A Revision of Mountain Species of the Genus Taraxacum F. H. Wigg. (Compositae) in Corsica

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A revision of mountain species of the genus Taraxacum F. H. Wigg. (Compositae) in Corsica

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Abstract

ŠTĚPÁNEK, J. & J. KIRSCHNER (2013). A revision of mountain species of the genus Taraxacum F. H. Wigg. (Asteraceae) in Corsica. *Candollea* 68: 29-39. In English, English and French abstracts.

Mountain species of the genus *Taraxacum* F. H. Wigg. *(Asteraceae-Cichorieae)* in Corsica were revised on the basis of a detailed study of collections used by J. L. van Soest in his first studies of the genus in Corsica, and new collections deposited at the herbarium G. Four species are recognized, all considered as endemics to Corsica. *Taraxacum pomposum* Štěpánek & Kirschner (sect. *Fontana* Soest) is described as a new species. *Taraxacum renosense* Soest (sect. *Fontana*), *Taraxacum litardieri* Soest (sect. *Alpina* Hagl.) and *Taraxacum cucullatiforme* Soest (sect. *Alpestria* (Soest) Soest) are the other taxa treated. Two names are sunk in synonymy: *Taraxacum gamisansii* Soest is a synonym of *Taraxacum renosense*, and *Taraxacum corsicum* Soest is synonymised with the name *Taraxacum cucullatiforme*. Newly compiled descriptions are given for all taxa and an identification key is provided.

Key-words

ASTERACEAE – *Taraxacum* – Corsica – Taxonomy

Résumé

ŠTĚPÁNEK, J. & J. KIRSCHNER (2013). Révision des espèces montagnardes du genre *Taraxacum* F. H. Wigg. (Asteraceae) de Corse. *Candollea* 68: 29-39. En anglais, résumés anglais et français.

Les espèces montagnardes du genre *Taraxacum* F. H. Wigg. *(Asteraceae-Cichorieae)* en Corse sont révisées sur la base d'une étude détaillée des collections historiques utilisées par J. L. van Soest dans ses premières études sur ce genre en Corse, ainsi que sur la base des nouvelles collections déposées dans l'herbier G. Quatre espèces sont reconnues, toutes considérées comme des endémiques strictes de la Corse. *Taraxacum pomposum* Štěpánek & Kirschner (sect. *Fontana* Soest) est décrite comme une nouvelle espèce. *Taraxacum renosense* Soest (sect. *Fontana*), *Taraxacum litardieri* Soest (sect. *Alpina* Hagl.) et *Taraxacum cucullatiforme* Soest (sect. *Alpestria* (Soest) Soest) sont les autres espèces traitées. Deux noms sont synonymisés: *Taraxacum gamisansii* Soest est synonyme de *Taraxacum renosense* Soest, et *Taraxacum corsicum* Soest est synonyme de *Taraxacum cucullatiforme*. Chaque taxon est traité avec une description complète et originale et une clé d'identification est donnée.

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Introduction

Complexity of the genus Taraxacum *F. H. Wigg.*

The genus *Taraxacum (Asteraceae-Cichorieae)* is generally considered as an example of an extraordinary taxonomic and microevolutionary complexity. The main features of the complexity were discussed in Kirschner & Štěpánek (1994, 1996), Ge & al. (2011), and Štěpánek & al. (2011), and are briefly summarized here: (i) a low level of structural morphological differentiation; (ii) coexistence of agamospermy and sexuality; (iii) complex hybridity; (iv) common polyploidy (polyploids are agamospermous, with the exception of tetraploid sexual species of sect. *Piesis* Kirschner & Štěpánek, cf. Kirschner & al., 1994; Kirschner & Štěpánek, 1998), and (v) a large number of taxa.

Any regional taxonomic treatment of dandelions should therefore take the above facts into account and analyze the reproduction systems in the material.

Mountain dandelions in Corsica

The mountain flora of Corsica is quite distinctive and rich in endemics. In the Corsican flora, there are almost 250 endemic taxa, about 10% of plant species diversity of the island (Médail & Verlaque, 1997; Jeanmonod & Gamisans, 2007: 827-832), 146 endemics are known to be confined to Corsica. The latter figure represents 6.3% of the indigenous Corsican flora. However, when only mountain (alpine) species are considered (ca. 350 indigenous species), the endemism accounts for 34.5%, an enormously high figure. This is the reason why the dandelion flora of Corsica, and the mountain flora in particular, attracted the attention of specialists.

The most important contribution to the *Taraxacum* flora of Corsica was made by J. L. van Soest (Soest, 1957, 1959, 1974). Soest used the section/agamospecies approach for the first time on Corsican material, recorded a number of previously described taxa there (mostly of the sect. *Erythrosperma* (H. Lindb.) Dahlst.), and, most importantly, recognized the distinctive character of the Corsican mountain dandelions. He mainly used a rich and good quality material collected by R. de Litardière (G). Knowledge of dandelions in Corsica was recently summarized by Jeanmonod & Gamisans (2007: 827-832).

Within the framework of a complete revision of dandelions in Corsica that should appear in the forthcoming volume of *Compléments au Prodrome de la Flore Corse, Asteraceae IV,* with full support from the specialists in the flora of Corsica and French dandelions (Prof. D. Jeanmonod, Dr. J.-M. Tison), we analyzed the herbarium material of mountain taxa in detail. It turns out that only agamospermy is found in this group, and that all the taxa studied are confined to Corsica.

Material and methods

The material used for the study is almost exclusively represented by the excellent Corsican collection of *Taraxacum* in G. The material includes also the collection of M. de Litardière and the majority of plants studied by J. L. van Soest (with occasional duplicates at L). Another part of the collections is a result of a detailed documentation of Corsican dandelions by Prof. D. Jeanmonod and his team.

Sectional nomenclature follows the previous nomenclatural and taxonomic accounts (Kirschner & Štěpánek, 1997, see also Kirschner & Štěpánek, 2004).

The most important methodical background for the *Taraxacum* flora of Corsica is the fact that we failed to detect sexuality in the material studied.

The sectional position of the Corsican mountain dandelions

The taxonomy of Alpine and high mountain European members of the genus *Taraxacum*, with increasing knowledge of the local floras, is in a need of a revision. In the present contribution, we use the traditional system of sections founded on the studies of the flora of the Alps (Soest, 1959, 1969).

The Corsican species are tentatively considered as members of the sect. *Fontana* Soest (*Taraxacum pomposum* Štěpánek & Kirschner and *T. renosense* Soest, with broadly bordered outer bracts), the sect. *Alpina* Hagl. (*Taraxacum litardieri* Soest, with the minutely spinulose-squamulose uppermost part of achene body and a relatively short rostrum) and the sect. *Alpestria* (Soest) Soest (*Taraxacum cucullatiforme* Soest, with a robust, densely spinulose-squamulose and tuberculate achene body, and a relatively longer rostrum, see also the text).

Taxonomic treatment

The species endemic to the mountains above 2000 m are presented below with an identification key. All the taxa descriptions are completely newly compiled on the basis of the herbarium material available. In addition to the endemics, the altitudes above 2000 m are seldom reached also by *T. parnassicum* Dahlst. and *T. lacistophylloides* Dahlst. of sect. *Erythrosperma,* included in the key.

Key to the Corsican Taraxacum

1. Outer bracts arcuate-reflexed, their tips curved backwards and almost touching the scape below capitulum .... ***T. lacistophylloides***

1a. Outer bracts appressed, loosely appressed, erect, erect-patent to patent-arcuate 2

2. Achenes deep red to deep red-brown..... ***T. parnassicum***

2a. Achenes variously pale grey-brown, straw-brown or cinnamon-brown, always without the reddish hue 3

3. Outer involucral bracts with a distinct, broad whitish border..... 4

3a. Outer involucral bracts unbordered or with a very narrow, indistinct paler border..... 5

4. Pollen absent; outer involucral bracts with border 0.15-0.3 mm wide; stigmas dark discoloured, with blackish hairs outside..... ***T. pomposum***

4a. Pollen present; outer involucral bracts with border (0.3-) 0.5-1 mm wide; stigmas paler discoloured, pale greyish green, with pale hairs outside..... ***T. renosense***

5. Ligules tubular (margins fused); pollen absent or rudimentary, sparse; achene cone 0.5-0.8 mm, rostrum 3.5-7.5 mm..... ***T. litardieri***

5a. Ligules flat to canaliculate; pollen abundantly present; achene cone 0.8-0.9 mm, rostrum to 9.5 mm ..... ***T. cucullatiforme***

Taraxacum sect. ***Alpestria***

Taraxacum cucullatiforme Soest in Acta Bot. Neerl. 6: 417. 1957 (Fig. 1A).

Lectotypus (designated by Jeanmonod, 2010): **Corse:** "Massif du Renoso: Punta di Oriente, pelouses entre les rochers au-dessus du sommet", 2000 m env., "11.VII.1938 et 5.VII.1941", *G. Malcuit s.n.* (G [G00000880], specimen designated by "*", n° det. 23270).

The original material consists of two little plants on one herbarium sheet. As each plant was collected at a different date, they represent two gatherings to be considered as syntypes. The two plants are conspecific but, as regards the most common general habit of this species, they are unusually small (the average plants are so different in general habit that they were described as *T. corsicum* Soest). The plant on the right with ripe fruits (probably collected on July 11) was found more suitable for the lectotype by Jeanmonod (2010), with which we concur because it probably represents a model for the figure in the protologue.

= ***Taraxacum corsicum*** Soest in Acta Bot. Neerl. 8: 107. 1959. **Typus. Corse:** "Monte Niello, couloirs à l'ubac, silice", 2000 m, 16.VI.1913, *Wilczek s.n.* (holo-: LAU; iso-: G [G00000834] (n° det. 23267) not seen by van Soest).

The type specimen was not found in LAU, as already mentioned by D. Jeanmonod *(pers. comm.)*.

Description. – Plants small to medium-sized, 6-20 cm tall; plant base scarcely covered with dry remnants of old petioles, only sparsely pale hairy among petiole bases. *Leaves* probably subpatent to erect-patent, (5-)8-14 cm long, (1.5-)3-4 cm wide, ± glabrous, not spotted, broadly spatulate in outline, terminal leaf segment forming a dominant part of leaf blade, ± obovate, usually 4-6 cm long, 3-4 cm wide, obtusely acute to rounded, distal part convex with 1-2 short remote teeth, proximal part with bigger remote lobuliform teeth (or indistinct 2-3 pairs of shallow lateral lobes); midrib pale; Petiole winged to broadly winged, pale greenish. *Scapes* usually 2-3, overtopping leaves, very sparsely aranose, later glabrescent (remnants of indumentum just below capitulum). *Capitulum* medium-sized to big,

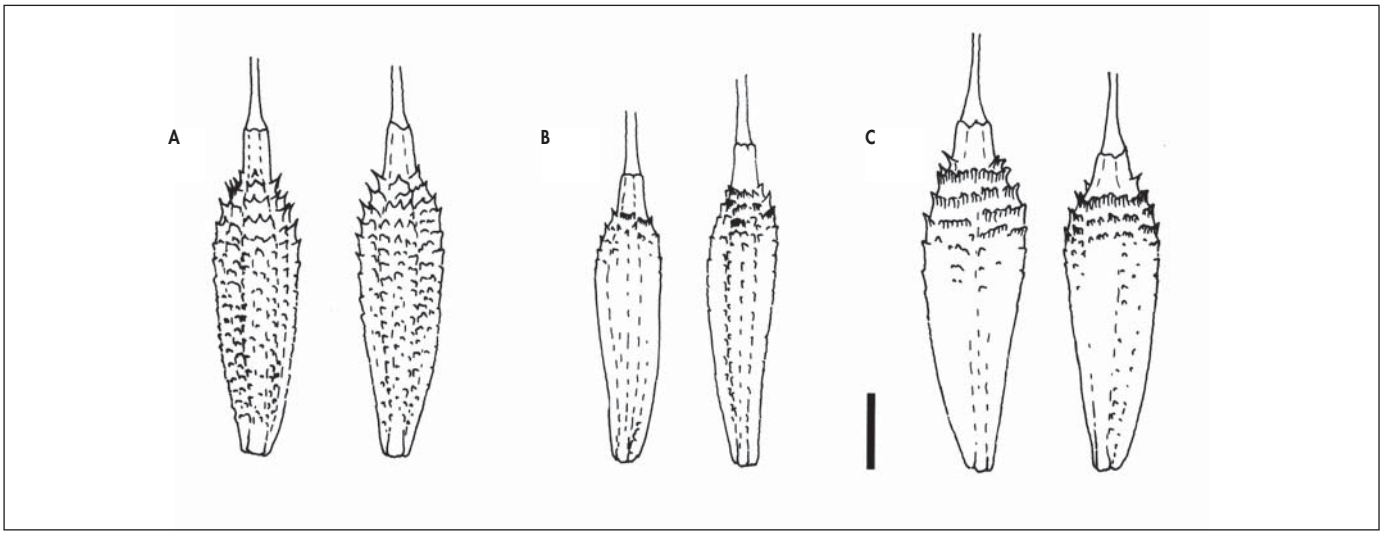

Fig. 1. – Achenes. **A.** *Taraxacum cucullatiforme* Soest; **B.** *T. litardieri* Soest; **C.** *T. renosense* Soest. [Scale bar = 1 mm].

(2.5-)3-5 cm in diam., probably flat. Involucre obconical to ± truncate at base. *Outer involucral bracts* 15-20, arcuate-patent to erect, with bases loosely appressed and distal part subrecurved, ovate to lanceolate, (5-)6-9 mm long, (1.5-)2.5-4 mm wide, often light green at base, otherwise olivaceous-green to black-green (but paler than in the other mountain endemics), with a gradual transition into an inconspicuous paler border to 0.1 mm wide, not ciliate, rarely ± sparsely ciliate, flat. *Inner involucral bracts* 12-14 mm long, of ± equal width. *Outer ligules* relatively few, long and narrow, usually canaliculate, with sparse thick hairs abaxially, ± broadly dark striped outside, apical teeth purplish black, inner ligules shorter, very narrow, canaliculate to subinvolute, with dark apical teeth. *Stigmas* long, very dark (black when dry). *Pollen* present, ± irregular in size. *Achenes* light brown with a slight orange-cinnamon tinge, 4.3-4.8 mm long, 1.0-1.2 mm wide, achene body squamulose and spinulose (longest spinules to 0.2 mm) in the upper 1/4, otherwise ± tuberculate, gradually narrowing into a conical cone 0.8-0.9 mm long, rostrum to 9.5 mm, pappus dirty yellowish white, ca. 6 mm long. Agamosperm.

Distribution. – Endemic to Corsica.

Taxonomical position. – As regards the sectional position, *T. cucullatiforme* belongs to the heterogeneous assemblage of what is generally called sect. *Alpestria*, with a certain tendency towards the sect. *Fontana* (achene spinulosity and cone shape and size). Although the sectional taxonomy of dandelions from the Alps and mountains of Corsica requires a thorough revision, *T. cucullatiforme* can no longer be considered as a member of sect. *Cucullata* Soest because this section is characterized by relatively small and slender achenes (3.8-4.2 mm long, 0.9-1 mm thick) with subconical-subcylindrical cone 0.4-0.7 mm long (while *T. cucullatiforme* possesses much more robust achenes, longer and to 1.2 mm thick, with a longer conical cone). Outer bracts of the latter species are erect to arcuate-patent, paler green than in the other mountain Corsican taxa but darker than in sect. *Cucullata*.

Specimens studied. – **Corse:** Massif du Cinto, crête au N du Monte Padro, rocailles sur le versant NNW, substr. siliceux, 2300 m, 27.VII.1971, *J. Gamisans 704* (G [G00000798], n° det. 23275); Massif du Rotondo, Monte Cardo, versant NE, vire herbeuse dans un couloir, …, 2350 m, 2.VIII.1971, *J. Gamisans 772* (G [G00000796], n° det. 23278); Massif du Rotondo, Capo alle Forcelle, vers. W, pelouse, substr. granite, 2020 m, 4.VII.1970, *J. Gamisans 2524-1* (G [G00000809], n° det. 23273); Monte d'Oro, versant Est, rochers, silice, 2100 m, 9.VIII.1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00001420], n° det. 23264); Monte d'Oro, versant Est, rochers, silice, 2100 m, 9.VIII.1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00000829], n° det. 23261); Corse-du-Sud, Monte d'Oro, à l'E du sommet par la variante N du sentier, dans un couloir raide et ombragé [42°08'N 9°06'E], pelouse entre les rochers escarpés et ombragés, peu abondant, 2000 m, 28.6.2008, *D. Jeanmonod & P.-E. Du Pasquier J7781* (G [G00078024], n° det. 23271); Secteur Rotondu, Monte d'Oro (massif), Monte d'Oro, à la Scala [42°08'N 9°06'E], silice, 10.VIII.1962, *R. Deschâtres* (G [G00178583], n° det. 23276); Massif du Renoso: Punta di Oriente, pelouses entre les rochers au-dessus du sommet, 2000 m env., 11.VII.1938 & 5.VII.1941, *G. Malcuit* (G [G00000880], original material of *T. cucullatiforme* determined by van Soest as *T. cucullatiforme* van Soest nov. spec., n° det. 23270); env. de Bocognano: Monte Niello, couloirs herbeux à l'ubac, silice, 2000 m, 16.VII.1913, *J. Briquet & E. Wilczeck* (G-BU [G00000834], a duplicate of the holotypus of *T. corsicum* Soest, n° det. 23267); Massif de l'Incudine, Punta di Bocca d'Oro, versant WNW, couloir rocailleux, 1700 m, 25.VII.1969, *J. Gamisans 2523* (G [G00000800], n° det. 23277).

Uncertain identification – **Corse:** Massif du Rotondo, Punta Muratello, couloir herbeux sur son versant ENE, 2100 m, 21.VII.1970, *J. Gamisans 2526* (G [G00000799], n° det. 23272).

Taraxacum sect. *Alpina*

Taraxacum litardieri Soest in Acta Bot. Neerl. 6: 416. 1957 (Fig. 1B).

Lectotypus (designated by Jeanmonod, 2010): **Corse:** "Punta Artica, éboulis morainique", 2250 m. env., 2.VIII. 1908, *R. de Litardière s.n.* (G [G00000879], specimen designated by "*", n° det. 23231; iso-: L [953133126], cf. Jeanmonod, 2010).

Description. – Plants relatively small, (4-)7-14(-18) cm tall, sometimes with several root heads; plant base scarcely covered with dry blackish remnants of old petioles, brownish hairy among petiole bases. *Leaves* with a relatively simple lobation, usually 5-12 cm long, 1.5-2.5 cm wide, mid-green to [??] paler green, not spotted; leaf blade spatulate to broadly spatulate in outline, ± undivided or usually pinnatilobed or pinnatipartite, rarely pinnatisect, ± obtuse to rounded at the apex, the most common leaf shape with distal 1/2-1/5 undivided and ± entire, proximal part remotely shallowly dentate or lobed, sometimes leaf blade with 2-3(4) pairs of more distinct short, broad, subacute lobes, distal margin usually sigmoid, proximal margin short, ± concave; midrib probably pale; petioles narrow to narrowly winged, usually 1-5 cm long, pale. *Scapes* usually 3-6, thin, overtopping leaves, glabrous, probably pale green. *Capitulum* small, 1-1.5 cm in diam., most probably deep yellow to orange-yellow. *Involucre* ± rounded at base, probably not pruinose. *Outer involucral bracts* (11-) 13-20, ovate-lanceolate, lanceolate to linear-lanceolate, relatively short (as long as 2/5-1/2 of the inner, (3.5-)4-6 mm long, (1-)2.0-2.5 (-4) mm wide, the outermost one usually ± linear, ca. 1 mm wide, irregularly loosely appressed to erect, blackish, without border or with almost invisible very narrow paler border, not ciliate or very minutely ciliate, flat, with ± paler tip; inner involucral bracts ca. 11 mm long, of ± equal width, sometimes laterally fused, slightly callose below apex. All *ligules* ± cylindrical, with fused margins, outer ligules striped grey-blackish outside (the whole abaxial side of ligules dark), apical teeth

black, inner ligules with apical teeth greyish. *Stigmas* rarely exserted (usually hidden in the cylindrical ligule), discoloured (greyish), sometimes dark greyish (never black), pale pilose outside. *Pollen* not developed (or with sparse rudimentary pollen in the angles of the anther tube). *Achenes* light grey-brownish or pale straw-brown, (3.7-)4.1-4.5 mm long, 0.8-0.9 mm wide, achene body with very short spinules and minute transversal crests (minute squamules) in the upper 1/5, otherwise ± smooth, gradually narrowing into conical (or conical at base and subcylindrical distally), relatively broad cone 0.5-0.8 mm long; rostrum (3.5-)4-7.5 mm, pappus yellowish dirty white, 5-6 mm long. Agamosperm.

Distribution. – Endemic to Corsica.

Taxonomical position. – Taraxacum litardieri was initially classified as a member of sect. *Pachera* Soest, a group requiring a revision together with the other groups close to or belonging to sect. *Arctica*. However, *T. litardieri* is very close to the Alpine *T. saasense* Soest (with differences mainly in floret and achene characters) and, in all likelihood, belongs to sect. *Alpina*, at least according to the achene and outer bract characters. The single continental record of *T. litardieri* (Alpes Maritimes, cf. Soest, 1957) is considered doubtful (we have seen an ample *Taraxacum* material from the Alpes Maritimes but no plant matched the peculiar characters of *T. litardieri*; the closest neighbour of the latter is *T. saasense*). We therefore consider *T. litardieri* as strictly endemic to Corsica.

Specimens studied. – **Corse:** Massif du Cinto, Monte Von Cube, versant N, pelouse fraîche *(Gnaphalieto-Sibbaldietum)*, 2080 m, sur rhyolites, 17.VIII.1971, *J. Gamisans 913* (G [G00000779], n° det. 23243); Massif du Cinto, cirque de Trimbolacciu, éboulis, 1880 m., substr. siliceux, 6.VIII.1970, *J. Gamisans 2527* (G [G00000783], n° det. 23247); Niolu Pinerole, versant N, couloir herbeux, pelouse subalpine, 1900 m, 12.VII.1977, *J. Gamisans 6851* (G [G00000812], n° det. 23237); Punta Artica, éboulis morainique, 2250 m env., 2.VIII.1908, *R. de Litardière* (syntype, G [G00000879], n° det. 23231); Secteur Rotondu, Lac d'Oriente, massif du Rotondo, près du Lac d'Oriente [42°14'N 9°04'E], silice, 2050-2100 m, 28.VII.1974, *R. Deschâtres* (G [G00178578], n° det. 23253); Secteur Rotondu, Lac d'Oriente, massif du Rotondo, près du Lac d'Oriente [42°14'N 9°04'E], silice, 2100 m, 28.VII.1974, *R. Deschâtres* (G [G00178577], n° det. 23251); Monte Rotondo, éboulis au-dessus du lac d'Oriente, vers 2200 m, 13.VIII.1908, *R. de Litardière* (syntype, G [G00000870], n° det. 23230); Massif du Rotondo, versant N du Capo a i Sorbi, 2100 m, pelouse, substr. siliceux, 29.VII.1969, *J. Gamisans 2522* (G [G00000787], n° det. 23241); Monte Rotondo, versant du lac de Pozzolo, rocailles, 2500 m env., 25.VIII.1919, *R. de Litardière* (syntype, G [G00000869], n° det. 23229); Massif du Rotondo, pelouse en bordure du lac de Bataniello, 2400 m, substr. siliceux, 29.VII.1966, *J. Gamisans 2507* (G [G00000780], n° det. 23232); Monte Rotondo, versant N, 2250 m, pelouse fraîche, 8.VIII.1968, *J. Gamisans 2519* (G [G00000786], n° det. 23248); Massif du Rotondo: au-dessus du lac Cavaccioli, pelouses à *Sagina pilifera*, 1850 m env., 1.VIII.1932, *R. de Litardière* (syntype, G [G00000887], n° det. 23228); Massif du Rotondo, lac de Cavaccioli, pelouse méso-hygrophile en bordure du lac, 2000 m, substr. siliceux, 3.VIII.1967, *J. Gamisans 2509* (G [G00000782], n° det. 23246); Monte Rotondo: au-dessus du lac Scapuccioli, rochers, silice, 2100-2500 m, 6.VIII.1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00001419], n° det. 23258); Massif du Rotondo, pentes rocailleuses entre les lacs de Cavaccioli et Scappaccioli, graviers humides, 2270 m, substr. siliceux, 3.VIII.1967, *J. Gamisans 2511* (G [G00000788], n° det. 23235); Massif du Rotondo, couloir rocailleux dominant vers le SE, le lac de Scappaccioli, 2420 m, substr. siliceux, 3.VIII.1967, *J. Gamisans 2510* (G [G00000781], n° det. 23234); Monte Rotondo, vers. S, *Geo-Phleetum*, 2400 m, 21.VII.1982, *J. Gamisans 10124* (G [G00000810], n° det. 23255); Monte d'Oro, versant Est, rochers, silice, 2100 m, 9.VIII.1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00001420], n° det. 23263); Monte d'Oro, versant Est, rochers, silice, 2100 m, 9.VIII.1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00000829], n° det. 23261); Monte d'Oro, plateforme verte, silice, vers 2000 m, 17.VII.1961, *R. Deschâtres* (G [G00178826], n° det. 23238); Monte d'Oro, parmi les blocs rocheux près de la Plateforme verte, silice, vers 2200 m, 13.VIII.1967, *R. Deschâtres* (G [G00178585], n° det. 23250); Env. de Bocognano: Punta dell' Oriente, versant N.-E., cheminées des rochers, silice, 2000 m, 13.VII.1913, *J. Briquet & E. Wilczeck* (G [G00000835], n° det. 23266); Massif du Renoso, Monte Renoso, versant NE, pelouse fraîche (*Geo-Phleetum*), 2100 m, granite, 29.VII.1974, *J. Gamisans 3634* (G [G00000778], n° det. 23244); Secteur Renosu, Lac de Bastani, près des rives du Lac Bastani, Monte Renoso [42°04'N 9°08'E], silice, 2080-2100 m, 19.VII.1975, *R. Deschâtres* (G [G00178586], n° det. 23249); Secteur Renosu, Monte Renoso [42°04'N 9°08'E], silice, 1900-2100 m, 8.VIII.1974, *R. Deschâtres* (G [G00178580], n° det. 23252); Massif du Renoso, versant N de la crête entre le monte Torto et le col de Rina, éboulis, 2150 m, substr. granitique, 24.VII.1968, *J. Gamisans 2517* (G [G00000808], n° det. 23233); Mont Incudine, versant N, lisière des aulnaies, silice, 1900 m, 25.VII.1910, *J. Briquet, A. Saint-Yves & Fr. Cavillier* (G-BU [G00101161], n° det. 23268); Signal près du Monte Incudine, versant NNE, couloir herbeux frais, 2000 m, substr. siliceux, 18.VII.1971, *J. Gamisans 632* (G [G00000807], n° det. 23254); Signal près du Monte Incudine, versant NNE, couloir herbeux frais, 2000 m, substr. siliceux, 14.VII.1968, *J. Gamisans 2514bis* (G [G00000811], n° det. 23256); Signal près du Monte Incudine, versant NNE, couloir herbeux frais, 2000 m, substr. siliceux, 18.VII.1971, *J. Gamisans 632* (G [G00000784], n° det. 23239); Signal près du Monte Incudine, versant NNE, couloir herbeux frais, 2000 m, substr. siliceux, 16.VII.1967, *J. Gamisans 2513* (G [G00000785], n° det. 23236).

Uncertain identification. – **Corse:** Massif du Cinto, "Cirque de la Solitude", rocailles fraîches, 2050 m, substr. rhyolites, 17.VIII.1971, *J. Gamisans 933* (G [G00000795], n° det. 23274); Monte Renoso, versant NE, pelouse fraîche (*Geo-Phleetum*), 2100 m, substr. granitique, 29.VII.1974, *J. Gamisans 3644* (G [G00000777], n° det. 23245); Massif du Renoso, Punta dell'Oriente, près du sommet, rocailles, 2100 m, substr. granitiques, 25.VII.1966, *J. Gamisans 2506* (G [G00000789], n° det. 23242); Signal près du Monte Incudine, versant NNE, couloir herbeux frais, 2000 m, substr. siliceux, 14.VII.1968, *J. Gamisans 2514* (G [G00000776], n° det. 23240).

Taraxacum sect. ***Fontana***

Taraxacum renosense Soest in Acta Bot. Neerl. 6: 418. 1957 (Fig. 1C).

Lectotypus (designated by Jeanmonod, 2010): **Corse:** "Monte Rotondo, rochers de la Calanca di Rinoso", 2600 m env., 13.VIII.1908, *R. de Litardière s.n.* (G [G00000906], n° det. 23212).

Syntypus: "Monte Renoso, rochers du sommet", 2357 m., 16.VII.1907, *R. de Litardière s.n.* (G [G00000905], n° det. 23211).

= ***Taraxacum gamisansii*** Soest in Candollea 29: 53. 1974. **Typus: Corse:** "Massif du Rotondo, couloir rocailleux dominant vers le SE le lac de Scappaccioli", 2410 m, substr. siliceux, 3.VIII.1967, *J. Gamisans 2512* (holo-: G [G00000790], n° det. 23226).

Description. – Plants medium-sized, usually 10-18 cm tall. *Rosettes* ± rich, plant base ± covered with dry blackish remnants of old petioles, pale hairy among petiole bases. *Leaves* variously erect-patent, usually 5-8 cm long, 1-2 cm wide, probably light green, ± glabrous; leaf blade spatulate to oblanceolate in outline, pinnatipartite to pinnatisect; terminal segment usually conspicuous, triangular to helmet-shaped, slightly sagittate at base, 1.5-2.5 cm long, 1.2-2.5 cm wide, subacute to almost rounded, distal margin ± sigmoid to convex, entire or with 1-2 short broad teeth, basal lobules ± patent to recurved, proximal margin ± straight to ± concave, entire; lateral lobes 2-3(-4) pairs, ± narrowly triangular or similar to a short and broad bird wing, 7-12 mm long, ca. 10 mm wide at base, ± recurved, acute, distal margin convex or ± sigmoid, entire or ± regularly dentate with 3-5 teeth, proximal margin ± straight or ± concave to sigmoid, entire; interlobes relatively short and broad, usually 1-8 mm long, 4-8 mm wide, entire or sparsely denticulate, sometimes irregularly dentate with one tooth bigger, margins ± raised, not spotted; midrib probably pale; petioles narrow to narrowly winged, probably pale. *Scapes* usually 1-4, overtopping leaves, to 13-18 cm long, probably pale at base, almost glabrous, sparsely aranose just below capitulum. *Capitulum* medium-sized, 3.5-4 cm in diam., probably flat, deep yellow. Involucre ± rounded at base, ca. 7 mm in diam. *Outer involucral bracts* 13-18(-23), ovate to broadly oblong, sometimes to narrowly elliptical, the outermost ones often only linear, 5-8 mm long, 2.5-4 mm wide, erect, loosely appressed to erect-patent, conspicuously coloured (similar to *T. calocephalum* Hand.-Mazz. in their colour), withy a broad dark green to blackish ± narrow middle part, with a gradual transition into a very conspicuous pale border to 1 mm wide, margin distally sparsely ciliate; inner involucral bracts 11-12 mm long, of ± equal width, probably ± pruinose. *Outer ligules* long and not dense, broadly striped dark outside, apical teeth dark; inner ligules narrow, canaliculate. *Stigmas* long, medium dark discoloured (originally probably greenish, later getting brownish when dry), pale pilose outside. *Pollen* developed, irregular in size. *Achenes* medium deep cinnamon-brown, 4.4-5.3 mm long, 1.1-1.3 mm wide, achene body densely covered with low squamules, otherwise ± smooth, very gradually narrowing into a broadly conical cone (0.4-) 0.5-0.7(-0.8) long; rostrum 7.5-10 mm, pappus dirty white, 6-7 mm long. Agamosperm.

Comment on the synonymization of the names T. renosense *and* T. gamisansii. – When the protologues of the two names are compared, it is possible to find differences that usually are considered as important and diagnostic. However, a detailed examination of the original material of both names proved that in reality the differences do not exist, and probably were recorded as a result of mistake or a careless examination of the material by J. L. van Soest. Most importantly, the alleged pollen absence in *T. renosense* is surely a mistake as both syntypes (and all the other *T. renosense* specimens with flowers) have pollen abundantly developed. Moreover, the protologue of *T. gamisansii* includes two mistakes of potential diagnostic importance, i.e., *"stigmata lutea"* (the holotype of *T. gamisansii* has stigmas discoloured), and *"folia … petiolis roseolis"* (petioles of the holotype are pale, only two old remnants of last year's scapes are purplish, perhaps as a reaction on damage). When the type materials of the two names are compared, it is obvious that all the plants belong to a single distinct species, with a unique combination of leaf, involucre, flower and achene characters.

Distribution. – Endemic to Corsica.

Specimens studied. – **Corse:** Capo al Berdato, versant N, éboulis frais, 2100 m, substr. siliceux, 6.VIII.1968, *J. Gamisans 2518* (G [G0000 0816], n° det. 23214); Massif du Cinto, Punta Minuta, versant ENE, rocailles fraîches (rhyolites), 2550 m , 1.9.1975, *J. Gamisans 5187* (G [G00000820], n° det. 23216); Massif du Cinto, versant N du Capo Falo, "couloir Wodl", éboulis frais, *(Doronicetum-Oxyrietum)*, rhyolites, 2400 m, 31.VII.1974, *J. Gamisans 3681* (G [G00000814], n° det. 23215); Entre cote 2182 et Pta Latiniccia, 2300 m, 12.VII. 1978, *J. Gamisans 7425* (G [G00000805], n° det. 23225); Monte Rotondo, rochers de l'arête, silice, 2600 m, 6.VIII. 1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G0000 0827], n° det. 23259); Monte Rotondo: au-dessus du lac Scapuccioli, rochers, silice, 2100-2500 m, 6.VIII.1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00001419], n° det. 23257); Massif du Rotondo, couloir rocailleux dominant vers le SE le lac de Scappaccioli, 2410 m, substr. siliceux, 3.VIII.1967, *J. Gamisans 2512* (G [G00000790], Holotypus of *T. gamisansii*, n° det. 23226); Monte Rotondo, versant N, couloir terminal, éboulis, 2500 m, substr. siliceux, 8.VIII.1968, *J. Gamisans 2520* (G [G00000792], Paratypus of *T. gamisansii*, n° det. 23223); Massif du Rotondo, Capo alle Forcelle, versant W, pelouse, 2020 m, 4.VII.1970, *J. Gamisans 2524* (G [G00000818], n° det. 23217); Plantes de Corse. Mont Rotondo, env. 1500 m, 31.VII.1909, *C. Houard* (G [G00000825], n° det. 23219); Monte d'Oro, versant Est, rochers, silice, 2100 m, 9.VIII.1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00001420], n° det.

23265); Monte d'Oro, versant Est, rochers, silice, 2100 m, 9.VIII. 1906, *E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier & E. Abrezol* (G-BU [G00000829], n° det. 23262); Monte Renoso, rochers du sommet, 2357 m., 16.VII.1907, *R. de Litardière* (G [G00000905], Syntypus of *T. renosense*, plant "g" = Lectotypus, n° det. 23211); Monte Renoso, versant NE, pelouse fraîche *(Geeto-Phleetum)*, 2100 m, substr. granitique, 29.VII.1974, *J. Gamisans 3631* (G [G00000793], n° det. 23218); Secteur Renosu, Lac de Bastiani, massif du Renosoo, près du Lac de Bastiani [42°04'N 9°08'E], silice, 2000-2100 m, 8.VIII.1974, *R. Deschâtres* (G [G00178579], n° det. 23221); Monte Renoso, graviers du sommet versant de Bastelica, 2350 m, 16.VII. 1907, *R. de Litardière* (G [G00178037], n° det. 23213); Versant N-E du Monte Renoso, [42°04'N 9°08'E], silice, 1900-2000 m, 8.VIII. 1974, *R. Deschâtres* (G [G00178581], n° det. 23220); Massif du Renoso, crête entre le col de Rina (ou Pruno) et le monte Torto, versant SE, 2200 m, pelouse, arènes granitiques, 23.VII.1968, *J. Gamisans 2516* (G [G00000791], Paratypus of *T. gamisansii*, n° det. 23222).

Uncertain determination. – **Corse:** Massif du Cinto, Punta Minuta, versant ENE, rocailles fraîches, 2540 m (rhyolites), 1.9.1975, *J. Gamisans 5201* (G [G00000813], n° det. 23227); Monte Rotondo, rocailles près du sommet, 2615 m, 2.VII.1971, *J. Gamisans 415* (G [G00000794], n° det. 23224).

Taraxacum pomposum Štěpánek & Kirschner, **spec. nova** (Fig. 2, 3, 4).

Typus: Corse: "Punta della Capella, au Sud-Est du Col de Verde. Replats herbeux des rochers à l'ubac. Silice", 2000-2044 m, 30.VII.1910, *J. Briquet, A. Saint-Yves & Fr. Cavillier s.n.* (holo-: G-BU [G00000836], n° det. 23269).

Plantae e sectione Fontanorum, mediocriter altae rosulis pinguis cum 1-3 scapis et 4-8 foliis. Folia suberecta, longa, plerumque 9-18 cm longa et 2.5-3 cm lata, verisim. laete viridia, immaculata, glabra - persparse araneosa, lamina ambitu anguste oblanceolata, pinnatisecta - runcinate pinnatisecta, interdum pinnatipartita, lobo terminali fere subdominanti, 2-4 cm longo, 2-3 cm lato, ambitu triangulari - anguste triangulari, subinde subsagittato, acutissimo, margine distali aliquado integerrimo subsigmoideo sed saepius incisura profunda denteque valido acuto patento - prono nonnumquam utrimque ac vulgo dens in uno latere et incisura ultra (dextra - sinistra asymmetrice) praedito, lobulis basalibus patentissimis vel subdivaricatis, margine proximali ± recto vel subsigmoideo integerrimo, lobis lateralibus remotis subparvis, fere oppositis, numero 3-4 utrimque, deorsum in lobulos usque dentes longos decrescentibus, iis maioribus (i.e. duo paria superiora) triangularibus - late triangularibus, saepissime patentissimis, plerumque e basi lata in partem terminalem late lingulatam usque anguste lanceolatam ± subite coartatis, acutissimis, margine distali sigmoideo vel subconcavo, integerrimo vel ad basin dentibus paucis angustis acutissimisque praedito, margine proximali ± recto vel parum profunde undulato, subintegerrimo, involuto, interlobiis significantibus, 1-2 cm longis, mediocriter latis (4-5 mm), integerrimis vel argute sparseque longe dentatis, nervo mediano vix pallido. Petiolus anguste vel mediocriter alatus, ± longus, laete usque obscure roseus. Scapi ad 20 cm longi, foliis aliquanto longiores, persparse araneosi, densius sub calanthodio ad basin sne dubio rubro-violacei. Calathodia mediocriter magna, 2.5-3 cm i diametro, plana usque concava (?), verisimiliter pallide lutea. Involucrum Taraxacum scaturiginosum imitans, ad basin subrotundatum, ca. 8 mm in diametro, bracteis exterioribus ± adpressis - laxe adpressis, aliquando irregulariter patentibus, numerosis (18-21), imbricatis, anguste lanceolatis, plerumque 6-8 mm longis (in dimidiam partem bracteorum interiorum attollientibus), 2.3-3 mm latis, saepissime in tertia - quarta parte inferiore latissimis, obscure viridibus in limbum insignem pallidum (albidum - sordide album) submembranaceum 0.15-0.3 mm latum vergentibus. Ligulae ± breves, eae marginales subplanae, extus stria pallida cinerea (?) ornatae denticulis apicalibus griseo-atris vel paulum violascentibus, eae centrales angustioresque breviores, veris. canaliculatae denticulis fusco-cinereis usque olivaceis. Stigmata mediocriter longae, obscurae (virescente griseae extus atro-pilosae). Antherae polline carentes. Achenia (solum submatura ad manum sunt) pallide fulvostraminea, 4.0-4.2 mm longa (pyr. incl.) corpore in quarta parte superiore spinuloso spinulis latis subacutis atque squamuloso deorsum sparse tuberculato - sublaevi, in pyramidem conicam 0.7-0.8 mm longam gradatim abeunti, rostro ca. 9 mm longo, pappo ca. 6.5 mm longo in herbario fuscescente sordide albido. Species agamosperma.

Description. – *Plants* medium-sized, each rosette of 4-8 leaves and 1-3 scapes, to 20 cm tall. *Leaves* ± suberect, usually 9-18 cm long, 2.5-3 cm wide, narrowly oblanceolate in outline, runcinate, runcinate-pinnatifid or runcinate-pinnatisect. *Terminal lobe* dominant, 2-4 cm long, 2-3 cm wide, triangular to narrowly triangular in outline, acute, distal margin slightly sigmoid, entire or more often with a distinct incision forming a big patent tooth on each side asymmetrically, basal lobules patent to recurved, proximal margin ± straight to sigmoid, entire. *Lateral lobes* not large, usually opposite, 3-4 pairs, getting smaller and substituted by lobules or long teeth near leaf base, upper 1-2 lobe pairs ± triangular to broadly so, usually patent, with broad base and subabruptly narrowed into a broadly lingulate to broadly linear acute distal part, distal margin sigmoid or ± concave, entire or with a few thin acute teeth, proximal margin ± straight, ± entire; margins of the incision between terminal lobe and the first lateral lobes raised upwards; interlobes distinct, 1-2 cm long, 4-5 mm wide, entire or sparsely dentate with long teeth; midrib pale; petiole narrowly to medium broadly winged, relatively long, light to deep pink. *Scapes* overtopping leaves, very sparsely aranose

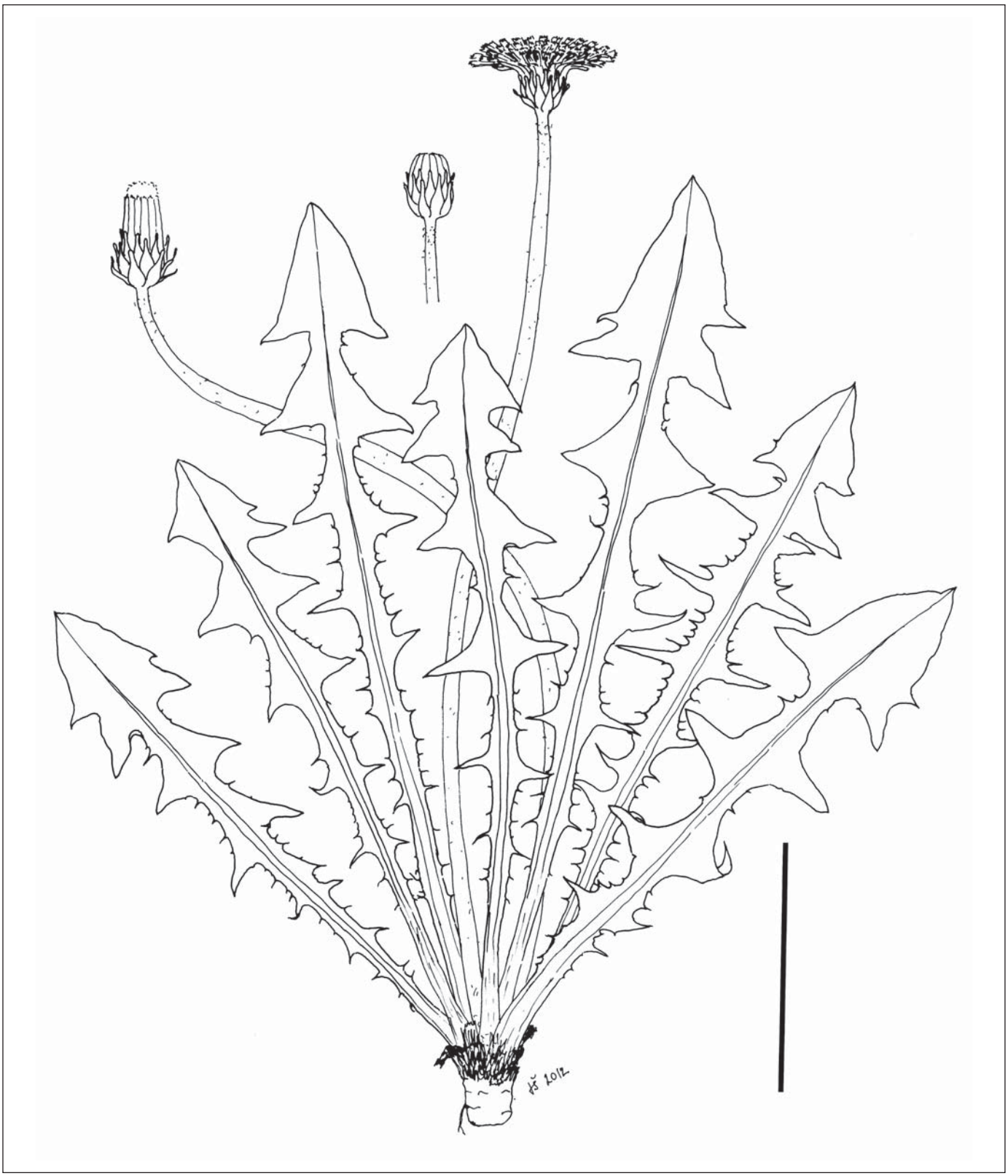

Fig. 2. – *Taraxacum pomposum* Štěpánek & Kirschner. [Scale bar = 5 cm].
[*Briquet & al. s.n.*, G-BU] [Drawing by J. Štěpánek]

Fig. 3. – Holotype of *Taraxacum pomposum* Štěpánek & Kirschner.
[*Briquet & al. s.n.*, G-BU]

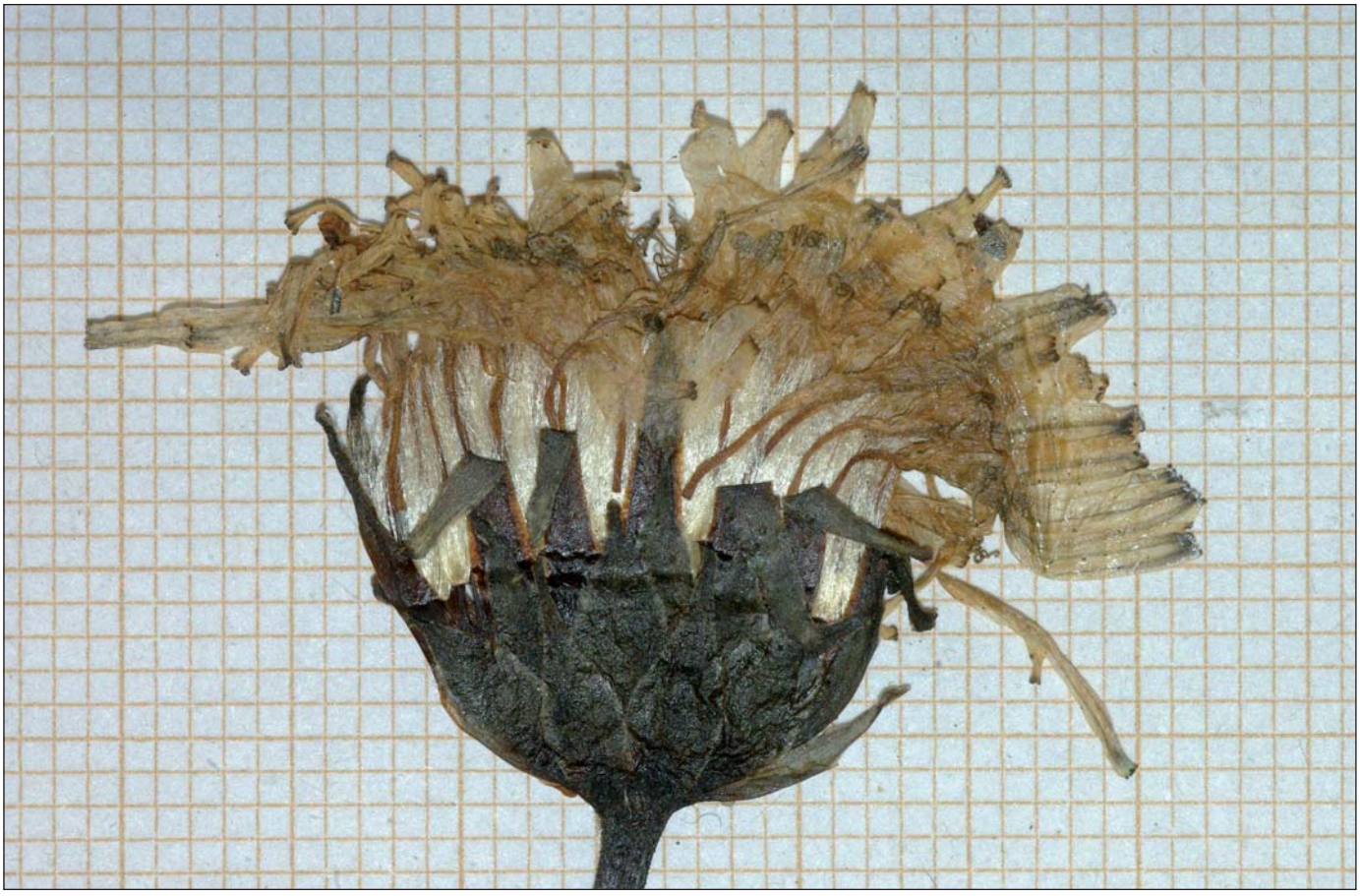

Fig. 4. – Detail of flower head of *Taraxacum pomposum* Štěpánek & Kirschner. [*Briquet & al. s.n.,* G-BU]

(sometimes more densely just below capitulum), probably purplish at base. *Capitulum* not big, 2.5-3 cm in diam., probably ± flat, (pale ?) yellow. *Involucre* broadly rounded at base. *Outer bracts* ± appressed to loosely appressed, rarely to ± erect, numerous (18-21), imbricate, reaching 1/2 of the inner bracts, narrowly lanceolate, less often to lanceolate, usually 6-8 mm long, 2.3-3 mm wide, distally gradually narrowing into a long apex, ± evenly dark green, with a distinct pale or whitish to dirty white border 0.15-0.3 mm wide. *Outer ligules* relatively short, ± flat, striped light greyish beneath, apical teeth greyish black, central ligules narrower and shorter, apical teeth brownish to olivaceous. *Stigmas* dark, ± greenish grey, with black stigmatic hairs. *Pollen* absent. *Achenes* (not perfectly ripe available), light straw-brown, 4-4.2 mm long, achene body spinulose and squamulose in the upper 1/4, tuberculate to smooth below, ± subgradually narrowing into conical cone 0.7-0.8 mm long; beak at least 9 mm long; pappus dirty white, ca. 6.5 mm long. Agamosperm.

A very distinct species characterized by robust growth, small capitula, anthers without pollen, very dark stigmas and numerous narrow erect outer involucral bracts. It is probably the rarest of the subalpine Corsican endemics.

Distribution. – Endemic to Corsica.

Other specimen studied. – **Corse:** Monte Padro, rochers, silice, 2300 m, 4.VII.1908, *J. Briquet* (G-BU [G00000837], n° det. 23280).

Acknowledgements

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