

# Two new *Taraxacum* species (Asteraceae) from Nordic countries

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Two new species of *Taraxacum* from Finland, Sweden and Norway are described here based on both field studies and cultivated material. Their morphology is compared with closely related species. Holotypes are deposited in H. *Taraxacum* (sect. *Boreigena*) *hirsuticaule* J. Räsänen has been found in northern Finland, Sweden and Norway, *Taraxacum* (sect. *Borea*) *boreipix* J. Räsänen only in Finland, Inari Lapland. Additional studies are required to clarify their total distributions.

## Introduction

In spring, during the flowering period of dandelions, one might think that they are still as common and abundant as decades ago. However, this is not the complete picture, since many changes have taken place. There are species and species groups that have become more common and displaced their weaker competitors. Over the past hundred years, species of the section *Taraxacum* have competed successfully against several other dandelion sections. Similar competition occurs between species within the sections: some species are increasing, and others will decline. Nowadays species of section *Taraxacum* are becoming predominant in northern Finland, but in the north the dandelion flora belonging to other sections is still more representative than in southern and central Finland.

In recent decades, while studying and recording the dandelion flora in various parts of Finland and Sweden, I have found many specimens belonging to several *Taraxacum* species, which had not been officially described. Six of them, belonging to Sect. *Taraxacum*, were recently described (Räsänen 2013). In this paper I describe two new species from the north, both of which I have been

cultivating for many years. One of them belongs to the section *Boreigena* (ca. 15 species in Finland), and the other to the section *Borea* (ca. 50 species in Finland).

## Material and methods

Seeds taken from the holotype and other material of both species were grown for several years in the Botanical Garden Botania of the University of Joensuu and in the private gardens of the author (Finland, North Karelia, Joensuu) and of H. Øllgaard (Denmark, Viborg). Material of the new species was compared with herbarium specimens at Botanical Museums in Helsinki (H), Oulu (OULU), Turku (TUR) and Stockholm (S). Additionally, private herbaria of J. Räsänen (Herb. JR) and H. Øllgaard (Herb. HØ) were consulted. The holotypes were deposited in H.

### *Taraxacum* (sect. *Boreigena*) *hirsuticaule*

J. Räsänen, sp. nova (Figs. 1, 2)

*Holotype:* Finland, Kittilä Lapland, ”Kittilä, Raatama, Ounasjoki, Vähäkoski, tien 957 varrella täyttömaalla runsaasti [along the road 957, on filling earth, abundant]”, WGS84: 68°09’N:24°12’E,



Fig. 1. Holotype of *Taraxacum hirsuticaule* Räsänen (J. Räsänen 13/197, H 845672).

16.VI.2013, J. Räsänen 13/197 (H 845672, holotype; isotypes: J. Räsänen 13/196 [Herb. HØ; Herb. JR, Fig. 2), J. Räsänen 13/197 (Herb. HØ, Herb. JR), J. Räsänen 13/198 (H 843525, OULU, S, Herb. JR)].

*Etymology:* The name refers to the hairy scape of the inflorescence in this species.

*Description:* A medium sized to rather robust plant, 20–40 cm tall. Leaf petioles narrowly to rather broadly winged, ± intensively red-violet;

Fig. 2. Isotype of *Taraxacum hirsuticaule* Räsänen (J. Räsänen 13/196, Herb. JR).



blades oblanceolate, slightly darkish green, variably hirsute, with the midrib reddish in the lower part and brownish to green in the upper part; leaf lobation variable, sometimes all leaves are only sparsely dentate, sometimes middle and inner leaves dissected; side lobes (1–3 pairs) del-

toid, with acute to very acute or tapering tip, distal margins straight to concave, entire or, especially in the inner leaves, subulate-dentate and proximal margins almost straight, entire; terminal lobes large, lacking a distinct tip, with entire or slightly denticulate margins; inter-lobes broadly

rounded or slightly angular, flat or rarely faintly plicate, green. Scapes  $\pm$  hirsute in the lower part, arachnoid under the involucre. Involucres light green, not pruinose. Outer bracts 5–12  $\times$  1.5–4 mm, greenish, regularly arranged, adpressed to horizontal, their margin flat,  $\pm$  ciliate, without or faintly hyaline rim; bract corniculation absent. Inner bracts variably wide, coalescent. Capitulum 50–55 mm in diameter, medium dense, profile  $\pm$  flat, of medium yellow flower colour. Flowers with slightly canaliculated flat ligules, with dark yellow to darkish lilac teeth, beneath with a greyish to reddish grey stripe; pollen absent; stigmas yellow or nearly yellow. Achenes 3.5–4.0 mm long (including cylindrical smooth cone, ca. 0.7 mm long); achene spinules squamulose, incurved.

*Other studied material:* **Finland**, Enontekiö Lapland, "Enontekiö, Peltovuoma, ängsmarker längs ån mellan Pasmajärvi och Peltjärvi, i östra delen av byn [meadows along the river between Pasmajärvi and Peltjärvi, E part of the village]", WGS84: 68°23'N:24°12'E, 3.VII.1969 C.-F. Lundevall & A. Railonsala (det. C.-F. Lundevall 10136; S). **Norway**, Finnmark, "Tana Kommune, väggkant i [Tana parish, Smulfjordsbotn, roadside]", 21.VI.1990 leg. P. Oosterveld (det. C.-F. Lundevall 15844; S). **Sweden**, Norrbotten, "Pajala, Muonionalusta, niitty ravintola Rajamaan luona [meadow near Restaurant Rajamaa]", WGS84: 67°54'N:23°33'E, 4.VII.2008, J. Räsänen & L. Stenberg JR 8/534 (S, Herb. HØ, Herb. JR).

*Other studies material* (cultivated from seeds of the specimen JR 8/534): **Finland**, North Karelia, Joensuu, Linnunlahti, experimental garden of Botania, 3.VI.2010, J. Räsänen 10/109 (S, H 1757532, Herb. JR).

*Notes.* In 1969, C.-F. Lundevall and A. Railonsala collected a dandelion sample from Finland, Enontekiö Lapland, which they named as *Taraxacum hirsuticaule*, but they did not describe this species. In 1990, P. Oosterveld collected a dandelion sample from Norway, Finnmark, Tana, and Lundevall determined it as the same species, but still did not describe it. In 2013, I collected more samples from Finland, Kittilä Lapland, which I found to belong to this species. Furthermore, with L. Stenberg I had collected an unknown dandelion sample in 2008 from Sweden, Norrbotten, Muonionalusta. I received some achenes from that sample and, after growing them I realized that it also belongs to this species. At this stage there was enough material to describe this new species.

The most similar species seems to be *Taraxacum galeatum* Dahlst. However, *T. galeatum* has pollen, its leaf blades are more deeply lobed, and the outer bracts recurved. *T. chrysostylum* Dahlst. lacks pollen as does *T. hirsuticaule*, but its outer bracts are deflexed, leaf blades more lobed and the midrib lighter red.

*Distribution.* Northern part of Finland, Norway and Sweden.

***Taraxacum* (sect. *Borea*) *boreipix* J. Räsänen, sp. nova** (Fig. 3, 4)

*Type:* Finland, Inari Lapland, Inari, Sevetijärvi, Varpuniemi (Holmberg), kuivapohjainen vanha heinäpelto talon W-puolella [Dry abandoned hay field W of the farmstead], WGS84 :69°32'N:28°37'E, 10.7.1997, J. Räsänen & C.-E. Sonck JR R592 (H 845673, holotype (Fig. 3); isotypes Herb. HØ, Herb. JR).

*Etymology:* The name refers to the northern range of the species and to the tar-coloured spots in the leaves.

*Description:* 20–40 cm tall plant with a suberect rosette. Leaf petiole  $\pm$  broadly winged, greenish or inner petioles rarely slightly reddish, midrib green to brownish; blade slightly pale greyish green, glabrescent, lobation in outer and middle leaves often distinct, but sometimes reduced, in inner leaves often reduced to gross dentation; lateral lobes undivided, falcate or concave, the distal margin entire or variably toothed; side lobes entire, with fairly straight proximal edges, lobes with very acute tips; terminal lobe rather large,  $\pm$  toothed or sometimes small,  $\pm$  rhombic, with an acute tip; inter-lobes angular or sometimes broadly rounded, mostly indistinctly plicate, often  $\pm$  tar-coloured. Scapes rather glabrous,  $\pm$  hairy under the buds. Involucres pale to dark green, not (or indistinctly) pruinose; outer bracts ca. 12–13  $\times$  3–4 mm, green to faintly reddish, regularly arranged, horizontal to  $\pm$  adpressed, with a faint hyaline border; capitulum ca. 40–50 mm in diameter, medium yellow, with  $\pm$  convex profile. Ligules usually flat, with  $\pm$  yellow apical ligule teeth, beneath with a greyish stripe. Flowers without pollen; stigmas moderately discoloured. Achenes greyish brown, 3.6–4.1 mm long (including cylindrical smooth cone, 0.5–0.6 mm long), spi-



Fig. 3. Holotype of *Taraxacum boreipix* Räsänen (J. Räsänen & C.-E. Sonck JR R592, H 845673).

nulose in the distal part; spinules medium long, strong (often partly squamulose), straight; rostrum 8–10 mm long.

*Additional material* (cultivated from seeds of the holotype): **Denmark**, Østjylland, Viborg, Birgittelyst, 7.V.2000 H. Øllgaard 00–150 (Herb. HØ, Herb. JR); **Finland**, Ka-



Fig. 4. *Taraxacum boreipix* Räsänen (J. Räsänen 9/210, Herb. JR).

*relia borealis*, Joensuu, Linnunlahti, Botania, experimental garden, 31.V.2002 J. Räsänen 2/157 (Herb. HØ, Herb. JR), 8.VI.2005 J. Räsänen 5/128 (H 1757531, OULU, Herb. HØ, Herb. JR), 13.VI.2009 J. Räsänen 9/210 (H 1757530, TUR, Herb. JR (Fig. 4), Herb. HØ).

*Distribution:* Finland (and Sweden?).

*Notes:* When C. E. Sonck and I collected the sample of this species in 1997 from Inari Lapland, Sevettijärvi, we did not recognise it. I also sent a duplicate of it to H. Øllgaard (Denmark), who did not know the species. Both of us also cultivated achenes from the original collection. After ob-

taining more material in cultivation it turned out to be so different from other species of Sect. *Borea* that it is worth being described as a new species.

Actually, *Taraxacum boreipix* cannot be confused with any other species of sect. *Borea*. There are few species with tar-coloured spots in the section, and among them the new species resembles most (but only a little) *T. hamosiforme* Rail. The minor similarities detected resemble pseudotype specimens but not the type specimen of *T. boreipix*. In *T. hamosiforme* the leaf petiole is reddish, and the side lobes of the blade are recurved; in *T. boreipix* the petiole is green, and the side lobes turn upward.

G. E. Haglund collected a specimen (kept in S) from Sweden, Uppland, and named it as *Taraxacum poliophyllum*, but did not describe it. The specimen so closely resembles pseudotype specimens of *T. boreipix* that it may belong to this spe-

cies. However, one specimen is not enough for a definite conclusion based on morphological grounds, and a genetic analysis should be carried out. – So far, *T. boreipix* is known with certainty only from Finland.

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## References

- Kirschner, J. & Štěpánek, J. 1997: Notes on the series of *Taraxaca Exsiccata*, Fasc. V–VII (Studies in *Taraxacum* 16). – *Preslia* 69: 35–58.
- Räsänen, J. 2013: Six new *Taraxacum* (sect. *Taraxacum*) species (Asteraceae) from Finland and Sweden. – *Memoranda Soc. Fauna Flora Fennica* 89: 42–56