

Taxonomic and nomenclatural notes on *Pilosella alpicola* agg. (Asteraceae) in the Balkans and Carpathians

Zbigniew Szelaĝ

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

Received 28 May 2007, revised version received 16 Aug. 2007, accepted 17 Aug. 2007

Szelaĝ, Z. 2008: Taxonomic and nomenclatural notes on *Pilosella alpicola* agg. (Asteraceae) in the Balkans and Carpathians. — *Ann. Bot. Fennici* 45: 301–306.

Following the commonly accepted generic concept, the Carpathian endemic *Hieracium ullepitschii* Błocki and the Balkan endemic *H. rhodopeum* Griseb. are transferred to the genus *Pilosella* as *P. ullepitschii* (Błocki) Szelaĝ and *P. rhodopea* (Griseb.) Szelaĝ. *Hieracium alpicola* subsp. *furcotae* Degen & Zahn, *H. depannatum* Elfstr., *H. rufotectum* Elfstr. and *H. quasadnatum* Elfstr. are reduced to synonymy of *Pilosella ullepitschii*. *Hieracium micromegas* Fr. is synonymized with *Pilosella rhodopea*. *P. alpicola* var. *serbica* F.W. Schultz & Schultz-Bip. is raised to species rank. Four names are lectotypified and two names are neotypified. A new section *Pilosella* sect. *Alpicolinae* (Nägeli & Peter) Szelaĝ is established.

Key words: Asteraceae, *Hieracium*, nomenclature, *Pilosella*, sectional placement, taxonomy, typification

Introduction

In a systematic study on the Balkan and Carpathian *Hieracia* (Szelaĝ 2001, 2002, 2006a, 2006b, 2007), some taxonomic and nomenclatural problems in *Hieracium* sect. *Alpicolina* (Nägeli & Peter) Zahn have arisen. The taxonomic concept proposed by Nägeli and Peter (1885) and developed by Zahn (1923, 1930) was based on a system of collective species in *Hieracium*. In this concept, *H.* sect. *Alpicolina* is represented by three so-called principal collective species, *H. breviscapum* DC. from the eastern Pyrenees, *H. heuffelii* Janka from Banat in Romania and the Stara Planina Mountains in Bulgaria, and *H. alpicola* Steud. & Hochst., which has a wider, disjunct distribution in the

Alps, Carpathians and the Balkan Peninsula (Sell & West 1976, Bräutigam 1985, 1992).

According to Zahn (1923, 1930), the collective species *H. alpicola* (*H. alpicola* agg.) comprises six subspecies. They are: *H. alpicola* subsp. *alpicola* in the Alps, *H. alpicola* subsp. *ullepitschii* (Błocki) Zahn and *H. alpicola* subsp. *furcotae* Deg. & Zahn in the Tatra Mountains, and *H. alpicola* subsp. *glandulifolium* Nägeli & Peter, *H. alpicola* subsp. *micromegas* (Fr.) Zahn and *H. alpicola* subsp. *rhodopeum* (Griseb.) Zahn in the central part of the Balkan Peninsula.

Originally, the taxa of *H. alpicola* agg. were described as species (cf. Candolle 1815, Steudel & Hochstetter 1826, Frivaldszky 1836, Grisebach 1853, Fries 1862, Błocki 1887, Rehmann 1894). The morphological differences (*see* Key

for determination below) and geographical distribution of the taxa of *H. alpicola* agg. are accompanied by variations in their ploidy levels. A diploid chromosome number was reported for *H. ullepitschii* from the Tatra Mountains (Murín *et al.* 1999; Mráz 2003), a triploid number for *H. rhodopeum* from Bulgaria (Vladimirov & Szeląg 2001) and tetraploid number for *H. alpicola* s. *stricto* from the Alps (Favarger 1956). It seems, therefore, that the original rank of species for these taxa is more appropriate.

The taxa under consideration in this paper are *H. rhodopeum* and *H. alpicola* subsp. *glanulifolium* from the Balkans and *H. ullepitschii* from the Carpathians. Following the commonly accepted taxonomic concept to recognise *Hieracium* and *Pilosella* as separate genera (cf. Schultz & Schultz-Bipontinus 1862, Sell & West 1967, 1975, Sennikov 2003, Schou 2001, Tyler 2001), two new generic combinations are proposed. As a result of this treatment *Pilosella* sect. *Alpicolinae* (Nägeli & Peter) Szeląg is established.

Taxonomic treatment

Pilosella rhodopea (Griseb.) Szeląg, *comb. nova*

BASIONYM: *Hieracium rhodopeum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 5: 91. 1853. — *H. alpicola* subsp. *rhodopeum* (Griseb.) Zahn in Koch, Syn. Deut. Schweiz. Fl., ed. 3: 1713. 1900. — *H. alpicola* subsp. *petraeum* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 283. 1885. — *H. petraeum* Friv., Flora 19: 436. 1836, *nom. illeg., non* Bluff & Fingerh. 1825. — Ind. loc.: ‘In Rumelia’. — LECTOTYPE (designated here): In Rumelia, *E. Frivaldszky* (BP *s.n.*!; isolectotypes W *s.n.*!; W 41166!).

H. micromegas Fr., Uppsala Univ. Årsskr. 1862: 25. 1862, *syn. nov.* — *H. alpicola* subsp. *micromegas* (Fr.) Nägeli & Peter, Hierac. Mitt.-Eur. 1: 284. 1885. — Ind. loc.: ‘In Rumelia rupibus alpinis (Frivaldszky)’. — LECTOTYPE (designated here): In Rumelia, *E. Frivaldszky* (W *s.n.*!) (cited under *Pilosella rhodopea*).

‘*H. breviscapum*’ *sensu* Griseb., Spicileg. Fl. Rumel. Bithyn. 2: 271. 1844, *non* DC. Fl. Franç. 6: 439. 1815.

NOTES: *Hieracium rhodopeum* Griseb. was validated by Grisebach (1853) as a new name for the illegitimate name *H. petraeum* Friv. based on a specimen from Rumelia (the historical region

in southern Bulgaria) by Frivaldszky (1836). Earlier the Balkan plants had also been recognized as ‘*H. breviscapum*’ (Grisebach 1844).

Fries (1862) described *H. micromegas* on the basis of specimen with a short stem and moncephalous synflorescence, collected in Rumelia by E. Frivaldszky and labeled as *H. petraeum* (stored at W). I have seen numerous herbarium specimens of *Pilosella rhodopea* from the whole of the Balkan range of distribution, as well as many living plants in the wild, and these features fall within the habitat variability of *P. rhodopea* and do not merit taxonomic recognition. The above mentioned specimen kept in W, with ‘*H. micromegas*’ in Fries’ handwriting, is designated as the lectotype.

Pilosella ullepitschii (Błocki) Szeląg, *comb. nova*

BASIONYM: *Hieracium ullepitschii* Błocki, Deutsch. Bot. Monat. 5: 24. 1887. — *H. alpicola* subsp. *ullepitschii* (Błocki) Zahn, Allgem. Bot. Z. 12: 39. 1906. — *Pilosella alpicola* subsp. *ullepitschii* (Błocki) Soják, Čas. Národ. Muz. (Prague), Odd. Přír. 141: 42. 1972. — Ind. loc.: ‘Auf der Liliowy unter der Świnica in der polnischen Tatra ziemlich zahlreich’. — LECTOTYPE (designated here): Tatra, Świnica, A. Rehmann (WRS L *s.n.*!; isolectotype BP 196279!).

‘*H. alpicola*’ *sensu* Rehm., Österr. Bot. Z. 23: 154. 1873, *non* Steud. & Hochst. 1826.

H. scepusiense Simk., Term. Közl. 22: 490. 1890, *nom. nud.*

H. alpicola subsp. *furcotae* Deg. & Zahn, Allgem. Bot. Z. 12: 39. 1906, *syn. nov.* — *Pilosella alpicola* subsp. *furcotae* (Degen & Zahn) Soják, Čas. Národ. Muz. (Prague), Odd. Přír. 141: 42. 1972. — *H. amphibolum* Rehm., Österr. Bot. Z. 44: 241. 1894, *nom. illeg., non* Jord. ex Boreau 1857. — Ind. loc.: ‘Am Csorbersee in der Hohen Tatra, auf der unteren Baszta in der Höhe von 1500 m’. — LECTOTYPE [Icon] (designated here): Tafel III, Österr. Bot. Z. 44: (*sine pag.*) 1894. EPITYPE (designated here): Tatra. In graminosis alpinis inter Csorbam et vallem Furkota 1400 m, 11.VIII.1904 A. de Degen (W 7764!).

H. quasadnatum Elfstr., Svensk Bot. Tidskr. 18: 545. 1924, *syn. nov.* — Ind. loc.: ‘Kriván, der östliche Abhang des Nad Pavlovu gegen das Handeltal, ca. 1900 m, 22. Aug. 1909’. — Original material: not traced.

H. depannatum Elfstr., Svensk Bot. Tidskr. 18: 545. 1924, *syn. nov.* — Ind. loc.: ‘Kriván, der Abhang des Nad Pavlovu gegen das Handeltal, dicht über der Krummholzregion, ca. 1900 m, 17. Aug. 1924’. — Original material: not traced.

H. rufotectum Elfstr., Svensk Bot. Tidskr. 18: 546. 1924, *syn. nov.* — Ind. loc.: ‘Kriván, der Abhang des Nad Pavlovu

gegen das Handeltal, dicht oberhalb der Krummholzregion, 1900 m, mit den beiden vorigen Spezies [*H. quasadnatum* and *H. depannatum*] zusammen, sehr spärlich, 22. Aug. 1909, 17. Aug. 1924'. — Original material: not traced.

NOTES: Błocki (1887) validated *Hieracium ullepitschii* as a new name for the west Carpathian plants which were recognized in the second part of 19th century as *H. alpicola* auct. or *H. rhodopeum* auct. In the protologue, Błocki cited the description of '*H. alpicola*' which was published by Rehmann (1873). Therefore, *H. ullepitschii* is here typified by Rehmann's specimens collected in the Polish side of the Tatra Mountains.

Hieracium alpicola subsp. *furcotae* Deg. & Zahn was validated as a new name for the illegitimate name *H. amphibolum* Rehm. described on the basis of a single specimen collected by A. Rehmann in the Tatra Mountains in 1891. Because this specimen was not found in any herbaria visited (including LU, where Rehmann's main collection is deposited), an excellent illustration of *H. amphibolum* published in the protologue by Rehmann (1894) is designated as the lectotype. One of the specimens collected by A. Degen in the Tatra Mountains 'between the Csorba lake and the Furkota valley' in 1904 (cited by Zahn 1906: 38) with *H. alpicola* subsp. *furcotae* in Zahn's handwriting is designated as the epitype.

Three species described by Elfstrand (1924) from the Tatra Mountains were based on single (or few) specimens collected at the same locality on Mt. Krivan, in a population of *Pilosella ullepitschii*. Unfortunately, no specimens corresponding to the protologue were found either in herbarium UPS (M. Hjertson pers. comm.), where Elfstrand's main collection is deposited, or in any other herbaria (GB, LD, S) in which his specimens are also occasionally found (E. Ljungstrand, T. Tyler & T. Karlsson pers. comm.). Field observations of several populations of *P. ullepitschii* in the Tatra Mountains (including Mt. Krivan), and numerous herbarium collections, showed a typical pattern of morphological variation for the sexual *Pilosella* species. Therefore, all the taxa described from the Tatra Mountains by Elfstrand (1924) and Zahn (1906) based on density of indumentum of involucral bracts and leaves, height of stem and number of capitula,

are reduced to synonymy of *P. ullepitschii*.

***Pilosella serbica* (F.W. Schultz & Schultz-Bip.) Szeląg, stat. nova**

BASIONYM: *Pilosella alpicola* var. *serbica* F.W. Schultz & Schultz-Bip. Flora 45: 427. 1862. — Ind. loc.: 'In m. Kopaonik Serbiae merid. Jul. 1856' — NEOTYPE (designated here): In herbidis saxosis m. Kopaonik Serbiae orient. Jul. 1885, *J. Pančić s.n.* (WRSL!).

Hieracium alpicola subsp. *glandulifolium* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 284. 1885 (synonymized by Zahn 1923: 1237). — Ind. loc.: 'Serbien: Kopaonik' — NEOTYPE (cited under *Pilosella serbica*).

'*Hieracium angustifolium*' sensu Pančić, Verh. Zool.-Bot. Vereins Wien 6: 560. 1856, non Hoppe Bot. Taschenb.: 130. 1799.

NOTES: The plants from the Kopaonik Mountains in southern Serbia collected and recognized by Pančić (1856) as '*Hieracium angustifolium*' were validated by Schultz and Schultz-Bipontinus (1862) as *Pilosella alpicola* var. *serbica*. Later, Nägeli and Peter (1885) described *H. alpicola* subsp. *glandulifolium* from the Kopaonik Mountains, based on specimens from Schultz-Bipontinus' herbarium, that were undoubtedly collected also by Pančić. Both of the taxa are distinguished by their dense glandular hairs on the upper half of the stem and peduncles, and numerous glandular hairs on the upper surface of the leaves. Recently, plants from the Kopaonik Mountains and from the Prokletije Mountains in Montenegro have been found to be diploid (Szeląg *et al.* 2007; T. Ilnicki & Z. Szeląg unpubl.). I believe that recognition of this diploid as a variety or subspecies of agamosperous Alpine species is unjustified from a systematic point of view and the species rank would be more suitable in this case. Unfortunately, no specimens corresponding to the protologue of *Pilosella alpicola* var. *serbica* or *Hieracium alpicola* subsp. *glandulifolium* were found either in herbarium BEOU, where Pančić's main collection is deposited, or in any other herbaria visited (BEO, BRNM, CL, GOET, M, W, WU, WRSL) in which his specimens are also occasionally found. Therefore both names are neotypified from among specimens collected by Pančić' in the Kopaonik Mountains in 1885.

***Pilosella* sect. *Alpicolinae* (Nägeli & Peter)
Szeląg, *comb. nova***

BASIONYM: *Hieracium* [unranked] *Alpicolina* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 58, 116, 281. 1885. — *H. sect. Alpicolina* (Nägeli & Peter) Zahn in Engler, Das Pflanzenreich IV. 280: 1235. 1923. — TYPE: *Pilosella alpicola* F.W. Schultz & Schultz-Bip.

The section includes following taxa:

Pilosella alpicola F.W. Schultz & Schultz-Bip.

Flora 45: 426. 1862 (= *Hieracium alpicola* Steud. & Hochst., Enum. Pl. Germ. Helv.: 112. 1826).

DISTRIBUTION: southern Alps (Austria, Italy, Swiss).

NOTE: The validation of *Hieracium alpicola* is usually ascribed to Gaudin, Fl. Helv. 5: 73. 1829 (cf. Sell & West 1976). However, *H. alpicola* was earlier validated by Steudel and Hochstetter (1826) by means of the shortest possible diagnosis: ‘*scapus triflorus*’, as opposed to the monocephalous stem characterizing *H. alpinum* L. with which they compared their new species.

Pilosella breviscapa (DC.) Soják

Folia Geobot. Phytotax. 6: 218. 1971 (= *Hieracium breviscapum* DC., Fl. Franç. 6: 439. 1815).

DISTRIBUTION: eastern Pyrenees (France, Spain).

Pilosella petraea F.W. Schultz & Schultz-Bip.

Flora 45: 426. 1862 (= *Hieracium heuffelii* Janka, Iter Banat. Exs.: [in schedis] sine No. 1870) (cf. Szeląg 2007).

DISTRIBUTION: Banat (Romania); eastern part of the Stara Planina Mountains (Bulgaria).

Pilosella rhodopea (Griseb.) Szeląg

[present paper] (= *Hieracium rhodopeum* Griseb., Abh. Königl. Ges. Wiss. Göttingen 5: 91. 1853).

DISTRIBUTION: Balkan Peninsula (Bulgaria, Greece, Macedonia).

NOTE: *Pilosella rhodopea* was also reported from the Bucegi Mountains in the Southern Carpathians in Romania by Grecescu (1898) and Pax (1908). However, the occurrence of

this taxon in the Southern Carpathians was not considered by Zahn in his monographs (cf. Zahn 1923, 1930). I have seen the specimens collected by F. Pax in the Bucegi Mountains (stored at BP), which morphologically are very similar to *P. ullepitschii* from the Tatra Mountains.

Pilosella serbica (F.W. Schultz & Schultz-Bip.)
Szeląg

[present paper] (= *Hieracium alpicola* subsp. *glandulifolium* Nägeli & Peter, Hierac. Mitt.-Eur. 1: 284. 1885).

DISTRIBUTION: Balkan Peninsula (Montenegro, Serbia, probable in Albania and northern Macedonia).

Pilosella ullepitschii (Błocki) Szeląg

[present paper] (= *Hieracium ullepitschii* Błocki, Deutsch. Bot. Monat. 5: 24. 1887).

DISTRIBUTION: Western Carpathians (Poland, Slovakia); Southern and Eastern Carpathians (Romania).

NOTE: Nyárády (1965) in *Flora Republicii Populare Romîne* mentioned two taxa from the Romanian Carpathians: *Pilosella rhodopea* from the Bucegi Mountains and Cozia Mountains, and *P. ullepitschii* from the Bucegi Mountains and Nemira Mountains. Recently plants from the Bucegi and Nemira Mountains have been found to be diploid and treated as *P. ullepitschii* (Šingliarová *et al.* 2006). The taxonomic position of the plants from Romania requires further study. From the phytogeographical point of view it cannot be ruled out that both taxa occur in the Romanian Carpathians.

Key to the taxa of *Pilosella* sect. *Alpicolinae*

1. Synflorescence with 5–10(–15) capitula. Capitula, peduncles and leaves without glandular hairs *P. petraea*
1. Synflorescence with 1–3(–5) capitula. Capitula, peduncles and leaves with glandular hairs 2
2. Florets yellow, outer with red stripe on outer face (Pyrenees) *P. breviscapa*
2. Florets yellow without red stripe 3
3. Peduncles with few to sparse glandular hairs. Involucres (9–)10–12 mm long, with dense, 5–8 mm long simple hairs. Leaves with dense, 4–6(–8) mm long simple hairs. Stems with numerous, 5–9 mm long simple hairs (Alps)

- *P. alpicola*
3. Peduncles with numerous to dense glandular hairs. Involucres 7–11 mm long, with numerous to dense, 3–5 mm long simple hairs. Leaves with scattered to numerous, 3–4 mm long simple hairs. Stems without or with sparse, 2–4 mm long, simple hairs 4
4. Involucres covered by dense, dark simple hairs *P. ullepitschii*
4. Involucres covered by numerous or moderately dense, pale simple hairs 5
5. Peduncles with dark-grey, up to 0.3 mm long glandular hairs and sparse 2–3 mm long, simple hairs. Involucres 7–9 mm long. Plant polyploid *P. rhodopea*
5. Peduncles with black, up to 0.5 mm long glandular hairs and sparse to scattered, 3–4 mm long, simple hairs. Plant diploid *P. serbica*

Acknowledgements

Special thanks are due to Werner Greuter (Berlin) for valuable discussion and suggestions which improved the nomenclatural treatment. I am much obliged to Tim Rich (Cardiff) for language revision and to Konstantin Dobolyi (Budapest) and Gabor Papp the head of the library of the Hungarian Natural History Museum in Budapest for the valuable library assistance and to an anonymous reviewer for helpful suggestions. I am grateful to the Curators: Lajos Somlyay (BP) and Krzysztof Świerkosz (WRS) for the loan of herbarium material, and Mihai Pușcaș (CL) and Bruno Wallnöfer (W) for making available the relevant collections. I thank Mats Hjertson (UPS), Thomas Karlsson (S), Erik Ljungstrand (GB) and Torbjörn Tyler (LD) for information on Elfstrand's collection, and Marjan Niketić (BEO, BEOU), Jochen Heinrichs (GOET) and Franz Schuhwerk (M) for information on Pančić's collection, and Yuriy Kobiv (Lviv) for information on Rehmann's collection in LU and LW. This study was supported by the Polish State Committee for Scientific Research (KBN grant no. 2 P04G 064 30).

References

Błocki, B. 1887: Floristisches aus Galizien. — *Deutsch. Bot. Monatsschr.* 5: 23–25.

Bräutigam, S. 1985: Beitrag zur Kenntnis der Gattung *Hieracium* L. in Bulgaria. — *Bot. Jahrb. Syst.* 107: 1–9.

Bräutigam, S. 1992: *Hieracium* L. — In: Meusel, H. & Jäger, E. J. (eds.), *Vergleichende Chorologie der zentraleuropäischen Flora* 3: 325–333. Gustav Fischer, Jena.

Candolle, A. P. 1815: *Flora Française qu descriptions succinctes de toutes les plantes qui croissent naturellement en France*, vol. 6. — Desray, Paris.

Elfstrand, M. 1924: Über einige hochalpine Piloselloiden-Hieracien aus der Hohen Tatra. — *Svensk Bot. Tidskr.* 18: 542–547.

Favarger, C. 1956: Notes de caryologie alpine. III. — *Bull. Soc. Neuchâtel. Sci. Nat.* 82: 255–285.

Fries, E. 1862: *Epicrisis Generis Hieraciorum*. — *Uppsala Univ. Årsskr.* 1862: 1–159.

Frivaldszky, E. 1836: *Succinctae diagnoses specierum plantarum novarum anno 1935 in Turcia europaea collectarum*. — *Flora* 19: 433–440.

Grecescu, D. 1898: *Conspectul Florei Romaniei*. — Tipografia Dreptatea, București.

Grisebach, A. 1844: *Spicilegium florum rumelicarum et bithynicarum exhibens synopsis plantarum quas aest. 1839 legit*, vol. 2. — F. Vieweg et fil., Brunsvigae.

Grisebach, A. 1853: *Commentatio de distributione Hieracii generis per Europam geographica*. — *Abh. Königl. Ges. Wiss. Göttingen* 5: 83–160.

Mráz, P. 2003: *Hieracium piliferum* group (Asteraceae) in the West Carpathians. — *Biologia* 58: 29–36.

Murín, A., Svobodová, Z., Májovský, J. & Feráková, V. 1999: Chromosome numbers of some species of the Slovak flora. — *Thaiszia* 9: 31–40.

Nägeli, C. & Peter, A. 1885: *Die Hieracien Mittel-Europas. Monographische Bearbeitung der Piloselloiden mit besonderer Berücksichtigung der mitteleuropäischen Sippen*, vol. 1. — R. Oldenbourg, München.

Nyárády, E. I. 1965: *Hieracium* L. — In: Nyárády, E. I. (ed.), *Flora Republicii Populare Romine* 10: 214–746. Editura Academiei Republicii Populare Romine, București.

Pančić, J. 1856: Verzeichnis der in Serbien wildwachsenden Phanerogamen, nebst den Diagnosen einiger neuer Arten. — *Verh. Zool.-Bot. Vereins Wien* 6: 475–598.

Pax, F. 1908: *Grundzüge der Pflanzenverbreitung in den Karpathen*, vol. 2. — Wilhelm Engelmann, Leipzig.

Rehmann, A. 1873: Diagnosen der in Galizien und in der Bukowina bisher beobachteten Hieracien. III. — *Österr. Bot. Z.* 23: 146–155.

Rehmann, A. 1894: Ein Bastard zwischen *Hieracium auricula* L. und *Hieracium alpinum* L. — *Österr. Bot. Z.* 44: 241–244.

Schou, J. C. 2001: Danmarks Høgeurter (*Hieracium*, *Pilosella*). — *AAU Reports* 41: 1–244.

Schultz, F. W. & Schultz-Bipontinus, C. H. 1862: *Pilosella* als eigene Gattung. — *Flora* 45: 417–432.

Sell, P. D. & West, C. 1967: *Hieracium* L., *Pilosella* Hill. — *Watsonia* 6: 303–314.

Sell, P. D. & West, C. 1975: *Hieracium* L. — In: Davis, P. H., Matthews, V. A., Kupicha, F. K. & Parris, B. S. (eds.), *Flora of Turkey and the East Aegean Islands* 5: 696–746. Edinburgh Univ. Press, Edinburgh.

Sell, P. D. & West, C. 1976: *Hieracium* L. — In: Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb, D. A. (eds.), *Flora Europaea* 4: 358–410. Cambridge Univ. Press, Cambridge.

Sennikov, A. N. 2003: Taxonomic concept in *Hieracium* L. s.l. (Asteraceae). — *Turczaninowia* 6(2): 16–41. [In Russian with English summary].

Šingliarová, B., Mráz, P., Chrtěk, J. Jr. & Plačková, I. 2006: *Pilosella alpicola* subsp. *ullepitschii*, a diploid endemic taxon of the Carpathians: notes on taxonomy, chorology and ploidy level. In: *9th International Hieracium Workshop, September 6–11, Trenta, Slovenia*. Available at <http://www.ibot.cas.cz/hieracium/studygroup/presentations.html>.

- Steudel, E. G. & Hochstetter, C. F. 1826: *Enumeratio plantarum Germaniae Helvetiaeque indigenarum, quem synopsis plantarum Germaniae Helvetiaeque edituri botanophilosque adjuvandam commendantes*. — J. G. Cotta, Stuttgartiae et Tubingae.
- Szeląg, Z. 2001: *Hieracia balcanica* I. *Hieracium ancevii* (Asteraceae), eine neue Art aus Bulgarien. — *Feddes Repert.* 112: 11–14.
- Szeląg, Z. 2002: *Hieracia balcanica* II. Taxonomic and nomenclatural notes on *Hieracium calophyllum* (Asteraceae) and its relatives. — *Feddes Repert.* 113: 503–510.
- Szeląg, Z. 2006a: *Hieracia balcanica* III. A new species in *Hieracium* sect. *Cernua* (Asteraceae) from Bulgaria. — *Polish Bot. J.* 51: 25–29.
- Szeląg, Z. 2006b: Taxonomic and nomenclatural notes on *Hieracium tubulare* (Asteraceae) with description of a new species from the Eastern Carpathians. — *Ann. Bot. Fennici* 43: 310–314.
- Szeląg, Z. 2007: *Hieracia balcanica* IV. The correct names for *Hieracium oreades* Heuff. (Asteraceae). — *Ann. Bot. Fennici* 44: 463–464.
- Szeląg, Z., Ilnicki, T., Niketić, M. & Tomović, G. 2007. Diploid chromosome numbers in five *Hieracium* species from Serbia and Montenegro. — *Acta Biol. Cracov. Ser. Bot.* 49: 119–121.
- Tyler, T. 2001: Förslag till ny taxonomisk indelning av stångfibblorna (*Pilosella*) i Norden. — *Svensk Bot. Tidskr.* 95: 39–67.
- Vladimirov, V. & Szeląg, Z. 2001: Chromosome numbers in selected species of *Hieracium* subgenus *Pilosella* (Asteraceae) from Bulgaria. — *Polish Bot. J.* 46: 269–273.
- Zahn, K. H. 1906: Was ist *Hieracium amphibolum* Rehm? Ein Beitrag zur Kenntnis der *Piloselloidea* Sectio *Alpicolina*. — *Allgem. Bot. Z.* 12: 38–40.
- Zahn, K. H. 1923: *Hieracium* L. — In: Engler, A. (ed.), *Das Pflanzenreich Regni Vegetabilis Conspectus* IV. 280: 1147–1705. Wilhelm Engelmann, Leipzig.
- Zahn, K. H. 1930: *Hieracium* L. — In: Graebner, P. & Graebner, P. fil. (eds.), *Synopsis der mitteleuropäischen Flora*. 12(1): 1–492. Borntraeger, Leipzig.