

Six new species of *Taraxacum* from France

Carl Eric Sonck

Sonck, C. E., Tavastvägen 2 A 20, FIN-00530 Helsingfors, Finland

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The paper describes six new species of *Taraxacum* L. from Hautes Alpes, Basses-Pyrénées, Aveyron and Lozère, viz. *T. artificis* Sonck, *T. clavatifrons* Sonck, *T. conturbatum* Sonck, *T. pseudoporrigenes* Sonck, *T. radens* Sonck, and *T. turbidum* Sonck.

Key words: France, *Taraxacum*, taxonomy

In the summer 1987, I was invited by the Hungarian doctors Ság and Bélhazy to spend two weeks in the Hautes Alpes in France, where they rented a summer-house at Orcières-Merlette. In this alpine region I found some new species of *Taraxacum* L., six of which have already been described (Sonck 1990). Here, I will add an additional species, *T. artificis* from four localities in the same region. This species was later cultivated by me in the University of Helsinki's Botanical Garden, and by Dr Jan Štěpánek in Průhonice in the Czech republic.

***Taraxacum artificis* Sonck, sp. nov.** (Figs. 1–3)

Planta parva, raro mediocris, ± araneosa. Folia ± canescenti-viridia, lanceolata, ca. 6–10 mm longa, 1.5–3 cm lata (interdum ad 20 cm longa, 4 cm lata), lobata, petiolis angustis–subangustis, leviter rubro-violaceis. Lobi laterales ca. 6 utrinque, subobtusius, ± approximati, ad basin ca. 10 mm lati, in margine superiore et inferiore dentibus singulis, robustis instructi, in apicem nunc porrigentem, nunc patentem vel recurvatum abeuntes. Lobus terminalis parvus, tricuspидatus–trilobatus. Interlobia brevissima, sat parce et inaequaliter dentata vel lacinulata. Scapi saepe ± colorati, floriferi foliis

aequilongi. Involucrum olivaceo-viride, ca. 12–14 mm longum, ca. 8 mm latum, squamae exteriores patentes–recurvatae, canescenti-vel olivaceo-virides, interdum leviter purpurascens, ca. 8–10 mm longae, 2–3 mm latae, anguste marginatae, laeves, interiores ± laeves, apice obscurae. Calathium luteum, ligulae marginales planae, extus stria cano-violacea notatae. Ligularum dentes purpurascens–atropurpureae. Antherae polliniferae, stigmata virescentia. Achenium ochraceo-stramineum, 4.6–4.9 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum rugosum vel ± laeve, in pyramidem 0.7–0.8 mm longam, subcylindricam subabrupte abiens. Rostrum 6 mm longum, pappus albidus 5 mm longus.

Holotype: France. Hautes Alpes, Orcières-Merlette, Col de Noyer, dans le gazon, 19.VII.1987, C. E. Sonck (H). Paratype: Hautes Alpes, Orcières-Merlette, Forêt des Estaris, alt. ca. 2 300–2 400 m, 21.VII.1987, C. E. Sonck (H).

It is interesting that a species very closely related to *Taraxacum artificis* was found in July 1986 by Daniela Fišerová in Southern France, in the eastern Pyrenees (later cultivated in Průhonice by Štěpánek, nr. 2425). Her species differed from *T. artificis*, having only quite yellow stigmas, less dentate leaf lobes and a slightly different shape of the achenes. In 1984, the German botanists Lippert



Fig. 1. *Taraxacum artificis* Sonck (holotype).



Fig. 2. *Taraxacum artificis* Sonck (paratype).

and Merxmüller found a species in the maritime Alps, along a path towards Colle di Tenda (at 2 150 m), in northern Italy, with some *artificis*-like features (cultivated in Prùhonicè, Štěpánek nr. 2461). They all may belong to the sect. *Alpestris*. It seems possible that there are, in the alpine regions, several species related to *T. artificis* waiting to be discovered and described.

***Taraxacum clavatifrons* Sonck, sp. nov.** (Figs. 4 and 5)

Planta mediocris, 15–20 cm alta. Folia sat obscure gramineo-viridia, ± glabra, ca. 10–15 cm longa, partim ± clavatiformia, petiolis breviusculis, angustis–subalatis, pallidis. Lobi laterales 4–5 utrinque, deltoidei, acuti, integri vel paulo denticulati. Lobus terminalis hastatus vel ± triangularis, 2.5–3 cm longus, 1.5–3 cm latus. Interlobia bene evoluta, ca. 4–6 cm lata, partim atrimarginata, interdum subulato-dentata. Scapi glabri, pallidi vel paulo colorati, floriferi foliis aequilongi. Involucrum parvum, ca. 13–15 cm longum, 8–10 mm latum, sat obscure canoviride, basi ovato-truncata. Squamae exteriores canovirides, recurvae, usque ad 9 mm longae, 2–2.5 mm latae, angustissime albo-marginatae, omnes laeves. Squamae interiores non-corniculatae. Calathium laete luteum, ca. 2.5 cm diametro (paulo radians?). Antherae abunde polliniferae, diametrum pollinum varians. Stigmata virescentia. Achenium pallide stramineum, ad 4.3 mm longum (pyramide inclusa), supra medium 1.3 mm latum, superne breviuscule spinulosum, ceterum laeve vel leviter sulcatum, in pyremiden conicam 0.6 mm longam subsensim abiens. Rostrum 10 mm longum, pappus albidus 6 mm longus. E sectione Ruderaliorum.

Holotype: France. Basses-Pyrénées, Arneguy, 10.IV.1982, C. E. Sonck (H).

***Taraxacum conturbatum* Sonck, sp. nov.** (Figs. 6 and 7)

Planta mediocris, ca. 20 cm alta. Folia lanceolata, sat obscure canescenti-viridia, supra subglabra, multilobata, atrimarginata, lobi laterales deltoidei, ± patuli et lineares, acuti, ca. 7–8 utrimque, valde dentati et subulato-dentati, foliorum inter-



Fig. 3. Achenes of *Taraxacum artificis* Sonck (from the paratype, x 15). Photo Tuuli Timonen.



Fig. 4. *Taraxacum clavatifrons* Sonck (holotype).



Fig. 5. Achenes of *Taraxacum clavatifrons* Sonck (from the holotype, x 15). Photo Dr. Mauri Korhonen.



Fig. 7. Achenes of *Taraxacum conturbatum* Sonck (from the holotype, x 15). Photo Dr. Mauri Korhonen.

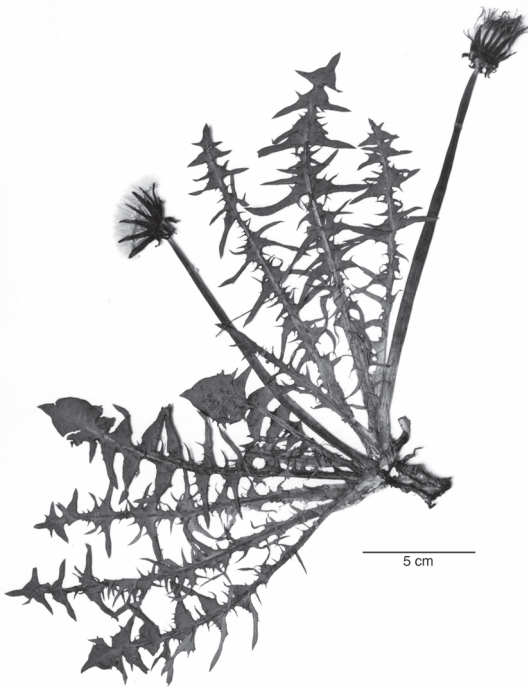


Fig. 6. *Taraxacum conturbatum* Sonck (holotype).

mediorum et interiorum profunde fissi. Petioli subulati brevissimi, ± sordide brunescenti-violacei. Nervus medianus ad apicem similiter coloratus, densiter araneosus. Lobus terminalis foliorum interiorum quibusdam exceptis 3 cm longus, 2.5 cm latus. Scapi glabri colorati, floriferi foliis aequilongi. Involucrum ca. 16 mm longum, 12 mm latum, obscure viride–canoviride, squamae exteriores 12–15 mm longae, 4 mm latae, reflexae, irregulariter tortiusculae, supra olivaceo-virides vel interdum violacei-coloratae, subtus pallide virides, non-corniculatae. Squamae interiores non-corniculatae. Calathium luteum, ligulae marginales extus stria canescentes notatae. Ligularum dentes pallide rosei. Stigmata virescentia. Antherae abunde polliniferae, granulis pollinum diametrum varians. ($2n = 24?$). Achenium stramineum, ca. 4.0 mm longum (pyramide inclusa), 1.2 mm latum superne spinulis sat angustis et acutis praeditum, ceterum laeve in pyramiden subcylindricam–subconicam, ca. 0.7 mm longam, vulgo spinulis singularibus instructam sensim abiens. Rostrum 11 mm longum, pappus albidus 6–7 mm longus.

Holotype: France. Aveyron, La Croix-Blanche, meadow not far from the sideroad to St. Croix, 28.IV.1979, C. E. Sonck (H).

Taraxacum conturbatum may remind of *T. ruptifolium* H. Øllg., both species having very dissected leaves. However, the colour of the leaves and involucre is very different. *Taraxacum ruptifolium* is quite pale green, with very pale midribs, while *T. conturbatum* has rather dark green leaves with more or less purplish midribs; *T. ruptifolium* also has longer outer involucral bracts. *Taraxacum perfissum* v. Soest has different achenes: the pyramide is only 0.25 mm, rostrum 7 mm long, while the same measures of *T. conturbatum* are 0.7 mm and 11 mm. These species are members of the section *Ruderalia*.

***Taraxacum pseudoporrigenes* Sonck, sp. nov.**
(Fig. 8)

Planta parva–mediocris, 15–20 cm alta. Folia lanceolata, pallide- vel lutescenti-viridia, glabra, 4–5-lobata, petiolis breviusculis, angustis–subalatis, pallidis. Lobi laterales foliorum exteriorum et intermediorum deltoidei, acuti, patuli–leviter retroversi, integri vel in margine superiore breviter dentati. Lobus terminalis plerumque hastatus–hastato-triangularis, 15–25 mm longus, vel foliorum interiorum sensim contractus et in apicem longissimum, subacutum abiens. Interlobia bene evoluta, ca. 2–3 mm lata, sat parce dentata. Anguli lorum leviter atrimarginati et partim paulum plicatuli. Scapi glabri, pallidi–leviter colorati. Involucrum obscure viride, ca. 12–15 mm longum, 8–10 mm latum. Squamae exteriores retroflexae, 10–11 mm longae, 2.5–3 mm latae, sordide violaceae, non-corniculatae. Squamae interiores non-corniculatae. Calathium laete luteum. Ligulae marginales planae, sat angustae, subtus stria canescenti-violacea notatae. Ligularum dentes rufescentes. Antherae polliniferae, stylus luteus, stigmata lutea vel leviter livescentia. Achenium ignotum.

Holotype: France. Aveyron, La Croix-Blanche, near the sideroad to St. Croix, 28.IV.1979, C. E. Sonck (H).

The outer involucral bracts of *Taraxacum pseudoporrigenes* have a strong resemblance to *T. canaliculatum* H. Lindb. Both species have yellow stigmata. The latter, however, has furrow-like ligules, usually more dentate leaves and no pollen. Although some endlobes of *T. pseudoporri-*



Fig. 8. *Taraxacum pseudoporrigenes* Sonck (holotype: specimen below left).

gens are like those of *T. porrigenes* Markl. ex Puolanne, most of the characteristic sidelobes of the latter, with a broad, convex base and long, narrow sickle-formed edge, are not seen in *T. pseudoporrigenes*.

Taraxacum pseudoporrigenes belongs to the sect. *Ruderalia*. It is probably a triploid species ($2n = 24$), according to Den Nijs and van der Hulst (1986).

***Taraxacum radens* Sonck, sp. nov.** (Figs. 9–11)

Planta mediocris–sat alta et robusta. Folia obscure prasino-viridia, rigidula et valde aspera, supra foliorum densiter et subtus parce hirsuta (“hirsuto-truncata”), petiolis angustis–subangustis, pallidis, vel partim sordide rubro-violaceis. Folia exteriora oblonga–late lanceolata, utroque



Fig. 9. *Taraxacum radens* Sonck (holotype).



Fig. 10. *Taraxacum radens* Sonck (cultivated in Helsinki).



Fig. 11. Achenes of *Taraxacum radens* Sonck (from the holotype, x 15). Photo Dr. Mauri Korhonen.

latere acute dentata. Folia interiora irregulariter multilobata, lobi laterales 4–5, triangulares vel corniformes, margine superiore dentibus parvis—sat magnis acutissimis praedito, margine inferiore saepe integro vel dentibus paucis, parvis praedito. Lobus terminalis triangularis vel interdum sat magnus, sagittato-hastatus et utroque latere grosse dentatus. Interlobia sat brevia—longa, latiuscula, lacinulis vel dentibus longis, acutissimis praedita. Scapi colorati et parce hirsuti. Involucrum mediocriter altum, sat obscure viride, squamis exterioribus sat brevibus, ovato-lanceolatis, ca. 2 mm latis, obscure olivaceis, patentibus, perspicue anguste albo-marginatis et -ciliatis. Calathium luteum, ca. 4–5 mm diametro, ligulae marginales sat rosei. Antherae polliniferae. Stigmata virescentia. Achenium ochracei-stramineum, 5.0 mm longum (pyramide inclusa). Superne brevissime et sat inconspicue spinulosum, inferne laeve, in pyramiden subcylindricam, 0.6–0.7 mm longam abiens. Rostrum ca. 9–10 mm longum. Pappus sordide albidus, 6 mm longus.



Fig. 12. *Taraxacum turbidum* Sonck (holotype).

Holotype: France. Basses-Pyrénées, St. Palais, Garris, on forest road, 9.IV.1982, C. E. Sonck (H). Cultivated in the Botanical Garden, University of Helsinki, 26.III.1983 (Fig. 10).

The leaves of *Taraxacum radens* are exceptionally rough, in fact more rough and rigid than those of any other *Taraxacum*-species I have seen. They can well be compared with the leaves of *Sonchus asper* (L.) Hill.

***Taraxacum turbidum* Sonck, sp. nov.** (Fig. 12)

Planta sat robusta et alta. Folia gramineo-viridia, lanceolata, ad 25 cm longa, 3–8 mm lata, petiolis subalatis vel alatis, leviter violaceis. Nervus medianus sat pallidus vel ± brunnescenti-violaceus, araneosus. Folia intermedia saepe apicem

versus longe angustata et interdum longicaudata. Lobi laterales 8–9 utrinque, patentes, superiores breves et rotundato-obtusi, integri vel parce dentati, medii anguste deltoidei, acuti, margine superiore prope interlobium ± convexi et subulato-dentati, margine inferiore ± integri. Interlobia brevia, ca. 3–5 mm lata, piceo-marginata, angulus loborum leviter plicatus. Lobus terminalis foliorum intermediarum parvus, irregulariter hastatus, lobulis basalibus saepe porrigentibus, foliorum interiorum mediocris, vulgo incisus, sat variabilis, interdum indistincte determinatus. Scapi sat robusti, rubro-violacei, sub involucrio dense araneosi, floriferi foliis aequilongi. Involucrum sat crassum, 20 mm longum, squamae exteriores retroflexae, cano-virides–sat violascentes, ca. 15–16 mm longae, 2.5–3.5 mm latae, anguste marginatae vel immarginatae, omnes laeves. Squamae

interiores lutescenti-virides–olivaceae, postflorationem apice atro-purpureae, ± laeves. Calathium luteum, ca. 6 mm diametro, ligulae marginales extus stria rubro-violacea ornatae, ligularum dentes purpurascens. Stylus et stigmata lutea. Antherae polliniferae. Achenium (immaturum) pallide stramineum, 5 mm longum (pyramide inclusa), superne sat dense spinulosum, ceterum sulca-

tum, in pyramiden conico-cylindricam abiens. Rostrum 11 mm longum, pappus albidus 5 mm longus. E sectione Ruderaliorum.

Holotype: France. Lozère, Meyrueis, 30.IV.1979, C. E. Sonck (H).

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