

On the typification and application of *Hieracium diaphanum* Fr., with remarks on the diagnostic characters of allied species from southern Sweden

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A lectotype for *Hieracium diaphanum* Fr. (1819) is designated and it is compared with similar species from southern Sweden, i.e. *H. pseudodiaphanum* (Dahlst.) Johanss., *H. jonsbergense* T. Tyler, *H. hemidiaphanum* (Dahlst.) Brenner, *H. dalicum* Johanss. and *H. subglaucovirens* Zahn ex Johanss. & Sam. It is concluded that the name *H. diaphanum* (*s. stricto*) does belong to a very rare species hitherto only known from two sites in the province of Småland (S Sweden) whereas the correct name for the most widespread Nordic species of this group is *H. pseudodiaphanum* (Dahlst.) Johanss.

Introduction

Hieracium diaphanum Fr. (1819) is one of the oldest names in current use for a (micro-) species in the genus *Hieracium*. Like many of the oldest names in critical and very diverse groups the application of this name is highly problematic and its usage in the past has been rather confused. In spite of the fact that already Dahlstedt (1894) pointed out that the typical form of this taxon probably had a very narrow distribution and that it differed in several respects from the more widespread north European taxon later named *H. pseudodiaphanum* (Dahlst.) Johanss., the name *H. diaphanum* has been widely used outside Sweden to denote what is most probably a rather large number of different species. A species as well as a species group with the name *H. diaphanum* is even accepted in *Flora Europaeae* (Sell & West 1976) and the species is there

reported to have a wide distribution in Europe. Also in recent Swedish literature the name *H. diaphanum* has been used in a confusing way. Almquist (1963) used it in synonymy with *H. pseudodiaphanum* with the remark that these two were too similar to keep apart and I have myself followed this treatment in several publications (e.g. Tyler 1998, 2002, 2003a, 2003b).

The reports concerning the original material for this combination have also been contradictory and confusing. Dahlstedt (1894) apparently believed that the material distributed by Fries in his *exsiccata* (from par. Femsjö) was the original material and this supposition was then followed by several authors. However, the protologue is very clear when mentioning only one site for the new species, i.e. “Loco dumetoso subhumido, ad Helleberga Smol.” (Fries 1819). That the type originated from Hälleberga (modern spelling) was obviously clear to Almquist (1963) but for dubi-



Fig. 1. Lectotype of *Hieracium diaphanum*.

ous reasons he considered this material to belong to a different taxon than the material from Femsjö, previously assumed to be the original material.

However, the reasons for this confusion have not only been the age of the combination, the rather taciturn and not-very-precise original description of Fries (1819) and misunderstandings concerning the original material, but it has also been caused by the presence in Sweden of several species that, even though they are all almost invariable and rather distinct, differ by a few minor characters only. Until now, nobody

seems to have critically compared all these species in a common context.

The still extant herbarium material of Fries is mainly kept in herbarium UPS but some specimens are to be found in e.g. S and LD. Material from Hälleberga of *H. diaphanum* and allied taxa has been sought for in all Swedish herbaria but only one specimen has been found (in UPS; Figs. 1 and 2). However, to be a part of Fries' collections, this specimen is unusually clearly labeled, it is dated 1818 and in full agreement with the protologue for *H. diaphanum*. Thus, this speci-



Fig. 2. Detail of the lectotype of *Hieracium diaphanum*.

men is the only option for lectotypification of this combination.

However, in spite of the fact that this type specimen is remarkably well preserved, the identification of it initially appeared very difficult. It is fairly obvious that it does not belong to *H. diaphanum* as previously understood (i.e. as synonymous with *H. pseudodiaphanum*) since it differs from that species in habit, shape and indument of the leaves and in the shape of the phyllaries. In the shape of the phyllaries and capitula it is more similar to *H. diaphanoides* Lindeb., and it could possibly have been an aberrant specimen of that species, even if it has a distinctly different indument of the phyllaries consisting of much shorter glandular hairs. However, after closer inspection of a larger material of all south-Swedish species of this affinity I reached the conclusion that the single type specimen of *H. diaphanum* does indeed belong to the same species as the numerous gatherings made under the same name in Femsjö, and that these specimens do together belong to an apparently

very rare but distinct species not recognized in previous publications of mine.

Characteristics of *H. diaphanum* and allied species from southern Sweden

All the species treated below are characterized by leaves with \pm stellate hairs beneath (at least the stem leaves) and phyllaries, peduncles and branches of the synflorescence that are covered with crowded short blackish glandular hairs (the longest ones 0.15–0.35 mm long) but no or few simple hairs and all these species virtually lack stellate hairs on the phyllaries. This group of species may possibly be confused with the widespread and common *H. diaphanoides* and its more narrowly distributed allies, but these all differ by having much longer and coarser glandular hairs in the synflorescence (the longest ones 0.8–1.4 mm) and they all have very broad phyllaries that are broadly rounded at apex.

Hieracium diaphanum Fr. s. stricto (Figs. 1 and 2)

Nov. Fl. Suec.: 75. 1814–28 [1819]. — *H. vulgatum* [grex *anfractum*] ssp. *diaphanum* (Fr.) Zahn, Pflanzentr.: 381. 1921. — LECTOTYPE designated here: 'Hieracium diaphanum; Fries Specimen ob caul. paucifolium ob. ... [?] – fol. caul. pleurumque b ovata, sessilia. Willköl Gästgifv. i Helleberga sn ... [?] 6 1818.' in UPS.

Characteristic for this species is: basal leaves rather broadly elliptic–lanceolate, 2.5–3.0 times longer than wide, finely but distinctly and regularly serrato-dentate almost to apex (largest teeth ca. 10% of leaf width), thin and green throughout (including petiole), densely and evenly hairy on both sides, \pm without stellate hairs; stem-leaves 2–4, \pm densely hairy on both sides but with only scattered stellate hairs beneath. Phyllaries very broad (1.3–1.5 mm at the middle) with broad, broadly rounded apex, never with any simple hairs.

Apart from the type locality, from which only one specimen appears to exist, this species is only known from gatherings from a single site

“near Valshult” in par. Femsjö (ca. 140 km west of the type locality). However, there are numerous gatherings from this latter locality, some of which were distributed by Fries in his exsiccata (as Herbarium Normale II: 11). However, the species appears not to have been refound since 1890. This southwestern part of the province of Småland is generally very poor in *Hieracium* species. As a consequence of this, very few hieraciologists have found reasons to visit the area and its flora is therefore badly known. Thus, this species should be sought for in this region and even if it has not been found for more than a century it may well still occur there.

***Hieracium pseudodiaphanum* (Dahlst.) Johanss.**

Arch. Dalarnas Siluromr.: 88. 1902. — *H. diaphanum* ssp. *diaphanum* var. *pseudodiaphanum* Dahlst., Bidrag III: 172. 1894a. — *H. vulgatum* ssp. *diaphanum* var. *pseudodiaphanum* (Dahlst.) Zahn, Pflanzentz.: 382. 1921. — LECTOTYPE: ‘Smål. Sommens järnvägsstation; /7 1883, Hugo Dahlstedt’ in S (Tyler 2000).

Characteristic for this species is: basal leaves narrowly elliptic, 2.6–4.0 times longer than wide, usually very finely serrato-denticulate (largest teeth < 10% of leaf width), somewhat thick in texture and rather sparsely hairy on both sides but with ± abundant stellate hairs beneath, with petioles (and sometimes also the central vein and the base of the stem) usually distinctly lilac; stem-leaves 1–2, almost glabrous above but with ± sparse simple hairs along the midrib and margin beneath and there with dense, often almost matted, stellate hairs. Phyllaries relatively narrow and long-pointed, ca. 1.0 mm wide at the middle, narrowly obtuse at apex, with or without single simple hairs on the outer phyllaries of the primary capitulum.

This is the most widespread and common species in this group and it is known from all Swedish provinces from Skåne (in the south) to Medelpad. It is further known from Denmark and Norway (a few specimens seen) and has been reported from several additional countries from which, however, I have not examined any specimens.

***Hieracium jonsbergense* T. Tyler**

New Sp. Gotl. Österg.: 138. 2004a. — HOLOTYPE: ‘Ög. Jonsberg: Gässlingbo 20/7 1899. J.A. Lewin’ in S.

This species is very similar to *H. pseudodiaphanum* in the vegetative parts, their texture, indument and pigmentation but differs from it by almost entire basal leaves and by broader phyllaries with broadly rounded apex (in shape similar to those of *H. diaphanum* and *H. diaphanoides*) with ± numerous intermixed simple hairs on most phyllaries and capitula.

This species is still only known from the type locality in the province of Östergötland, but very similar forms have been collected in the northwestern part of the province of Småland even though I have not yet been able to decide if they really belong to this species. The limits between this species and *H. pseudodiaphanum* are still somewhat obscure and will so remain until more material of *H. jonsbergense* becomes available.

***Hieracium hemidiaphanum* (Dahlst.) Brenner**

Spridda Bidr. IV: 29. 1895. — *H. anfractum* ssp. *hemidiaphanum* Dahlst., Bidrag III: 162. 1894a. — *H. vulgatum* [grex *anfractum*] ssp. *hemidiaphanum* (Dahlst.) Zahn, Pflanzentz.: 387. 1921. — LECTOTYPE: ‘Östergötland in silvis umbrosis ad Grensholmen parociae Wånga, 9/7 1888.’ (ex H. Dahlstedt, Hier. exsiccata I: 88) in S (Tyler 2004b).

This species is very similar to *H. pseudodiaphanum* with respect to the shape and pigmentation of the leaves and the indument of the capitula but it differs by having only few stellate hairs on the lower side of the (stem-)leaves and by narrowly and acutely pointed phyllaries. The leaves also tend to have somewhat coarser teeth that are concentrated to the basal half of the leaves, whereas *H. pseudodiaphanum* have narrower and more closely set teeth that almost reach the apex of the leaves. This species is only known from the provinces of Östergötland, Södermanland and Uppland, but has been collected at rather many sites there and is highly constant and distinct.

Hieracium dalicum Johanss.

Nya Arch. Dalarna, Västmanl., Dalsland: 49. 1900. — *H. vulgatum* [grex *irriguum*] ssp. *dalicum* (Johanss.) Zahn, Pflanzentz.: 374. 1921. — LECTOTYPE: 'Dalsl. Dalskogs station 12/7 1899; leg. K. Johansson.' in S (Tyler 2006).

This species is very similar to *H. pseudodiaphanum* with respect to the phyllaries, even if they tend to be slightly more acute and the glandular hairs may be slightly longer and coarser in *H. dalicum*. However, it is characterized by broader, ± lanceolate leaves (2.5–3.0 times longer than wide) with larger teeth (15%–30% of leaf width; leaves often distinctly serrate), taller habit with commonly 3–4 stem-leaves and very peculiar capitula with unusually short ligules only about 13–15 mm long (measured from the base of the capitulum to the apex of the longest ligules) as compared with ca. 20 mm in most other members of sect. *Vulgata*. The leaves are green throughout (including petiole) but their indument is similar to that of *H. pseudodiaphanum*.

This species is locally common in the province of Dalsland but there are only a few records from the neighboring provinces of Bohuslän and Värmland and from adjacent parts of Norway.

Hieracium subglaucovirens Zahn ex Johanss. & Sam.

Dalarnas Hierac. Vulg.: 68. 1923. *Nom. et stat. nov. pro H. glaucovirens* (Dahlst. ex Stenstr.) Dahlst., Herb. Hierac. Scand., exs. II: 66. 1892, non Jeanb. & Timb. 1883. — *H. murorum* ssp. *glaucovirens* Dahlst. ex Stenstr., Värml. Arch.: 55. 1889. — *H. vulgatum* ssp. *subglaucovirens* Zahn, Pflanzentz.: 382. 1921, *nom. illeg. superfl.* — LECTOTYPE: 'Värmland in betuletis ad Löfåsen parociae Borgvik, 6.VII.1885. Leg. K. O. E. Stenström' (ex Dahlst., Hierac. exs. III: 48) in S (Sennikov 2003).

This species is closely similar to *H. pseudodiaphanum* with respect to the indument, pigmentation and texture of the leaves and phyllaries but it differs by having slightly broader phyllaries which are broader and more obtuse at the apex and, in particular, by a much taller habit with a thick stem carrying 4–6 very narrow, sublinear stem-leaves and basal leaves of similar shape (4.4–6.5 times longer than wide).

This species is fairly widespread and has been collected in most provinces of southern and central Sweden but is much rarer than *H. pseudodiaphanum* and is nowhere common.

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References

- Almquist, E. 1963: *Hieracium*. — In: Weimarck, H. (ed.), *Skånes flora*: 669–688. Corona, Lund.
- Brenner, M. 1895: Spridda bidrag till kännedom om Finlands *Hieracium*-former IV. — *Acta Soc. Fauna Fl. Fenn.* 13(1): 1–68.
- Dahlstedt, H. 1892: *Herbarium Hieraciorum Scandinaviae* I–III. (Exsiccata).
- Dahlstedt, H. 1894: Bidrag till sydöstra Sveriges *Hieracium*-flora III. — *Sv. Vet.-Akad. Handl.* 26 n. 3: 1–256.
- Fries, E. 1814–1828 [1819]: *Novitiae Florae Suecicae*. — Lund. [pp. 73–80 published in 1819].
- Johansson, K. 1900: Nya Archieracier från Dalarna, Västmanland och Dalsland. — *Bih. Sv. Vet.-Akad. Handl.* 25, III n. 7: 1–50.
- Johansson, K. 1902: Archieraciumfloran inom Dalarnes silur-område i Siljanstrakten. — *Bih. Sv. Vet.-Akad. Handl.* 28, III n. 7: 1–97.
- Johansson, K. & Samuelsson, G. 1923: *Dalarnas Hieracia Vulgatiformia*. — Författarnas förlag, Leipzig.
- Sell, P. D. & West, C. 1976: *Hieracium*. — In: Tutin, T. G., Heywood, V. H., Burges, N. A., Moore, D. M., Valentine, D. H., Walter, S. M., Webb, D. A., Chater, A. O., DePhilipps, R. A. & Richardson, I. B. K. (eds.), *Flora Europaeae* 4: 359–410. Cambridge Univ. Press, Cambridge.
- Sennikov, A. N. 2003: Typification of some *Hieracium* (Asteraceae) names published by Swedish authors. — *Ann. Bot. Fennici* 40: 219–231.
- Stenström, K. O. E. 1889: *Värmländska Archieracier*. — Upsala.
- Tyler, T. 1998: Hag-, skogs- och klippfibblor i södra Götaland. — *LBF Medlemsblad* 1998, 2: 1–64.
- Tyler, T. 2000: Lectotypification of names of south Swedish *Hieracium* species (Asteraceae). — *Nordic J. Bot.* 20: 93–103.
- Tyler, T. 2002: Gotlands hag- och skogsfibblor. — *Rindi* 22(2–3): 47–90.
- Tyler, T. 2003a: Östergötlands hagfibblor. — *Bot. Notiser* 136(2): 1–36.
- Tyler, T. 2003b: Västergötlands skogs- och hagfibblor. — *Calluna* 20: 2–3.
- Tyler, T. 2004a: New species, varieties and combinations

- of *Hieracium* from the Swedish provinces Gotland and Östergötland. — *Ann. Bot. Fennici* 41: 137–142.
- Tyler, T. 2004b: Lectotypifications of names of species of *Hieracium* from the Swedish provinces Gotland and Östergötland. — *Ann. Bot. Fennici* 41: 79–83.
- Tyler, T. 2006: Lectotypification of names of *Hieracium* sect. *Hieracium* and sect. *Vulgata* based on material from southern Sweden. — *Comp. Newsl.* 44: 74–93.
- Zahn, K. H. 1921–1923: *Hieracium*. — In: Engler, A. (ed.), *Das Pflanzenreich* IV: 280. Wilhelm Engelmann, Leipzig.