



# Lectotypification of Linnaean names in *Tussilago* (Asteraceae)

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**ABSTRACT** The typification of the names *Tussilago alpina* and *T. petasites* (Asteraceae) are discussed. Specimens from the Burser Herbarium (UPS) are designated as lectotypes.

**KEY WORDS:** Asteraceae, *Homogyne alpina* (L.) Cass., *Petasites hybridus* (L.) G.Gaertn., G.Mey. & Schreb., typification

Received: 16 September 2013

Revision accepted 04 August 2014

UDK 582.772.2:57.6:581.961

*Petasites* Mill. (Asterales Link, Asteraceae Bercht. & J.Presl.) is a genus of 15-19 species distributed in the northern hemisphere, from North America to Eurasia (BAYER *et al.* 2006, CHEN & NORDENSTAM 2011). LINNAEUS (1753, 1759) published 10 names under *Tussilago* of which only one (*T. farfara* L.) is now referred to this genus. The other names are usually placed in other genera (*Farfugium* Lindl., *Homogyne* Cass., *Petasites* Mill., *Leibnitzia* Cass. and *Chaptalia* Vent.). The names *T. alpina* [ $\equiv$  *Homogyne alpina* (L.) Cass.] and *T. petasites* [ $\equiv$  *Petasites hybridus* (L.) G.Gaertn. *et al.*] appear still to be untypified, and they are therefore investigated here as part of the study of the Linnaean names in the Asteraceae and the cooperation (by the first author) to the revision of this family for the New Italian Flora (editor, Prof. S. Pignatti) (e.g. IAMONICO 2012, 2013a, 2013b; IAMONICO & ALESSANDRINI 2008, IAMONICO & MANAGLIA in press).

## TYPIFICATIONS

### *Tussilago alpina*

The protologue consists of a diagnosis (“*TUSSILAGO scapo subnudo unifloro, foliis cordato orbiculatis crenatis*”) taken from LINNAEUS (1737: 411) and ROYEN (1740: 159) and four synonyms cited from BAUHIN (1623: 197,

two synonyms including one unnamed  $\beta$  variety), and CLUSIUS (1601: 113, two synonyms). The provenance was also indicated (“*Habitat in Alpibus, Helvetiae, Austriae, Bohemiae*”).

In the Clifford Herbarium there is one sheet (Barcode BM000647135, image available at <http://www.nhm.ac.uk/research-curation/research/projects/clifford-herbarium/search/>) that bears one plant matching the Linnaean's protologue. The Clifford phrase “*Tussilago alpina, rotundifolia grabra C. B. S. 197*” linked one of the Bauhin's synonym.

In the Burser Herbarium at UPS there are two sheets (Herb. Burser X: 148, X: 149) bearing the original annotations “*Tussilago alpina rotundifolia glabra Bauh. In montibus Bohemiae, Helvetiae, Pyrenaeis*” and “*Tussilago alpina rotundifolia canescens Bauh. In alpibus Hevetius*”, that matching the Linnaean synonym from BAUHIN (1623).

We have been unable to trace any further original material in any of the other Linnaean and Linnaean-linked herbaria.

The specimens from the Burser and Clifford herbaria bear plants whose features correspond to the Linnaean diagnosis, showing the stem glabrous with a single terminal capitulum (“...*scapo subnudo unifloro*...”) and the leaves orbiculate, with base cordate and crenate margins

("...foliis cordato orbiculatis crenatis..."). These plants also correspond to the current concept of the species (e.g., DINGWALL 1976, PIGNATTI 1982).

Since the *Bursera exsiccatum* No. 148 appears to be more complete (it also includes the root), it is here designated as the lectotype of the name *Tussilago alpina* (Fig. 1).

*Homogyne alpina* (L.) Cass, Dict. Sci. Nat., ed. 2. [F. Cuvier] 21: 412 (1821)

Basionym: *Tussilago alpina* L., Sp. Pl. 2: 865 (1753)

Lectotype (here designated: UPS): Herb. Burser, X: 148 [GUID: UPS:BOT:V-173943] (Fig. 1)

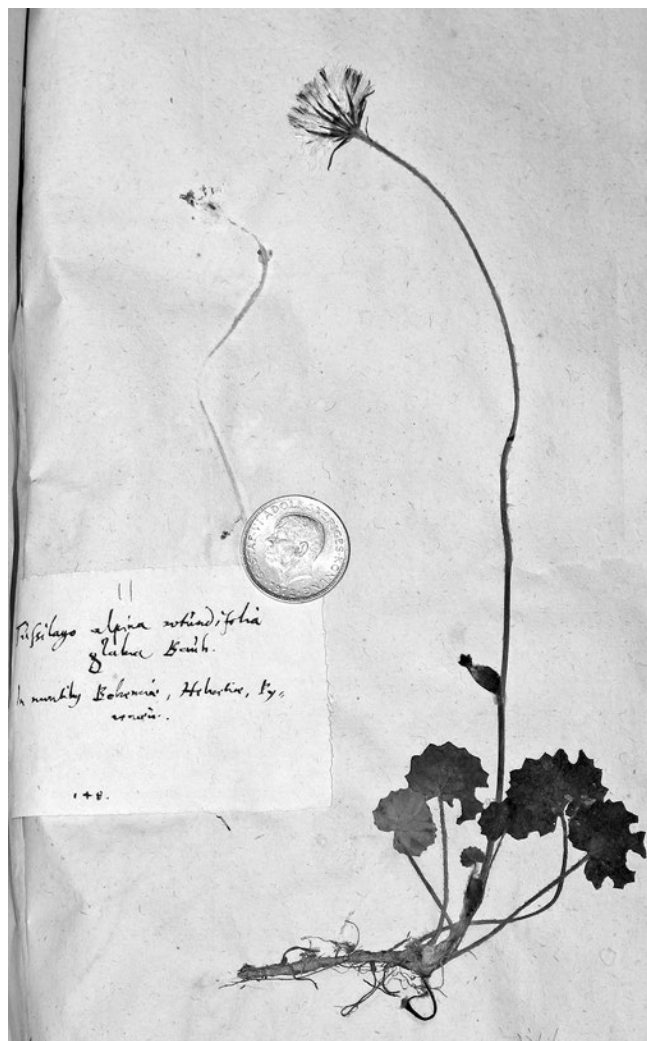


Fig. 1. Lectotype of the name *Tussilago alpina* L. (Herb. Burser, X: 148, UPS).

### *Tussilago petasites*

Linnaeus's protologue (LINNAEUS 1753) consists of a diagnosis ("*TUSSILAGO thyrsos ovato, flosculis omnibus hermaphroditis*"), taken directly from LINNAEUS (1737: 411, 1745: 685, 1749: 390), ROYEN (1740: 159), and DALIBARD (1749: 256) with two synonyms cited

from BAUHIN (1623: 197) and MATTHIOLI *et al.* (1586: 592), the latter provided an iconography that can be considered original material. The provenance was also provided ("*Habitat in Europa temperiore*").

In the Linnaean Herbarium at LINN there are two sheets (Nos. 995.29, and 995.30, images available at <http://linnean-online.org/10130/> and <http://linnean-online.org/10131/>), of which the latter one bears the annotation "*petasites*" but lacking the *Species Plantarum* number, suggesting that it is a post-1753 addition to the collection and not original material for the name (JARVIS 2007: 46-47). Indeed, the specimen No. 995.29 bears the Linnaean's script "*7 HU petasites*" ("*HU*" means Hortus Upsaliensis) and it can be considered for the typification.

In the Herbarium Clifford there are two sheets of original material (barcodes BM000647136 and BM000647138) with plants identifiable as *T. petasites* according to Linnaeus's 1753 protologue. The sheet BM000647136 includes the Clifford phrase "...*Petasites major et vulgaris C. B. P. 197...*" linked the Bauhin's synonym.

Finally, in the Burser Herbarium at UPS we found one sheet (Herb. Burser X: 150) bearing the original annotation "*Petasites major et vulgaris Bauh.*" that matches the Linnaean synonym from BAUHIN (1623). The collection locality is also indicated ("*In Lusatia, Misnia, Seelandia*"). This specimen represents original material for the name *T. petasites*.

We have been unable to trace any further original material in any of the other Linnaean and Linnaean-linked herbaria (see also JARVIS 2007).

All elements (specimens from the Herbaria Burser, Clifford, and Linnaeus and illustration by Matthioli *et al.*) clearly show the inflorescence (ovate) that marks a part of the Linnaean concept of the species ("*thyrsos ovato,...*"). As regard the flowers [LINNAEUS (1753) reports "*...flosculis omnibus hermaphroditis*"], the image by MATTHIOLI *et al.* (1586) does not allow to verify this character (flowers are not shown in detail); moreover, the authors did not describe the sex of the flowers. Therefore we prefer to exclude the illustration. The exsiccata match the diagnosis by LINNAEUS (1753). However, those from BM and LINN bear plants without leaves. Since the leaf characteristics are useful in the identification of the various *Petasites* taxa, we prefer to designate the more complete specimen in the Burser herbarium as lectotype of the name *Tussilago petasites* (Fig. 2).

*Petasites hybridus* (L.) G.Gaertn. *et al.*, Oekon. Fl. Wetterau 3(1): 184 (1801)

Basionym: *Tussilago hybrida* L., Sp. Pl. 2: 866 (1753)

Lectotype (here designated: UPS): Herb. Burser, X: 150 [GUID: UPS:BOT:V-173945] (Fig. 2)



Fig. 2- Lectotype of the name *Tussilago petasites* L. (Herb. Burser, X: 150, UPS).

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REZIME

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## Lektotipifikacija Lineovih imena za *Tussilago* (Asteraceae)

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Tipifikacija imena *Tussilago alpina* i *T. petasites* (Asteraceae) je data u ovom radu. Primerci iz Bursnerovog herbara (UPS) su označene kao lektotipovi. .

**KLJUČNE REČI:** Asteraceae, *Homogyne alpina* (L.) Cass, *Petasites hybridus* (L.) G.Gaertn., G.Mey. & Schreb., tipifikacija