

TARAXACUM SECTION PALUSTRIA

Our knowledge of the 124 species in *Taraxacum* section *Palustria* (H. Lindb.) Dahlst. is based on the monograph by the Czech experts J. Kirschner & J. Štěpánek (1998) from which this account is abstracted.

Dudman & Richards (1997) included four species of Sect. *Palustria* in Britain and Ireland: *T. palustre*, *T. webbii*, *T. sarniense* and *T. anglicum*. Kirschner & Štěpánek (1998) recognise five species. The main changes relate to Irish material, where a new species *T. amarellum* has been recognised and the occurrence of *T. palustre* sensu stricto is doubted. *Taraxacum sarniense* A. J. Rich. from the Channel Islands is synonymous with the more widespread *T. ciliare*, and may also occur in S. England. *Taraxacum anglicum* and *T. webbii* are unchanged.

Section *Palustria* is generally characterised as having appressed or loosely appressed ovate outer bracts with broadly bordered margins, a \pm cylindrical cone which is usually long, and leaves unlobed or with simple lobation. They primarily occur in wet, mineral-rich habitats in Europe, with the highest diversity in southern and southern central Europe.

MULTI-ACCESS KEY

The key should be used for well-grown material, preferably living, in full flower with ripe achenes. Unknown specimens should be scored for the character states listed below and the profile compared with the alphabetical list. Rare exceptions are given in brackets. Intermediate characters are scored as both neighbouring states.

- A: Pollen absent.
- B: Pollen present.
- C: Stigmas yellow.
- D: Stigmas pale greyish yellow or very pale yellowish green.
- E: Stigmas discoloured, usually greenish.
- F: Outer bracts 8-9.
- G: Outer bract 10-14.
- H: Outer bracts up to 4.5 mm wide.
- I: Outer bracts more than 4.5 mm wide.
- J: Border of outer bract up to 0.4 mm wide or absent.
- K: Border of outer bract more than 0.5 mm wide.
- L: Pappus more than 7 mm long.
- M: Pappus less than 7 mm long.
- N: Leaves not lobed or very shallowly so.
- O: Leaves deeply lobed or dissected.

A(B)DGIKM(N)O:	<i>T. palustre</i>
ACDGHKMN:	<i>T. webbii</i>
AEGHKLN:	<i>T. amarellum</i>
BDEFHJMO:	<i>T. anglicum</i>
BDGIJKMNO:	<i>T. ciliare</i>

Plant Crib 3

1. *Taraxacum amarellum* Kirschner & Štěpánek

Plants medium-sized. Leaves \pm erect, mid-green to dull green, \pm linear, not divided, usually remotely dentate or rarely remotely lobulate. Petioles narrow, purple. Scapes green to brownish-reddish, glabrous. Outer bracts appressed, \pm imbricate or slightly so, (9)10-13(14), oblong-ovate to broadly lanceolate (the widest dimension typically not near the base but just below the middle), 6.5-7.5 mm long, (3.0-)3.5-4.5 mm wide, blackish green, later sometimes suffused with purple near the apex, with a distinct whitish-greenish border 0.5-0.8 mm wide (membranaceous margin, when visible, 0.1-0.2 mm wide), sparsely ciliate near the apex or subglabrous. Interior involucre bracts elongating during fruit ripening, later usually 22-24 mm long. Capitulum medium yellow, c. 2.5 cm in diameter, outer ligules striped dark grey-reddish (rarely greenish-reddish), inner ligule teeth usually reddish. Stigmas greenish, pollen absent. Achenes 4.5-5.5 mm long, \pm gradually narrowing to a subconical cone 0.7-0.9(-1.3) mm long, sparsely spinulose above, spinules thin, small, rostrum 7.0-8.5 mm long, pappus 7-8 mm long.

The outer bracts with the distinct greenish-whitish border narrower than 1.0 mm, and the widest dimension near the middle are diagnostic (Figure 1). The elongated inner bracts (a feature rare in the section) and long pappus should also distinguish it from its closest relatives, *T. palustre* and *T. webbia*. In addition, it differs from *T. webbia* by greenish stigmas and narrower, less distinct, border to the outer bracts.

There is a pollen-producing aberrant of *T. amarellum*, cultivated from seeds collected in East Mayo: in addition to the presence of pollen, it differs from *T. amarellum* in remotely denticulate (not lobulate) leaves and slightly paler stigmas. It requires further examination.

Taraxacum amarellum is endemic to western Ireland and has been recorded in V.c. H9, H15, H18, H25 and H27. Its typical habitat is seasonally inundated grassland near the shore of lakes and turloughs in western Ireland (e.g. the Burren), and it also occurs on flood meadows along the River Shannon. Literature records of *T. webbia* from some sites in Co. Clare, H26 and H28 may belong to *T. amarellum*, as do probably also all Irish *T. palustre* records (cf Map 16 in Dudman & Richards 1997).

IUCN Conservation status: Endangered.

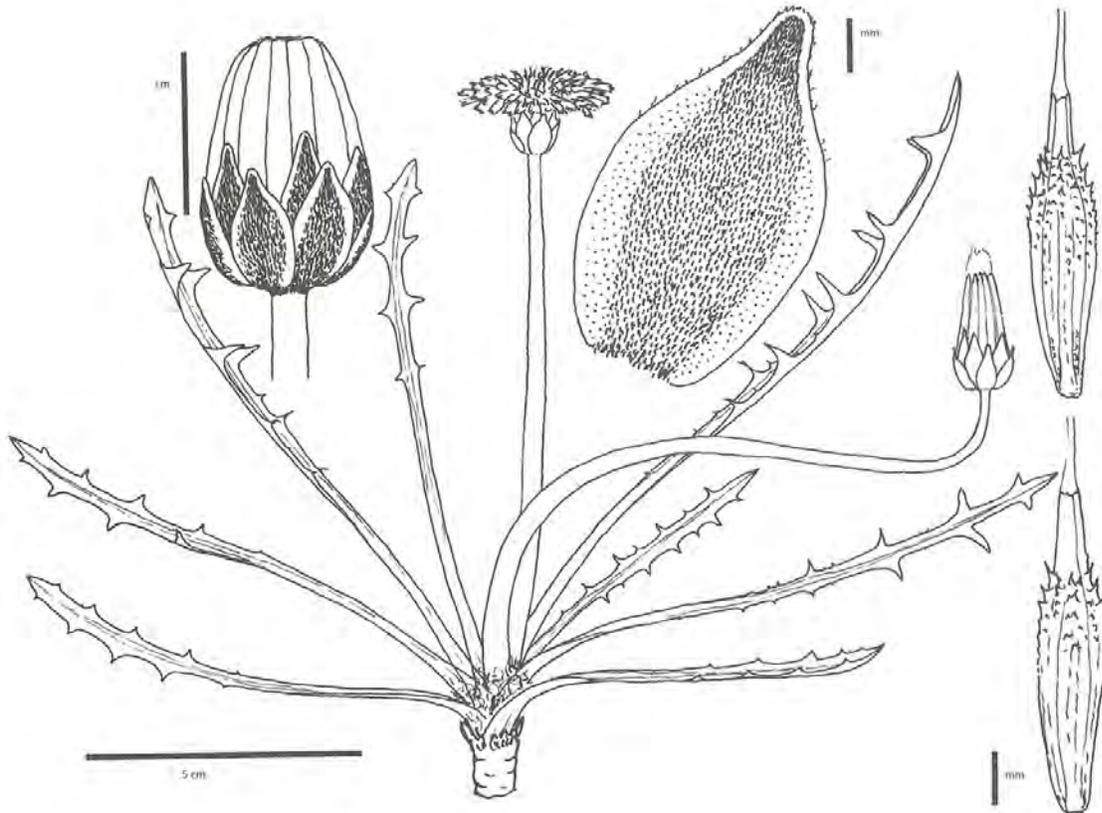


Figure 1. *Taraxacum amarellum*.

Plant Crib 3

2. *Taraxacum webbii* A. J. Richards

Plants small. Leaves suberect, medium green, \pm linear to narrowly linear-oblongate, undivided, usually \pm entire to \pm regularly denticulate, with (0)2-3(5) tooth pairs. Petioles narrow, usually brownish purple. Scapes only slightly over-topping, or often equalling, the leaves, subglabrous or with solitary hairs below the capitulum, often sparsely hairy at the base. Outer bracts 10-12(13), appressed, not distinctly imbricate, broadly ovate to ovate, 5.5-6.5 mm long and 3.0-4.5 mm wide, distinctly marginate, ciliate, suffused with purple near the apex, middle part blackish green to dark green, about 2 mm wide, pale (whitish to pale green) border (including the membranaceous margins) 0.9-1.2 mm wide, membranaceous margins scarious to whitish, 0.2-0.4 mm wide. Capitulum bright yellow, 2.5-3.0 mm in diameter, outer ligules striped reddish to blackish-reddish, inner ligule teeth reddish. Stigmas \pm yellow to dirty yellow, rarely discoloured with greyish hairs, pollen absent (rarely anther tubes or style bases with few abortive pollen grains). Achenes 4.5-5.0 mm long, achene body distinctly spinulose above (spinules usually \pm coarse), gradually narrowing to a \pm thick, 0.8-1.0 mm long, \pm cylindrical to subconical cone, rostrum 6.5-7.5 mm long, pappus 5.5-6.5 mm long.

Taraxacum webbii is characterised by the combination of absence of pollen and yellow to dirty yellow stigmas (Figure 2).

The ecological and geographical ranges of *T. webbii* are similar to those of *T. amarellum*, endemic on the shores of lakes and turloughs in W. Ireland. However, *T. webbii* seems to be much less frequent, and has only been confirmed from Co. Clare (H9) only (Ballyvaughan and Lough Bulla/Loch Bunny). There are specimens from H9, H16, H17 and H24 which are similar to *T. webbii* and *T. amarellum* but are inadequate to be determined.

IUCN Conservation status: Critically Endangered.

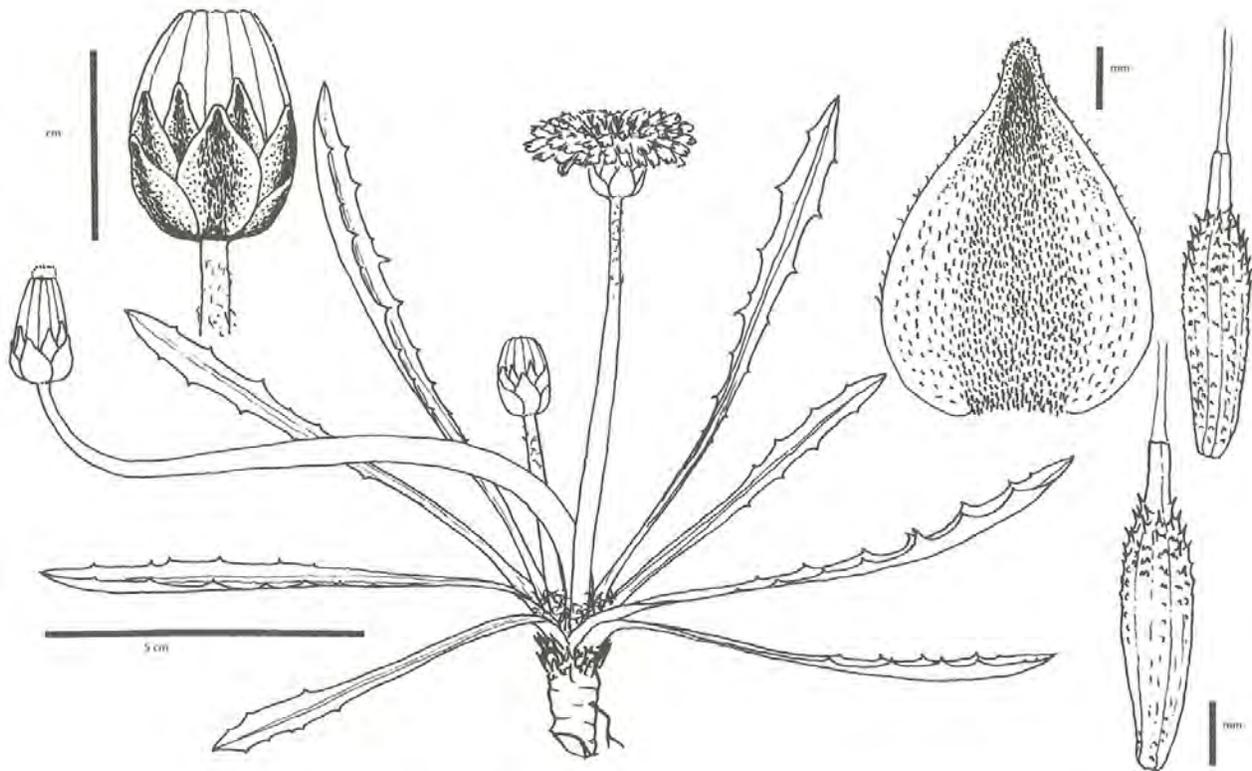


Figure 2. *Taraxacum webbii*.

Plant Crib 3

3. *Taraxacum ciliare* Soest

Synonym: *Taraxacum sarniense* A. J. Richards.

Plants small to medium-sized. Leaves ascending to ± erect, greyish green, ± linear-oblongate, usually deeply lobed, rarely ± entire or remotely denticulate, lateral lobes 2-3 (4), triangular to triangular-deltoid, terminal lobe often elongated, ± acute, interlobes and lobes entire. Petioles narrow, usually purple. Scapes brownish-purplish, sparsely hairy below capitulum. Outer bracts tightly appressed, imbricate, ovate (± abruptly narrowing to a blunt apex), (9) 10-14 (15), the outer ones of them usually 6.0-6.5 mm long and (3.7-) 4.5-5.5 mm wide, the inner of them up to 9 mm long and 3.5-4.0 mm wide, dark (dark green suffused with purple), membranaceous margin usually conspicuously ciliate, purplish, rarely ± whitish, 0.1-0.3 mm wide, border indistinct, usually dark green - purplish, usually invisible, up to 1.0 mm wide. Capitulum medium yellow, 2.5-3 cm in diameter, outer ligules striped grey-reddish, inner ligule teeth reddish. Stigmas pale yellowish-greenish, pollen present. Achenes 4.0-4.2 mm long, subabruptly narrowing to a narrowly cylindrical cone 0.9-1.0 mm long, ± densely spinulose above, rostrum 8-9 mm long, pappus 5-6 mm long.

Distinguished from other British and Irish species by the long cone, presence of pollen and generally broad outer bracts which sometimes lack a border (Figure 3).

The holotype of *T. sarniense* undoubtedly belongs to *T. ciliare*. There is a good agreement in the outer bract characters and achene traits. The only remaining diagnostic feature, undivided leaves in *T. sarniense*, is not reliable in this group because the leaf shape in *T. ciliare* varies between entire (cf. silhouette in Dudman & Richards 1997) and deeply lobed.

A western European endemic. In the British Isles, only known from Guernsey and Jersey, where it is probably extinct. It also occurs in France (it is one of the most common species of the Section in W. France) and Spain, and may occur in Switzerland and Italy. In Europe, this species occurs in coastal wet grasslands and weakly saline meadows, typically in sites with open cover and mineral rich heavy, usually not permanently wet, soils with *Centaurium pulchellum*, *Carex distans*, *C. flacca*, *Festuca arundinacea* and *Trifolium fragiferum*.

Plants from Balmer Lawn, New Forest with pollen probably belong to a taxon intermediate between *T. ciliare* and *T. palustre* and require further study.

IUCN Conservation status: Vulnerable.

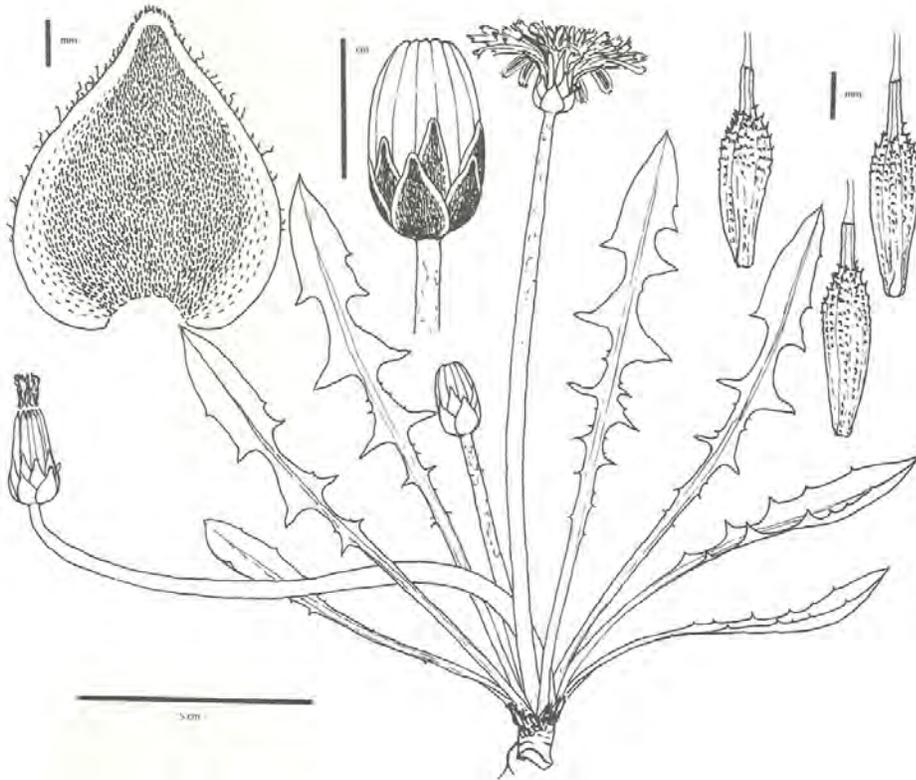


Figure 3. *Taraxacum ciliare*.

Plant Crib 3

4. *Taraxacum palustre* (Lyons) Symons

Plants small to medium sized. Leaves \pm erect, green to dull green, sometimes slightly bluish green, \pm linear oblanceolate in outline, shallowly to deeply lobed, rarely undivided, lateral lobes usually (1)2(3), distant, flat-triangular or triangular-sagittate, \pm patent, terminal lobe typically elongated or less often \pm triangular, interlobes most often entire. Petioles narrow, pinkish to purplish. Scapes purplish, sparsely hairy to \pm subglabrous. Outer bracts usually (10)11-13, appressed, imbricate, broadly ovate to ovate, \pm abruptly narrowed to a 1-1.5 mm long apical part, relatively often suffused with purple near the apex, the outer of them (5.0-)5.5-6.5(-7.0) mm long and 3.5-4.5 mm wide, their middle part dark green, borders \pm distinct, pale greenish-whitish, often suffused with pink above, usually up to 1.5 mm wide (including 0.1-0.2 mm wide membranaceous margin). Capitulum medium-sized, usually 2.5-3.5 cm in diameter, yellow, outer ligules striped grey-reddish or grey-greenish (suffused with pink), inner ligule teeth usually reddish. Stigmas greenish, pollen absent, rarely present. Achenes 4.2- 4.7 mm long, achene body \pm densely to sparsely spinulose above (spinules small, short), \pm gradually narrowing to a subcylindrical, 0.7-0.9 mm long cone with subconical base, rostrum 7.0-8.5 mm long, pappus 5.5-6.5 mm long.

Distinguished from other British and Irish species by the broad outer bracts (Figures 4 and 5). The silhouette in Dudman & Richards (1997) is representative of this species.

Taraxacum palustre is relatively uniform morphologically throughout its large geographic range, but studies of Dutch *T. palustre* suggests it consists of at least three genotypes, possibly different from the English one.

Taraxacum palustre is a widespread West European endemic, formerly common from Denmark and NW-W Germany, through The Netherlands and Belgium, to N and W France, England and the Channel Islands. In Britain, recorded from V.c. 4, 11, 20, 22, 23, 27, 28, 29, 30, 34, 37, 41, 52, 61, 62, 69, 73 and S (Dudman & Richards 1997). There are no unambiguous specimens from Ireland (where *T. amarellum* might have been confused with it). It grows in a relatively wide range of habitats, from weakly saline shore grasslands and peaty dune valleys to calcareous fens and seasonally inundated haymeadows.

IUCN Conservation status: Endangered.

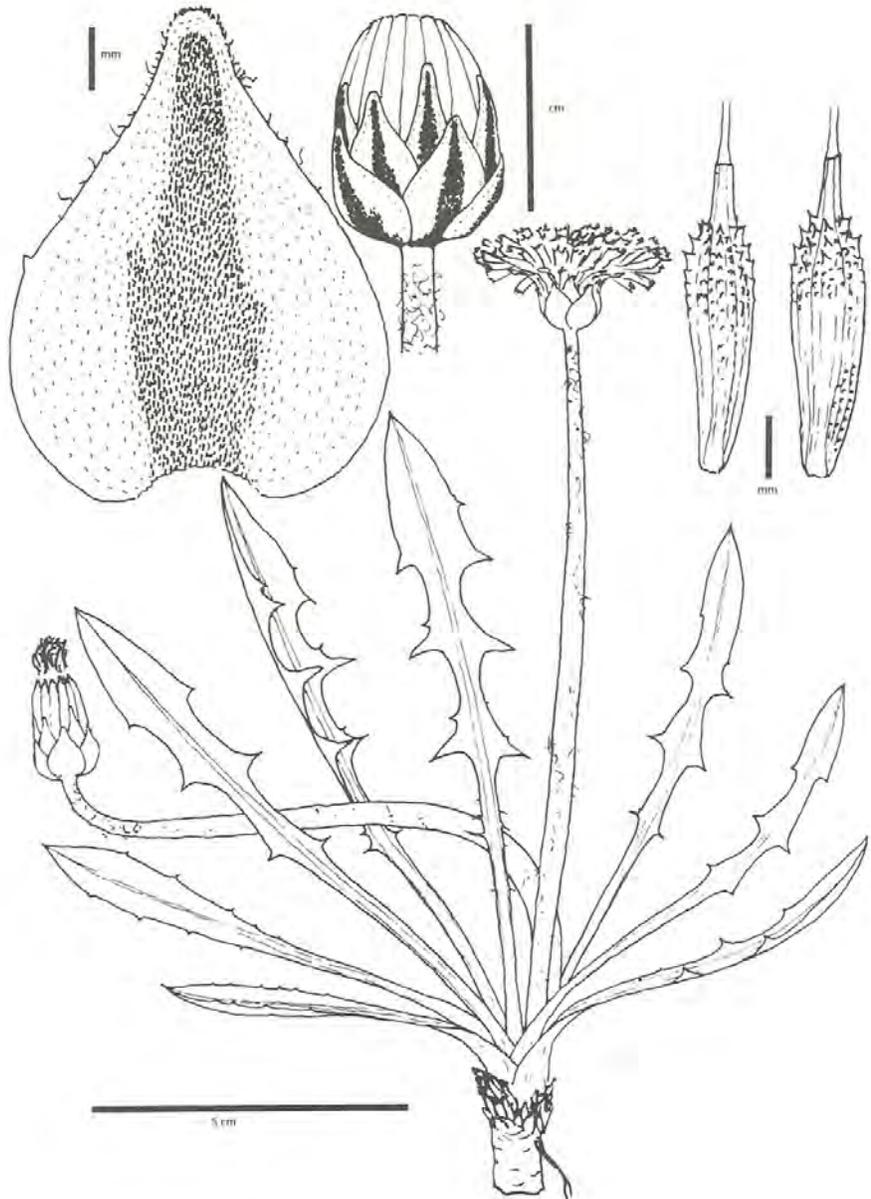


Figure 4. *Taraxacum palustre*.

Plant Crib 3



Figure 5. Cultivated *Taraxacum palustre* (photos T. Rich).

Plant Crib 3

5 *Taraxacum anglicum* Dahlst.

Plants slender, medium-sized. Leaves \pm erect, mid-green to dull green, with scattered minute spots or unspotted, lateral lobes (1)2-3(5), triangular to acuminate-triangular, apex subobtuse, distal margin straight, rarely concave, often with a few teeth or a lobule, sometimes entire, proximal margin \pm patent, upper interlobes short, often entire, lower interlobes longer, often filiform-dentate, terminal lobe large, triangular. Petioles \pm narrow, purple. Scapes brownish-purplish, hairy. Outer bracts usually 8-9, appressed, not imbricate, ciliate above, blackish (often shiny), ovate-lanceolate, (6.5-)7.0-8.0(-9.0) mm long, 3.5-4.5 mm wide, borders absent, reduced to a blackish or blackish-membranaceous, almost invisible margin 0.3-0.4 mm wide. Capitulum yellow, 2.5-3.5 cm in diameter, outer ligules striped blackish green-purple, inner ligule teeth dirty reddish. Stigmas pale greenish, pollen present. Achenes 3.6-4.3 mm long, achene body densely or subsparingly spinulose above (spinules small to minute), subabruptly to abruptly narrowing to a subconical, often thicker, 0.7-0.9 mm long cone, rostrum 9-10 mm long, pappus 5-6 mm long.

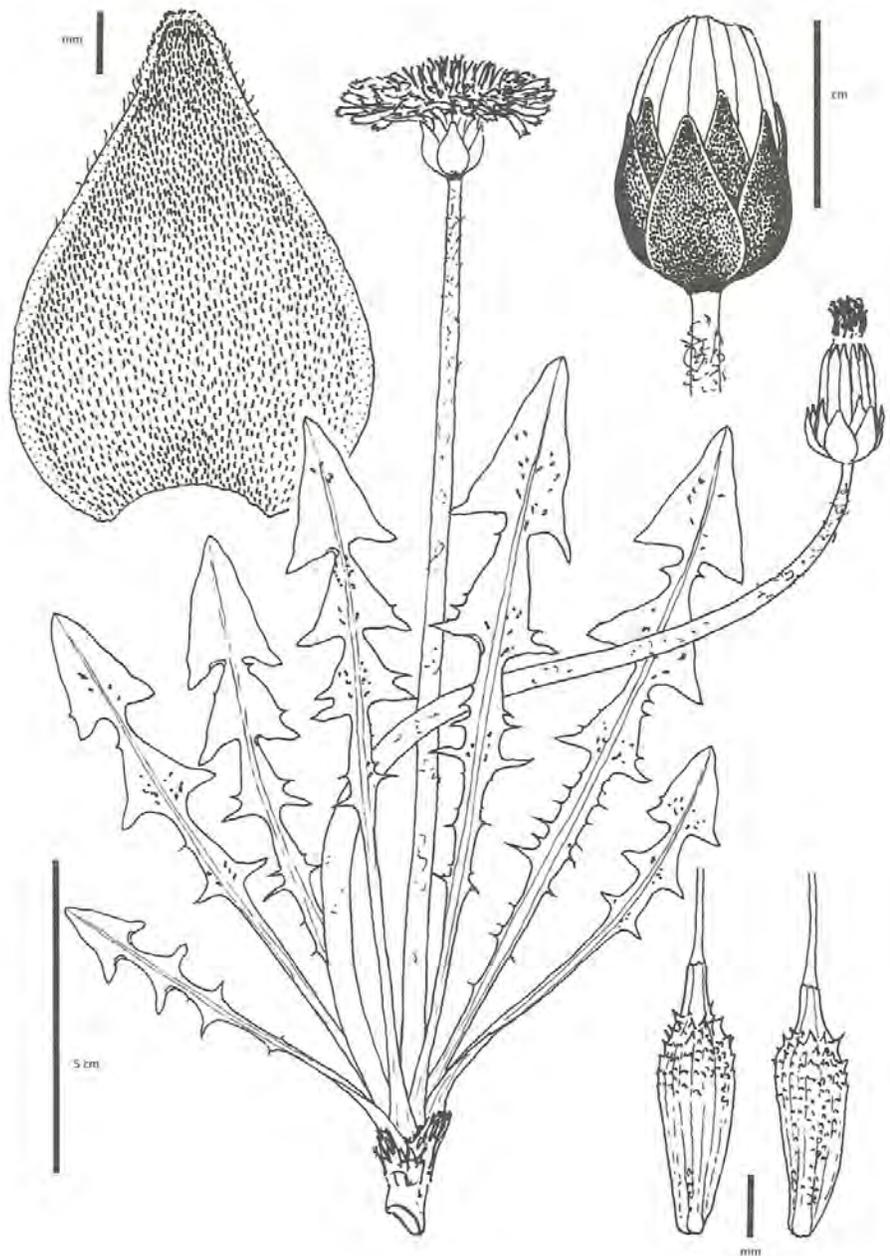
Distinguished from other British and Irish species by the presence of pollen, the deeply lobed leaves and the few, very narrowly bordered bracts (Figure 6). The silhouette in Dudman & Richards (1997) is representative of this species.

Taraxacum anglicum is a very distinct species whose sectional position in *Palustria* has often been questioned. The tightly appressed outer bracts, very low number of outer bracts, short achene spinulosity, longer cone, and the simple leaf shape support its present classification.

A western European endemic recorded from England, The Netherlands and France. It is likely to occur in Belgium. The Swiss record is unlikely. Its usual habitats are calcareous fens and weakly saline meadows. It has been recorded from V.c. 12, 17, 22, 23, 29, 30, 31, 34, 36 and 37.

IUCN Conservation status: Critically Endangered.

Figure 6. *Taraxacum anglicum*.



Plant Crib 3

References

- Dudman, A. & Richards, A. J. (1997). *Dandelions of Great Britain and Ireland*. Botanical Society of the British Isles, London.
- Kirschner, J. & Štěpánek, J. (1998). A monograph of *Taraxacum* sect. *Palustria*. Institute of Botany, Academy of Sciences of Czech Republic, Pruhonice.

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