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Four New Species of *Taraxacum* sect. *Ruderalia* (*Asteraceae-Cichorieae*) from Central Europe and Scandinavia

By

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With 9 Figures

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Summary

UHLEMANN I., KIRSCHNER J., ØLLGAARD H. & ŠTĚPÁNEK J. 2007. Four new species of *Taraxacum* sect. *Ruderalia* (*Asteraceae-Cichorieae*) from Central Europe and Scandinavia. – *Phyton* (Horn, Austria) 47 (1–2): 103–121, with 9 figures. – English with German summary.

Four new species of *Taraxacum* F. H. WIGG. sect. *Ruderalia* KIRSCHNER, H. ØLLGAARD & ŠTĚPÁNEK (*Asteraceae-Cichorieae*) are described: *T. capillosum* H. ØLLGAARD & UHLEMANN with an extraordinary dense indumentum is known from Denmark, Sweden, Finland, Germany and Poland, *T. delectum* UHLEMANN with recurved and bordered outer bracts occurs in Saxony (Germany), *T. ottonis* UHLEMANN

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has irregular outer bracts and is also known from Saxony (Germany) and *T. subborgvallii* UHLEMANN, ŠTĚPÁNEK & KIRSCHNER with a delicate habit and long, narrow, unwinged, purple petioles which is known from the eastern part of Germany and from the western part of Bohemia. All species belong to the section *Ruderalia*. A list of localities and specimens seen and the distribution maps are presented for each taxon.

Zusammenfassung

UHLEMANN I., KIRSCHNER J., ØLLGAARD H. & ŠTĚPÁNEK J. 2007. Vier neue Arten aus *Taraxacum* sect. *Ruderalia* (Asteraceae-Cichorieae) aus Mitteleuropa und Skandinavien. – *Phyton* (Horn, Austria) 47 (1–2): 103–121, mit 9 Abbildungen. – Englisch mit deutscher Zusammenfassung.

Vier neue Arten aus *Taraxacum* F.H. WIGG. sect. *Ruderalia* KIRSCHNER, H. ØLLGAARD & ŠTĚPÁNEK werden beschrieben. *Taraxacum capillosum* H. ØLLGAARD & UHLEMANN, mit außergewöhnlich dichtem Indument, ist aus Dänemark, Schweden, Finnland, Deutschland und Polen bekannt. *T. delectum* UHLEMANN mit zurückgekrümmten, berandeten, äußeren Involukralblättern findet sich in Sachsen (Deutschland). *T. ottonis* UHLEMANN besitzt unregelmäßig stehende, äußere Involukralblätter und kommt ebenfalls in Sachsen (Deutschland) vor. *T. subborgvallii* UHLEMANN, ŠTĚPÁNEK & KIRSCHNER mit zartem Habitus und langen, schmalen Blattstielen, findet sich im östlichen Deutschland und angrenzendem W-Böhmen. Fundortslisten und Punktkarten werden für jede Art gebracht.

1. Introduction

The genus *Taraxacum* is distinguished from other agamospermous complexes in Central Europe by an innumerable amount of individuals, occurring on pastures, lawns, meadows and ruderal sites. Although the number of species known from Germany is about 400 (UHLEMANN, KIRSCHNER & ŠTĚPÁNEK 2005), taxonomists and other field botanists are far from a more complete inventory. Moreover, a quite different percentage of species has already identified in certain regions. To the authors' experience, about 50% of identified species have been cited from the northern part of Germany, which is a proportion known from Scandinavia, but the percentage decreases towards the south. It is assumed that in the central part of Germany not more than 30% of *Taraxacum*-species, about 15% in northern Bavaria, and very probably not more than 5% in the southern part of Bavaria and Baden-Württemberg are known. Thus, the recent alpha-taxonomic research is focused on more distinct and more widespread triploid agamospermous forms, taking considerable advantage of international collaborations. In continuation of a former paper (UHLEMANN 2004), the present one contains descriptions of four new species of the genus *Taraxacum*, all belonging to section *Ruderalia*.

2. *Taraxacum capillosum* H. ØLLGAARD & UHLEMANN, spec. nova
[*T. marchicum*, nom. prov. inval. (UHLEMANN 2003)]

Holotype: Deutschland, Brandenburg, Niederlausitz, Senftenberg, Großenhainer Straße, Wegrand, 26.4.2003, leg. UHLEMANN (DR 036007). – Isotypes: (DR 036006, 036008, 036009, 036010).

Etymology: The epitheton (lat. capillus=hair) points to the dense indumentum of this species.

Descriptio: (Figs 1, 5A). Plantae mediocriter altae (20–30 cm), robustae, foliis canoviridibus, dense et valde araneosis, petiolis alatis, purpureis, nervo mediano sordide viridi vel parce brunnescente, laminibus distincte lobatis, lobis lateralibus 4–5 utriusque, deltoideis, marginibus distalibus ad basin sublati et convexi, apice saepe porrigentibus, contractis, patentibus vel recurvis, acutis, integerrimis vel (praesertim in lobis inferioribus) marginibus distalibus saepe dente minuto instructis, lobo terminali mediocri, triangulari, lobulo apicali saepe distincte elongato ad lingulato, interlobiis planis, viridibus, saepe dentatis. Scapi valde araneosi, brunneo-virides. Involucrum olivaceo-viride, non pruinatum, squamis exterioribus regularibus, recurvis, lanceolatis, 3–4 mm latis, 13–15 mm longis, anguste albido-marginatis, superne laete cano-viridibus vel paulum ad valde purpureis. Calathium 45–55 mm in diametro, luteum, radians, ligulis marginalibus planis, subtus stria canoviolacea notatis. Antherae polliniferae, stylus superne obscure virescens. Achenium fuscostramineum, c. 3.0 mm longum (pyramide exclusa), superne valde spinulosum spinulis rectis, pyramis c. 0.8 mm longa, subcylindrica-cylindrica, laevis, rostrum 12–13 mm longum, pappus albus.

Chromosomatum numerus somaticus: $2n=24$ (Lichterfeld, herb. UHLEMANN).

Annotations: The most striking character which distinguishes *T. capillosum* from all other Central European *Taraxacum*-species is the extraordinary density of the indumentum. The leaves, as well as the scapes, are densely covered by short hairs. Furthermore, the species is characterized by more or less thin and spreading tips of leaf-lobes, purple petioles and recurved, narrowly bordered outer bracts.

In regard to the leaf shape, it is related both to *T. acroglossum* DAHLST. 1910 and *T. contractum* MARKL. 1940 but these species have slightly or moderately hairy leaves and scapes and unbordered outer bracts.

Distribution (Fig. 2) (MTB=topographical map 1:25,000 with a grid number): *T. capillosum* has a wide distribution that presently comprises Denmark, Finland, Germany, Poland and Sweden.

Specimens seen: Denmark, North Jutland, Nørre Sundby, Hjørringvej, park in former chalk-pit, ruderal ground, 25.5.1995, leg. ØLLGAARD (herb. HØ-95-229/230),

North Jutland, Thisted NW, Ringvej, crossroad at the gymnasium, shrubbery, 19.5.1985, leg. ØLLGAARD (herb. HØ-85-141/142/143), East Jutland, Falledsgårde tds. Grønhøj, 500 m from road A 12, fallow field, 9.5.2000, leg. ØLLGAARD (herb. HØ-00-177-180), East Jutland, Vellev, outskirts tds. Ulstrup, at a farm, path in *Picea* plantation, 28.4.2002, leg. ØLLGAARD & BRANDT (herb. HØ), West Jutland, Holstebro, outskirts tds. Viborg, road 16 at 48,8 km, fallow field, 30.4.2005, leg. ØLLGAARD & BRANDT (herb. HØ-05-44, DR 035836); West Jutland, Herning NE-outskirts, Gullestrupvej, at the ice stadion, fallow field, 1.5.2000, leg. ØLLGAARD & BRANDT (herb. HØ-00-61, L), West Jutland, Herning, N outskirts, Vesterholmsvej at Allingevej, roadside, 3.5.1980, leg. ØLLGAARD (herb. HØ-80-41, AAU, C, H), West Jutland, Herning, outskirts tds. Sunds, Vesterholmvej near road 12, 3.5.2005, leg. NILSSON, ØLLGAARD & BRANDT (herb. HØ-05-71), West Jutland, Herning, Sandagervej, verge, 1.5.1982, leg. WESSBERG (herb. HØ), Lolland, Rødbyhavn, sandy soil, 10.5.1958, leg. M. P. CHRISTIANSEN (C), Falster, Orehoved 1 km SE Storstrømsbroen S, parking ground, 12.5.1991, leg. ØLLGAARD & PEDERSEN (AAU, PVT, DR 035837), Bornholm, Arnager tds. E, Dueoddevej at the entrance to "Fosforitten", fallow field, 11.5.2006, leg. ØLLGAARD (PVT, DR 035835), Bornholm, Arnager tds. E, Dueoddevej at the airport area at 6.1 km, fallow field, 13.5.2006, leg. ØLLGAARD (herb. HØ-06-099, PVT, DR 035834),

Finland, Åland, Föglö, Degerby, roadside, 28.5.2001, leg. RÄSÄNEN & ØLLGAARD (herb. HØ-01-356), Etelä-Pohjanmaa, Kristiina, outskirts tds. Lappfjärd, roadverge at the hospital, 1.6.2005, leg. ØLLGAARD & al. (herb. RÄSÄNEN); Pohjois-Karjala, Kitee, Kitee community, NW outsk., at a roundabout, lawn, 9.6.1999, leg. ØLLGAARD, RÄSÄNEN & REINIKKA (H), Pohjois-Karjala, Kontiolahti, Lehmo, Nurmeksentie 24B, at a road exit turn, roadside, 15.6.1997, leg. RÄSÄNEN (herb. RÄSÄNEN R-445, herb. HØ), Pohjois-Karjala, Tohmajärvi kemie, opp. the road exits tds. the railway station, at cycle path, 10.6.1999, leg. ØLLGAARD, RÄSÄNEN & REINIKKA (OULU), Pohjois-Savo, Juankoski, Valkeinen, Kaavintie, at the Akonpohja exit turn, road verge, 11.6.1997, leg. RÄSÄNEN (herb. RÄSÄNEN R-381, herb. HØ),

Germany, Niedersachsen, Lüchow 4 km tds. NW, Gollau, 1 km tds. W, at road 248, sandy field, 29.4.1995, leg. ØLLGAARD & al. (herb. HØ-95-11), Brandenburg, Berlin-Szczecin motorway, Finowfurt exit, at Finowfurt Brückeninspektion, lawn, 10.5.1997, leg. ØLLGAARD (C, herb. HØ, herb. WITZELL), Brandenburg, Prignitz, Lenzen, N outsk., industrial area, 30.4.1995, leg. ØLLGAARD & al. (herb. HØ-95-25/26), Brandenburg, Mittelmark, Stücken N, südl. des Poschfenn, trockene Ruderalstelle, 10.5.1993, leg. UHLEMANN (herb. UHLEMANN); Brandenburg, Mittelmark, Grüna bei Jüterbog, nördlich der alten Ziegelei, 5.5.1993, leg. UHLEMANN (herb. UHLEMANN); Brandenburg, Niederlausitz, Finsterwalde S, Tagebau Klettwitz, Kostebrau, Ruderalstelle an der Informations tafel/Aussichtspunkt Tagebau, 10.5.2006, leg. UHLEMANN (herb. UHLEMANN); Brandenburg, Niederlausitz, Senftenberg W, Lichterfeld, 20.4.2007, leg. UHLEMANN (herb. UHLEMANN); Brandenburg, Niederlausitz, Senftenberg, Großenhainer Straße, Wegrund, 26.4.2003, leg. UHLEMANN (herb. UHLEMANN); Sachsen, Oberlausitz, Hoyerswerda NE, Burghammer W, sandiger Wegrund, 8.5.1996, leg. HAHN (herb. UHLEMANN); Sachsen, Oberlausitz, Straßgräbchen, sandiger Brachacker im Ort, 26.4.1998, leg. HAHN (herb. UHLEMANN); Sachsen, Oberlausitz, Hoyerswerda SW, Zeißholz N, wechselfeuchte Sandfläche in der Kiesgrube, 16.5.1996, leg. HAHN (herb. UHLEMANN); Sachsen, Osterzgebirge, Geising N, Breitenau, Straßenrand am Ortsausgang Richtung Walddörfchen,

19.5.2001, leg. UHLEMANN (herb. UHLEMANN); Sachsen, Osterzgebirge, Niederfrauendorf, Weideland an der Straße nach Reinholdshain, 6.5.1997, leg. UHLEMANN (herb. UHLEMANN); Sachsen, Osterzgebirge, Zinnwald, Ortslage, Straßenrand, 29.5.2004, leg. UHLEMANN (herb. UHLEMANN); Sachsen, Osterzgebirge, Seyde, Straßenrand am Ortsausgang, 4.5.2007, leg. UHLEMANN (herb. UHLEMANN).

Poland, Szczecin, Szczecinek, Borne Sulinowo, Liskowo, „nad Pilawa“, meadow, 11.5.2006, leg. GLOWACKI (WSRP),

Sweden, Gotland, Mästerby parish, near Mästerby church, grass field, 11.5.1996, leg. LUNDEVALL & ØLLGAARD (no voucher), Gotland, Roma parish, Roma N outsk., road 143, roadside, 13.5.1996, leg. LUNDEVALL & ØLLGAARD (no voucher), Gotland, Tofta parish, 2 km N of Sigvards, coastal pasture, 26.5.1962, leg. SAARSOO, LUNDEVALL & SÄLTIN (S), Gotland, Tofta parish, at the church, 3.6.1939, leg. FRIES (S), Gotland, Tofta parish, Gnisvård, sandy calcareous field, 2.5.1990, leg. RYDBERG (herb. RYDBERG, PVT), Gotland, Tofta parish, Tofta strand camping area, 15.5.1996, leg. ØLLGAARD (H, DR), Gotland, Träkumla parish, at Träkumla church, roadside, 12.5.1996, leg. LUNDEVALL & ØLLGAARD (herb. HØ-96-112, S), Gotland, Västerhejde parish, road 140, 2.5 km W of Västerhejde church, Blåhäll exit, roadside, 15.5.1996, leg. ØLLGAARD (herb. HØ-96-182), Kalmar, Åby parish, at Åby church, roadside, 10.5.2006, leg. NILSSON (herb. NILSSON, PVT), Kalmar, Järeda parish, Järnforsen, village centre, at the railway crossing, gravelly area, 12.5.1995, leg. NILSSON (herb. NILSSON, PVT), Kalmar, Lönneberga parish, Katebo, dry pasture, 22.5.2005, leg. NILSSON (herb. NILSSON, PVT), Kalmar, Målilla parish, Kejsarkullen refuse dump, road slope, 15.5.1995, leg. NILSSON (herb. NILSSON, PVT), Kalmar, Söderåkra, 3.3 km S of the church, W of E22, S of Påboda, roadside, 15.5.2006, leg. WITZELL (herb. WITZELL, PVT), Östergötland, Östra Husby parish, 1200 m E of Rotenberg, fallow field, 25.5.2005, leg. RYDBERG (herb. RYDBERG, PVT), Skåne, Kristianstad, 1350 m ENE of Heliga Trifaldighets church, grassy ruderal area, 27.4.1997, leg. SVENSSON (LD), Skåne, Landskrona, N outsk., Grönsaksgatan, at Växtpiraten, *Betula* plantation, 13.5.1995, leg. ØLLGAARD & WITZELL (herb. HØ-95-120), Småland, Sävsjö parish, Sävsjö community, at the hotel, ruderal grass field, 15.5.2005, leg. JOHANSSON & NILSSON (herb. NILSSON, PVT), Södermanland, Dunker parish, Hässelby, S of the farm, fertilized grass field, 24.5.2002, leg. RYDBERG (herb. RYDBERG, PVT), Södermanland, Flen parish, Ansgarsgården nära väg 55, ruderal field, 2.6.2005, leg. RYDBERG (herb. RYDBERG, PVT), Södermanland, Frustuna-Kattnäs parish, (Gnesta), at Stopp Matmarknad, grass field, 24.5.2006, leg. RYDBERG (herb. RYDBERG, PVT), Södermanland, Gillberga parish, (SW of Eskilstuna, Närsjö, forest track, 2.6.1992, leg. LUNDEVALL & RYDBERG (herb. RYDBERG, PVT), Södermanland, Gillberga parish, SW of Eskilstuna, Närsjö, roadside, 10.5.1992, leg. RYDBERG (herb. RYDBERG, PVT), Södermanland, Gnesta, Vackerby, at Framnäsavägen, grassy area, 23.5.2000, leg. ØLLGAARD & RYDBERG (no voucher), Södermanland, Gnesta, Vackerby, at Framnäsavägen, outsk. tds. Stockholm, Östra Storgatan, at the Ågatan exit turn, grassy area, 23.5.2000, leg. ØLLGAARD & RYDBERG (herb. RYDBERG, herb HØ-00-276/277/278, HRY, PVT), Uppland, Rådmansö parish, Gräddö, Gräddövikén, roadside, 3.6.1971, leg. LUNDEVALL (herb. HØ), Uppland, Uppsala, Gamla Uppsala, at the railway station, grassy area, 27.5.1965, leg. LUNDEVALL (GB, S), Uppland, Uppsala, Gamla Uppsala, Kungsängen, Övra Föret, at Fyrisån, meadow, 7.6.1991, leg. LUNDEVALL (S), Västergötland, Berg parish, Högsböla äng, rich moist slope, 30.5.2006, leg. RYDBERG (herb. RYDBERG, PVT), Västergötland, Ek parish, Stora Ek, roadside, 31.5.2006, leg.

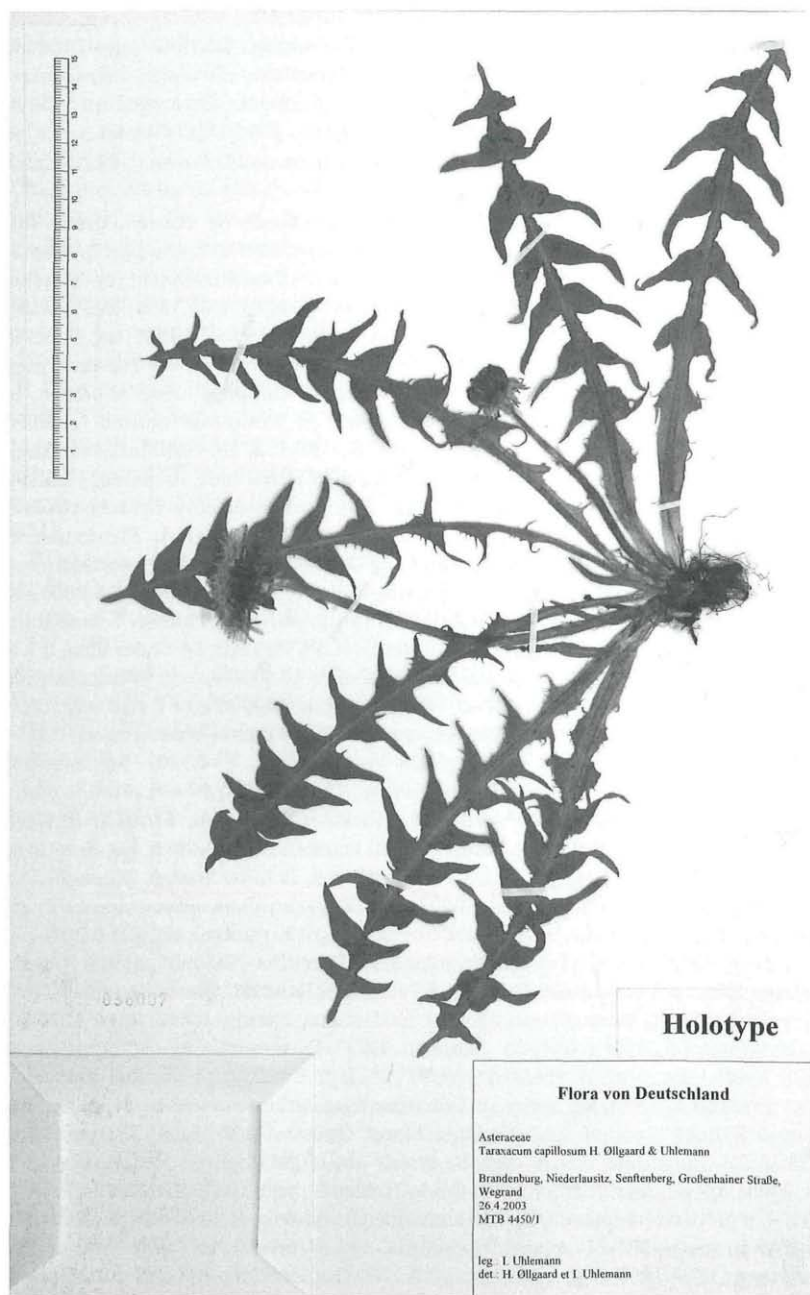


Fig. 1. *Taraxacum capillosum* H. ØLLGAARD & UHLEMANN, spec. nova. – Holotype specimen (DR 036007).

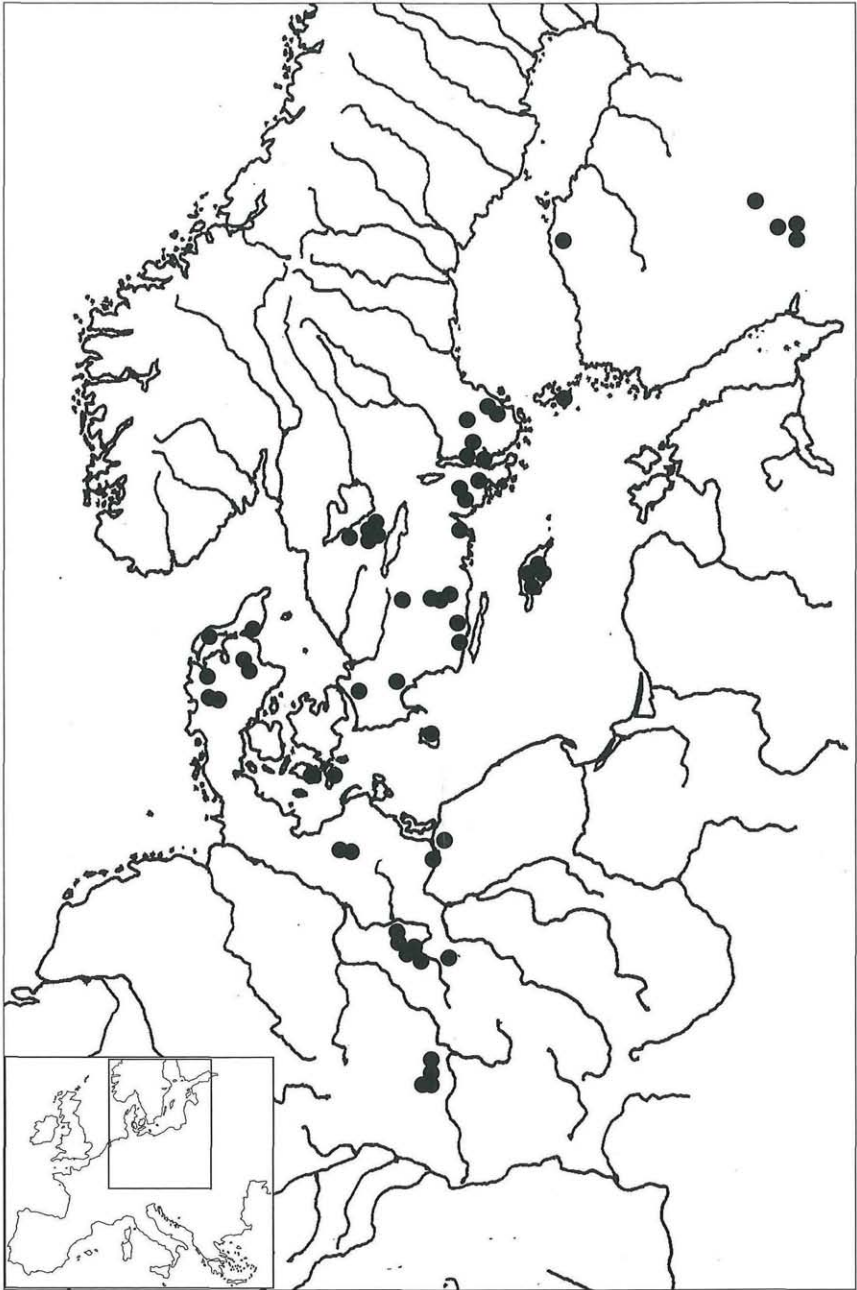


Fig. 2. Known distribution of *Taraxacum capillosum* H. ØLLGAARD & UHLEMANN.

RYDBERG (herb. RYDBERG, PVT), Västergötland, Kinnekulle, Råbäck, above the red-stone slope, in coniferous forest, glade, 5.6.1939, leg. ALBERTSON (S), Västergötland, Låstad parish, Lövåsen, at road 23, roadside, 30.5.2006, leg. RYDBERG (herb. RYDBERG, PVT), Västergötland, Lugnås parish, road E20 at the Lugnås church exit turn, roadside, 16.5.1995, leg. RYDBERG (herb. HØ, herb. RYDBERG, PVT), Västermanland, Sala, outsk. tds. Enköping, grassy area, 19.5.1990, leg. LUNDEVALL (S, L).

3. *Taraxacum delectum* UHLEMANN, spec. nova
[*T. delectum*, nom. prov. inval. (UHLEMANN 2003)]

Holotype: Deutschland, Sachsen, Elbhügelland, Dresden S, Hä-nichen, Straßenböschung an der Fernverkehrsstraße (B 170), Ortsmitte, 8.4.1997, leg. UHLEMANN (DR 034362). Isotypes (DR 034358, 034359, 034360, 034361).

Etymology: The epitheton (lat. *delectus*=selected) points to the unique combination of morphological characters which makes a separation of this species from its relatives easy.

Descriptio: (Fig. 3, 9B). *Plantae mediocriter altae* (20–30 cm), *robustae*, *foliis laete canoviridibus subglabris*, *immaculatis*, *petiolis angustis inatis vel paulum alatis lucide purpureis*, *nervo mediano sordide viridi vel parce brunnescente*, *laminibus distincte lobatis*, *lobis lateralibus 3–4 utriusque, deltoideis*, *patentibus*, *apice dilatatis*, *integerrimis vel marginibus distalibus raro dente minuto instructis*, *lobo terminali magno*, *marginibus lateralibus incis*is vel dente unico conspicuo instructis, *interlobiis planis*, *viridibus*, *plerumque integris*. *Scapi superne valde*, *ceterum sparse araneosi*, *brunneo-virides*. *Involucrum olivaceo-viride*, *non pruinatum*, *squamis exterioribus regularibus retroflexis*, *anguste lanceolatis*, 3–4 mm latis, 15–17 mm longis, *anguste albido-marginatis*, *supra laete cano-viridibus vel parce purpureis*. *Calathium 40–50 mm in diametro*, *luteum*, *radialis*, *ligulis marginalibus planis*, *subtus stria canoviolacea notatis*. *Antherae polliniferae*, *stylus superne virescens*. *Achenium fusco-stramineum*, 2.8–3.0 mm longum (pyramide exclusa), *superne spinulosum spinulis rectis*, *pyramis c. 0.5 mm longa*, *subcylindrica*, *laevis*, *rostrum 10–11 mm longum*, *pappus albus*.

Chromosomatum numerus somaticus: $2n=24$ (Glashütte, DR 034315).

Annotations: *T. delectum* is well-characterized by its recurved and distinctly bordered outer bracts, faintly pinkish petioles and distinct leaf shape: a large terminal lobe with at least one incision or one big tooth on each side and a few blunt, patent side lobes.

In its leaf shape, *T. sublaeticolor* DAHLST. 1925 seems to be the closest relative of *T. delectum*, but the former species has green, unwinged petioles and unbordered, shorter, spreading outer bracts. On the other hand, *T. delectum* is related to *T. intermedium* RAUNK. 1903, which also has bordered – but in contrast erect outer bracts – similar sidelobes and a long terminal

lobe with incisions. Ecologically, *T. intermedium* mainly occurs in coastal saline meadows that have been extensively managed, whereas *T. delectum* is exclusively a ruderal species.

With regard to leaf shape, in particular to the terminal lobe, *T. delectum* is superficially related to *T. hemicyclum* HAGL. 1942 but this species has unbordered outer bracts and different sidelobes.

Distribution (Fig. 4): *T. delectum* is presently known from a few localities in Germany, Saxony. It seems to be rare.

Specimens seen: Germany, Saxony, Oberlausitz, Schmölln, Bahnhofsgelände, 30.4.2001, leg. OTTO (DR 034317); Sachsen, Dresden-Nord, Arndtstraße, Wegrand, 21.4.2002, leg. UHLEMANN (DR 034320); Sachsen, Dresden-Süd, Hoher Stein, 8.5.1994, leg. UHLEMANN (DR 034318); Sachsen, Dresden-Mitte, Ehrlichstraße/Könneritzstraße, Rasen vor dem Pflegeheim, 4.5.2001, leg. UHLEMANN (DR 034313); Sachsen, Dresden,-Süd, Zellescher Weg 22, Rasen an der Nordseite des Seminargebäudes I, 26.4.1996, leg. UHLEMANN (DR 034316); Sachsen, Elbhügelland, Dresden S, Hänichen Straßenböschung an der Fernverkehrsstraße B 170, 8.4.1997, leg. UHLEMANN (DR 034319); Sachsen, Osterzgebirge, Glashütte, Straße nach Schlottwitz, ca. 200 m westl. des Abzweigs nach Dittersdorf, Straßenrand, 1.5.2004, leg. UHLEMANN (DR 034315).

4. *Taraxacum ottonis* UHLEMANN, spec. nova
[*T. sinuatifforme*, nom. prov. inval. (UHLEMANN 2003)]

Holotype: Deutschland, Sachsen, Osterzgebirge, Geising NE, Liebenau, Weide an der Teichstraße, 12.5.2004, leg. UHLEMANN (DR 034303).
Isotypes: (DR 026556, 026557, 026558, 026559).

Eponymy: *T. ottonis* is named for Hans-Werner OTTO, an excellent Upper Lusatian botanist who considerably contributed to the knowledge of the genus *Taraxacum* in Saxony.

Descriptio: (Fig. 5, 9C). Plantae mediocriter altae (c. 25 cm), robustae, foliis laete canoviridibus subglabris, plus minusve crispatis, immaculatis, petiolis alatis, viridibus vel parce lucide-purpureis, nervo mediano viridi vel parce brunnescente, laminibus distincte lobatis, lobis lateralibus 4–5 utriusque, latis, deltoideis, recurvis vel subhamatis, acutis vel interdum apice dilatatis, marginibus distalibus saepe dense et grosse dentatis, marginibus proximalibus raro dentibus minutis instructis, lobo terminali magno, sagittato, marginibus lateralibus incis et dentatis, lobulo apicali saepe elongato ad lingulato, interlobiis longis, crispatis, viridibus, valde dentatis. Scapi sparse araneosi, virides. Involucrum olivaceo-viride, non pruinatum, squamis exterioribus irregularibus, recurvis vel patentibus, 4–5 mm latis, 17–18 mm longis, immarginatis, saepe involutis et tortilibus, supra laete cano-viridibus. Calathium 50–60 mm in diametro, luteum, radiis, ligulis marginalibus planis, subtus stria canoviolacea nota-

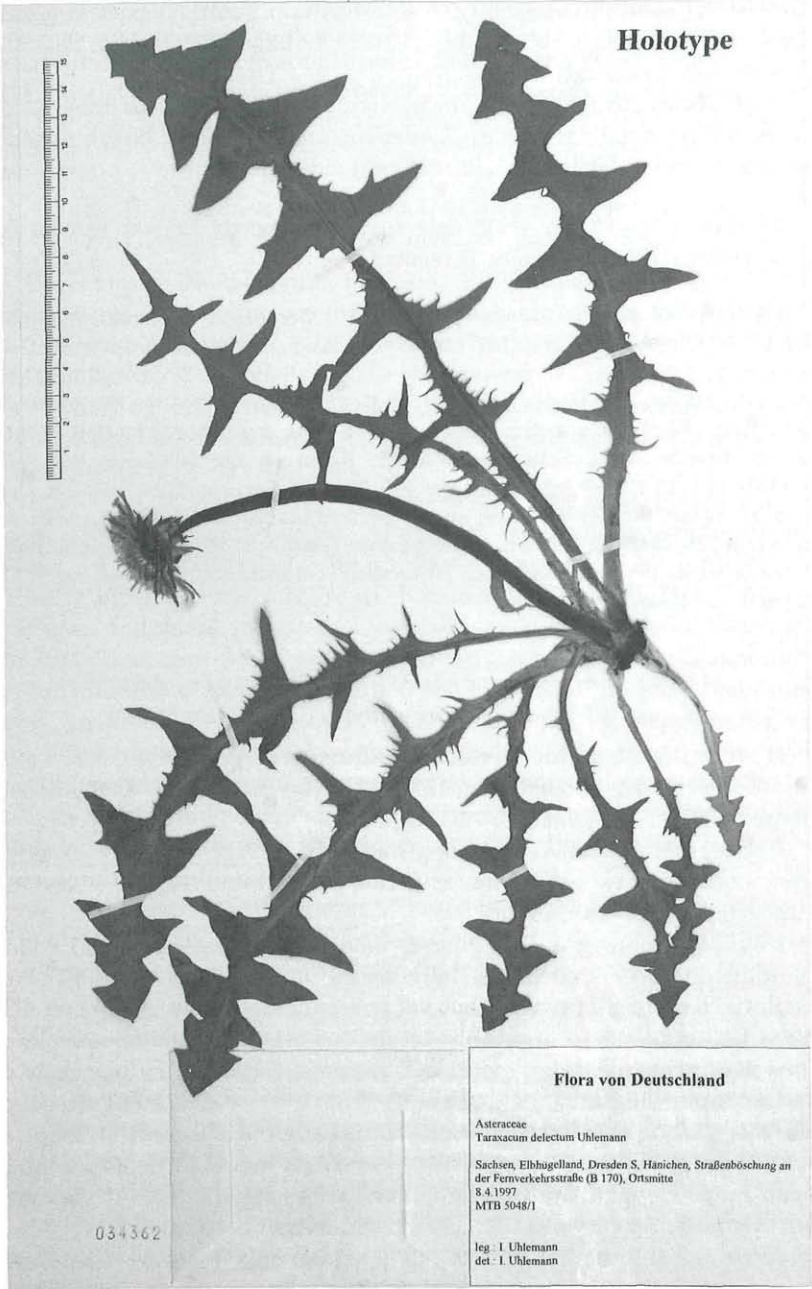


Fig. 3. *Taraxacum delectum* UHLEMANN, spec. nova. – Holotype specimen (DR 034362).

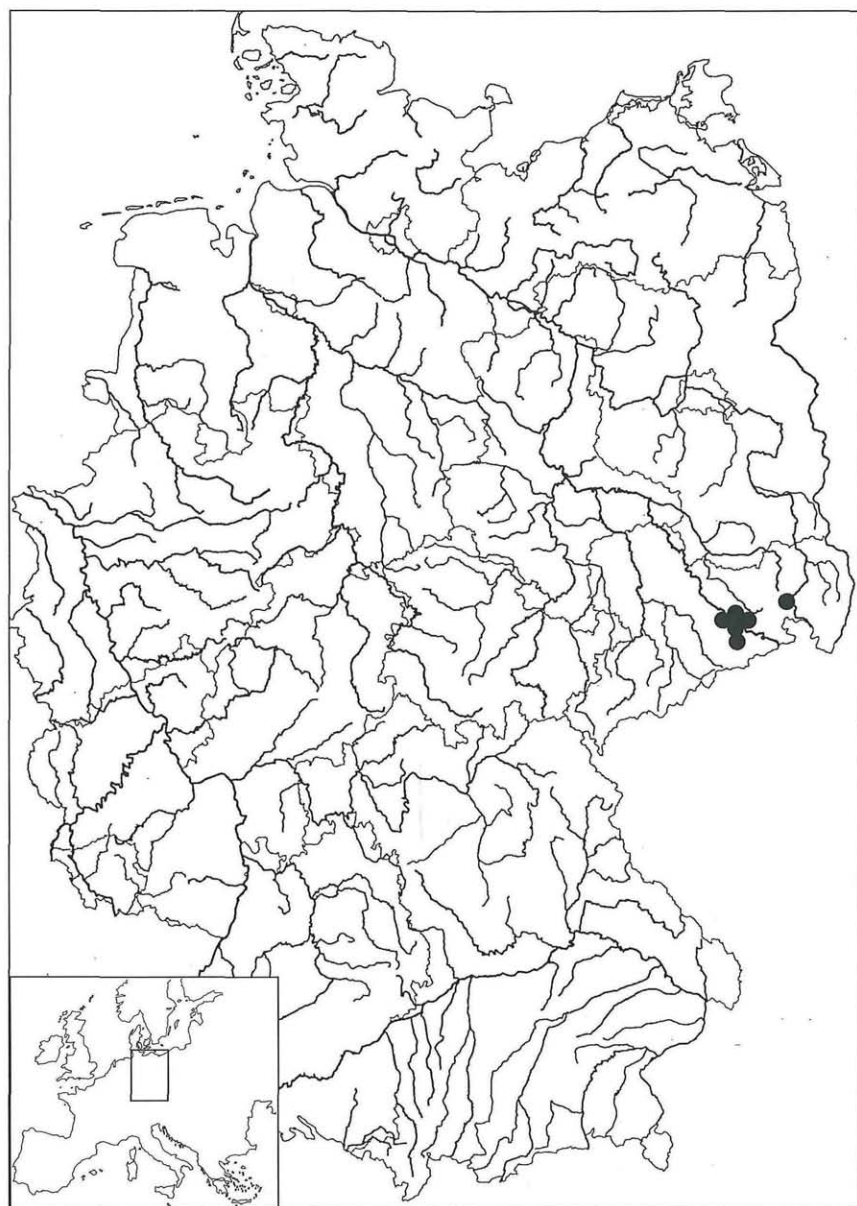


Fig. 4. Known distribution of *Taraxacum delectum* UHLEMANN in Saxony, Germany.

tis. Antherae polliniferae, stylus superne leviter virescens. Achenium fusco-stramineum, 3.8–4.0 mm longum (pyramide exclusa), superne spinulosum, spinulis rectis, pyramis c. 0.7–0.8 mm longa, subcylindrica, laevis, rostrum c. 10 mm longum, pappus albus.

Chromosomatum numerus somaticus: $2n=24$ (Liebenau, DR 034303).

Annotations: *T. ottonis* is best characterized by irregular and unbordered outer bracts, patent or somewhat recurved leaf-lobes with coarse teeth on the upper margin, long and crispate interlobes and green or faintly pinkish petioles. In regard to the long interlobes and the shape of the leaf-lobes, it is related to *T. acervatum* RAIL. 1964 but the latter species has distinctly bordered, regular recurved outer bracts and pink petioles. A relatively rare but striking character in the section *Ruderalia* is the irregular position of the outer bracts that *T. ottonis* shares only with a few species. The most closely related one seems to be *T. coartatum* HAGL. 1942, which is distinguished by purple petioles, short interlobes and leaf-lobes with a smooth upper margin and a lower margin with a single big tooth.

Distribution (Fig. 6): Until now, *T. ottonis* is known from Germany, Saxony, in particular from the Erzgebirge mountains and from Upper Lusatia. Although it seems to be a rare species it is frequent where it occurs.

Specimens seen: Germany, Saxony, Oberlausitz, Neudörfel E, Nassweide, 16.5.2003, leg. OTTO (herb. UHLEMANN); Sachsen, Oberlausitz, Steinigtwolmsdorf S, Straße nach Hülgersdorf, Straßenrand, 4.5.2004, leg. UHLEMANN & OTTO (DR 034308); Sachsen, Oberlausitz, Weifa W, Weide am Bach südl. der Straße nach Ringenhain, 10.5.1998, leg. HAHN (herb. UHLEMANN); Sachsen, Osterzgebirgsflanke, Liebstadt NW, Seitenhain, Wiese am nördlichen Ortseingang, 16.5.2006, leg. UHLEMANN (DR 034307); Sachsen, Osterzgebirge, Geising N, Liebenau, Weide an der Teichstraße, 12.5.2004, leg. UHLEMANN (herb. UHLEMANN); Sachsen, Erzgebirge, Fichtelberggebiet, Tellerhäuser, Parkplatz am östlichen Ortsausgang, 28.5.2003, leg. UHLEMANN (DR 034309).

5. *Taraxacum subborgvallii* UHLEMANN, ŠTĚPÁNEK & KIRSCHNER, spec. nova

[*T. subborgvallii*, nom. prov. inval. (UHLEMANN 2003)]

Holotype: Deutschland, Sachsen, Osterzgebirgsflanke, Liebstadt NW, Großröhrsdorf, Straßenböschung im Oberdorf, 16.4.2007, leg. UHLEMANN (DR 035832). Isotypes: (DR 035830, 035831, 035833, PRA)

Etymology: The epitheton makes a link to the closest relative of this species, *T. borgvallii*.

Descriptio: (Fig. 7, 9D). Plantae parvae ad mediocres (10–30 cm), sat graciles, foliis laete canoviridibus, subglabris, immaculatis, petiolis angu-

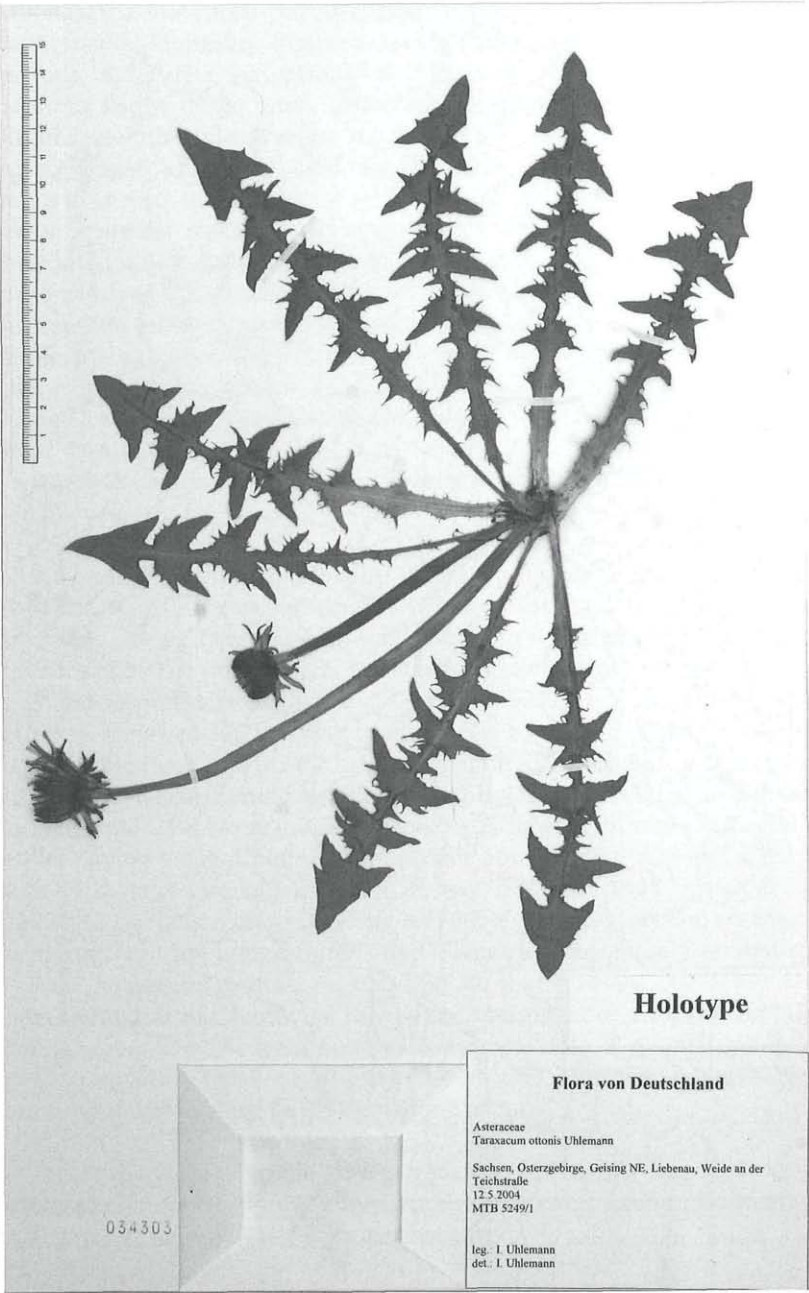


Fig. 5. *Taraxacum ottonis* UHLEMANN, spec. nova. – Holotype specimen (DR 034303).

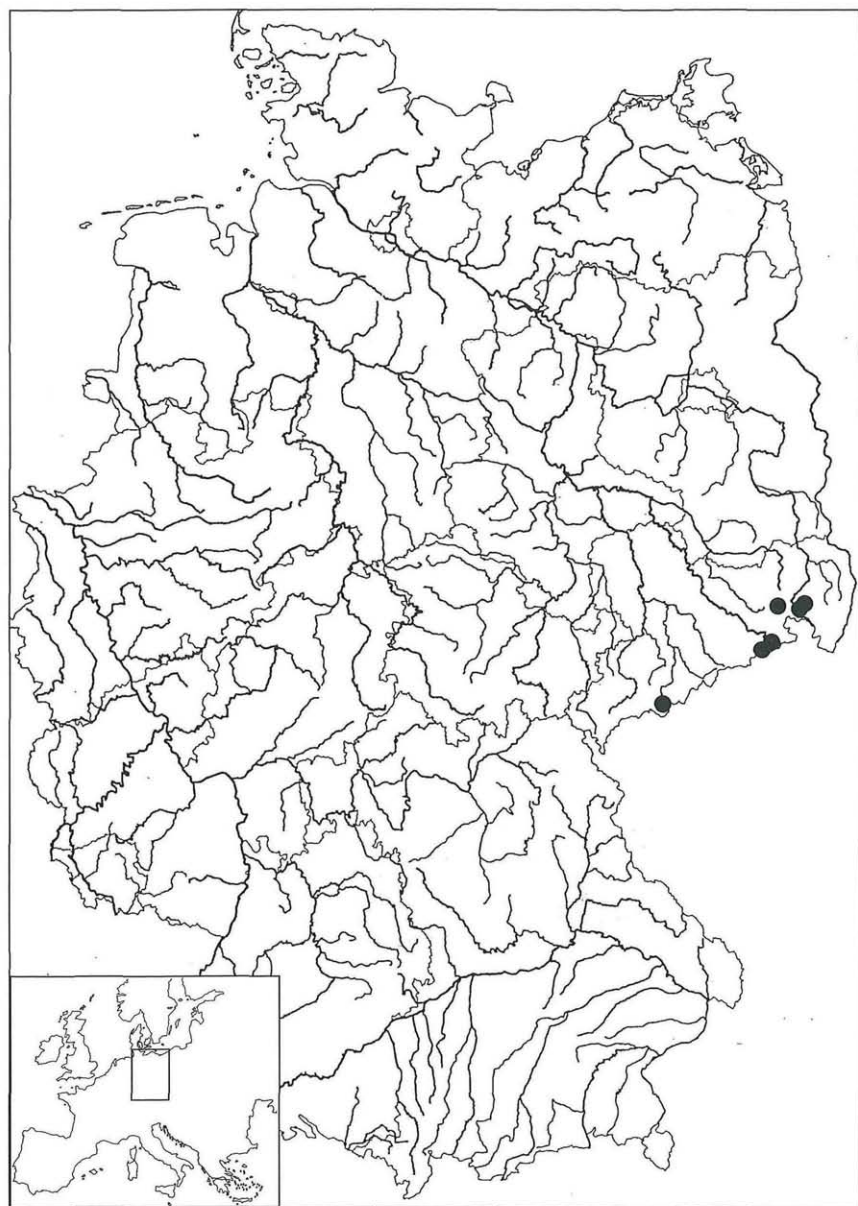


Fig. 6. Known distribution of *Taraxacum ottonis* UHLEMANN in Saxony, Germany.

stis longis in alatis rubro-purpureis, nervo mediano sordide viridi vel parce brunnescente, laminibus distincte lobatis, lobis lateralibus 4–5 utriusque, brevibus, deltoideis, patentibus, acutis, integerrimis vel in marginibus distalibus saepe dente unico conspicuo instructis, lobo terminali parvo, deltoideo, lobulo apicali saepe paulum elongato ad linguato, interlobiis planis, longis, angustis, piceo-coloratis. Scapi superne valde, ceterum sparce araneosi, brunneo-virides. Involucrum olivaceo-viride, non pruinatum, squamis exterioribus regularibus, recurvis, sat parvis, anguste lanceolatis, 1.5–3 mm latis, 12–13 mm longis, immarginatis, supra laetecano-viridibus. Calathium 35–40 mm in diametro, luteum, radiis, ligulis marginalibus planis, subtus stria canoviolacea instructis. Antherae poliniferae, stylus superne virescens. Achenium fusco-stramineum, 3.0–3.2 mm longum (pyramide exclusa), superne spinulosum, spinulis rectis, pyramis 0.5 mm longa, subcylindrica, laevis, rostrum 10–11 mm longum, pappus albus.

Chromosomatum numerus somaticus: $2n=24$ (Großröhrsdorf, DR 035832).

Annotations: *T. subborgvallii* is mainly characterized by its delicate habit and long, narrow, unwinged, purple petioles. Furthermore, it has very short, patent, triangular lateral lobes with a conspicuous tooth on the upper margin. The outer bracts are small, recurved and unbordered.

T. subborgvallii is related to *T. leptoscelum* H. ØLLGAARD 2006, which has more recurved leaf-lobes without a big tooth and more or less horizontal outer bracts. With its long, tar-coloured interlobes and short triangular leaf-lobes, *T. subborgvallii* is morphologically related to *T. baeckiiiforme* SAHLIN 1971 but the latter species is in general more vigorous, as well as having winged petioles and patent outer bracts. Another close relative is *T. angustisquameum* DAHLST. ex H. LINDB. 1908, which is distinguished by longer, more tapering leaf-lobes with an incision on the upper margin and horizontal outer bracts. Another very closely related species is *T. borgvallii* DAHLST. ex HAGL. 1936, that however has fewer leaf-lobes lacking a big tooth on the upper margin and a longer lingulate terminal lobe. *T. subborgvallii* seems to replace both *T. angustisquameum* and *T. borgvallii* (frequent in Scandinavia and North and North-West-Germany) in the eastern part of Central Europe.

Distribution (Fig. 8): *T. subborgvallii* is presently known from the eastern part of Germany (Saxony, Brandenburg) and western Bohemia. In particular, in Saxony it is a frequent species.

Specimens seen: Germany, Brandenburg, Niederlausitz, Finsterwalde S, Tagebau Klettwitz, westlich der Straße L60, 10.5.2006, leg. UHLEMANN (DR 034365); Germany, Saxony, Oberlausitz, Liebenau E, Wiese, 16.4.2000, leg. OTTO

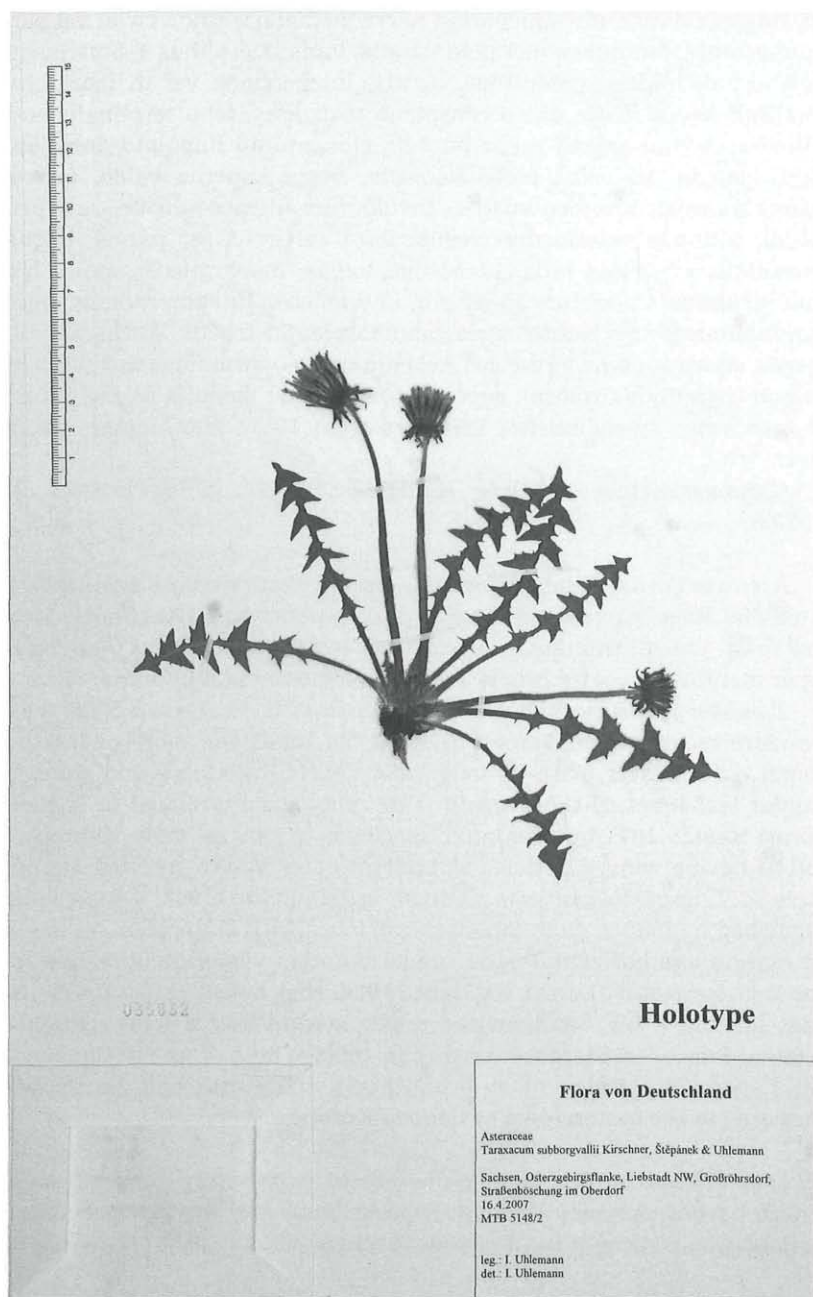


Fig. 7. *Taraxacum subborgvallii* UHLEMANN, ŠTĚPÁNEK & KIRSCHNER, spec. nova.
– Holotype specimen (DR 035832).

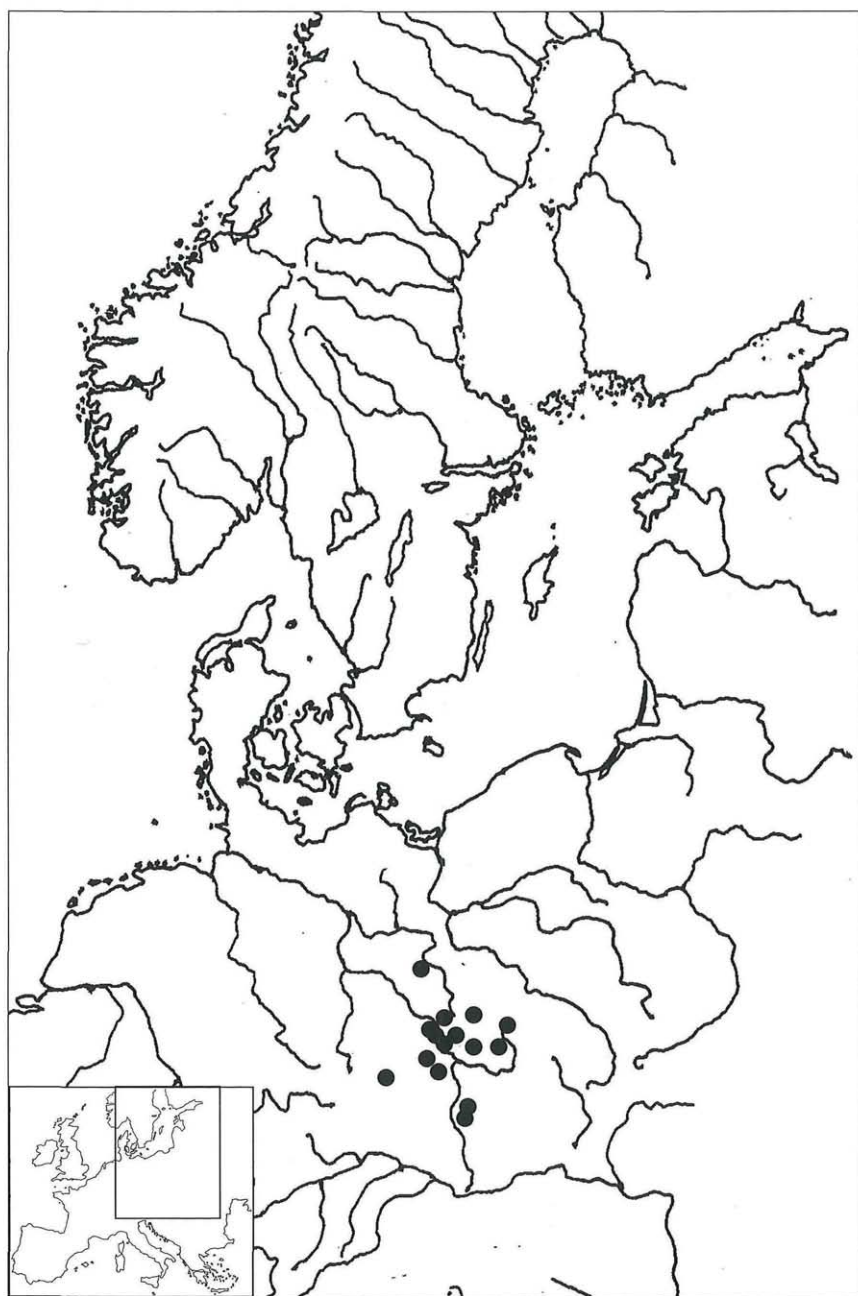


Fig. 8. Known distribution of *Taraxacum subborgvallii* UHLEMANN, ŠTĚPÁNEK & KIRSCHNER in eastern Germany and W. Bohemia.

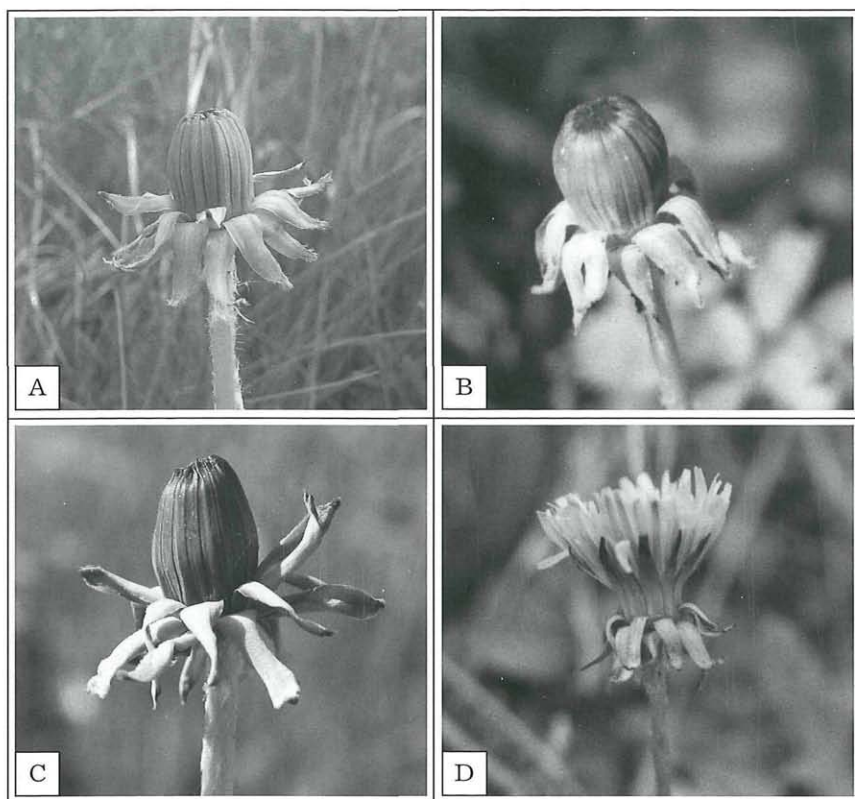


Fig. 9. Flower heads and position of the outer bracts. – A: *Taraxacum capillosum* (Kostebrau), B: *T. delectum* (Dresden), C: *T. ottonis* (Liebenau), D: *T. subborgvallii* (Großröhrsdorf).

(GLM); Sachsen, Oberlausitz, Baruth bei Bautzen, Schafberg, alter Steinbruch, Basaltschotter, 28.4.2004, leg. FRANKE (herb. FRANKE); Sachsen, Elbtal, Meißen E, Spargebirge, Wegrund am Fuß der Römischen Bosel, 13.5.1995, leg. UHLEMANN (DR 000291); Sachsen, Elbtal, Freital, Steinbruch am Ortseingang, Straßenrand, 9.5.2001, leg. UHLEMANN (DR 034372); Sachsen, Dresden-Süd, Zschertnitz, Rasen am Verbrauchermarkt, 24.4.2001, leg. UHLEMANN (DR 034370); Sachsen, Dresden-Mitte, Ehrlichstraße/Könneritzstraße, Rasen, 25.4.2001, leg. UHLEMANN (herb. UHLEMANN); Sachsen, Dresden-Süd, Räcknitzhöhe, Wegrund, 13.4.1999, leg. UHLEMANN (DR 034366); Sachsen, Oberlausitz, Neustadt, Bahnhof, 11.5.2001, leg. OTTO (GLM); Sachsen, Oberlausitz, Bernstadt, Görbitzer Straße, Gartenland, 8.5.2001, leg. FRITSCH (GLM); Sachsen, Oberlausitz, Großenhennersdorf, Galgenberg E, Feldrand, 25.5.1999, leg. UHLEMANN (DR 034364); Sachsen, Osterzgebirgsflanke, Liebstadt NW, Großröhrsdorf, Straßenböschung, 3.5.2006, leg. UHLEMANN (DR 034367); Sachsen, Oberlausitz, Oybin, Haltepunkt Teufelsmühle, Wegrund, 10.5.1999, leg. OTTO (DR 034366); Sachsen, Osterzgebirge, Altenberg E, Straße zwischen Fürstenwalde und

Müglitz, 19.5.2002, leg. UHLEMANN (DR 034371); Sachsen, Vogtland, Bad Elster, Zeidelweidetal, Mai 2006, leg. BREITFELD (herb. BREITFELD 136/06); Czech Republic, Bohemia, Böhmisches Schweiz, Decin NE, Ludvicovice, Straßenrand, 13.5.2001, leg. UHLEMANN (DR 034369); Bohemia centr., urbs Praha, pagus Pruhonice: in prato ante castrum in pago, IV. 1990, leg. ŠTĚPÁNEK. (DR 035829, PRA); Bohemia centr., urbs Praha: in caespitibus in decl. merid. vallis Motolske udoli in urbis parte Motol dicta, 24.4.1986, leg. ŠTĚPÁNEK (DR 035838, PRA).

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