

New *Taraxacum* species (Asteraceae) for Poland

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Received: 15.02.2018 • Accepted/Published Online: 28.06.2018 • Final Version: 22.11.2018

Abstract: Eleven *Taraxacum* species were given from Poland for the first time: *T. praecox* from the section *Borea*, *T. fusciflorum* from the section *Hamata*, and *T. clarum*, *T. praestabile*, *T. xanthostigma*, *T. floccosum*, *T. lundense*, *T. ottonis*, *T. subborgvallii*, *T. pittochromatum*, and *T. subleucopodum* from the section *Taraxacum*. A photograph of the herbarium specimen from Poland and distributions in Poland and Europe were given for each species.

Key words: Apomictic species, biogeography, description, Central Europe, Poland

1. Introduction

The apomictic complex of the genus *Taraxacum* Wigg. is represented by 14 sections in Central Europe (Kirschner et al., 2007). It is still hard to determine the number of species, particularly in the section *Taraxacum* (= *Ruderalia*), which is most numerous in species and taxonomically complicated. This is mainly a result of very unequal and still poor recognition of dandelion flora, which is evidenced by a great number of described species (Sonck and Øllgaard, 1999; Øllgaard, 2003a, 2003b; Vašut et al., 2005; Uhlemann et al., 2007; Trávníček et al., 2008; Marciniuk et al., 2012, 2016), and by many morphological types hardly attributed to any of the described species. Distribution of some species of the genus *Taraxacum*, including those described long ago, is also recognized very unevenly. A good example here is the species described from German military camps functioning in Finland (Railonsala 1957, 1960, 1962, 1964a, 1964b, 1967, 1976; Saarsoo, 1962). These taxa in prevailing majority do not belong to native flora of Finland though several of them were found in their probably natural sites in Central Europe (Poland, Czech Republic, Germany). The first list of species of the genus *Taraxacum* in Poland (Tacik, 1980) is mainly based on material collected from a small area near Kraków. Moreover, about 30% of these species

were given based on uncertain determinations. Later publications (Øllgaard et al., 2000, 2002a, 2002b; Øllgaard, 2003a; Gruzewska, 2004; Marciniuk et al., 2007a, 2007b; Trávníček et al., 2007; Marciniuk et al., 2010; Marciniuk and Marciniuk, 2012; Wolanin et al. 2012) brought much information on the distribution of species reported by Tacik (1980) and on sites of species not found in Poland before. However, there are many regions in Poland from which no data on the presence of dandelions are available. The present paper supplements existing knowledge on the distribution of species of the genus *Taraxacum* in Central Europe and enlarges the Polish flora by 11 species.

2. Materials and methods

Field studies were carried out during 2010–2013 mainly in southern Poland. This paper presents sites of species not noted in Poland yet. The exception is *T. praestabile*, given by Tacik (1980) based on uncertain determinations (cf. *T. praestabile* det. Kantonnen). Species characteristics are based on the observations of each found species, which were compared with the original diagnoses (Lindberg, 1910; Puolanne, 1933; Railonsala, 1962, 1977; Christiansen, 1971; Sahlin, 1975; Øllgaard, 1983, 2003a; Uhlemann et al., 2007). No significant differences between our observations and the original descriptions were found.

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Each characteristic is illustrated by a scan of the herbarium specimen collected in Poland. Sites are localized relative to the nearest town, geographic coordinates, and units of the ATPOL cartography (Zajac, 1978; Zajac and Zajac, 2001). The distribution of species in Europe is given based on the following papers: Kirschner et al. (2007), Uhlemann (2003, 2015), Trávníček and Štěpánek (2008), and Trávníček et al. (2010, 2015). Herbarium material is deposited in the following herbaria: Palacký University in Olomouc herbarium (OL), V. Žíla herbarium (hŽíla), J. Zámečník herbarium (hZámečník), K. Oklejewicz herbarium (hOklejewicz), M. Wolanin herbarium (hM.Wolanin), and Jagiellonian University in Kraków herbarium (KRA).

3. Results and discussion

3.1. *Taraxacum* sect. *Borea* A.J.Richards

3.1.1. *Taraxacum praecox* Markl. ex Puolanne (Figure 1) In Memoranda Soc. Fauna Fl. Fenn. 8: 165, 1933

Recorded localities: 1. Bydgoszcz town, meadow in the Wisła River valley, Toruń Valley, ATPOL square CC27, 2.05.2009, J. & P. Marciniuk, KRA. 2. Ręczyn village, lawns in central part of the village, 51°02'03"N, 14°58'33"E, ATPOL square AE44, 225 m a.s.l., 12.05.2013, B. Trávníček & V. Žíla, OL. 3. Szaflary village, lawns by the Orkana street, 49°25'29"N, 20°01'17"E, ATPOL square EG30, 660 m a.s.l., 18.05.2013, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz & M. Wolanin, hM.Wolanin.

Main diagnostic features of the species: a medium-sized, rather slender plant; leaves usually mid green,



Figure 1. *Taraxacum praecox* Markl. ex Puolanne (locality: Szaflary, ATPOL square EG30; hM.Wolanin).

±glabrous, with 3–5 lateral lobes; petiole lucidly purple, usually unwinged; lateral lobes recurved, acute, distal margin slightly convex or sigmoid, most often entire, proximal margin usually ±straight, entire; terminal lobe large, elongate, triangular-sagittate, often with lateral incisions; inflorescence buds dark green; outer bracts recurved, narrow, 2.0–3.5 mm wide, 12–14 mm long, unbordered, flat, green; capitulum convex, about 40 mm in diameter, styles dark, pollen present.

Distribution outside Poland: Germany, Denmark, Sweden, Norway, Finland, Estonia, Latvia, northeastern part of European Russia.

3.2. *Taraxacum* sect. *Hamata* H.Øllg.

3.2.1. *Taraxacum fusciflorum* H.Øllg. (Figure 2)

In Pl. Syst. Evol. 141: 215, 1983

Recorded localities: 1. Radzimów village near Zawidów town, lawns and roadsides near the church in the village, 51°03'19"N, 15°06'31"E, ATPOL square AE45, 245 m a.s.l., 1.05.2011, B. Trávníček & V. Žíla, OL. 2. Bogatynia village, roadsides near cemetery, 50°54'57"N, 14°57'38"E, ATPOL square AE64, 250 m a.s.l., 10.05.2013, B. Trávníček & V. Žíla, OL, hŽíla. 3. Ręczyn village, lawns in central part of the village, 51°02'03"N, 14°58'33"E, ATPOL square AE44, 225 m a.s.l., 12.05.2013, B. Trávníček & V. Žíla, OL, hŽíla. 4. Leśna town, lawns in park near church, 51°01'34"N, 15°15'38"E, ATPOL square AE56, 230 m a.s.l., 12.05.2013, B. Trávníček & V. Žíla, OL, hŽíla.

Main diagnostic features of the species: usually a medium-sized plant; leaves rather dark, with 5–6 lateral lobes; petiole pale from outside and reddish from inside or all purple, unwinged or narrowly winged, midrib green with stripped pattern; lateral lobes deltoid, undivided, patent to recurved, often hooked, with distal margin convex, usually entire; terminal lobe cordate-sagittate, smaller than the lateral lobes, blunt; inflorescence buds blackish, not pruinose; outer bracts curved, reflexed, 3.5–4.5(–5.0) mm wide and 13–14 mm long, unbordered, dark green, pruinose; capitulum convex, to 50 mm in diameter, styles discolored, pollen present.

Distribution outside Poland: Finland, Great Britain, Denmark, the Netherlands, Germany, Czech Republic, Slovakia.

3.3. *Taraxacum* sect. *Taraxacum* (= *Ruderalia* Kirschner, H.Øllg. & Štěpánek)

3.3.1. *Taraxacum clarum* Kirschner, Štěpánek & Trávn.

In Preslia 80: 34, 2008

Recorded localities: 1. Karpacz, lawns near "Halny" hotel, W of church in the town, 50°46'32"N, 15°44'49"E, ATPOL square BE80, 19.05.2010, B. Trávníček and J. Zámečník, OL. 2. Duszniki-Zdrój, lawns at the outskirts of the town, about 1.2 km SSE from the railway station, 50°23'51"N,



Figure 2. *Taraxacum fusciflorum* H.Øllg. (locality: Radzimów, ATPOL square AE45; OL 31553).



Figure 3. *Taraxacum clarum* Kirschner, Štěpánek & Trávn. (locality: Duszniki-Zdrój, ATPOL square BF24; OL 31311).

16°23'24"E, ATPOL square BF24, 12.05.2011, B. Trávníček and J. Zámečník, OL, hZámečník. 3. Stary Gierałtów village near Stronie Śląskie, lawns and roadsides near the church in the village, 50°18'28"N, 16°55'37"E, ATPOL square BF38, 16.05.2011, B. Trávníček, OL. 4. Zabelków village (near Wodzisław Śląski town), lawns near Okrężna street in the central part of the village, 49°56'27"N, 18°18'51"E, ATPOL square CF78, 210 m a.s.l., 27.04.2012, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz and M. Wolanin, OL, hM.Wolanin. 5. Krzanowice village (near Tacibórz), meadow by Opawska street, 50°01'08"N, 18°07'35"E, ATPOL square CF76, 220 m a.s.l., 27.04.2012, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz and M. Wolanin, OL, hOklejewicz. 6. Niekazanice village (near Glubczyce), lawns in the village, 50°02'49"N, 17°51'34"E, ATPOL square CF64, 310 m a.s.l., 28.04.2012, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz, M. Wolanin, A. Stadnicka-Futoma and M. Jaźwa. 7. Lewice village (near Glubczyce), lawns in SE part of the village, 50°06'09"N, 17°47'43"E, ATPOL square CF64, 300 m a.s.l., 28.04.2012, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz, M. Wolanin, A. Stadnicka-Futoma and M. Jaźwa, OL. 8. Głuchołazy, roadsides by Kaszubska Kolonia street (towards Konradów village), 50°18'22"N, 17°23'43"E, ATPOL square CF37, 325 m a.s.l., 28.04.2012, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz, M. Wolanin, A. Stadnicka-Futoma and M. Jaźwa. 9. Sławniowice village (near Głuchołazy), lawns in the south of the village, 50°20'05"N, 17°15'45"E, ATPOL square CF30, 320 m a.s.l., 29.04.2012, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk. 10. Bogatynia village, roadsides near cemetery, 50°54'57"N, 14°57'38"E, ATPOL square AE64, 250 m a.s.l., 10.05.2013, B. Trávníček and V. Žíla, hŽíla. 11. Ręczyn village, lawns in the central part of the village, 51°02'03"N, 14°58'33"E, ATPOL square AE44, 225 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla. 12. Leśna town, lawns in park near church, 51°01'34"N, 15°15'38"E, ATPOL square AE56, 230 m a.s.l., 12.05.2013, B. Trávníček & V. Žíla. 13. Zawoja village, lawns at the road towards Składy village, 49°37'56"N, 19°31'40"E, ATPOL square DG16, 615 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla.

Main diagnostic features of the species: usually a medium-sized plant, sometimes also larger; leaves usually mid green, without spots, with 3–4(–5) lateral lobes; petiole pink to pale violet, narrowly but distinctly winged; lateral lobes recurved, deltoid and undivided, acute, distal margin most often convex and entire, proximal margin ±straight, interlobes usually with one tooth; terminal lobe triangular to helmet-shaped, often asymmetrically elongated, with narrowing or 1–2 incisions; interlobes usually with one distinct tooth; outer bracts reflexed, 3.5–4.5(–5.0) mm wide and 13–15 mm long, narrowly

but very distinctly bordered, gray-green with reddish to vinaceous tips; capitulum 40–55 mm in diameter; styles slightly discolored; pollen present.

Distribution outside Poland: Germany, Czech Republic, Slovakia.

3.3.2. *Taraxacum praestabile* Rail. (Figure 4)

In Arch. Soc. Zool. Bot. Fenn. Vanamo 17: 164, 1962

Recorded localities: 1. Nowa Bystrzyca village near Bystrzyca Kłodzka town, roadsides and lawns in SW part of the village, 50°17'24"N, 16°33'46"E, ATPOL square BF35, 12.05.2011, B. Trávníček and J. Zámečník, hZámečník. 2. Szklarnia village near Międzyzlesie, lawns and meadows near NW part of the village, ca. 0.8 km NW of the church, 50°09'34"N, 16°42'01"E, ATPOL square BF56, 16.05.2011, B. Trávníček, OL. 3. Jaworek village near Międzyzlesie, roadsides and lawns near W margin of the village, 50°12'54"N, 16°43'37"E, ATPOL square BF56, 16.05.2011, B. Trávníček, OL. 4. Stronie Śląskie-Wieś village near Stronie Śląskie town, lawns and roadsides ca. 1.5 km SSW from the railway station in the town, 50°17'26"N, 16°52'09"E, ATPOL square BF37, 16.05.2011, B. Trávníček, OL. 5. Niekazanice village (near Glubczyce), lawns in the village, 310 m a.s.l., 50°02'49"N, 17°51'34"E, ATPOL square CF64, 28.04.2012, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz, M. Wolanin, A. Stadnicka-Futoma and M. Jaźwa. 6. Lubomierz village, lawns in central part of the village, 565 m a.s.l., 49°36'31"N, 26°11'36"E, ATPOL square EG11, 17.05.2013, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz and M. Wolanin. 7. Lubomierz village, lawns at church of St. Joseph, 570 m a.s.l., 49°36'48"N, 20°11'16"E, ATPOL square EG11, 17.05.2013, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz and M. Wolanin, hŽíla, hM.Wolanin. 8. Branica, meadow, ATPOL square CF64, 300 m a.s.l., 28.04.2012, K. Oklejewicz, hOklejewicz.

Main diagnostic features of the species: a medium-sized to large robust plant; leaves mid green, without spots, with 4–6 lateral lobes; petiole vividly pink, in lower part narrowly, in upper part to widely winged; lateral lobes recurved, deltoid, not divided, medium acute, distal margin usually convex, entire, proximal margin straight to slightly concave, usually entire; terminal lobe most often ±triangular; interlobes flat or slightly plicate, without distinct black coloration; inflorescence buds green; outer bracts curved reflexed, 4.0–5.5 mm wide and 13–16 mm long, narrowly but clearly boarded, ±flat and regularly arranged; capitulum convex, (45–)50–60 mm in diameter, styles slightly discolored, pollen present.

Distribution outside Poland: Czech Republic, Slovakia, Germany, introduced in Finland.

Taraxacum praestabile is very similar to *T. hepaticum* and *T. crassum*, from which it differs in the presence of distinct margins on outer bracts.



Figure 4. *Taraxacum praestabile* Rail. (locality: Jaworek, ATPOL square BF56; OL 32412).

3.3.3. *Taraxacum xanthostigma* H.Lindb. (Figure 5)

In Meddeland. Soc. Fauna Fl. Fenn. 36: 5, 1910

Recorded locality: 1. Lešna town, lawns in park near church, 51°01'34"N, 15°15'38"E, ATPOL square AE56, 230 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla, OL, hŽíla. Main diagnostic features of the species: a medium-sized to large robust plant; leaves mid to dark green, with 3–5 lateral lobes; interlobes very obviously dark-blotched; petiole purple and narrowly winged; midrib green or slightly discolored; lateral lobes patent to recurved, deltoid, undivided, distal margin most often ±straight or irregular, entire, lower margin straight or irregular, with conspicuous tooth or entire (if this tooth is shifted into interlobium); terminal lobe often large, triangular to hastate, sometimes lingulate; inflorescence buds green, not pruinose; outer bracts spreading to recurved, 3.5–5.0 mm wide, 12–15 mm long, clearly bordered, ±regularly arranged, green; capitulum convex, 40–55 mm in diameter, styles yellow to slightly discolored, pollen present.

Distribution outside Poland: species of a wide range, reported from Great Britain, France, Austria, Switzerland, Germany, Denmark, Belgium, Scandinavian countries, Czech Republic, Belarus, Latvia, Lithuania, Estonia, European part of Russia.

3.3.4. *Taraxacum floccosum* Rail. (Figure 6)

In Aquilo, Ser. Bot. 14, App: 17, 1977

Recorded localities: 1. Ręczyn village, lawns in central part of the village, 51°02'03"N, 14°58'33"E, ATPOL square AE44, 225 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla, OL, hŽíla. 2. Świeradów-Zdrój, lawns in SE part of the town (settlement of Drożyna), 50°53'47"N, 15°21'45"E, ATPOL square AE67, 530 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla.

Main diagnostic features of the species: a medium-sized to large plant; leaves mid green or slightly grayish, with 4–6 lateral lobes; petiole narrowly winged, pale green from outside and ±brownish-purple from inside as well as midrib; lateral lobes recurved, deltoid, medium acute, undivided, distal margin straight or slightly convex, usually entire, proximal margin ±straight, entire; terminal lobe most often smaller than the side lobes; interlobes broadly rounded or angular, without discoloration; scapes usually haired; inflorescence buds green, pruinose; outer bracts mostly spreading, with tip bent upwards, 4.0–5.5 mm wide and 15–17 mm long, distinctly bordered, pruinose, bright lilac above, brownish-green below; capitulum convex, 40–55 mm in diameter; styles discolored, pollen present.

Distribution outside Poland: so far reported from Denmark, Finland, Czech Republic, and Germany.

T. floccosum is similar to *T. piceatum*, rather frequent in Poland, from which it differs in the bordering of outer bracts.

3.3.5. *Taraxacum lundense* H.Øllg. & Wittzell (Figure 7)

In Preslia 75: 161, 2003

Recorded localities: 1. Bogatynia village, roadsides near cemetery, 50°54'57"N, 14°57'38"E, ATPOL square AE64, 250 m a.s.l., 10.05.2013, B. Trávníček and V. Žíla, OL. 2. Harkabuz village, meadows near crossroad in the village, 49°32'14"N, 19°50'09"E, ATPOL square DG29, 825 m a.s.l., 19.05.2013, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz and M. Wolanin, OL. 3. Czaszyn, ditch by the road, 49°27'24"N, 22°13'17"E, ATPOL square FG26, 370 m a.s.l., 22.04.2010, K. Oklejewicz, hOklejewicz.

Main diagnostic features of the species: usually a large plant; leaves dark green, without spots, often hairy, with 5–7 lateral lobes; petiole narrowly winged, dull brownish-purple, usually as well as midrib; lateral lobes undivided, recurved, deltoid, acute, distal margin most often sigmoid, sometimes with acute tooth, proximal margin ±straight or sometimes concave; terminal lobe usually ±triangular, often with distinct tip, sometimes almost tripartite with proximal margin slightly convex; interlobes rather long, often with dark coloration; inflorescence buds olive green, not pruinose; outer bracts most often spreading (or only slightly recurved), 2.5–4.0 mm wide and 12–16 mm long, unbordered, ±regularly arranged, green or slightly brown-reddish; capitulum convex, 45–55 mm in diameter, styles discolored, pollen present.

Distribution outside Poland: Czech Republic, Slovakia, Denmark, Sweden, Germany.

Taraxacum lundense is closest to *T. huelphersianum*, from which it differs by longer interlobes, shape of terminal lobe of leaves, and usually also by brownish-purple midrib.

3.3.6. *Taraxacum ottonis* Uhlemann (Figure 8)

In Phytion (Horn) 47: 111, 2007

Recorded locality: 1. Rabka-Zdrój, small meadows near Nowy Świat street, 49°35'51"N, 19°57'52"E, ATPOL square EG10, 505 m a.s.l., 17.05.2013, B. Trávníček, V. Žíla, P. Marciniuk, J. Marciniuk, K. Oklejewicz and M. Wolanin, OL (rev. I. Uhlemann).

Main diagnostic features of the species: a medium-sized to large, usually robust plant; leaves light grayish green, with 4–5 lateral lobes; petiole green to pale pink, narrowly winged, midrib green; lateral lobes patent to slightly recurved, often weakly hooked, distal margin ±convex, usually with numerous distinct acute teeth, proximal margin ±straight to slightly concave, entire or with small teeth; terminal lobe usually triangular-sagittate, often with teeth or small lobes, top part usually slightly elongated; interlobes long, crispate, with distinct acute teeth; inflorescence buds olive green, not pruinose; outer bracts set irregularly, spreading to recurved, 4–5 mm wide



Figure 5. *Taraxacum xanthostigma* H.Lindb. (locality: Leśna, ATPOL square AE56; OL 29545).



Figure 6. *Taraxacum floccosum* Rail. (locality: Ręczyn, ATPOL square AE44; BRNM 758710).



Figure 7. *Taraxacum lundense* H.Øllg. & Wittzell (locality: Bogatynia, ATPOL square AE64; OL 28991).



Figure 8. *Taraxacum ottonis* Uhlmann (locality: Rabka-Zdrój, ATPOL square EG10; OL 29140).

and 17–18 mm long, unbordered or with very narrow border; capitulum convex, 50–60 mm in diameter, styles slightly discolored, pollen present.

Distribution outside Poland: Czech Republic, Austria (Uhlemann, 2015), and Germany.

3.3.7. *Taraxacum subborgvallii* Uhlemann, Štěpánek & Kirschner (Figure 9)

In Phytion (Horn) 47: 114, 2007

Recorded localities: 1. Jarkowice village near Lubawka, meadow by the road towards Miszkowice village, 50°43'09"N, 15°54'37"E, ATPOL square BE81, 13.05.2010, B. Trávníček and J. Zámečník, OL, hZámečník. 2. Karpacz, lawns near hotel "Halny" W of the church in the town, 50°46'32"N, 15°44'49"E, ATPOL square BE80, 19.05.2010, B. Trávníček and J. Zámečník, OL. 3. Kudowa-Zdrój, lawns in the town ca. 1.5 km NNE from the railway station, 50°26'35"N, 16°14'58"E, ATPOL square BF23, 12.05.2011, B. Trávníček and J. Zámečník, OL. 4. Duszniki-Zdrój, lawns at the margin of the town ca. 1.2 km SSE from the railway station, 50°23'51"N, 16°23'24"E, ATPOL square BF24, 12.05.2011, B. Trávníček and J. Zámečník, hZámečník. 5. Bogatynia village, roadsides near cemetery, 250 m a.s.l., 50°54'57"N, 14°57'38"E, ATPOL square AE64, 10.05.2013, B. Trávníček and V. Žíla, OL, hŽíla. 6. Ręczyn village, lawns in central part of the village, 51°02'03"N, 14°58'33"E, ATPOL square AE44, 225 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla, OL, hŽíla.

Main diagnostic features of the species: a small to medium-sized plant; leaves mid to grayish dark green with 4–5 lateral lobes; interlobes usually dark-blotched; petiole long, unwinged or only very narrowly winged, red-purple (midrib also often purplish); lateral lobes patent to slightly recurved, triangular, distal margin straight or slightly convex, often with 1–2 distinct teeth, proximal margin ±straight, entire; terminal lobe usually triangular, linguulate, not too large; interlobes medium long to long, flat; inflorescence buds olive green, not pruinose; outer bracts curved reflexed, narrow, 1.5–3.0 mm wide, 12–13 mm long, ±unbordered, gray-green or slightly brown-purplish; capitulum convex, 35–40 mm in diameter, styles discolored, pollen present.

Distribution outside Poland: Germany and Czech Republic.

Taraxacum subborgvallii is very similar to *T. borgvallii*, from which it differs in the presence of distinct teeth on distal margin of lateral leaf lobes and shorter linguulate tip of terminal lobe.

3.3.8. *Taraxacum pittochromatum* Sahlén (Figure 10)

In Svensk Bot. Tidskr. 69: 170, 1975

Recorded locality: 1. Radzimów village near Zawidów, lawns and roadsides near the church in the village, 51°03'19"N, 15°06'31"E, ATPOL square AE45, 245 m a.s.l., 1.05.2011, B. Trávníček and V. Žíla, OL.

Main diagnostic features of the species: usually a rather large and robust plant; leaves dull green, with 3–5 lateral lobes; interlobes irregularly but distinctly dark-blotched; petiole green, usually broadly winged, midrib often dull brown-purplish; lateral lobes patent, distal margin ±straight or irregular, usually with distinct acute teeth, proximal margin ±straight or slightly concave, usually entire, sometimes with conspicuous tooth; terminal lobe often divided, elongated, with lateral incisions, usually ended with acute to subacute tip; interlobes often with conspicuous discolored teeth; inflorescence buds green, not pruinose; outer bracts set ±regularly, spreading to recurved, 3.5–5.0 mm wide and 14–16 mm long, unbordered or very narrowly bordered, often colored brown-purplish; capitulum convex, large, about 55 mm in diameter, styles discolored, pollen present.

Distribution outside Poland: Germany and Czech Republic.

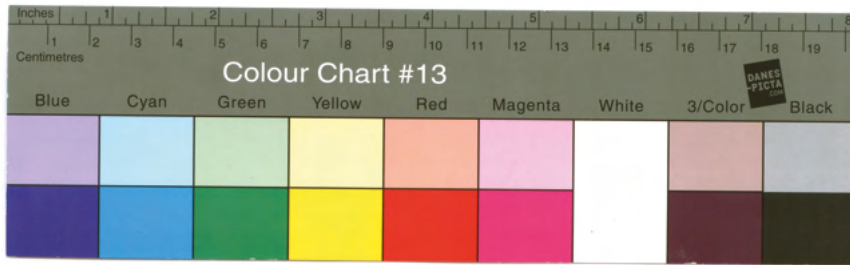
3.3.9. *Taraxacum subleucopodium* M.P.Christ. (Figure 11)

In Bot. Tidsskr. 66: 93, 1971

Recorded localities: 1. Ręczyn village, lawns in central part of the village, 51°02'03"N, 14°58'33"E, ATPOL square AE44, 225 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla, OL. 2. Świeradów-Zdrój, lawns in SE part of the town (settlement of Drożyna), 50°53'47"N, 15°21'45"E, ATPOL square AE67, 530 m a.s.l., 12.05.2013, B. Trávníček and V. Žíla, OL.

Main diagnostic features of the species: a medium-sized to rather large plant; leaves mid to grayish green, with 4–6(–7) lateral lobes; petiole green from outside and pale pink from inside, narrowly winged; lateral lobes recurved, deltoid, usually very acute, distal margin convex or sigmoid, often with 1–2 distinct narrow teeth, proximal margin ±straight or concave, entire; terminal lobe ±triangular, often with distinct long linguulate tip; inflorescence buds olive green, not pruinose; outer bracts usually ±set regularly, spreading, 3–4 mm wide, 14–15 mm long, narrowly bordered, green or brown-purplish; capitulum convex, about 45 mm in diameter, styles slightly discolored, pollen present.

Distribution outside Poland: Denmark, Sweden, Germany, and Czech Republic.



Herbář katedry botaniky PFF UP Olomouc - OL 32625
FLORA POLONICA
Taraxacum subborgvallii Uhlmann, Štěpánek et Kirschner

Polsko:
 Kudowa-Zdrój town, lawns in the town ca 1.5 km NNE from the railway station

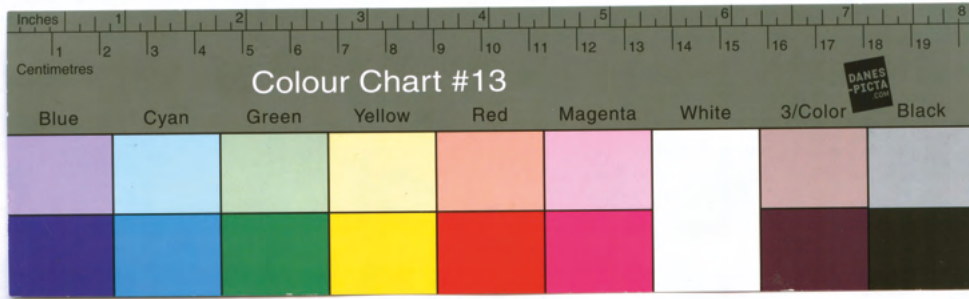
N 50° 26' 35", E 016° 14' 58" (WGS-84) Quadr.: 5563cb

Pozn.: locality No. 1208

Dat: 12.5.2011 leg.: Trávníček B.

Herbář katedry botaniky PFF UP Olomouc - OL

Figure 9. *Taraxacum subborgvallii* Uhlmann, Štěpánek & Kirschner (locality: Kudowa-Zdrój, ATPOL square BF23; OL 32625).



Herbář katedry
botaniky
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Herbář katedry botaniky PFF UP Olomouc - OL	32405
FLORA POLONICA	
<i>Taraxacum pittochromatum</i> Sahlin	
Polsko:	
Radzimów village near Zawidów town, lawns and roadsides near the church in the village - 245 m s. m.	
N 51° 03' 19", E 015° 06' 31" (WGS-84)	Quadr.: 4956bc
Pozn.: locality No. 1181	
Dat: 1.5.2011	leg.: Trávníček B.

Figure 10. *Taraxacum pittochromatum* Sahlin (locality: Radzimów, ATPOL square AE45; OL 32405).



Figure 11. *Taraxacum subleucopodum* M.P.Christ. (locality: Świeradów-Zdrój, ATPOL square AE67; OL 29808).

Acknowledgments

We are grateful to Ingo Uhlemann (Germany) for the revision of determination of *Taraxacum ottonis* and to Martina Oulehlová and Karel Sutorý (both the Czech Republic) for technical help (scanning of herbarium specimens). This work was also supported by internal

grants from Palacký University (IGA PrF-2017-001 and PrF-2018-001). The results of the research carried out under the research theme No. 342/13/S (Siedlce University of Natural Sciences and Humanities) were financed by a science grant from the Ministry of Science and Higher Education.

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