

***Taraxacum* sect. *Palustria* (Compositae) in Bohemia**

A contribution to the RAMSAR sites

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ABSTRACT: A survey of the representatives of *Taraxacum* sect. *Palustria* (Compositae) in Bohemia is presented. Nineteen species are given full descriptions, chromosome numbers, distribution in Bohemia (with references to published localities and lists of additional sites). Four of them, *T. madidum*, *T. anserinum*, *T. quaesitum*, *T. dentatum*, are described as new, and *T. hemiparabolicum* HUDZIOK is typified. A simple indication value reflecting a relative rarity of a species in Bohemia and elsewhere, and ecological demands of a species, is calculated for each representative. An account of localities with members of the section is given; ten localities of international importance are listed, other localities important for nature conservation reasons are also mentioned.

KEYWORDS: Plant Species Conservation, Taxonomy, *Taraxacum* sect. *Palustria* (Compositae), Bohemia, Meadows

Introduction

Taraxacum Wigg. sect. *Palustria* (H. LINDB. fil.) DAHLST. is a group of species characterized by their morphology (VAN SOEST 1965) and ecology: they are confined to mineral rich fens, wet meadows, subsaline habitats etc. This type of habitat is in a considerable decline in most regions due to intensive farming methods (including changing meadows to arable fields, drainage, fertilisation etc.).

There are some regions in Europe where representatives of *Taraxacum* sect. *Palustria* still are relatively common (the Alps, the Carpathians, the Balkans, the Pannonian basin etc.). However, in lowlands of C. Europe where wet meadows or fens are found in poor remains now, species of this section are rare, vanishing or even extinct. That is why we have focused our interest on the section *Palustria* in the course of our *Taraxacum* studies in the last decade. Herbarium specimens witness the fact that there are several regions in Bohemia where *Palustria* were distributed in the past but have not been recorded since the 1950s. They are, for instance, large areas in the Central Polabí region, the vicinity of Česká Lipa in N. Bohemia, saline and subsaline localities in NW. Bohemia etc.

A minor part of our results have already been published (KIRSCHNER et ŠTĚPÁNEK 1984 a, b, 1986 a, b, 1985, 1989, 1992, KIRSCHNER, SONCK et ŠTĚPÁNEK 1993) and the data (localities, comments) are not repeated in the present paper.

Our study aims at two goals: first, taxonomy of the Czech members of the section should be reviewed [among 19 species recognised, eight were (or have to be) described by us]. Secondly, the localities of the Czech *Palustria* are listed according to their importance, i.e. the diversity and rarity of the members of the section present at a given locality. The list should serve Nature Conservation experts in selecting the localities for protection or special management. It should be emphasized that, among the Czech species of the sect. *Palustria*, there are endemic species, species with two or three recent localities known within their whole geographical range, species whose ranges have shrunk dramatically in the last decades, and many very rare species.

The only reason why the whole territory of the Czech Republic is not covered in the following account is the space problem: the numerous Moravian *Palustria* would make this account too voluminous.

Material and methods

The study is based on the examination of the material in field and in cultivation. Mainly our own collections are included, but contributions by our colleagues have also given invaluable assistance. The help of the group of South Bohemian Branch of the Czech Botanical Society (led by V. CHÁN and V. ŽILA) should primarily be emphasized. Further important contributions were provided us by B. TRÁVNÍČEK, JOSEF KUČERA, J. RYDLO etc. An additional source of the specimens quoted is represented by herbaria; collections of BRNM, BRNU, JE, L, LIT, MP, PL, PR, PRC, ROZ were consulted.

Methods used for the determination of chromosome numbers are described in KIRSCHNER et ŠTĚPÁNEK (1985). English descriptions are compiled by means of a PC program package PANKEY (PANKHURST 1978, 1986 ms.).

Indication value

In order to compare species of the section *Palustria* in Bohemia with respect to their conservation status and rarity, and to classify their localities, a simple indication value is calculated for each species. The indication value is assessed according to the relative rarity of a species in Bohemia (and adjacent territories), and according to the rarity of its habitat.

Highest indication values include species requiring alkaline soils rich in mineral nutrients, which suffer from higher and denser vegetation, require regular mowing (but not other types of disturbance such as trampling in spring), and which disappear under the influence of fertilizers. At the other end of the indication value range are the species with less specific requirements, which are able to survive a moderate fertilization regime and irregular mowing which allows the vegetation to be higher than about 25 cm in late spring.

There is a similar composite criterion for the evaluation of rare and threatened species introduced by ČEROVSKÝ (1981), a 'socioecological' index. However, as most of these values would be equal for species of *T. sect. Palustria* (almost all of them are relatively rare, with limited geographical ranges, confined to natural wetlands and wet

meadows and fens, and critically threatened in the whole range), we have had to develop a simple new indication value composed of the following criteria:

A. Current distribution in Bohemia

extinct.....	5
very rare (1-2 localities, rare at the sites).....	4
rare (3-10 localities).....	3
scattered-rare(less than 20 loc.).....	2
scattered throughout Bohemia.....	1

B. Overall distribution

endemic to the Czech Republic.....	5
very rare in the whole range (1-2 loc. outside CR).....	4
rare.....	3
locally more common.....	2
scattered in several countries.....	1

C. Ecological criteria (all five criteria eligible for a species)

[applicable for the Czech localities only]

not at trampled localities.....	1
not at fertilised localities.....	1
requires regular mowing or grazing.....	1
not outside calcareous fens.....	1
not outside critically threatened communities (such as <i>Caricion davallianae</i> , <i>Festuco-Puccinellietalia</i> etc.).....	1

According to the above system, the Czech species of the section *Palustris* are given the indication values:

1. <i>Taraxacum brandenburgicum</i> ...	12	11. <i>Taraxacum anserinum</i>	11
2. <i>Taraxacum subalpinum</i>	3	12. <i>Taraxacum turfosum</i>	7
3. <i>Taraxacum mendax</i>	11	13. <i>Taraxacum quaesitum</i>	11
4. <i>Taraxacum bohemicum</i>	11	14. <i>Taraxacum irrigatum</i>	9
5. <i>Taraxacum hollandicum</i>	6	15. <i>Taraxacum subdolum</i>	6
6. <i>Taraxacum skalinskanum</i>	10	16. <i>Taraxacum dentatum</i>	7
7. <i>Taraxacum paucilobum</i>	5	17. <i>Taraxacum ancoriferum</i>	13
8. <i>Taraxacum vindobonense</i>	5	18. <i>Taraxacum heleonastes</i>	11
9. <i>Taraxacum bavaricum</i>	9	19. <i>Taraxacum hemiparabolicum</i> ...	10
10. <i>Taraxacum madidum</i>	7		

Thus, we can recognise three groups of species. A group with values 10-13 whose presence is highly indicative of a large conservation value for a locality (*T. ancoriferum*, *T. brandenburgicum*, *T. mendax*, *T. skalinskanum*, *T. bohemicum*, *T. anserinum*, *T. quaesitum*, *T. heleonastes*). The second group (values from 7 to 9) comprises species that indicate a good natural value for a locality (*T. bavaricum*, *T. madidum*, *T. turfosum*, *T. irrigatum*, *T. dentatum*), while the presence of the species of the third group (values from 3 to 6) does not indicate more than the fact that the meadow locality is not heavily disturbed (*T. subalpinum*, *T. paucilobum*, *T. vindobonense*, *T. subdolum*, *T. hollandicum*).

A survey of the localities of the sect. *Palustria* existing at present in Bohemia

The distribution of the section *Palustria* has undergone serious changes in Bohemia. The representatives of the section, according to older herbarium specimens (sometimes not identifiable in more detail), occurred in some regions of N. Bohemia (Šluknov, Česká Lípa), in large salt localities in N. Bohemia (Podkrušnohorská pánev basin, Soos near Františkovy Lázně etc.) and in many other smaller localities in the regions where it is unlikely that any *Palustria* would be refound nowadays.

Thus, we should like to summarize the current distribution of the section, and give a list of *Palustria* localities. More attention is paid to the sites where a sum of indication values of species present exceeds 20-25. For other localities, only the more important or otherwise interesting sites are listed.

The name of the locality is followed by the name of the nearest town in brackets, and by brief description of the locality. Species of the section *Palustria* occurring at the locality are listed by their numbers (order numbers given below).

The list is divided in two parts: 'top ten' localities, and other localities of national importance. Sites where only one (rarely two) species of *Palustria* with the lowest indication values (3-5) is found can be traced in the lists of examined specimens under individual species names.

Top ten localities of international importance

1. Žehuňský rybník (Chlumec nad Cidlinou)

A complex of fens, meadows and wetlands along the shore of the pond of Žehuňský rybník in the vicinity of the villages Žehuň, Zbraň and Choťovice. It is the richest locality of *Palustria* in Bohemia - it harbours ten species. 1, 2, 5, 7, 9, 11, 13, 14, 15, 17.

2. Zbytka (Opočno)

A calcareous fen and adjacent meadows near Zlatý potok brook between the villages of České Meziříčí and Pohofí. As an area of water protection, it harbours a rich vegetation with such species as *Viola elatior*, *Allium angulosum*, *Sesleria uliginosa* etc. Seven species of the sect. *Palustria* are found at the locality, viz. 1, 2, 3, 5, 6, 7, 9.

3. Proudnický rybník (Chlumec nad Cidlinou)

A narrow belt of fens and unfertilised meadows along S. shore of the pond. A rich vegetation with *Orchis palustris*, *Dactylorhiza incarnata*, *D. majalis*, *Sagina nodosa*, *Sesleria uliginosa*, *Centaureum uliginosum* etc. *Palustria* present. 1, 5, 6, 7, 9, 14, 15.

4. Mělnická Vrutice (Mělník)

Meadows adjacent to the fen reserve of Polabská černava near Mělnická Vrutice. Vegetation of the area is extremely rich but the diversity is in decline in the last years. *Palustria*. 7, 9, 11, 12, 14.

5. Králova Lhota (Jaroměř)

A small meadow and adjacent grassy moist paths in the vicinity of a small pond by the road between the villages of Libřice and Králova Lhota. Only a small number of individuals of *Palustria* species are found at the locality. 4, 6, 7, 9, 15, 16.

6. Velenka (Nymburk)

A small but exceedingly interesting locality near a brook W. of Dolní Kersko. Strongly endangered by intensive farming and water level fall. Species such as *Sesleria uliginosa*, *Thesium ebracteatum*, *Crepis praemorsa*, *Gladiolus palustris* accompanied the three species of the section *Palustria*. 1, 7, 9.

7. Lodrant (Choceň)

Wet meadows near the S. shore of the Lodrant pond near village of Trusnov. A locality rich in *Carex* species, *Ophioglossum vulgatum* common etc. The richest (type) locality of *Taraxacum bohemicum*. 4, 5, 7, 8.

8. rybník Řeka (Hlinsko)

An interesting locality inside the area of a camping place at the shore of the pond of Řeka near Staré Ransko. Later in the season the vegetation suffers from some trampling. *Palustria* present. 5, 6, 7, 15.

9. Rovná (Strakonice)

A wet meadow near the shore of Dolejší rybník pond in close vicinity of the village of Rovná. A locality for *Gentiana verna*. Formerly an extremely rich locality for *Palustria* (even *T. hemiparabolicum* was present there). Now a few species occur abundantly there. 7, 9, 10, 11.

10. rybník Nechvíl (České Budějovice)

A meadow by the SW. shore of the Nechvíl pond, near Čakov. *Palustria* species are more common at slightly disturbed places along a track through the meadow: 7, 10, 15, 18. In addition, an unknown species of *Palustria* has been found at the locality recently.

Other more important localities of *Palustria* in Bohemia

The sum of the indication values of *Palustria* at the following localities usually does not exceed 20. The localities usually harbour (1) 2-3 (4) species of the section nowadays (some additional species are often documented in herbaria), and should be of interest for local nature conservation authorities.

South Bohemia

11. Novokrský rybník (Strakonice)

A meadow along the NW shore of the Novokrský rybník pond NNE. of the village of Krtý. *Palustria*. 2, 7, 10.

12. Ponědraž (Třeboň)

Meadows near the N. shore of Ponědražský rybník (pond) in the E. vicinity of Ponědraž. 5, 8.

13. Velká Turná (Blatná)

A meadow track and meadows by the NW. shore of the Milava ('Mylavý' in some maps) pond N. of Velká Turná. 12, 15.

14. Mačkov (Blatná)

A meadow near the WSW. shore of Velký mačkovský rybník (pond) NW. of Mačkov. 7, 10, 15.

15. Řečice (Blatná)

A meadow W. of the pond in the S. vicinity of Řečice. 2, 5 (7 at a close site).

16. Na Pařezu (Cerhonice)

An eastern part of a pasture near a pond E. of Na Pařezu SE. of Cerhonice. 7, 10, 15.

17. Vlkovický rybník (České Budějovice)

Meadows near the SE. shore of the Vlkovický rybník (pond) between Vlkovice and Slavošovice. A very interesting locality with an unknown species of *Palustria*, accompanied by 3 and 15.

C. Bohemia

18. Netřeba (Mělník)

A subsaline locality in an old ditch along a railway between Netřeba and Chlumín. Formerly many halophytes present (e.g. *Samolus valerandi*). Now probably all the interesting species have become extinct. The only species of *Palustria* repeatedly observed. 1.

19. Hrnčíře (Praha)

A complex of meadows above the large pond at Hrnčíře, SE. margin of Prague. Only one species present, formerly in a great number of individuals, now in serious decline. 5.

20. Lom Na Kobyle (Beroun)

A bottom of an old limestone quarry 'Na Kobyle' near Koněprusy. A rich population of one species (9), rare specimens of 13.

Central Polabí region

21. Dolánky (Mladá Boleslav)

A wet grassy track in woods south above Dolánky. Few individuals of three species. 7, 13, 14.

22. Mlýnec (Rožďalovice)

A small meadow by the NE. shore of Mlýnec pond near Mlýnec. A rich locality that might be placed among the top ten. 7, 9, 12, 16.

23. Opatov (Nový Bydžov)

Wet meadows near the NW. shore of Nový rybník (pond) near Opatov close to Kobylice. 5, 7.

24. Vysoké Veselí (Nový Bydžov)

A seminatural meadow near the E. shore of Vysokoveselský rybník (pond). 2, 5, 7.

25. Nový Bydžov

A wet meadow near a pond (now dried) in an angle between railway and a road, S. margin of the town. 2, 5, 7.

26. rybník Beran (Nový Bydžov)

A wet, disturbed meadow below the Beran pond near Zachrašťany. Very few specimens of 2, 5 (formerly also 7).

27. Luková (Nový Bydžov)

Fragments of wet meadows along the railway at E. margin of Luková. A relatively rich locality for 5.

28. Štítar (Městec Králové)

A meadow close to the SW. shore of Štítar pond near Městec Králové. 5, 14.

29. Vystrkov (Poděbrady)

A meadow between the railway and N. part of Vystrkov. *Palustria* reported by J. Rydlo (pers. comm.). An interesting locality with *Cnidium dubium*, *Lathyrus palustris*, *Dactylorhiza incarnata* etc. 2, 5 and other species to be expected.

30. Choťánky (Nymburk)

Meadows called 'Choťánecký rybník' W. of Choťánky. *Palustria* common on two hectares closer to the railway (J. Rydlo, pers. comm.). A locality almost surely belonging among top ten sites, in a great need of conservation (*Lathyrus palustris*, *Eleocharis uniglumis*, *Stellaria palustris*, *Cnidium dubium* etc.). It will be studied in 1994. 2, 5 and other species to be expected. (7,9 found in 1994).

31. Německá (Libice nad Cidlinou)

A meadow called 'Německá' at the margin of the Libický luh reserve, south of Polesí Libice headquarters near Libice nad Cidlinou. A very rich vegetation of harbours such species as *Allium angulosum*, *Lathyrus palustris*, *Pseudolysimachion longifolium*, *Thalictrum flavum*, *Cnidium dubium*, *Eleocharis uniglumis*. The meadow is a part of a National nature reserve; it is strongly threatened by local building activities. 2, 7.

East Bohemia

32. Libišany (Hradec Králové)

Wet disturbed meadows along the road N. of Libišany. Scattered *Palustria*. 2, 5.

33. Šmatlán (Holice)

A meadow near the E. shore of Šmatlán pond S. of Chvojenec. 4, 7, 16.

34. Horní Ředice (Holice)

A complex of meadows adjacent to a series of ponds (Mordýř, Horní Ředický, Ředák) near Horní Ředice. A relatively rich locality for a Czech endemic, *T. bohemicum*. 4, 7, 16.

35. Rokytno (Holice)

A meadow with *Alopecurus pratensis* below a road NE. of Rokytno. Formerly a rich locality for 5.

36. Bohumileč (Pardubice)

A meadow near the WNW shore of the Bohumilečský rybník (pond) in the vicinity of Bohumileč. A locality reported by Z. Kaplan (in litt.). 1, 5.

37. Újezd u Pardubic

Wet meadows along the ENE. shore of the Újezdský rybník (pond) near Újezd u Pardubic. A locality reported by Z. Kaplan (in litt.). 4, 5, 7.

38. Podmoklany (Ždírec nad Doubravou)

Wet meadows about 1.3 km ESE. of the Homole hill near Podmoklany. Some accompanying species: *Carex hostiana*, *C. davalliana*, *Epipactis palustris* etc. *Palustria* are in decline (Bob Trávníček, pers. comm.). 5, 7, 8.

39. Doubravník (Hlinsko)

A meadow at the E. shore of the Doubravník pond ca 1.3 km south of Hluboká. 5, 7, 8.

40. Jedlová (Polička)

A wet meadow at a pond about 1 km E. of the Modřecký vrch (hill, 657 m) near Jedlová. 7, 8.

A brief identification key to *Taraxacum* sect. *Palustria* in the Czech Republic

An identification key to a group of relatively closely related agamospermous taxa is of a limited use due to the reticulate distribution of character states and tiny differences that are not easily expressed in qualitative morphological terms. In spite of this fact, we have attempted to compile a brief key that, together with the drawings and photographs, should facilitate sorting the taxa.

- 1a Pollen absent2
- 1b Pollen present6
- 2a Outer bracts loosely adpressed to erecto-patent in full flower and later; leaves deeply lobate, more than 3.0 cm wide.....2. *T. subalpinum*
- 2b Outer bracts tightly adpressed; leaves shallowly lobate, less than 2 cm wide.....3
- 3a Cone 1.6-2.0 mm long9. *T. bavaricum*
- 3b Cone less than 1.5 mm long.....4
- 4a Exterior bracts 8-9, broadly ovate.....1. *T. brandenburgicum*
- 4b Exterior bracts more than 10, lanceolate to ovate-lanceolate5
- 5a Rostrum 7.0-7.5 mm long, achenes gradually narrowing to a cone, scapes subglabrous, exterior bracts 3-4 mm wide18. *T. heleonastes*
- 5b Rostrum 8.5-9.5 mm long, achenes subabruptly narrowing to a cone, scapes densely araneous, exterior bracts 2-3 mm wide.....11. *T. anserinum*
- 6a Involucre 14-18 mm wide at the base5. *T. hollandicum*
- 6b Involucre less than 13 mm wide at the base.....7
- 7a Exterior bracts erecto-patent, usually 9-12 mm long.....8
- 7b Exterior bracts adpressed to loosely adpressed, usually less than 9 mm long (if longer or erecto-patent, then exterior bract pale border absent, cf. *T. subdolum*)....9

- 8a Terminal lobe usually elongate, leaves usually deeply lobate, lateral lobes 2-4, ligule teeth yellow or reddish..... 14. *T. irrigatum*
- 8b Terminal lobe medium-sized, sagittate to triangular, leaves usually dissected, lateral lobes 4-5, teeth to the ligules blackish..... 13. *T. quaesitum*
- 9a Border to the exterior bracts absent (reduced to a white or membranaceous narrow margin)..... 10
- 9b Border to the exterior bracts developed (in addition to a membranaceous margin)..... 11
- 10a Leaves merely dentate, scapes dark purple, exterior bracts tightly adpressed, imbricate, achenes longer than 4.5 mm 6. *T. skalinskanum*
- 10b Leaves $\pm$ deeply lobate, scapes pale purplish, exterior bracts loosely adpressed, of the same length, achenes less than 4.5 mm long..... 15. *T. subdolum*
- 11a Exterior bracts imbricate..... 12
- 11b Exterior bracts $\pm$ of the same length..... 13
- 12a Terminal lobe elongate, the outermost exterior bracts often conspicuously narrower than the others, achenes shortly $\pm$ densely spinulose above 3. *T. mendax*
- 12b Terminal lobe medium-sized, the outermost exterior bracts broader or equalling the others, achenes with rare spinules or only tuberculate..... 17. *T. ancoriferum*
 Note: The extinct *T. hemiparabolicum* would be keyed out in this lead of the key. It is distinct in its leaf shape, cf. HUDZIOK, Feddes Repert. 80: 325, Fig. 1, 1969.
- 13a Cone 1.6-2.0 mm long 9. *T. bavaricum*
- 13b Cone less than 1.4 mm long..... 14
- 14a Rostrum 6-8 mm long 17
- 14b Rostrum longer 15
- 15a Cone 0.5-0.7 mm long 16
- 15b Cone more than 0.8 mm long..... 11. *T. anserinum*
- 16a Achenes densely spinulose above, rostrum 8-9 mm long, lateral lobes 3-7 4. *T. bohemicum*
- 16b Achenes sparsely spinulose above, rostrum 10-11 mm long, lateral lobes 2-3 12. *T. turfosum*
- 17a Cone 0.5-0.6 mm long 16. *T. dentatum*
- 17b Cone longer 18
- 18a The outermost exterior bracts often conspicuously narrower than the others, exterior bracts glabrous 10. *T. madidum*
- 18b The outermost exterior bracts broader or equalling the others, exterior bracts sparsely ciliate or ciliate..... 19
- 19a Scapes glabrous or subglabrous, exterior bracts 4-6 mm long, achenes gradually narrowing to a cone..... 7. *T. paucilobum*
- 19b Scapes araceous, exterior bracts 7-9 mm long, achenes subabruptly narrowing to a cone 8. *T. vindobonense*

Survey of the members of the section *Palustria* occurring in Bohemia

1. *Taraxacum brandenburgicum* HUDZIOK, Feddes Repert. 75: 131, 1967. (Fig. 1)

Plants delicate, subrobust or robust. Leaves erect, curved, linear-oblongate, 14.0 to 20.0 cm long, 0.8 to 1.4 cm wide, glabrous, greyish green, suffused dark purple, unspotted, thick (subcarnose), sinuate-dentate or remotely lobulate. Terminal lobe indistinct or medium-sized, 0.0 to 3.5 cm long, 1.0 to 1.2 cm wide. Lateral lobes 2 to 4, patent, triangular or deltoidal. Distal margin of lateral lobes straight, $\pm$ entire. Interlobes medium-sized or conspicuously developed, 0.5 to 1.5 cm long, 0.2 to 0.5 cm wide, entire, without red coloration. Petioles narrow, purple. Scapes equalling the leaves, glabrous or subglabrous (sometimes with rare hairs below the capitulum). Involucre 9.0 to 10.0 mm wide, $\pm$ rounded. Exterior bracts 8 or 9, adpressed, $\pm$ of the same length, broadly ovate, 6-8 mm long, 4-6 mm wide, entire, $\pm$ glabrous, not ciliate. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.2 to 0.3 mm wide. Border to the exterior bracts conspicuous, gradually changing into the median strip or with distinct limits, 1.0 to 2.0 mm wide, greenish, suffused red in the upper part. Median part of the bracts dark (blackish), 1.0 to 3.0 mm wide. Interior bracts 13.0 to 16.0 mm long. Capitulum 2.5 to 3.0 cm wide, flat or concave. Outer ligules flat, striped greyish red. Teeth to the ligules reddish. Pollen absent. Stigmas pure or dirty (greyish) yellow, with greyish hairs. Achenes pale straw-brown, 3.8 to 4.0 mm long (incl. the cone), sparsely spinulose or with rare

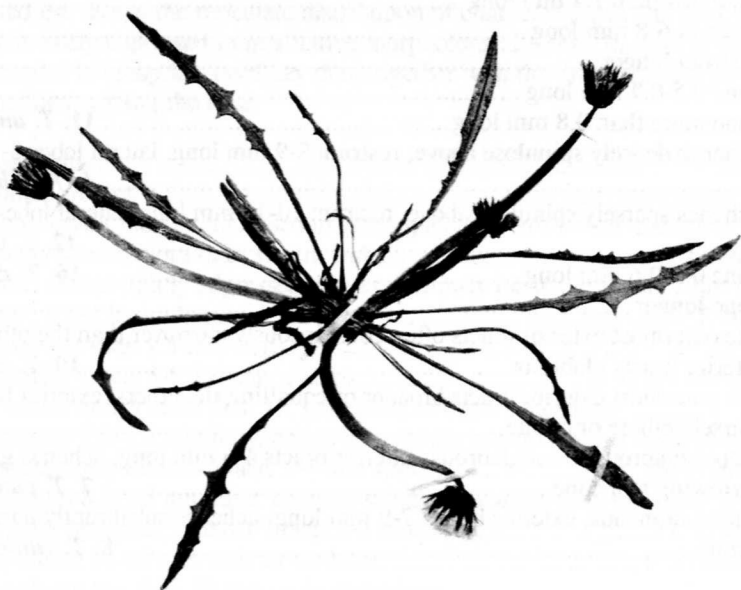


Fig. 1. - *Taraxacum brandenburgicum* HUDZIOK.

spinules or tuberculate, gradually narrowing to a 0.8 to 1.0 mm long cone. Rostrum 7.5 to 8.5 mm long. Pappus 6.0 to 6.5 mm long.

Chromosome number $2n=32$ (KIRSCHNER et ŠTĚPÁNEK 1985: 410 as *T. lissocarpum* agg.).

Distribution in Bohemia (Fig. 19)

Formerly scattered, not rare in the Labe lowlands, rarely outside this area, now very rare in the lowlands along the Labe river (Polabí from Mělník to Pardubice). Only very few localities, usually with a limited number of specimens, persist in Bohemia.

Specimens examined

N. Bohemia, 'Wiesen bei Georgswalde [= Jiřikov (Tausch sine dato PR, no. det. 165). - NC. Bohemia, Domoušice (Čelakovský fil. 1887 PR, no. det. 10977). - Kralupy nad Vltavou, in fossa salsa secundum ferroviam situ orient. a pago Netřeby (Kirschner 1982 PR, no. det. 6745). - Úžice (Domin 1901 PR, no. det. 1757; Kašpar 1901 PR, no. det. 1751). - Všetaty (Čelakovský 1876 PR, no. det. 10976; Velenovský 1884 PR, no. det. 1753; Osvačilová 1947 PRC, no. det. 10999). - 'In paludibus prope Pragam' (Poech sine dato PR, no. det. 10975). - Nymburk, Velenka, in reservatione "Černava" (Kirschner 1982 PR, no. det. 6744, 6749). - 'Urwiese Hrabanov bei Lysa' (Pohl 1935 PR, no. det. 4154, 1933 PRC, no. det. 1683). - Lysá nad Labem, Hrabanov (Čelakovský fil. 1887 PR, no. det. 10978; Smolař 1885 PR, no. det. 1738). - Kostomlaty (Rous 1886 PR, no. det. 1731). - Dříš (Velenovský 1884 PR, no. det. 10981). - Čelákovice - Velenka' (Krajina 1926 PRC, no. det. 10993). - Poděbrady, Žehuň, Žehuňský rybník (Štěpánek 1984 PR, no. det. 6747, 1985 PR, no. det. 6746). - Kolín, Hradištko, Proudnický rybník (Battjes et Kirschner 1988 PR, no. det. 8210, Rydlo et Štěpánek 1986 PR etc., no. det. 4346, cf. Kirschner et Štěpánek 1992: 20). - Kolín, Hradištko, Proudnický rybník, football ground (Kirschner et Štěpánek 1983 PR, no. det. 6748). - Opočno, České Meziříčí, loc. Zbytka (Kirschner et Štěpánek 1982 PR, no. det. 6768, 6769, 6771, Faltys, Procházka et Tomšovic 1983 PR, no. det. 6754, Kirschner 1984 PR, no. det. 6770). - 'Pardubice: louky při dráze u Steblové' (Košťál 1887 MP, no. det. 3825). - Pardubice: 'při dráze pod Srchem na mokr. loukách' (herb. Kalenský sine dato MP, no. det. 3822). - Bohumileč (Kaplan 1992 herb., no. det. 11002).

2. *Taraxacum subalpinum* HUDZIOK, Feddes Repert. 72: 26, 1965. (Fig. 2)

Plants medium-sized or tall, subrobust. Leaves erecto-patent or $\pm$ erect, $\pm$ oblong or broadly oblong, 20.0 to 25.0 cm long, 3.0 to 3.5 cm wide, subglabrous or sparsely araneous, mid green, unspotted, thin or of neutral texture, deeply lobate. Terminal lobe medium-sized or elongate, 2.0 to 5.0 cm long, 2.0 to 3.0 cm wide, sagittate, triangular, or tripartite. Lateral lobes 2 to 4, recurved, distally convex at the base or triangular. Distal margin of lateral lobes straight or concave, $\pm$ entire. Interlobes conspicuously developed, 1.0 to 2.0 cm long, 0.2 to 0.3 cm wide, entire or sparsely dentate, with tar coloured margins. Petioles narrow, purplish or purple. Scapes overtopping the leaves, densely hairy below the capitulum. Involucre 9.0 to 10.0 mm wide, $\pm$ rounded. Exterior bracts 11 to 13, adpressed, loosely adpressed, or erecto-patent, $\pm$ imbricate or of the same length, lanceolate to ovate, 6-7 mm long, 3.3-4.7 mm wide, entire, $\pm$ glabrous, not ciliate or sparsely ciliate at the apex. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.1 to 0.2 mm wide. Border to the exterior bracts absent. Median part of the bracts dark (blackish), 3.3 to 4.7 mm wide. Interior bracts 14.0 to 17.0 mm long. Capitulum 2.5 cm wide, flat or concave.

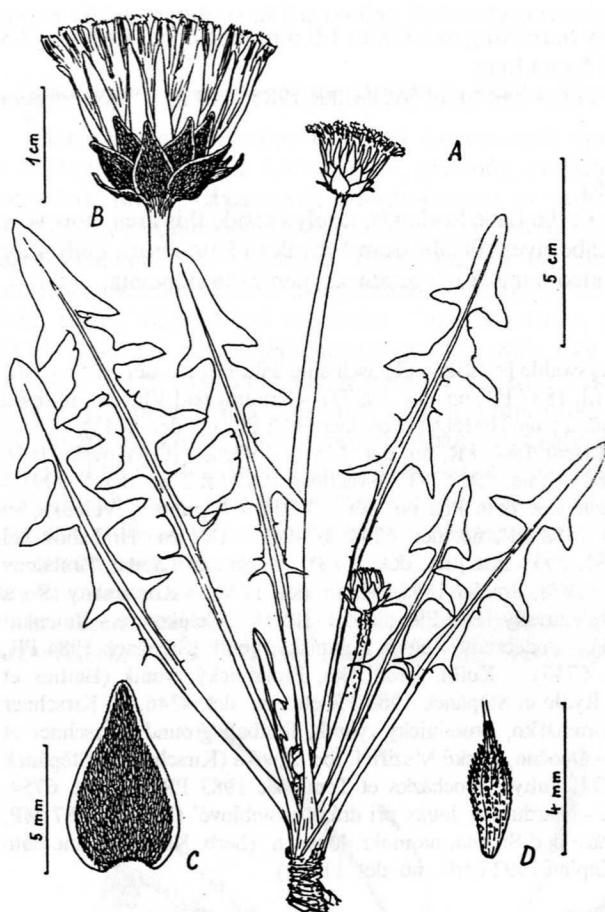


Fig. 2. - *Taraxacum subalpinum* HUDZIOK. A: general habit; B: capitulum; C: exterior involucre bract; D: achene.

SONCK et ŠTĚPÁNEK 1993), and most localities are listed there, showing that *T. subalpinum* occurs in S. Bohemia, rarely in W. and NW. Bohemia, in the Polabí region and in E. Bohemia.

Specimens examined

[Additions to the list in Kirschner et al. 1993]

S. Bohemia, Strakonice, Krty (Chán et Žíla 1993 herb. Chán, no. det. 10498, 10494, Žíla 1993 herb., no. det. 10529). - Blatná, Kadov, Pole (Chán et al. 1993 herb., no. det. 10579). - Blatná, Vrbno, Hadí rybník (pond) (Žíla 1993 herb., no. det. 10564; Chán et al. 1993 herb., no. det. 10576). - Blatná, Smyslovské jezírko, Na pasekách (Štech 1993 herb., no. det. 10578). - Blatná, Tchořovice, Dolejší rybník (Chán et Žíla 1992 herb. Chán, no. det. 10332). - Blatná, Drahenický Málkov (Chán et al. 1992 herb., no. det. 10330). - Blatná, Chrástovice, rybník

Outer ligules flat, striped greyish red. Teeth to the ligules reddish. Pollen slightly developed (usually not visible on the stigmas). Stigmas dirty (greyish) yellow, with dark hairs. Achenes olivaceous brownish, 3.7 to 4.2 mm long (incl. the cone), densely spinulose above, ± abruptly narrowing to a 0.8 to 0.9 mm long cone. Rostrum 9.0 to 10.0 mm long. Pappus 5.0 to 6.0 mm long.

Chromosome number $2n=24$ (KIRSCHNER et ŠTĚPÁNEK 1985: 412).

Distribution in Bohemia (Fig. 19)

One of the more common species of the section. The eastern limit of the species is reached in SW. Silesia (in Poland and the Vidnava vicinity), western Moravia and eastern Bohemia, and also in S. Bohemia. The species and its relatives have been given a detailed study recently (KIRSCHNER,

Malducha (Chán et al. 1992 herb., no. det. 10328). - C. Bohemia, Libice nad Cidlinou, Libický luh (Rydlo 1992 ROZ, no. det. 9824). - Choťanky (Rydlo et al. 1993 ROZ, no. det. 10919). - W. Bohemia, Ostrov u Bezdružic, Pláň (Kirschner et Trávníček 1993 PR, no. det. 11023). - Konstantinovy Lázně, 2 km W. of Ostrov u Bezdružic (Štěpánek et al. 1992 PR, no. det. 11000).

3. *Taraxacum mendax* KIRSCHNER et ŠTĚPÁNEK, Folia Geobot. Phytotax. 20: 413, 1985. (Fig. 3)

Plants delicate to medium-sized, slender. Leaves $\pm$ erect, linear or linear-oblongate, 8.0 to 15.0 cm long, 0.6 to 1.0 cm wide, glabrous or sparsely araneous, greyish green, unspotted, of neutral texture, sinuate-dentate to lobulate. Terminal lobe elongate, 2.5 to 5.0 cm long, 0.5 to 1.0 cm wide, hastate or spatulate. Lateral lobes 1 to 4, patent, triangular or deltoid. Distal margin of lateral lobes straight, $\pm$ entire or with single tooth. Interlobes long, 0.8

to 2.5 cm long, 0.2 to 0.4 cm wide, entire, without red coloration. Petioles narrow, slightly reddish to purplish. Scapes overtopping the leaves, sparsely araneous. Involucre 8.0 to 10.0 mm wide, slightly rounded or subconical. Exterior bracts 14 to 19, adpressed, $\pm$ imbricate, lanceolate-ovate, 5-7 mm long, 3-4 mm wide, entire, ciliate. The outermost exterior bracts sometimes conspicuously narrower than the others. Membranaceous margin not distinct, 0.2 to 0.4 mm wide. Border to the exterior bracts conspicuous, with distinct limits, 1.0 to 1.5 mm wide, greenish. Median part of the bracts dark green, 0.3 to 0.5 mm wide. Interior bracts 13.0 to 15.0 mm long. Capitulum 2.0 to 3.0 cm wide, convex. Outer ligules flat, striped greenish grey-purple. Teeth to the ligules blackish. Pollen present. Stigmas greenish,

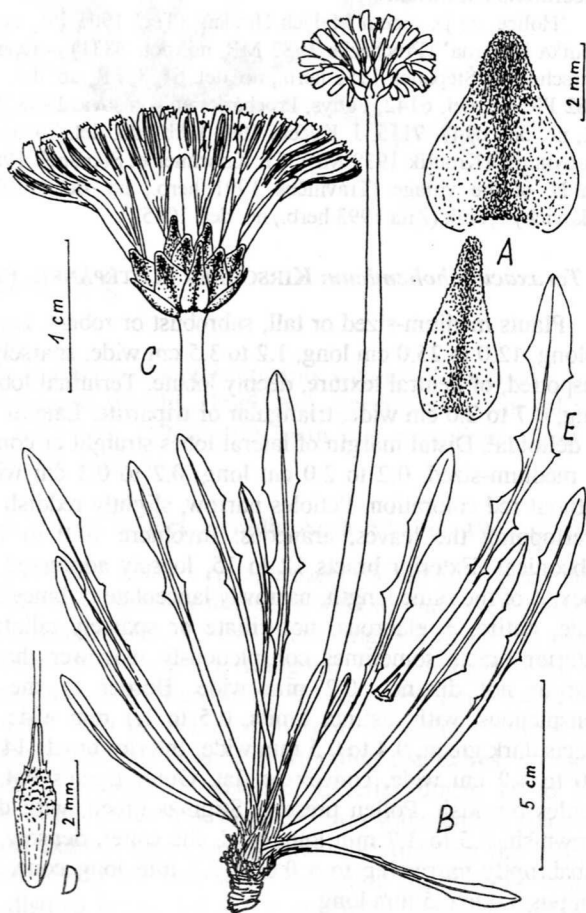


Fig. 3. - *Taraxacum mendax* K. et Š. A: exterior involucre bracts; B: general habit; C: capitulum; D: achene; E: inner leaf.

with greyish or dark hairs. Achenes pale greyish or greyish straw-brown, 4.0 to 4.2 mm long (incl. the cone), shortly spinulose above, subabruptly narrowing to a 0.9 to 1.1 mm long cone. Rostrum 6.0 to 7.0 mm long. Pappus 6.0 to 6.5 mm long.

Chromosome number $2n=40$ (KIRSCHNER et ŠTĚPÁNEK 1985: 413).

Distribution in Bohemia (Fig. 20)

Known only from a few localities, at four of them collected after 1980. Mostly confined to eastern Bohemia (vicinity of Pardubice, Opočno and Vysoké Mýto, Hlinsko), a distribution connected with the Carpathian range of the species. Recently found at one site in southern Bohemia (Slavošovice), which also documents the Alpine-Carpathian character of the overall distribution.

Specimens examined

'Holice, za jz. cípem Malých Hradců' (Točl 1905 PR, no. det. 10951). - 'Pardubice: břeh rybníka Rozhrna' (Procházka 1982 MP, no. det. 3831). - Opočno, České Meziříčí, loc. Zbytka (Kirschner et Štěpánek 1982 herb., no. det. 6153, PR, no. det. 3501 [HT], 3500, 3502, J. Krátká 1982 PR, no. det. 6142, Faltys, Procházka et Tomšovic 1983 PR, no. det. 6706, Kirschner 1984 PR, no. det. 6147, 7115, J. Kučera 1990 herb., no. det. 7675). - 'Vysoké Mýto, Hrušová, louka Na plynice' (Kroulik 1939 MP). Cf. Kirschner et Štěpánek 1985: 413). - Hlinsko, Hluboká, 0.5 km N. of the village (Trávníček 1991 herb., no. det. 11028). - S. Bohemia, Slavošovice, Vlkovický rybník (Žila 1993 herb., no. det. 10452).

4. *Taraxacum bohemicum* KIRSCHNER et ŠTĚPÁNEK, *Preslia* 58: 99, 1986. (Fig. 4)

Plants medium-sized or tall, subrobust or robust. Leaves erecto-patent or $\pm$ erect, $\pm$ oblong, 12.0 to 25.0 cm long, 1.2 to 3.5 cm wide, sparsely araneous, light or mid green, unspotted, of neutral texture, deeply lobate. Terminal lobe medium-sized, 1.0 to 3.0 cm long, 0.7 to 2.0 cm wide, triangular or tripartite. Lateral lobes 3 to 7, patent, triangular or deltoidal. Distal margin of lateral lobes straight or concave, $\pm$ entire. Interlobes short or medium-sized, 0.2 to 2.0 cm long, 0.2 to 0.3 cm wide, entire or sparsely dentate, without red coloration. Petioles narrow, slightly reddish to purple. Scapes equalling or overtopping the leaves, araneous. Involucre 10.0 to 11.0 mm wide, $\pm$ rounded to subconical. Exterior bracts 12 to 15, loosely adpressed or sometimes recurved at the apex, $\pm$ of the same length, narrowly lanceolate or lanceolate, 7-9 mm long, 1.1-3.0 mm wide, entire, $\pm$ glabrous, not ciliate or sparsely ciliate at the apex. The outermost exterior bracts sometimes conspicuously narrower than the others. Membranaceous margin not distinct, 0.2 mm wide. Border to the exterior bracts indistinct or conspicuous, with distinct limits, 0.5 to 1.1 mm wide, greenish. Median part of the bracts dark green, 0.4 to 0.5 mm wide. Interior bracts 14.0 to 16.0 mm long. Capitulum 3.0 to 4.0 cm wide, convex or flat. Outer ligules flat, striped greyish. Teeth to the ligules blackish. Pollen present. Stigmas green, with dark hairs. Achenes olivaceous brownish, 3.5 to 3.7 mm long (incl. the cone), densely spinulose above, $\pm$ abruptly or subabruptly narrowing to a 0.6 to 0.7 mm long cone. Rostrum 8.0 to 8.5 mm long. Pappus 6.0 to 6.5 mm long.

Chromosome number $2n=32$ (KIRSCHNER et ŠTĚPÁNEK 1986: 100).



Fig. 4. - *Taraxacum bohemicum* K. et Š.

Distribution in Bohemia (Fig. 22)

Known from a few localities in eastern Bohemia (mainly vicinity of Pardubice, one older locality in central Labe lowlands (Polabí, Hradištko). Specimens examined are summarized in KIRSCHNER et ŠTĚPÁNEK (1986: 100) with one exception: Újezd u Pardubic (Kaplan 1992 herb., no. det. 11005).

5. *Taraxacum hollandicum* VAN SOEST, Nederl. Kruidk. Arch. 52: 226, 1942. (Fig. 5)

Plants medium-sized or tall, robust. Leaves $\pm$ erect, broadly oblong or oblanceolate, 12.0 to 25.0 cm long, 1.3 to 4.0 cm wide, sparsely araneous, light or mid green, unspotted, thin, lobate. Terminal lobe medium-sized, 1.5 to 3.0 cm long, 1.3 to 2.0 cm wide, sagittate or triangular. Lateral lobes 2 to 4, recurved, triangular. Distal margin of lateral lobes straight, $\pm$ entire. Interlobes short or medium-sized, 0.5 to 1.0 cm long, 0.4 to 0.7 cm wide, entire or sparsely dentate, with tar coloured margins or without coloration. Petioles narrow or slightly winged, purplish. Scapes overtopping the leaves, sparsely araneous. Involucre 14.0 to 18.0 mm wide, $\pm$ rounded. Exterior bracts 12 to 16, adpressed, $\pm$ of the same length, ovate, 10-11 mm long, 5-6 mm wide, entire, sparsely ciliate at the apex. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.3 to 0.4 mm wide. Border to the exterior bracts indistinct or conspicuous, with distinct limits, 1.0 to 2.0 mm wide, greenish, suffused red in the upper part. Median part of the bracts dark green, 1.5 to 2.0 mm wide. Interior bracts 16.0 to 18.0 mm long. Capitulum 3.0 to 4.5 cm wide, flat. Outer ligules flat,

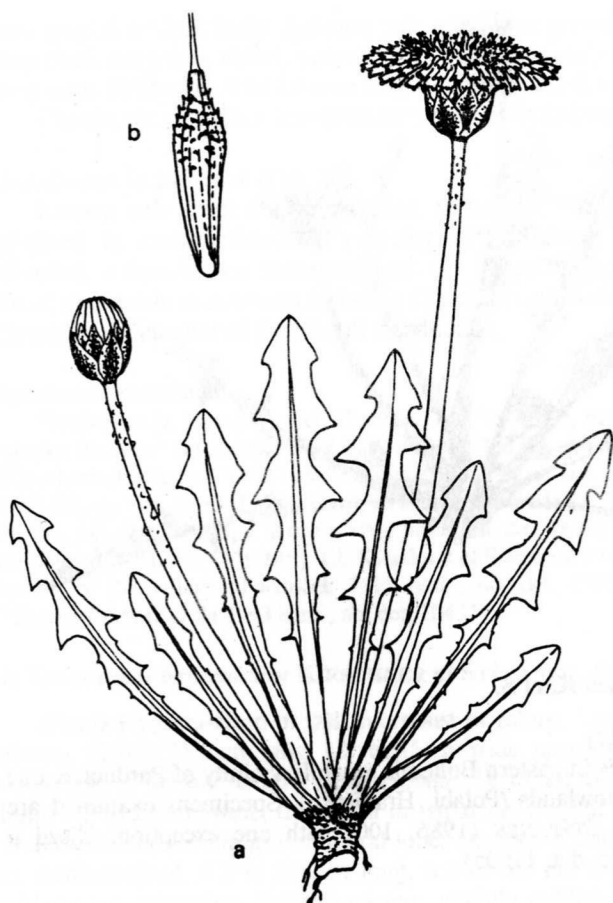


Fig. 5. - *Taraxacum hollandicum* VAN SOEST. a: general habit; b: achene.

NER et ŠTĚPÁNEK (1985: 409, 1992: 18, 1984: 19). All these works report *T. hollandicum* as confined to eastern Bohemia in the Czech Republic. Since then, a number of additional localities have been detected. Surprisingly, there are several sites in southern Bohemia, one locality near Praha, C. Bohemia; localities in the easternmost Bohemia near the Moravian border (vicinity of Hlinsko) are also new. Thus, the picture of the distribution of *T. hollandicum* in Bohemia has been substantially changed.

Specimens examined

[Only localities not listed in the above accounts of *T. hollandicum* are quoted]

S. Bohemia, Blatná, Řečice, W. shore of the pond S. of the village (Otruba 1991 herb., no. det. 9400). - Blatná, Řečice, W. of the village (Chán et Otruba 1992 herb. Chán, no. det. 10321; Žíla 1992 herb., no. det. 10112). - Třeboň, Ponědraž, N. shore of Ponědražský rybník (pond) (Žíla 1993 herb., no. det. 10574; Štech 1993 herb., no. det. 10573). - Třeboň, Borovany, Hluboká

striped red. Teeth to the ligules reddish. Pollen present. Stigmas greenish or green, with dark hairs. Achenes olivaceous brownish, 4.3 to 4.6 mm long (incl. the cone), spinulose or shortly spinulose above, subabruptly narrowing to a 0.5 to 0.7 mm long cone. Rostrum 8.5 to 10.0 mm long. Pappus 6.5 to 7.0 mm long.

Chromosome number $2n=24$ (KIRSCHNER et ŠTĚPÁNEK 1985: 409).

Distribution in Bohemia (Fig. 21)

The geographical distribution of *T. hollandicum* has been investigated in a number of studies. In KIRSCHNER et ŠTĚPÁNEK (1986: 100), a grid map of its distribution in Czech and Slovak Republics is given; a dot map was published in KIRSCHNER et ŠTĚPÁNEK (1989: 100) with a list of localities. Some localities are also listed in KIRSCH-

u Borovan, Linda (pond) (Štech 1993 herb., no. det. 10520). - C. Bohemia, Praha, Hrnčíře (Fišerová 1987 PR, no. det. 6733). - Městec Králové, Vinice, S. shore of Štítar pond (Kirschner 1989 PR, no. det. 6416). - Nymburk, Žehuňský rybník (pond), N. shore near the railway station of Chotovice (Molíková et Rydlo 1985 ROZ, no. det. 10144). - Vystřkov (Rydlo et al. 1993 ROZ, no. det. 10920). - Jičín, Nečas (Ducháčková 1987 Museum Jičín, no. det. 5918). - Pardubice, Bohumileč (Kaplan 1992 herb., no. det. 11003). - Újezd u Pardubic (Kaplan 1992 herb., no. det. 11004). - E. Bohemia, Hlinsko, Zalíbené (Bureš 1990 BRNU, no. det. 9680). - Hlinsko, Trhová Kamenice (Bureš 1990 BRNU, no. det. 9679). - Hlinsko, Hluboká, 'Štírův důl' (Bureš 1988 BRNU, no. det. 7270). - Hlinsko, Hluboká, 'ad ripam orient. piscinae Doubravník' (Bureš 1989 BRNU, no. det. 7276; Trávníček 1991 herb., no. det. 11037). - Hlinsko, Křížová, 'ad ripam bor. piscinae Řeka' (Štěpánek 1987 PR, no. det. 5737). - Podmoklany (Trávníček 1991 herb., no. det. 11038).

6. *Taraxacum skalinskanum* MALECKA et VAN SOEST, Acta Biol. Cracov., Bot., 15/2: 120, 1972. (Fig. 6)

Plants medium-sized or tall, slender to robust. Leaves $\pm$ erect, linear or linear-oblongate, 15.0 to 25.0 cm long, 0.8 to 1.5 cm wide, glabrous or subglabrous, dark green, unspotted, of neutral texture, dentate. Without distinct terminal and lateral lobes. Petioles narrow, dark purple or violet. Scapes equalling or overtopping the leaves, glabrous or subglabrous (sometimes with rare hairs below the capitulum). Involucre 10.0 to 11.0 mm wide, $\pm$ rounded. Exterior bracts 15 to 18, adpressed, $\pm$ imbricate, lanceolate-ovate, 5.5-6.5 mm long, 2.5-4.0 mm wide, entire, $\pm$ glabrous, not ciliate. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.2 to 0.3 mm wide. Border to the exterior bracts absent.

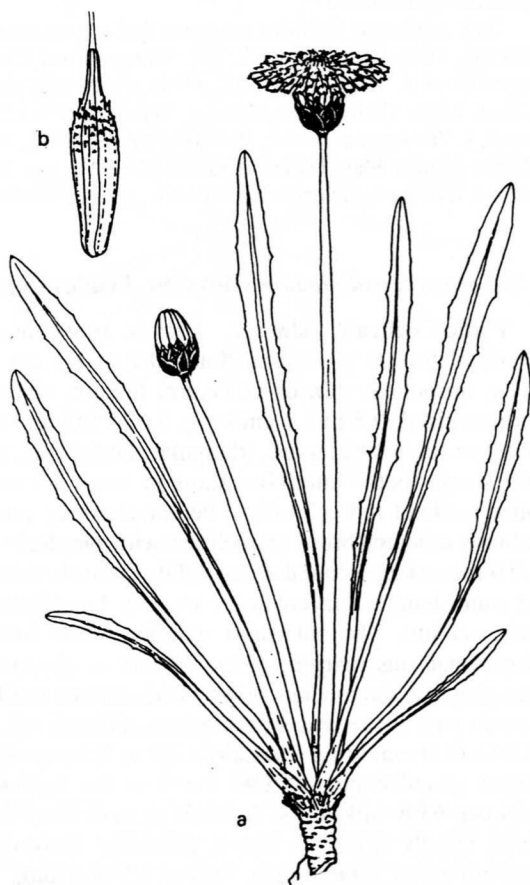


Fig. 6. - *Taraxacum skalinskanum* MALECKA et VAN SOEST. a: general habit; b: achene.

Median part of the bracts dark green or (blackish), 2.5 to 4.0 mm wide. Interior bracts 15.0 to 20.0 mm long. Capitulum 2.0 to 3.0 cm wide, convex or flat. Outer ligules flat, striped greyish red. Teeth to the ligules reddish. Pollen present. Stigmas dirty (greyish) or greenish yellow, with greyish or hyaline hairs. Achenes pale straw-brown, 4.9 to 5.2 mm long (incl. the cone), sparsely spinulose, gradually narrowing to a 1.2 to 1.7 mm long cone. Rostrum 6.0 to 8.0 mm long. Pappus 5.0 to 6.0 mm long.

Chromosome number $2n=40$ (KIRSCHNER et ŠTĚPÁNEK 1985: 412).

Distribution in Bohemia (Fig. 22)

As a mainly Carpathian species, *T. skalinskanum* reaches only the northern part of the easternmost Bohemia. The species is given a detailed analysis in KIRSCHNER et ŠTĚPÁNEK (1989: 115-121).

Specimens examined

Only additional localities are given that are not listed in Kirschner et Štěpánek (1989: 119, 1986: 32, 1985: 412, and 1992: 19): 'Chlumec nad Cidlinou, Žiželice, Proudnický rybník' (A. Hagendijk et al. 1988 PR, no. det. 6718). - 'Jaroměř, ad piscinam parvam inter pagos Libřice et Králova Lhota (Faltys, Procházka et Tomšovic 1983 PR, no. det. 6702). - Nové Město nad Metují, k Vrchovinám (Krčán 1940 HR, no. det. 3842, 3843). - 'Žďár nad Sázavou, Radostín, na S břehu rybníka Malé Dářko' (Růžička 1991 MJ, no. det. 9387) [probably outside Bohemia]. - Křižová, řeka pond (Trávníček 1991 herb., no. det. 11036).

7. *Taraxacum paucilobum* HUDZIOK, Feddes Repert. 72: 29, 1965. (Fig. 7)

Plants delicate, slender. Leaves prostrate, erecto-patent, or $\pm$ erect, linear-ob lanceolate, 7.0 to 13.0 cm long, 0.7 to 1.1 cm wide, glabrous or subglabrous, mid green, unspotted, thin or of neutral texture, sinuate-dentate to lobate. Terminal lobe medium-sized, 0.8 to 1.7 cm long, 0.6 to 1.0 cm wide, triangular. Lateral lobes 2 or 3, patent or slightly recurved, triangular. Distal margin of lateral lobes convex, $\pm$ entire or with single tooth. Interlobes short to long, 0.3 to 1.0 cm long, 0.2 to 0.3 cm wide, entire, without red coloration. Petioles narrow, purple. Scapes overtopping the leaves, glabrous or subglabrous (sometimes with rare hairs below the capitulum). Involucre 8.0 to 9.0 mm wide, $\pm$ rounded to slightly conical. Exterior bracts 10 to 12, adpressed, $\pm$ of the same length, lanceolate or broadly lanceolate, 4-6 mm long, 2.5-3.0 mm wide, entire, ciliate. The outermost exterior bracts broader than or equalling the others. Membranaceous margin absent. Border to the exterior bracts conspicuous, gradually changing into the median strip or with distinct limits, 0.5 to 1.0 mm wide, suffused red. Median part of the bracts dark green, suffused red, 1.0 to 1.5 mm wide. Interior bracts 12.0 to 15.0 mm long. Capitulum 2.0 to 2.5 cm wide, convex or flat. Outer ligules flat, striped greenish grey-purple. Teeth to the ligules blackish. Pollen present. Stigmas greenish, with dark hairs. Achenes greyish straw-brown, 4.1 to 4.5 mm long (incl. the cone), shortly spinulose above, gradually narrowing to a 0.7 to 0.9 mm long cone. Rostrum 6.0 to 7.0 mm long. Pappus 5.5 mm long.

Chromosome number $2n=24$ (KIRSCHNER et ŠTĚPÁNEK 1985: 410).

Distribution in Bohemia
(Fig. 23)

The most common species of the section not only in Bohemia (and the Czech Republic) but also in the whole C. Europe (known from Germany, Poland, Slovakia, Hungary, Austria, Slovenia, Bosnia). In Bohemia, it is found through the whole region at suitable biotopes. Most of the localities have been listed in our previous papers (KIRSCHNER et ŠTĚPÁNEK 1984: 130, 1985: 410, 1989: 109-111, 1992: 18, 19). The distribution is analysed in KIRSCHNER et ŠTĚPÁNEK (1989: 108-109). In what follows, only additional specimens are given.

Specimens examined

S. Bohemia, Písek, Obora, U Žákovského (Chán et al. 1989 PR, no. det. 6415). - Písek, Cerhonice, Na Pařezu (Chán et al. 1989 PR, no. det. 6414). - Malčice, Nový Dvůr (Chán 1988 herb., no. det. 8858). - Strakonice, Krty, Novokrský rybník (pond) (Chán et Žila 1993 herb. Chán, no. det. 10497, Žila 1993 herb., no. det. 10537). - Blatná, Smyslov pond (Štech 1993 herb., no. det. 10516). - Blatná, Vrbno, Hadí rybník (pond) (Chán et al. 1993 herb., no. det. 10562). - Blatná, Řečice (Otruba 1991 herb., no. det. 9398). - Blatná, Velký Mačkovský rybník (pond) (Štech 1991 herb. Chán, no. det. 8880). - C. Bohemia, Mladá Boleslav, Dolánky (Štěpánek 1988 PR, no. det. 8224). - Kopidlno, rybník Kojetín (pond) (Ducháčková 1987 Museum Jičín, no. det. 5915). - Kopidlno, Židovice (Ducháčková 1987 Museum Jičín, no. det. 5917). - Nymburk, Libice nad Cidlinou, Libický luh (Rydlo 1992 ROZ, no. det. 9835). - Újezd u Pardubic (Kaplan 1992 herb., no. det. 11006). - Rychnov nad Kněžnou, Černíkovice, Černíkovický rybník (pond) (J. Kučera 1990 herb., no. det. 7680). - Holice, Veliny (Točl 1902 PR, no. det. 10972). - E. Bohemia, Hlinsko, Staré Ransko, Pobočenský rybník (pond) (Bureš 1989 BRNU, no. det. 7281). - Hlinsko, Hluboká, Štírův důl (Bureš 1988 BRNU, no. det. 7267). - Hlinsko, Radostín (Bureš 1989 BRNU, no. det. 7268, 7269). - Hlinsko, Dlouhý, rybník

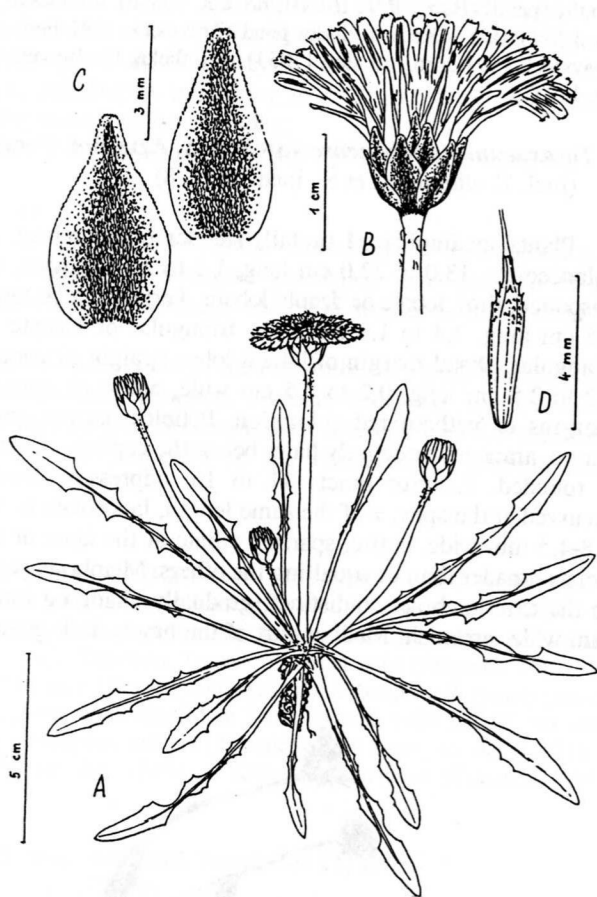


Fig. 7. - *Taraxacum paucilobum* HUDZIOK. A: general habit; B: capitulum; C: exterior involucre bracts; D: achene.

Dlouhý (pond) (Bureš 1990 BRNU, no. det. 10385). - Poličko, Jedlová (Trávníček 1991 herb., no. det. 11035). - Křížová, Řeka pond (Trávníček 1991 herb., no. det. 11034). - Podmoklany (Trávníček 1991 herb., no. det. 11033). - Hluboká, Doubravník pond (Trávníček 1991 herb., no. det. 11032).

8. *Taraxacum vindobonense* VAN SOEST, Acta Bot. Neerl. 14: 50, 1965, s. 1.
(incl. *T. vitabile* K. et Š., ined.) (Fig. 8)

Plants medium-sized or tall, slender or subrobust. Leaves erecto-patent, linear-ob lanceolate, 13.0 to 22.0 cm long, 1.5 to 2.3 cm wide, sparsely araneous, mid green, unspotted, thin, lobate or deeply lobate. Terminal lobe medium-sized or elongate, 1.5 to 3.5 cm long, 1.4 to 1.9 cm wide, triangular or hastate. Lateral lobes 2 to 5, patent, triangular. Distal margin of lateral lobes straight or concave, $\pm$ entire. Interlobes long, 1.2 to 2.5 cm long, 0.2 to 0.5 cm wide, entire or sparsely dentate, with tar coloured margins or without red coloration. Petioles narrow, purple. Scapes overtopping the leaves, araneous or densely hairy below the capitulum. Involucre 11.0 to 14.0 mm wide, $\pm$ rounded. Exterior bracts 11 to 16, adpressed, loosely adpressed, or sometimes recurved at the apex, $\pm$ of the same length, lanceolate to lanceolate-ovate, 7-9 mm long, 2.8-4.5 mm wide, entire, sparsely ciliate at the apex or ciliate. The outermost exterior bracts broader than or equalling the others. Membranaceous margin not distinct. Border to the exterior bracts indistinct, gradually changing into the median strip, 0.5 to 1.0 mm wide, greenish. Median part of the bracts dark green or (blackish), 1.0 to 3.0 mm

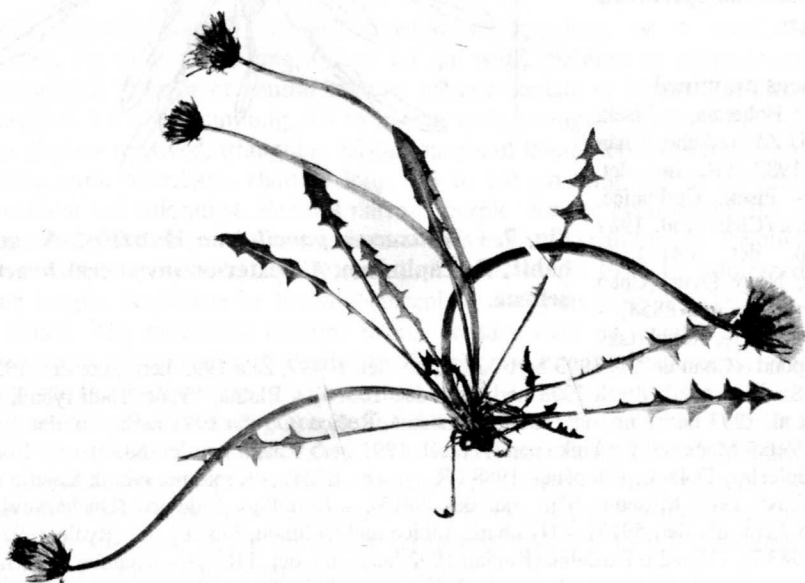


Fig. 8. - *Taraxacum vindobonense* VAN SOEST

wide. Interior bracts 14.0 to 16.0 mm long. Capitulum 3.0 to 4.0 cm wide, convex. Outer ligules flat, striped greyish. Teeth to the ligules blackish. Pollen present. Stigmas dirty (greyish) yellow, with dark hairs. Achenes greyish straw-brown, 3.8 to 4.2 mm long (incl. the cone), spinulose, subabruptly narrowing to a 0.7 to 0.8 mm long cone. Rostrum 6.0 to 7.0 mm long. Pappus 6.0 to 7.0 mm long.

Chromosome number $2n=32$ (KIRSCHNER et ŠTĚPÁNEK 1992: 20. as *T. vitabile*).

Distribution in Bohemia (Fig. 24)

As shown in BATTJES et al. (1992), *Taraxacum vindobonense* is a genetically variable species comprising a number of allozyme genotypes. The question of its taxonomic homogeneity will be studied elsewhere. Here the species is understood in broader sense.

Taraxacum vindobonense is fairly common in the Pannonian lowlands and adjacent territories of the Carpathians (Slovakia, Hungary, Austria, Moravia). On the other hand, outside this territory it is very rare; in Bohemia, there are only very few localities scattered from the south through C. Bohemia to the easternmost Bohemia near Moravian border near Hlinsko.

Specimens examined

S. Bohemia, Ponědraž, Ponědražský rybník (Chán et al. 1993 herb., no. det. 10644, 10643, 10642). - Ponědražka, Ponědražský rybník (Blab et Kirschner 1991 PR, no. det. 11027). - C. Bohemia, Rakovník, Žilina (H. Øllgaard et al. 1984 PR, no. det. 11025). - Kladno, Ploskov (Štěpánek 1985 PR, no. det. 11024). - E. Bohemia, Trusnov, Lodrant pond (Štěpánek 1984 PR, no. det. 11026). - E. Bohemia/W. Moravia, Hlinsko, Hluboká, rybník Doubravník (pond) (Bureš 1989 BRNU, no. det. 7264). - Hlinsko, Radostín, Malé Dářko (Bureš 1989 BRNU, no. det. 7265) [probably outside Bohemia]. - Poličsko, Jedlová (Trávníček 1991 herb., no. det. 11031). - Podmoklany (Trávníček 1991 herb., no. det. 11030). - Křižová, Řeka pond (Trávníček 1991 herb., no. det. 11029).

9. *Taraxacum bavaricum* VAN SOEST, Acta Bot. Neerl. 14: 21, 1965.

(syn.: *T. calcem-amans* HUDZIOK) (Fig. 9)

Plants medium-sized, subrobust. Leaves erecto-patent or erect, curved, linear, 15.0 to 21.0 cm long, 0.5 to 1.0 cm wide, sparsely araneous, greyish green, unspotted, of neutral texture, remotely lobulate. Terminal lobe indistinct or elongate, 0.0 to 5.0 cm long, 0.5 to 1.5 cm wide, hastate or spatulate. Lateral lobes 0 to 3, patent or slightly recurved, linear. Distal margin of lateral lobes straight, $\pm$ entire. Interlobes long, 1.0 to 2.0 cm long, 0.2 to 0.3 cm wide, entire, without red coloration. Petioles narrow, slightly reddish. Scapes equalling the leaves, araneous. Involucre 9.0 to 11.0 mm wide, $\pm$ rounded. Exterior bracts 12 to 16, adpressed, $\pm$ of the same length, ovate, 6.5-8.0 mm long, 3.5-5.0 mm wide, entire, sparsely ciliate at the apex. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.4 to 0.5 mm wide. Border to the exterior bracts indistinct or conspicuous, gradually changing into the median strip, 0.8 to 1.2 mm wide, dark green. Median part of the bracts dark (blackish), 2.0 to 2.5 mm wide. Interior bracts 14.0 to 18.0 mm long. Capitulum 2.5 to 3.0 cm wide, convex. Outer ligules flat, striped greenish grey-purple. Teeth to the

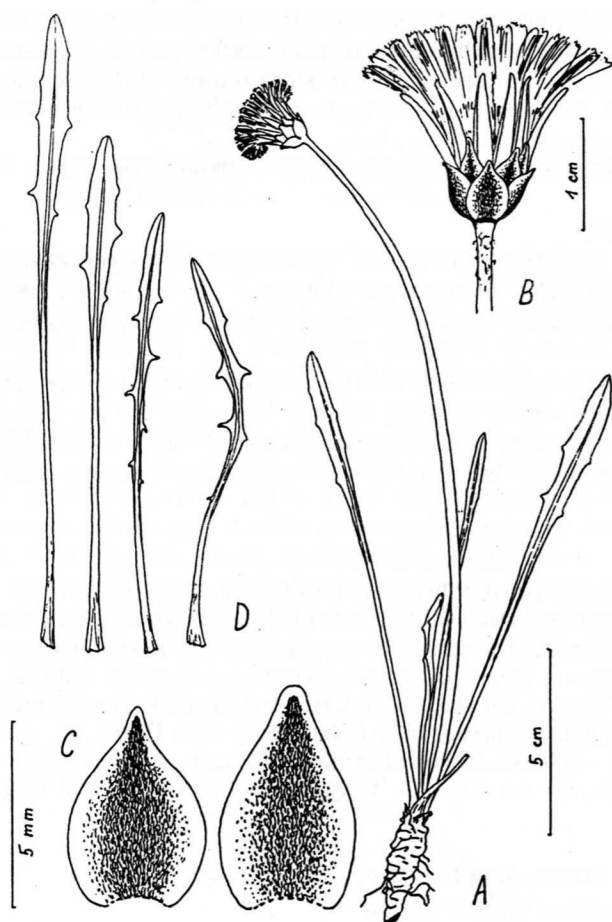


Fig. 9. - *Taraxacum bavaricum* VAN SOEST. A: general habit; B: capitulum; C: exterior involucre bracts; D: other leaf shapes.

Specimens examined

W. Bohemia, 'les Pytel u Plzně' (Čelakovský fil. 1888 PR, no. det. 10979). - Jesenice, Žihle, 'Tschitschkahof' (sine coll. 1900 PRC, no. det. 10994). - 'Strakonice: pascuis humidis merid. a Domanice' (Moravec 1959 PR, no. det. 1667). - Strakonice, Rovná, a meadow near the W-SW shore of Dolejší rybník (Chán 1983 herb., no. det. 8859, 8860, Žila 1985 herb., no. det. 10122, Otruba 1991 herb., no. det. 9401, 9409, Žila 1993 herb., no. det. 10527; Kirschner 1984 PR, no. det. 10723). - Beroun, Koněprusy, prope cavernam (Kirschner 1982 PR, no. det. 10726). - Koněprusy, lom Na kobyle (cf. Kirschner et Štěpánek 1986: 29; Štěpánek 1982 PR, no. det. 10720, 10718). - Mělník, Mělnická Vrutice, Polabská Černava (cf. Kirschner et Štěpánek 1989:

ligules blackish. Pollen present. Stigmas dirty (greyish) or greenish yellow, with dark hairs. Achenes pale straw-brown, 4.8 to 5.3 mm long, sparsely spinulose or with rare spinules or tuberculate, gradually narrowing to a 1.6 to 2.0 mm long cone. Rostrum 8.5 to 10.0 mm long. Pappus 6.5 to 7.0 mm long.

Chromosome number $2n=24$ (KIRSCHNER et ŠTĚPÁNEK 1985: 408).

Distribution in Bohemia (Fig. 23)

Scattered at the richest localities in three regions: southern Bohemia (Strakonice), central Bohemia (Beroun) and the central Elbe basin (Polabí from Mělník to Hradec Králové). Some older sites are documented in herbaria from W. Bohemia.

It should be noted that in KIRSCHNER et ŠTĚPÁNEK (1986) the picture of the achene does not belong to *T. bavaricum*.

103, 1992: 20; Štěpánek 1985 PR, no. det. 7228). - Všetaty (Čelakovský fil. 1907 PR, no. det. 10980). - Dříš (Velenovský 1884 PR, no. det. 10982). - 'Nymburk, bor u Křečkova' (Šachl 1967 herb., no. det. 1717). - Velenka (Kirschner 1982 PR, no. det. 6699, 6694). - Rožďalovice, Mlýnec, Zrcadlo pond (Štěpánek 1984 PR, no. det. 10725). - Žehuňský rybník pond (Štěpánek 1985 PR, no. det. 7223, 6695; Štěpánek 1984 PR, no. det. 10897). - Kolín, Hradištko, Proudnický rybník (cf. Kirschner et Štěpánek 1993: 14; Battjes et Kirschner 1988 PR, no. det. 10724). - Hradec Králové, Králova Lhota (Válek 1939 HR, no. det. 4173; Kirschner 1984 PR, no. det. 10727). - 'Pardubice, Horní Ředice, břeh rybníka Mordýř' (Rybenský 1976 MP, no. det. 1136). - České Meziříčí, Zbytka (Štěpánek et al. 1982 PR, no. det. 10905; Kirschner 1984 PR, no. det. 10906). - Neratov (Vodák 1898 PRC, no. det. 2367).

10. *Taraxacum madidum* KIRSCHNER et ŠTĚPÁNEK, sp. nov. (Fig. 10)

Holotypus: 'Bohemia australis, opp. Strakonice: in prato uliginoso (cum *Gentiana verna*) ad piscinam prope pagum Rovná (J. Kirschner 1984 PR, no. det. 10966).

Diagnosis

Plantae graciles usque mediocres. Folia linearia vel lineari-oblancoolata, 6-14 cm longa, 0.7-1.2 cm lata, sparse araneosa, sinuato-dentata vel breviter lobata lobo terminali plerumque elongato, lobis lateralibus numero 1-2, marginibus distalibus rectis, vulgo integerrimis vel dente unico praeditis. Petiolus violaceus, angustissimus. Involucrum basi 8-9 mm in diametro, squamis interioribus 13-15 mm longis, squamis exterioribus numero 10-16, adpressis, non imbricatis, anguste lanceolatis usque lanceolatis, 6-8 mm longis, 2.3-3.0 mm latis. (eis 1-2 extremis angustis, ad 1.5 mm latis), integris, glaberrimis, margine



Fig. 10. - *Taraxacum madidum* sp. nov.

membranaceo inconspicuo, ad 0.2 mm lato, margine pallide viridi 0.3-0.9 mm lato, superne rubescenti, stria mediana obscura (atro-viridi) 1.0-1.6 mm lata. Antherae polliniferae, stigmata viridia, obscure pubescentia. Achenium pallide stramineo-brunneum, superne breviter spinulosum, 4.0-4.3 mm longum (pyramide inclusa), in pyramidem subcylindricam 0.9-1.2 mm longam subabrupte vel sensim transiens, rostrum 7.0-7.5 mm, pappus 5.5-6.5 mm longi.

Description

Plants delicate to medium-sized, slender or subrobust. Leaves erecto-patent, linear or linear-oblancoelate, 6.0 to 14.0 cm long, 0.7 to 1.2 cm wide, sparsely araneous, mid or dark green, unspotted, of neutral texture, sinuate-dentate or lobate. Terminal lobe medium-sized or elongate, 1.2 to 3.2 cm long, 0.8 to 1.1 cm wide, narrowly hastate or lingulate. Lateral lobes 0 to 2, patent or slightly recurved, triangular. Distal margin of lateral lobes straight, $\pm$ entire or with single tooth. Interlobes medium-sized or long, 0.5 to 1.4 cm long, 0.2 to 0.4 cm wide, entire, with tar coloured margins or without red coloration. Petioles narrow, purple. Scapes equalling the leaves, sparsely araneous. Involucre 8.0 to 9.0 mm wide, slightly rounded or subconical. Exterior bracts 10 to 16, adpressed, $\pm$ of the same length, narrowly lanceolate or lanceolate, 6-8 mm long, 2.3-3 mm wide, entire, $\pm$ glabrous, not ciliate. The outermost exterior bracts sometimes conspicuously narrower than the others. Membranaceous margin absent or not distinct and 0.0 to 0.2 mm wide. Border to the exterior bracts indistinct, gradually changing into the median strip, 0.3 to 0.9 mm wide, greenish, suffused red in the upper part or suffused red. Median part of the bracts dark (blackish), 1.0 to 1.6 mm wide. Interior bracts 13.0 to 15.0 mm long. Capitulum 2.0 to 2.5 cm wide, convex or flat. Outer ligules flat, striped greenish grey-purple. Teeth to the ligules reddish. Pollen present. Stigmas greenish, with dark hairs. Achenes greyish straw-brown, 4.0 to 4.3 mm long (incl. the cone), shortly spinulose above, subabruptly or gradually narrowing to a 0.9 to 1.2 mm long cone. Rostrum 7.0 to 7.5 mm long. Pappus 5.5 to 6.5 mm long.

Chromosome number $2n=24$ (from the locality Rovná det. JK).

Distribution in Bohemia (Fig. 22)

Taraxacum madidum is confined to southern and western parts of Bohemia, from the south it also marginally reaches C. Bohemia. The Czech localities form an eastern limit of its distribution range that extends from France and Switzerland to Germany (Bavaria and Thuringia in the east).

Specimens examined

NW. Bohemia, Mariaschein [= Bohosudov near Teplice] (Wiesbaur 1885 JE, no. det. 9165) - W. Bohemia, Teplá, Dřevohryzy (Bubák 1891 PR, no. det. 10955). - Plzeň, 'pod Lhotou nad Sedlcem' [near Starý Plzeňec] (Maloch 1902 PL, no. det. 8851). - Rokycany, Štáhlavská Lhota (Maloch 1902 PR, no. det. 10959). - C. Bohemia, Mnichovice (Domin 1904 PR, no. det. 10953) - S. Bohemia, Příbram, Drhovy (Plocek 1971 PR, no. det. 10938). - Písek, Cerhonice, 'Na Pařezu' (Chán, Kirschner et Žila 1989 PR, no. det. 10932; herb. Chán, no. det. 8871). - Sušice, Rozsedly, Hamr mill (Moravec 1960 PR, no. det. 10948). - Blatná, Mačkov, Velký Mačkovský rybník (Chán et Štech 1991 herb. Chán, no. det. 8881). - Blatná, Hornosín, Velký Škrabák (Dey 1971 PR, no. det. 10940). - Strakonice, 'Na bahnech' (Moravec 1961 PR, no. det. 10945). - Strakonice, Droužetice, 'supra piscinulam pede montis Tisovník' (Moravec 1959 PR, no. det.

10946). - Strakonice, Mladotice (Kirschner et al. 1986 PR, no. det. 10933; herb. Chán, no. det. 8861). - Strakonice, Rovná (Kirschner 1984 PR, no. det. 10939; Žila 1985 herb. Žila, no. det. 10124; Chán 1987 herb. Chán, no. det. 8862; Otruba 1991 herb. Otruba, no. det. 9408). - Strakonice, Krty, Novokrský rybník (pond) (Chán et Žila 1993 herb. Chán, no. det. 10495, herb. Žila, no. det. 10535). - České Budějovice, Čakov, rybník Nechvil (pond) (Štech 1990 herb. Štech, no. det. 8893). - České Budějovice: 'louka nad Dobrou Vodou' (Mencl 1888 herb. Kurka, no. det. 695).

11. *Taraxacum anserinum* KIRSCHNER et ŠTĚPÁNEK, sp. nov. (Fig. 11)

Holotypus: 'Bohemia australis, oppidum Strakonice, pagus Rovná: in prato udo uliginoso ad ripam piscinae in adjacentibus bor.-occid. pagi' (J. Kirschner 22.5. 1987 PR, no. det. 10967).

Diagnosis

Plantae graciles vel mediocres. Folia lineari-oblancoolata, 7-14 cm longa, 0.5-1.1 cm lata, araneosa, dentata vel breviter lobulata lobo terminali inconspicuo. Petiolus angustus, paulo roseus vel violascens. Scapus araneosus vel superne dense araneosus. Involucrum basi 9-11 mm in diametro, paulo truncatum vel rotundatum, squamis interioribus 13-15 mm longis, squamis exterioribus numero 11-16, adpressis, non imbricatis, lanceolatis, 6.0-7.8 mm longis, 3.1-3.8 mm latis, integris, sparse vel subdense ciliatis, margine membranaceo indistincto 0.2-0.3 mm lato, margine pallide viridi, rubescenti, conspicuo, 0.5-0.9 mm lato, stria mediana obscura (atro-viridi) 1.8-2.6 mm lata. Antherae polliniferae vel polline carentes, stigmata sordide lutea, grisee pubescentia. Ache-



Fig. 11. - *Taraxacum anserinum* sp. nov.

nium pallide vel griseo-stramineum, superne spinulosum, 3.8-4.1 mm longum (pyramide inclusa), in pyramidem subcylindricam 0.9-1.0 mm longam subabrupte abiens, rostrum 8.5-9.5 mm longum, pappus 5.5-6.0 mm longi.

Description

Plants delicate to medium-sized, slender or subrobust. Leaves erecto-patent or $\pm$ erect, linear-oblongate, 7.0 to 14.0 cm long, 0.5 to 1.1 cm wide, araneous, mid or greyish green, unspotted, of neutral texture, dentate or lobulate. Terminal lobe $\pm$ absent. Interlobes absent. Petioles narrow, slightly reddish to purple. Scapes equalling or overtopping the leaves, araneous or densely hairy below the capitulum. Involucre 9.0 to 11.0 mm wide, slightly truncate or $\pm$ rounded. Exterior bracts 11 to 16, adpressed, $\pm$ of the same length, lanceolate, 6.0-7.8 mm long, 3.1-3.8 mm wide, entire, sparsely ciliate at the apex or ciliate. The outermost exterior bracts broader than or equalling the others. Membranaceous margin not distinct, 0.2 to 0.3 mm wide. Border to the exterior bracts conspicuous, gradually changing into the median strip or with distinct limits, 0.5 to 0.9 mm wide, greenish, suffused red in the upper part or suffused red. Median part of the bracts dark (blackish), 1.8 to 2.6 mm wide. Interior bracts 13.0 to 15.0 mm long. Capitulum 2.0 to 2.5 cm wide, convex or flat. Outer ligules flat, striped dark grey-greenish. Teeth to the ligules reddish. Pollen present or absent (often variable in one plant). Stigmas dirty (greyish) yellow, with greyish hairs. Achenes pale or greyish straw-brown, 3.8 to 4.1 mm long (incl. the cone), spinulose, subabruptly narrowing to a 0.9 to 1.0 mm long cone. Rostrum 8.5 to 9.5 mm long. Pappus 5.5 to 6.0 mm long.

Chromosome number $2n=24$ (from Žehuň det. JŠ under no. 18/87).

Distribution in Bohemia (Fig. 26)

T. anserinum is known to occur in Germany and the Netherlands. In Bohemia, it seems to be confined to a few localities, two in the south (Strakonice, Vimperk), the others in the Labe lowlands (Polabí, near Mělník and Poděbrady) and Prague vicinity.

Specimens examined

Strakonice, Rovná, W. shore of Dolejší rybník (Kirschner 1984 PR, no. det. 10927, Žila 1989 herb., no. det. 10120, Žila 1985 herb., no. det. 10123). - Vimperk, Ptáková Lhotka (Kirschner et al. 1986 PR, no. det. 10926). - Mělník, Mělnická Vrutice, near the Polabská Černava Reserve (Štěpánek 1985 PR, no. det. 10924 etc.). - Poděbrady, Žehuň Žehuňský rybník (Štěpánek 1985 PR, no. det. 10925). - 'Dívčí Skok v Šárce u Prahy' (Novák 1914 PRC, no. det. 10998).

12. *Taraxacum turfosum* (SCH.-BIP.) VAN SOEST, Acta Bot. Neerl. 10: 281, 1961.

(syn.: *T. vollmannii* VAN SOEST) (Fig. 12)

Plants delicate, slender. Leaves erecto-patent or $\pm$ erect, linear-oblongate, 5.0 to 10.0 cm long, 0.4 to 1.0 cm wide, sparsely araneous, mid green, unspotted, thin, dentate or lobate. Terminal lobe medium-sized, 0.6 to 1.5 cm long, 0.4 to 0.8 cm wide, triangular or slightly rounded. Lateral lobes 2 or 3, slightly recurved, triangular. Distal margin of lateral lobes convex, $\pm$ entire. Interlobes medium-sized or long, 0.4 to 1.5 cm long, 0.15 to 0.4 cm wide, entire, without red coloration. Petioles narrow, red or purple

Scapes equalling the leaves, sparsely araneous. Involucre 8.0 to 10.0 mm wide, slightly rounded or subconical. Exterior bracts 10 to 13, adpressed or sometimes recurved at the apex, $\pm$ of the same length, linear-lanceolate to lanceolate, 6.5-8 mm long, 2.2-2.9 mm wide, entire, $\pm$ glabrous, not ciliate. The outermost exterior bracts sometimes conspicuously narrower than the others. Membranaceous margin not distinct, 0.2 to 0.3 mm wide. Border to the exterior bracts indistinct, gradually changing into the median strip, 0.5 to 0.8 mm wide, greenish, suffused red in the upper part. Median part of the bracts dark green, 1.0 to 1.7 mm wide. Interior bracts 12.0 to 14.0 mm long. Capitulum 2.5 to 3.0 cm wide, convex. Outer ligules flat, striped greenish grey-purple. Teeth to the ligules reddish. Pollen present. Stigmas greenish, with dark hairs. Achenes greyish straw-brown, 3.6 to 3.9 mm long (incl. the cone), sparsely spinulose, gradually narrowing to a 0.5 to 0.7 mm long cone. Rostrum 10.0 to 11.0 mm long. Pappus 5.5 to 6.0 mm long.

Chromosome number $2n=24$ (cf. MERXMÜLLER et LIPPERT 1978).



Fig. 12. - *Taraxacum turfosum* (SCH.-BIP.) VAN SOEST

Distribution in Bohemia (Fig. 25)

Up to now, *T. turfosum* has been found at few localities in Bohemia, in the south and in C. Bohemia. It is a taxon that may be overlooked in the field but it is much less frequent than, for instance, *T. paucilobum*. It is relatively common in Bavaria, and it seems likely that it reached Bohemia from the south.

Specimens examined

České Budějovice, Dobrá Voda (Mencl 1888 PR, no. det. 10973). - Sušice, Podmokly

(Moravec 1960 PR, no. det. 10944). - Sušice, Rozsedly, Hamr (Moravec 1960 PR, no. det. 10947). - Strakonice, 'Na hůrce' N. of Dražejov (Moravec 1959 PR, no. det. 1668). - Blatná, Velká Turná, rybník Milavý (pond) (Otruba 1991 herb., no. det. 9399; Žila 1992 herb., no. det. 10126; Chán 1992 herb., no. det. 10326). - C. Bohemia, Mělník, Mělnická Vrutice, S. of 'Polabská Černava' (Štěpánek 1984 PR, no. det. 10930 et multipl.). - Rožďalovice, Mlýnec, Zrcadlo (pond) (Štěpánek 1984 PR, no. det. 10931). - Panenská Týnice, Žerotín (Hora 1892 PRC, no. det. 10995).

13. *Taraxacum quaesitum* KIRSCHNER et ŠTĚPÁNEK, sp. nov. (Fig. 13)

Holotypus: 'Slovakia centr., Spišská kotlina, opp. Spiš. Podhradie: in prato udo ad marg. bor.-occ. vici Baldovce' (J. Štěpánek 15.5.1984 PR, no. det. 10969).



Fig. 13. - *Taraxacum quaesitum* sp. nov.

Diagnosis

Plantae mediocres usque subrobustae. Folia oblanceolata, 15-20 cm longa, 2.8-4.3 cm lata, sparse araneosa, profunde lobata vel dissecta, lobo terminali mediocri, 2.4-3.0 cm longo, 1.6-2.7 cm lato, sagittato vel triangulari, lobis lateralibus numero 4-5 utrobique, plerumque anguste triangularibus vel linearibus, marginibus distalibus rectis vel convexis, $\pm$ integerrimis. Petiolus angustus, obscure violaceus. Involucrum basi 13-14 mm in diametro, squamis interioribus 14-16 mm longis, squamis exterioribus numero 13-18, erecto-patentibus vel patentibus, non imbricatis, anguste lanceolatis vel lanceolatis, 9.5-11.5 mm longis, 2.5-3.5 mm latis, integris vel interdum sparsissime dentatis, $\pm$ glabris, margine membranaceo indistincto, 0.1-0.3 mm lato, margine pallide viridi inconspicuo vel distincto, 0.7-1.0 mm

lato, stria mediana obscure viridi, 1.2-2.0 mm lata. Antherae polliniferae, stigmata luteo-viridia. Achenium pallide griseo-stramineum, superne dense spinulosum, 3.7-4.0 mm longum (pyramide inclusa), in pyramidem subcylindricam 0.9-1.0 mm longam subabrupte abiens, rostrum 8-9 mm longum, pappus 7.0-7.5 mm longus.

Description

Plants medium-sized, subrobust. Leaves erecto-patent or $\pm$ erect, oblanceolate, 15.0 to 20.0 cm long, 2.8 to 4.3 cm wide, sparsely araneous, mid green, unspotted, thin, lobate to dissected. Terminal lobe medium-sized, 2.4 to 3.0 cm long, 1.6 to 2.7 cm wide, sagittate or triangular. Lateral lobes 4 or 5, slightly recurved, linear or triangular. Distal margin of lateral lobes straight or convex, $\pm$ entire. Interlobes medium-sized or conspicuously developed, 0.5 to 0.7 cm long, 0.2 to 0.4 cm wide, entire or sparsely dentate, without red coloration. Petioles narrow, dark purple. Scapes overtopping the leaves, araneous. Involucre 13.0 to 14.0 mm wide, $\pm$ rounded. Exterior bracts 13 to 18, erecto-patent or patent, $\pm$ of the same length, narrowly lanceolate or lanceolate, 9.5-11.5 mm long, 2.5-3.5 mm wide, entire or sometimes sparsely dentate, $\pm$ glabrous, not ciliate or sparsely ciliate at the apex. The outermost exterior bracts broader than or equalling the others. Membranaceous margin not distinct, 0.1 to 0.3 mm wide. Border to the exterior bracts indistinct or conspicuous, gradually changing into the median strip, 0.7 to 1.0 mm wide, greenish. Median part of the bracts dark green, 1.2 to 2.0 mm wide. Interior bracts 14.0 to 16.0 mm long. Capitulum 2.5 to 3.5 cm wide, flat. Outer ligules flat, striped dark grey-greenish. Teeth to the ligules blackish. Pollen present. Stigmas greenish yellow, with greenish hairs. Achenes greyish straw-brown, 3.7 to 4.0 mm long (incl. the cone), densely spinulose above, subabruptly narrowing to a 0.9 to 1.0 mm long cone. Rostrum 8.0 to 9.0 mm long. Pappus 7.0 to 7.5 mm long.

Chromosome number $2n=24$ (from the type locality det. JŠ under no. 208/86 and JK under no. 58/86; from the locality Vydrník det. JŠ under. no. 4/87).

Distribution in Bohemia (Fig. 21)

Taraxacum quaesitum was first found by us in the herbarium PR (collections of M. DEYL). Later on, two rich localities of this species were detected in East-Central Slovakia (both quoted because chromosome counts were made on the Slovak plants). Recently, we have succeeded in finding this rare species in central and east-central Bohemia not far from the original DEYL sites. As *T. quaesitum* is unlikely to be overlooked, we suppose it represents a very rare species.

Specimens examined

Bohemia, Koněprusy, 'lom Na Kobyle' (Štěpánek 1991 PR, no. det. 11001). - Mladá Boleslav, Dolánky 'in via silvatica humida supra vicum' (Štěpánek 1988 PR, no. det. 10936). - Nový Bydžov, 'ad piscinam Opatov prope vicum Kobylce' (M. Deyl 1943 PR, no. det. 10941, 10950). - Městec Králové, 'ad ripam merid. piscinae Žehuňský rybník, in peripheria pagi Žehuň' (Štěpánek 1984 PR, no. det. 10937). - Nový Bydžov, Lhota Uhlířská (Deyl 1943 PR, no. det. 10974). - Slovakia centr., Spišská kotlina, Vydrník (Štěpánek 1984 PR, no. det. 10960). - Spišské Podhradie, Baldovce (Štěpánek 1984 PR, no. det. 10935).

14. *Taraxacum irrigatum* KIRSCHNER et ŠTĚPÁNEK, Preslia 64: 22, 1992. (Fig. 14)

Plants medium-sized, slender or subrobust. Leaves erecto-patent or $\pm$ erect, oblanceolate, 8.0 to 20.0 cm long, 1.5 to 2.0 cm wide, sparsely araneous, mid green, unspotted, thin, lobate or deeply lobate. Terminal lobe medium-sized or elongate, 1.0 to 5.0 cm long, 0.8 to 1.8 cm wide, triangular or subhastate. Lateral lobes 2 to 4, patent or slightly recurved, narrowly triangular or triangular. Distal margin of lateral lobes straight, $\pm$ entire or sparsely dentate. Interlobes medium-sized or conspicuously developed, 0.5 to 0.8 cm long, 0.3 to 0.5 cm wide, entire or sparsely dentate, with tar coloured margins or without red coloration. Petioles narrow, purple. Scapes overtopping the leaves, araneous. Involucre 9.0 to 12.0 mm wide, slightly rounded or subconical. Exterior bracts 18 to 23, erecto-patent, $\pm$ of the same length, narrowly lanceolate or lanceolate, 9-11 mm long, 2.5-4 mm wide, sometimes sparsely dentate, $\pm$ glabrous, not ciliate or sparsely ciliate at the apex. The outermost exterior bracts sometimes

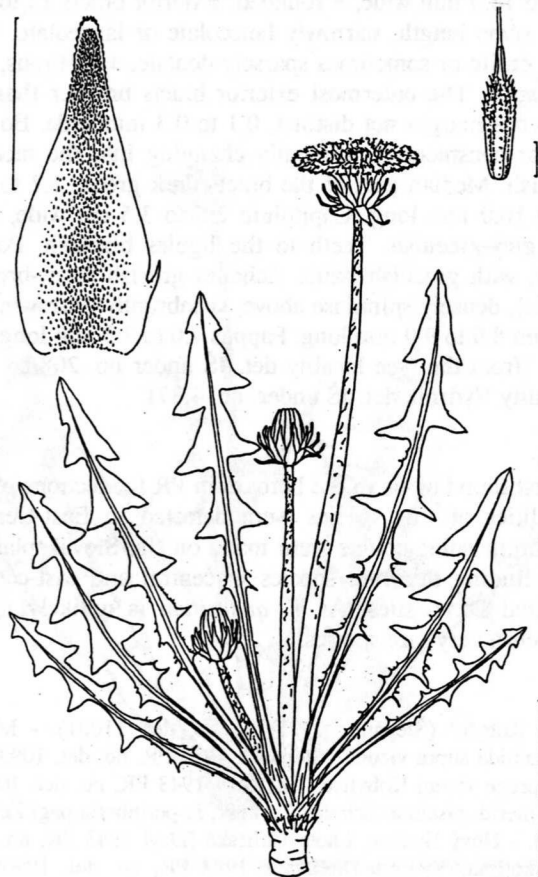


Fig. 14. - *Taraxacum irrigatum* K. et Š. General habit (bar = 5 cm); achene (bar = 5 mm) and exterior involucre bract (bar = 1 mm)

conspicuously narrower than the others. Membranaceous margin not distinct, 0.1 to 0.2 mm wide. Border to the exterior bracts indistinct, gradually changing into the median strip, 0.4 to 0.7 mm wide, greenish. Median part of the bracts dark green, 2.0 to 2.5 mm wide. Interior bracts 14.0 to 18.0 mm long. Capitulum 3.5 to 4.0 cm wide, flat. Outer ligules flat, striped dark grey-greenish. Teeth to the ligules yellow or reddish. Pollen present. Stigmas greenish, with greenish hairs. Achenes pale straw brown, 3.8 to 4.1 mm long (incl. the cone), densely spinulose above, subabruptly narrowing to a 0.9 to 1.0 mm long cone. Rostrum 8.0 to 9.0 mm long. Pappus 5.5 to 6.5 mm long.

Chromosome number $2n=24$ (Kirschner et Štěpánek 1992: 22).

Distribution in Bohemia (Fig. 24)

In Bohemia, *T. irrigatum* is confined to the central part of the lowland area along the Labe river (Polabí, the region among Mladá Boleslav, Poděbrady, Chlumeck nad Cidlinou and Městec Králové), and the localities probably form the western limit of the species' geographical range.

Specimens examined

Most localities known are listed in KIRSCHNER et ŠTĚPÁNEK (1992: 19, 22). - Chlumeck nad Cidlinou, Hradištko, Proudnický rybník (Rydlo et ŠtĚpánek 1986 PR, no. det. 6178). - Nový Bydžov, Lišičky, 'ad piscinam Hejlovák' (Deyl 1943 PR, no. det. 10943). - Mladá Boleslav, Dolánky (ŠtĚpánek 1988 PR, no. det. 9654). - 'Vlhká louka u Lysé nad Labem' (Medlinová 1945 PRC, no. det. 10996).

15. *Taraxacum subdolum* KIRSCHNER et ŠTĚPÁNEK, Preslia 64: 28, 1992. (Fig. 15)

Plants medium-sized, subrobust. Leaves ascending or erecto-patent, $\pm$ oblong, 10.0 to 18.0 cm long, 1.5 to 4.0 cm wide, subglabrous, dark or olivaceous green, unspotted, thick (subcarnose), deeply lobate. Terminal lobe medium-sized or elongate, 1.5 to 3.5 cm long, 0.8 to 2.7 cm wide, narrowly triangular or hastate. Lateral lobes 2 to 5, forward pointing, patent, or recurved, narrowly triangular, triangular, or broadly triangular. Distal margin of lateral lobes convex, $\pm$ entire or with single tooth. Interlobes long, 0.5 to 2.0 cm long, 0.2 to 0.4 cm wide, entire, without red coloration. Petioles narrow, purplish. Scapes overtopping the leaves, sparsely araneous. Involucre 8.0 to 11.0 mm wide, slightly truncate or $\pm$ rounded. Exterior bracts 15 to 21, loosely ad-

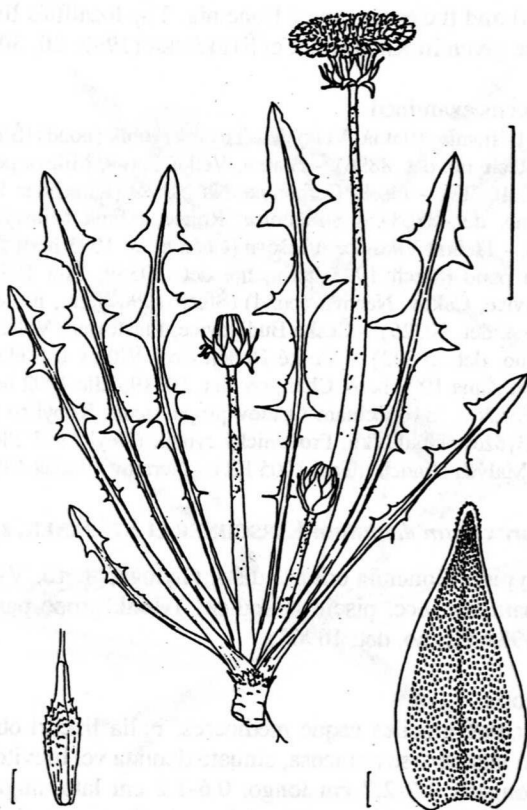


Fig. 15. - *Taraxacum subdolum* K. et Š. General habit (bar = 5 cm), achene and exterior involucre bract (bars = 1 mm)

pressed or erecto-patent, $\pm$ of the same length, lanceolate to ovate, 8.5-10 mm long, 4-5.5 mm wide, entire, $\pm$ glabrous, not ciliate. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.1 to 0.5 mm wide. Border to the exterior bracts absent. Median part of the bracts dark (blackish), 3.0 to 5.5 mm wide. Interior bracts 14.0 to 17.0 mm long. Capitulum 3.0 to 4.0 cm wide, flat. Outer ligules flat, striped dark grey-greenish. Teeth to the ligules blackish. Pollen present. Stigmas greenish, with dark hairs. Achenes greyish straw-brown, 4.2 to 4.4 mm long (incl. the cone), sparsely spinulose, gradually narrowing to a 1.0 to 1.4 mm long cone. Rostrum 8.0 to 9.0 mm long. Pappus 6.5 to 7.0 mm long.

Chromosome number $2n=24$ (KIRSCHNER et ŠTĚPÁNEK 1992: 28).

Distribution in Bohemia (Fig. 25)

Taraxacum subdolum is relatively widely distributed in C. Europe (Germany, Poland, Austria, Slovakia), and is more common in Moravia than in Bohemia. However, it is not rare in Bohemia, being scattered in S. Bohemia, the Labe lowlands (Polabí) and the easternmost Bohemia. The localities listed below represent an addition to those given in KIRSCHNER et ŠTĚPÁNEK (1992: 20, 30).

Specimens examined

S. Bohemia, Blatná, Velký Mačkovský rybník (pond) (Štech 1991 herb. Chán, no. det. 8879 herb. Štech, no. det. 8896). - Blatná, Velká Turná, Milava pond (Chán et Žila 1992 herb. Chán, no. det. 10327). - Písek, Cerhonice, Na pařezu (Kirschner 1989 PR, no. det. 9650, Chán 1989 herb., no. det. 8868). - Strakonice, Rojice, rybník Milový (pond) (Žila 1992 herb., no. det. 10127). - Třeboň Vlkovice u Lišova (Chán et al. 1993 herb., no. det. 10559). - Třeboň, Lužnice Šatlava pond (Štech 1993 herb., no. det. 10569; Žila 1993 herb., no. det. 10571). - České Budějovice, Čakov, Nechvil (pond) (Štech 1990 herb., no. det. 8894; Chán et Žila 1992 herb. Chán, no. det. 10325). - České Budějovice, Plástovice, Volešek (pond) (Chán et Žila 1992 herb. Chán, no. det. 10322). - České Budějovice, Vítkov u Štěkně, Velký Vítkovský rybník (pond) (Chán et Zima 1992 herb. Chán, no. det. 10319; Žila 1992 herb., no. det. 10125). - E. Bohemia Nový Bydžov, 'ad piscinam Opatov prope vicum Kobylce (Deyl 1943 PR, no. det. 10949). Nový Bydžov, Hradištko, Proudnický rybník (Deyl 1943 PR, no. det. 10942). - Holice, 'za jácipem Malých Hradců' (Točl 1905 PR). - Neratov (Vodák 1898 PRC, no. det. 10997).

16. *Taraxacum dentatum* KIRSCHNER et ŠTĚPÁNEK, sp. nov. (Fig. 16)

Holotypus: 'Bohemia orient., distr. phytogeogr. 15. Vých. Polabí, opp. Holice: in prat. ad ripam bor.-occ. piscinae Ředický rybník prope pagum Horní Ředice' (J. Štěpánek 11.5.1984 PR, no. det. 10968).

Diagnosis

Plantae graciles usque mediocres. Folia lineari-oblancoolata, 7-14 cm longa, 0.9-1.5 cm lata, sparse araneosa, sinuato dentata vel breviter lobata, lobo terminali mediocri vel elongato, 1.2-2.7 cm longo, 0.6-1.2 cm lato, anguste triangulari, lobis lateralibus numero 2-3 utrobique, late triangularibus, marginibus distalibus rectis, dentatis. Interlobia brevia (plerumque inconspicua), 0.3-0.5 cm longa, 0.3-0.6 cm lata, integra. Petiolus angustus, violaceus. Involucrum basi 8-10 mm in diametro, rotundatum vel subconicum, squamis interioribus 12-15 mm longis, squamis exterioribus numero 11

14, laxe adpressis, interdum apice recurvatis, non imbricatis, anguste lanceolatis, 6.5-8.5 mm longis, 1.5-2.8 mm latis (eis 1-2 extremis interdum angustissimis), integris, glabris, margine membranaceo indistincto, 0.1-0.2 mm lato, margine pallide viridi inconspicuo, 0.4-0.9 mm lato, paulatim in stria mediana obscura 0.4-1.1 mm lata abeunte. Antherae polliniferae, stigmata pallide viridia, obscure pubescentia. Achenium griseo-stramineum vel pallide olivaceo-brunneum, superne breviter spinulosum, 2.9-3.5 mm longum (pyramide inclusa), in pyramidem subcylindricam 0.5-0.6 mm longam subabrupte usque sensim abiens, rostrum 6.0-6.5 mm longum, pappus 5.5-6.0 mm longus.

Description

Plants small or medium-sized, slender. Leaves erecto-patent, linear-ob lanceolate, 7.0 to 14.0 cm long, 0.9 to 1.5 cm wide, sparsely araneous, mid green, unspotted, thin or of neutral texture, sinuate-dentate or lobate. Terminal lobe medium-sized or elongate, 1.2 to 2.7 cm long, 0.6 to 1.2 cm wide, narrowly triangular. Lateral lobes 2 or 3, patent or slightly recurved, broadly triangular. Distal margin of lateral lobes straight, dentate. Interlobes short or medium-sized, 0.3 to 0.5 cm long, 0.3 to 0.6 cm wide, entire, without red coloration. Petioles narrow, purple. Scapes equalling or overtopping the leaves, sparsely araneous. Involucre 8.0 to 10.0 mm wide, slightly rounded or subconical. Exterior bracts 11 to 14, loosely adpressed or sometimes recurved at the apex, $\pm$ of the same length, narrowly lanceolate, 6.5-8.5 mm long, 1.5-2.8 mm wide, entire, $\pm$ glabrous, not ciliate. The outermost exterior bracts sometimes conspicuously narrower than the others. Mem-

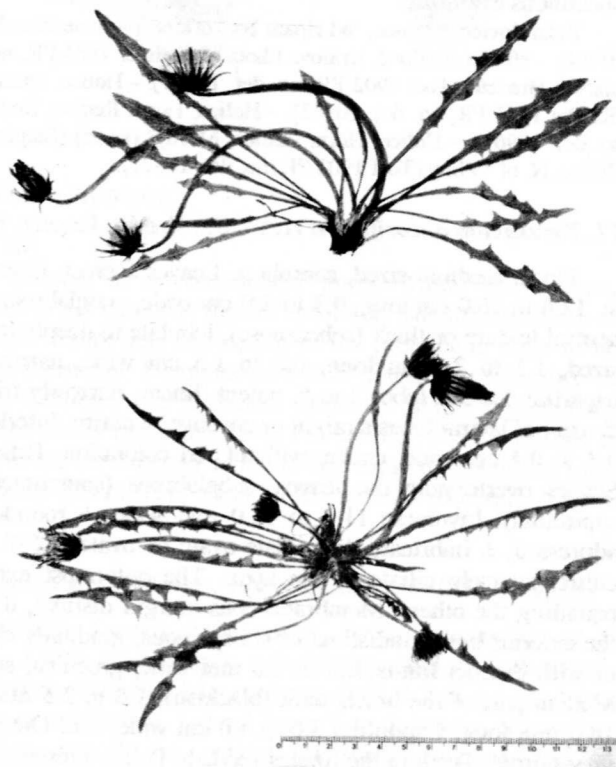


Fig. 16. - *Taraxacum dentatum* sp. nov.

branceous margin not distinct, 0.1 to 0.2 mm wide. Border to the exterior bracts indistinct, gradually changing into the median strip, 0.4 to 0.9 mm wide, greenish. Median part of the bracts dark green, 0.4 to 1.1 mm wide. Interior bracts 12.0 to 15.0 mm long. Capitulum 2.0 to 3.0 cm wide, flat. Outer ligules flat, striped dark grey-greenish or greenish grey-purple. Teeth to the ligules yellow. Pollen present. Stigmas greenish, with dark hairs. Achenes greyish straw-brown or olivaceous brownish, 2.9 to 3.5 mm long (incl. the cone), shortly spinulose above, subabruptly or gradually narrowing to a 0.5 to 0.6 mm long cone. Rostrum 6.0 to 6.5 mm long. Pappus 5.5 to 6.0 mm long.

Chromosome number $2n=24$ (from Králova Lhota det. JK under no. 56/86).

Distribution in Bohemia (Fig. 20)

Although in adjacent regions *T. dentatum* is not rare (Moravia, Slovakia, Poland), in Bohemia it has been found only in a limited area in eastern Bohemia. However, there, in the districts of Městec Králové, Pardubice and Hradec Králové, it is amongst the more common species.

Specimens examined

Rožďalovice, Mlýnec, 'ad ripam bor.-orient. piscinae Zrcadlo' (Štěpánek 1984 PR, no. det. 10964). - Hradec Králové, Králova Lhota (Kirschner 1984 PR, no. det. 10963). - Holice, 'Luka u Malých Hradců' (Točl 1902 PR, no. det. 10954). - Holice, Drahoš, 'ad ripam piscinae Šmatlán' (Krátka 1981 PR, no. det. 10962). - Holice, Horní Ředice, Ředický rybník (Štěpánek 1984 PR, no. det. 10961). - Holice, Horní Ředice, Mordýř (pond) (Štěpánek 1984 PR, no. det. 10965). - Holice, N. of Veliny (Točl 1902 PR, no. det. 10971).

17. *Taraxacum ancoriferum* HUDZIOK, Feddes Repert. 80: 333, 1969 s. l. (Fig. 17)

Plants medium-sized, subrobust. Leaves $\pm$ erect, linear-ob lanceolate or oblanceolate, 12.0 to 16.0 cm long, 0.8 to 2.0 cm wide, subglabrous, greyish green, unspotted, of neutral texture or thick (subcarnose), lobulate to deeply lobate. Terminal lobe medium-sized, 1.3 to 2.3 cm long, 0.8 to 1.5 cm wide, narrowly triangular, triangular, or tripartite. Lateral lobes 2 to 5, patent, linear, narrowly triangular, or triangular. Distal margin of lateral lobes straight or concave, $\pm$ entire. Interlobes long, 1.0 to 1.5 cm long, 0.3 to 0.4 cm wide, entire, without red coloration. Petioles narrow, slightly reddish. Scapes overtopping the leaves, subglabrous (sometimes with rare hairs below the capitulum). Involucre 11.0 to 13.0 mm wide, $\pm$ rounded. Exterior bracts 14 to 17, adpressed, $\pm$ imbricate, lanceolate-ovate or ovate, 6.5-7.5 mm long, 4-5.5 mm wide, entire, sparsely ciliate at the apex. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.2 to 0.6 mm wide. Border to the exterior bracts indistinct or conspicuous, gradually changing into the median strip or with distinct limits, 0.5 to 1.8 mm wide, greenish, suffused red in the upper part. Median part of the bracts dark (blackish), 1.0 to 2.5 mm wide. Interior bracts 16.0 to 18.0 mm long. Capitulum 3.0 to 4.0 cm wide, flat. Outer ligules flat, striped greenish grey-purple. Teeth to the ligules reddish. Pollen present. Stigmas greenish yellow, with greenish hairs. Achenes pale straw-brown, 4.1 to 4.4 mm long (incl. the cone), with rare spinules or tuberculate, gradually narrowing to a 0.9 to 1.1 mm long cone. Rostrum 9.5 to 10.5 mm long. Pappus 6.5 to 7.5 mm long.

Chromosome number $2n=48$ (from the Žehuň locality det. JŠ under no. 225/86).



Fig. 17. - *Taraxacum ancoriferum* HUDZIOK

Distribution in Bohemia (Fig. 26)

Taraxacum ancoriferum belongs to a complicated group within the section. Moreover, the authentic material is not extant so that an absolutely safe identification of the Czech plants is not possible. Plants that correspond to the protologue seem to be rare: they have been found in Germany, Denmark and at a single macrolocality in Bohemia: 'Bohemia orientalis, Chlumec nad Cidlinou, Zbraň, S. shore of Žehuňský rybník (pond) about 2 km W. of Zbraň (Štěpánek 1985 PR, no. det. 10928; Battjes et Kirschner 1988 PR, no. det. 10929, cf. BATTJES et al. 1992). Similar specimens were found close to the above locality (Hradištko, Proudnický rybník) requiring further examination.

18. *Taraxacum heleonastes* HAGL., Ber. Schweiz. Bot. Ges. 60: 236, 1950. (Fig. 18)

Plants medium-sized, subrobust. Leaves erecto-patent, linear-oblongate or ± oblong, 12.0 to 17.0 cm long, 1.0 to 1.8 cm wide, subglabrous, mid or dark green, unspotted, of neutral texture, lobate. Terminal lobe medium-sized, 1.2 to 1.8 cm long, 0.9 to 1.8 cm wide, triangular or subhastate. Lateral lobes 3 to 5, patent, triangular. Distal margin of lateral lobes straight, ± entire. Interlobes medium-sized or conspicuously developed, 0.5 to 1.1 cm long, 0.2 to 0.4 cm wide, entire, without red coloration. Petioles narrow, purple. Scapes equalling the leaves, subglabrous (sometimes with rare hairs below the capitulum) or sparsely araneous. Involucre 9.0 to



Fig. 18. - *Taraxacum heleonastes* HAGL.

11.0 mm wide, slightly rounded. Exterior bracts 12 to 16, adpressed, $\pm$ of the same length, lanceolate-ovate, 6.5-7.5 mm long, 4.0-5.5 mm wide, entire, sparsely ciliate at the apex. The outermost exterior bracts broader than or equalling the others. Membranaceous margin distinct, 0.3 to 0.4 mm wide. Border to the exterior bracts conspicuous, with distinct limits, 0.8 to 1.1 mm wide, greenish, suffused red in the upper part. Median part of the bracts dark (blackish), 1.1 to 2.0 mm wide. Interior bracts 15.0 to 17.0 mm long. Capitulum 2.5 to 3.5 cm wide, convex. Outer ligules flat, striped greenish grey-purple. Teeth to the ligules yellow. Pollen absent. Stigmas dirty (greyish) yellow, with greyish or greenish hairs. Achenes pale straw-brown, 4.4 to 4.7 mm long (incl. the cone), shortly spinulose above or with rare spinules or tuberculate, gradually narrowing to a 1.0 to 1.1 mm long cone. Rostrum 7.5 to 9.0 mm long. Pappus 6.0 mm long.

Distribution in Bohemia (Fig. 22)

As a species with typically Alpine and perialpine distribution, *T. heleonastes* is confined to southern Bohemia in the Czech Republic. Up to now, one single locality of this rare species has been found.

Specimens examined

České Budějovice, Čakov, SW shore of Nechvíl (pond) (Štech 1990 herb., no. det. 8892, Žíla et Chán 1992, no. det. 10129).

19. *Taraxacum hemiparabolicum* HUDZIOK, Feddes Repert. 80: 323, 1969.

Lectotypus hoc loco electus: 'Brandenburg, Luckenwalde, Schöneweide N.' (G. Hudziok, 20.5. 1967, JE, no. det. 9198).

Problems of the typification of the *Taraxacum* names published by HUDZIOK are summarized in KIRSCHNER, SONCK et ŠTĚPÁNEK (1993: 54). As the originally selected holotype is not extant, the original isotype is selected as the lectotype.

A detailed description of typical specimens is given in HUDZIOK (1969: 323-324). The species has a very characteristic leaf shape; shape and coloration of outer bracts are also diagnostic. Stigmas are greenish, anthers polliniferous, cone to the achene relatively short.

Up to now, we have studied specimens of this species from Germany and Poland. There is only one herbarium sheet from Bohemia that may be safely assigned to *T. hemiparabolicum*: NW. Bohemia, 'Milešovka, na bažinné louce pod Milešovkou' (Wilhelm 1898 PRC, no. det. 2904). The locality no longer exists in the original condition, and the species is extinct from Bohemia. Another herbarium sheet with plants probably belonging to *T. hemiparabolicum* comes from S. Bohemia, Rovná (Moravec 1959 PR, no. det. 10970). Here also the species is extinct. (Fig. 26)

Acknowledgements

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(Text cont. on p. 170)

19. *Taraxacum hemiparabolicum* HUDZIOK, Feddes Repert. 80: 323, 1969.

Lectotypus hoc loco electus: 'Brandenburg, Luckenwalde, Schöneweide N.' (G. Hudziok, 20.5. 1967, JE, no. det. 9198).

Problems of the typification of the *Taraxacum* names published by HUDZIOK are summarized in KIRSCHNER, SONCK et ŠTĚPÁNEK (1993: 54). As the originally selected holotype is not extant, the original isotype is selected as the lectotype.

A detailed description of typical specimens is given in HUDZIOK (1969: 323-324). The species has a very characteristic leaf shape; shape and coloration of outer bracts are also diagnostic. Stigmas are greenish, anthers polliniferous, cone to the achene relatively short.

Up to now, we have studied specimens of this species from Germany and Poland. There is only one herbarium sheet from Bohemia that may be safely assigned to *T. hemiparabolicum*: NW. Bohemia, 'Milešovka, na bažinné louce pod Milešovkou' (Wilhelm 1898 PRC, no. det. 2904). The locality no longer exists in the original condition, and the species is extinct from Bohemia. Another herbarium sheet with plants probably belonging to *T. hemiparabolicum* comes from S. Bohemia, Rovná (Moravec 1959 PR, no. det. 10970). Here also the species is extinct. (Fig. 26)

Acknowledgements

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(Text cont. on p. 170)

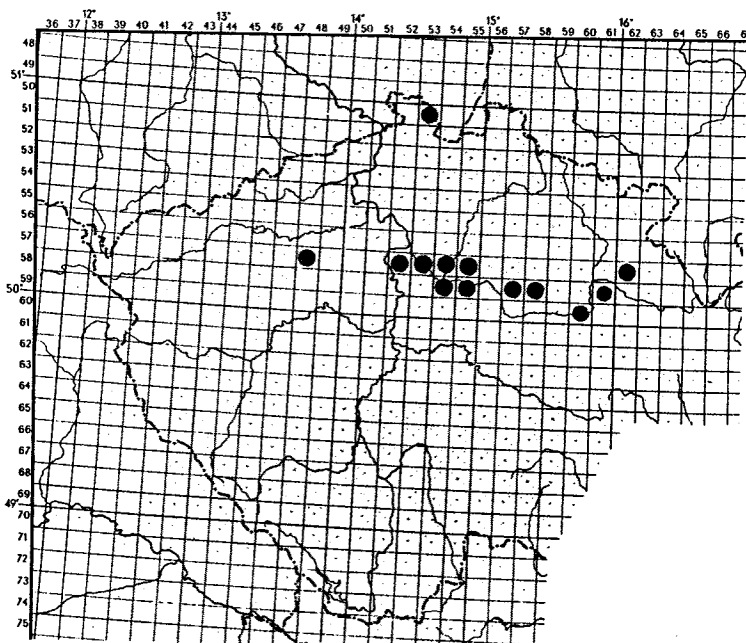
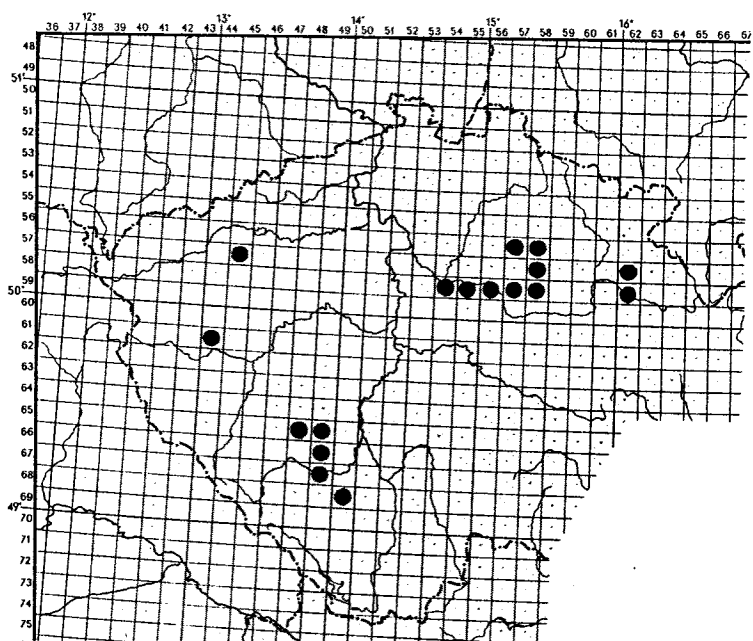


Fig. 19. - Distribution of *Taraxacum subalpinum* (above) and *T. brandenburgicum* (below) in Bohemia.

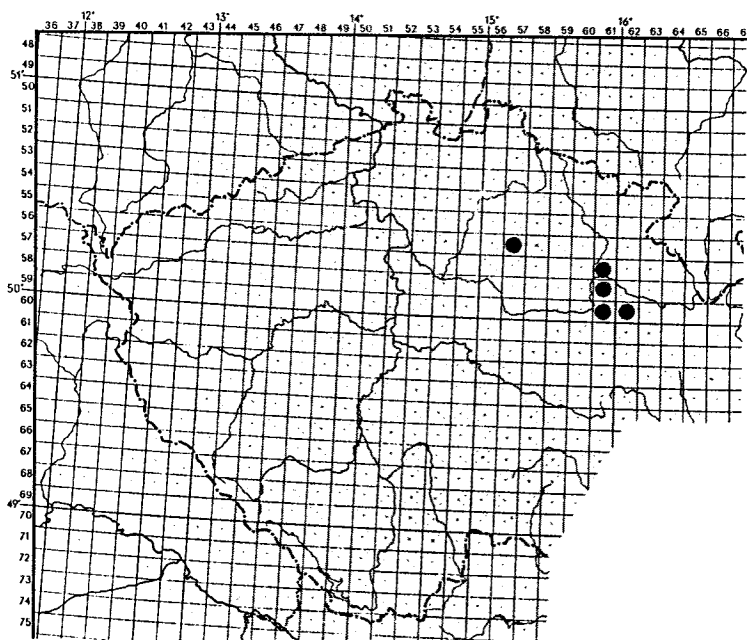
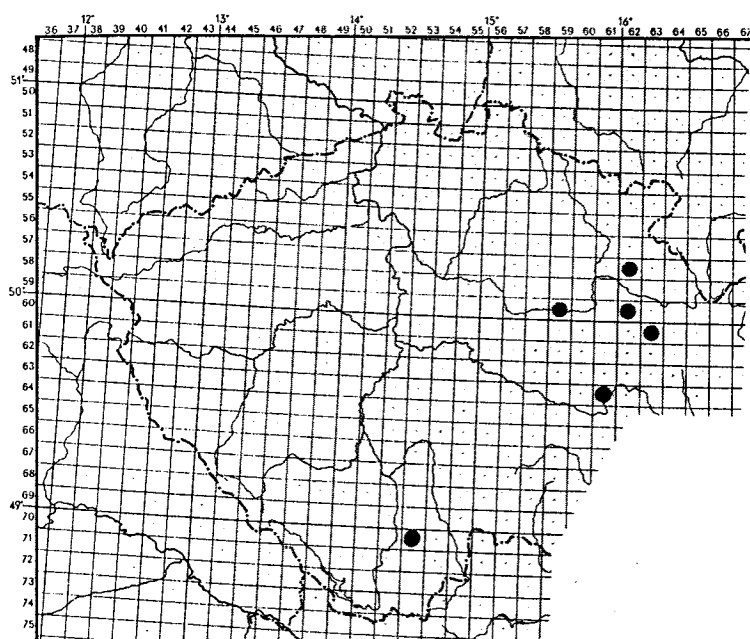


Fig. 20. - Distribution of *Taraxacum mendax* (above) and *T. dentatum* (below) in Bohemia.

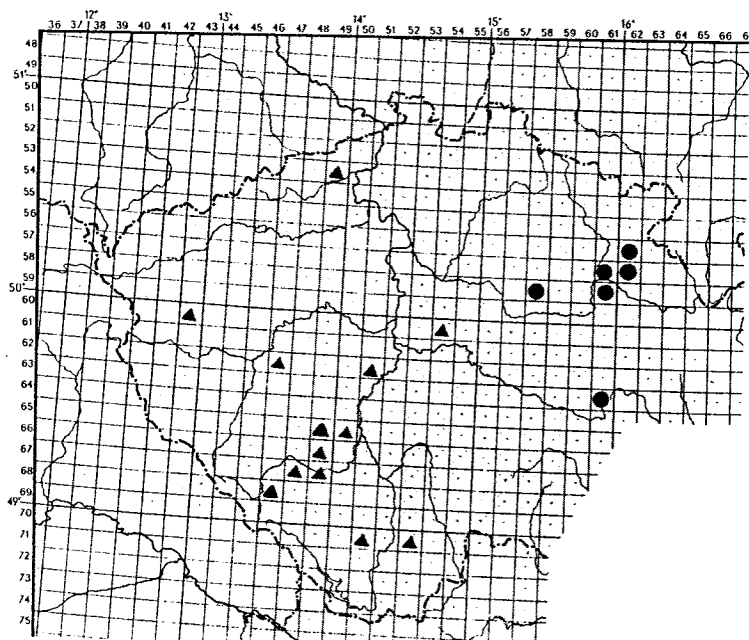
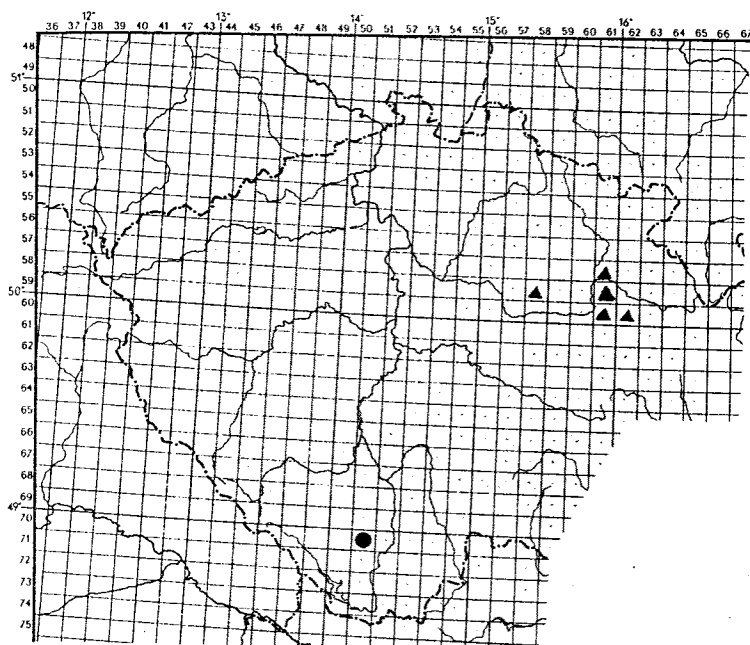


Fig. 22. - Distribution of *Taraxacum bohemicum* (above, ▲), *T. heleonastes* (above, ●), *T. madidum* (below, ▲) and *T. skalinskanum* (below, ●) in Bohemia.

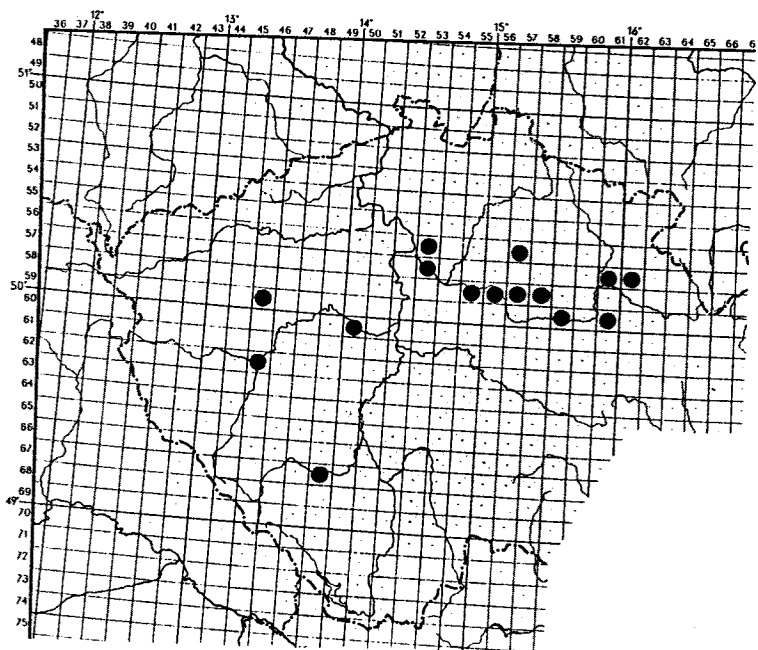
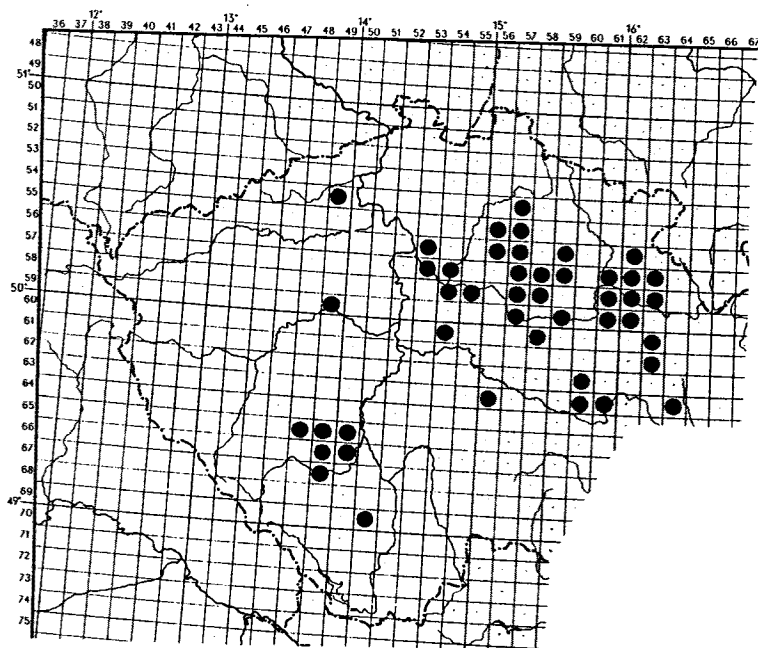


Fig. 23. - Distribution of *Taraxacum paucilobum* (above) and *T. bavaricum* (below) in Bohemia.

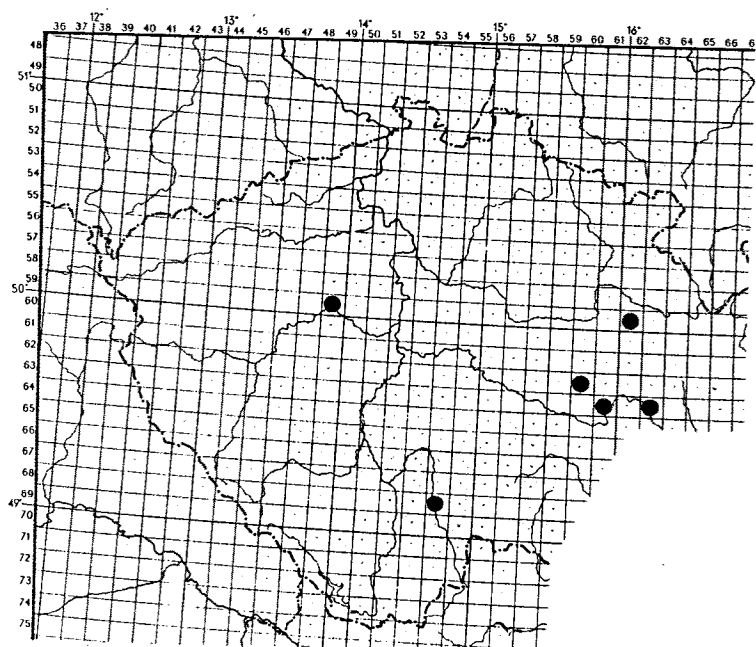
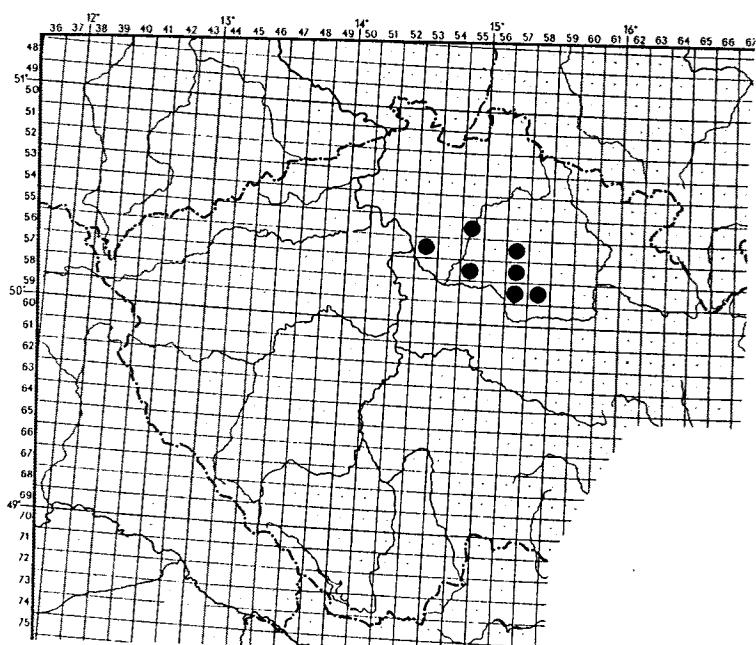


Fig. 24. - Distribution of *Taraxacum irrigatum* (above) and *T. vindobonense* (below) in Bohemia.

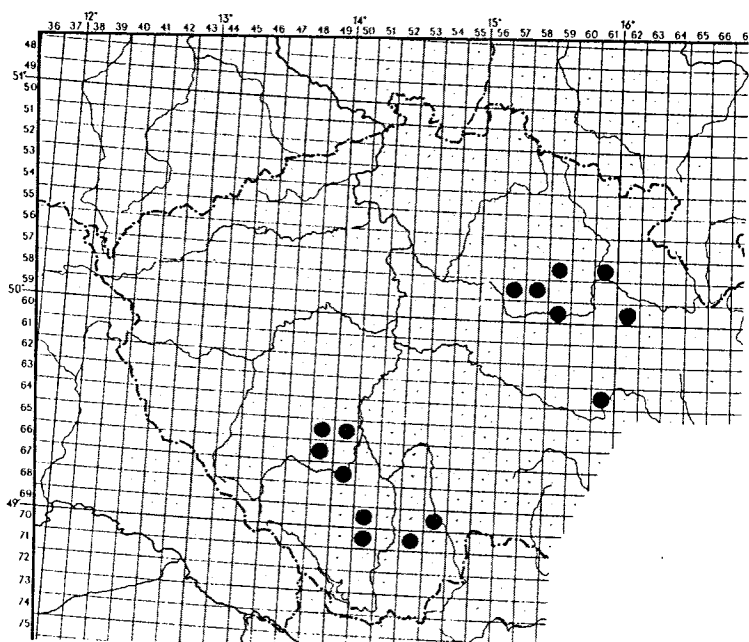
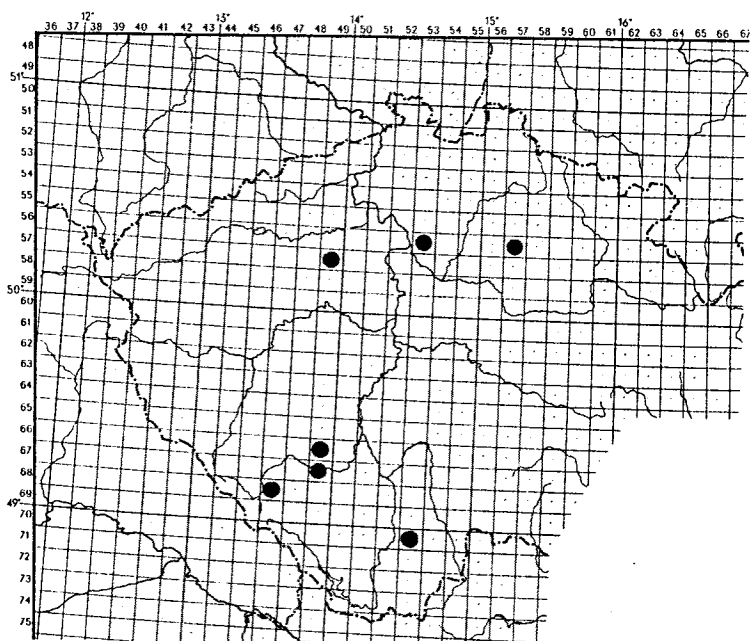


Fig. 25. - Distribution of *Taraxacum turfosum* (above) and *T. subdolum* (below) in Bohemia.

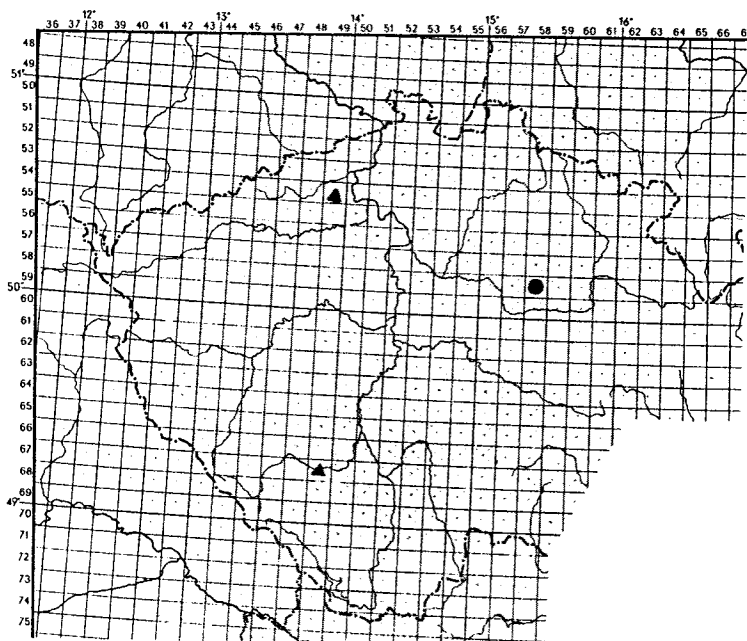
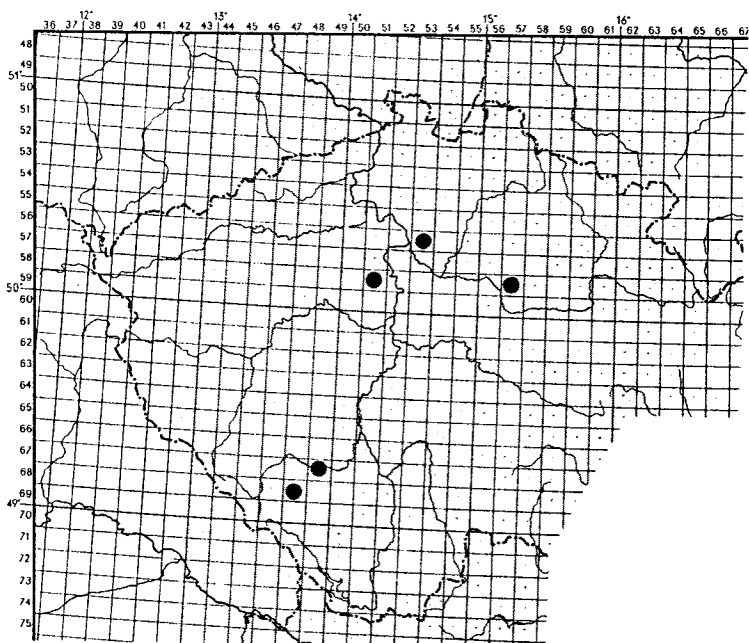


Fig. 26. - Distribution of *Taraxacum anserinum* (above), *T. ancoriferum* (below, ●) and *T. hemiparabolicum* (below, ▲) in Bohemia.

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