l. The plants on this locality have stems 70–100 cm high and synflorescences with up to 30 capitula.

In the herbarium SOM are deposited two other specimens, collected by Urumov in the Ossogovska Planina Montains in the western Bulgaria, which in my opinion represent *H. werneri* too. However, this locality has not been recently confirmed.

AFFINITIES. Within *H.* sect. *Cernua* R. Uechtr., *H. werneri* belongs to the species group characterized by glabrous or sparsely hairy involucres, lack of the rosette leaves by anthesis, unbranched and erect stems 30–50(–80) cm high, with 4–15(–20) cauline leaves and short synflorescence branches confined to upper part of the stem (in the angles of the upper-cauline leaves). The species of this group can be distinguished by the following key:

1. Capitula with (10–)12(–15) florets; plant diploid . . . . . *H. sparsum* Friv.
1. Capitula with more than 20 florets; plant polyploid 2
   2. Involucrum covered by glandular and simple eglandular hairs (E Alps, W Carpathians) . . . . . *H. vierhapperi* (Zahn) Szeląg
   2. Involucrum glabrous 3
3. Cauline leaves denticulate (Rhodope Mts) . . . . . *H. werneri* Szeląg
3. Cauline leaves entire 4
   4. Cauline leaves 4–8(–10), bracteoles 3–5, involucral bracts grey-green (E Alps) . . . . . *H. grisebachii* A. Kern.
   4. Cauline leaves 8–15, bracteoles 8–10, involucral bracts blackish to black (S Carpathians) . . . . . *H. magocsyanum* Jàv.

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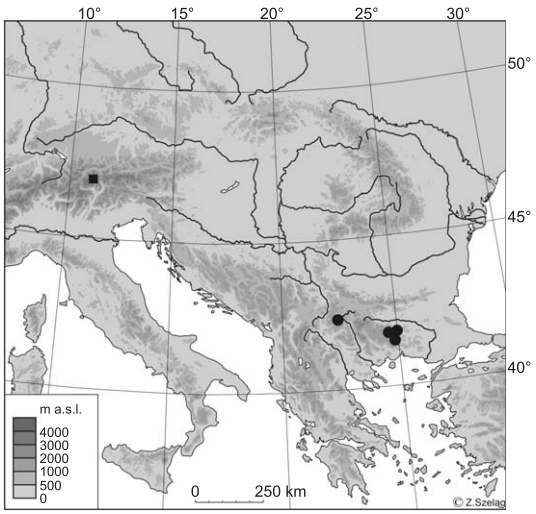

Fig. 3. Distribution of *Hieracium werneri* Szeląg, *sp. nov.* (dots) and *H. grisebachii* A. Kern (square).

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