

*Centaurea pichleri* Boiss. subsp. *extrarosularis* (Hayek & Siehe) Wagenitz, comb. et stat. nov.

Syn.: *C. extrarosularis* Hayek & Siehe in Ann. Nat. Hofmus. Wien 28:170 (1914).

*C. iconica* Hub.-Mor. in Bauhinia 3:317 (1967).

Subsp. *extrarosularis* differs from the type by quantitative characters: smaller involucre (11–15 × 7–9 mm), shorter cilia of the appendages (1–2 mm long) and only slightly radiant marginal flowers. In view of the general variability of these characters and the occurrence of intermediate specimens, I can recognize these plants only as subspecies. No good characters have been found which allow us to distinguish between the high-alpine plants from Ala Da., the type-locality, and the steppe-plants from near Konya from where *C. iconica* has been described, but more material is needed.

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#### Chondrilla

J. M. LAMOND & V. A. MATTHEWS

*Chondrilla spinosa* Lamond & Matthews, sp. nov. Fig. 2.

Species insignis, suffruticoso-spinosa, a speciebus alteris valde distincta; achenia apice haud squamosa, rostro basi denique deciduo.

*Suffrutex* perennis pulvinum hemisphaericum intricata ramosum c. 30 cm diam., 14–20 cm altum formans. *Caudex* ramoso-lignosus reliquiam petiolorum veterum obiectus. *Caules* erecti aphylli rigentes glabri ± laeves, persistentes. *Folia* omnia basalia 3.5–7.5 cm longa (petiolo incluso), 0.2–0.5 cm lata, glabra glauca anguste oblanceolata irregulariter lobata, aliquot lobis

triangularibus apice acuta, in petiolum angustum attenuata, basi expansum validumque. *Inflorescentia* compluriens late ramosa circa medium caulis, ad furcas bracteata. *Pedunculi* lati patuli usque arcuato-ascendentes (1-)3-4(-7) cm longi, ± glabri rigidi persistentes et spinescentes. *Capitula* solitaria 10-15-flora. *Involucrum* ± anguste campanulatum. *Phyllaria* c. 13-15, 2(-3)-seriata, extus pilis patulis pallide viridibus obsita, interius glabra, apicibus minute albo-pubescentibus; phyllaria externa c. 7, imbricata, 1.5-3 mm longa ± ovato-triangularia; phyllaria interiora 6-8, 7-10 mm longa, 1.25-1.5 mm lata, ± lanceolata atroviridia, ad marginem saepe membranacea. *Receptaculum* ± planum glabrum. *Corollae* 12-16 mm longae luteae glabrae; ligulae 10-12.5 mm longae, 2-2.5 mm latae. *Antherae* c. 4 mm longae, basi ± sagittatae. *Stylus* c. 11 mm longis pubescens (ramis styli luteis 1.5-2 mm longis). *Achenia* 4.5-5.5 mm longa (rostro excluso) glabra teretia straminea vel hinnuleia, 5-costata, costis 3-striatis, apice haud squamosa; rostrum 1.25-1.5 mm longum, pallidum, basi manifeste articulatum, denique deciduum, supra in discum pappi c. 0.5 mm expansa. *Pappus* albus, ± copiosus, pilis 4-5.5 mm longis, minute scabridulis, 1-seriatus. Turkey. Bg Van: d. Başkale, İspiriz Da., 3300 m, limestone screes, 31 vii 1954, *Davis & Polunin*, D. 23767 (holo. E; iso. K, BM); d. Gevaş, Artos Da., 3505 m, scree, 15 vii 1954, *Davis* 22807.

The new species is a high alpine plant of E Turkey, so far known only from two localities where it forms conspicuous spiny domes on scree. The stems and spinose peduncles which persist for several years are initially glabrous but eventually become covered in often delicate fibrous remains resembling a pilose indumentum. This type of habit is known in several other genera of the Cichorioideae e.g. *Lactuca intricata* Boiss. from S Albania, Greece and W Turkey, the W Mediterranean *Launaea acanthoclada* Maire and *Cichorium spinosum* L. from N Mediterranean coasts and islands, although the fibre remnants are not always evident.

The plant was originally thought to be a *Crepis*. The presence of few-flowered capitula and few-ribbed and distinctly beaked achenes, although unusual in long-lived perennials of that genus, is by no means exclusive and the species of Sect. *Ixeridopsis* Babcock display all these characters. However, in *Crepis* the achene beak is never a separate structure; when present it is always a gradual attenuation of the fertile section of the achene with no truncate or 'shouldered' part and no articulation. In the new species the beak is clearly differentiated from the body of the achene, breaking away from it at the base with great ease and dispersing separately with the pappus. This is not known to occur in over 200 species of *Crepis*, and on this technical character it was decided to exclude the new species from *Crepis*.

At this stage the relationship of the new plant to *Chondrilla* was considered. In most species of this genus the top of the achene bears a corona of short scales which normally hide the base of the beak (if the latter is present). However, these scales are occasionally absent, so the new plant, which lacks scales, cannot be excluded from *Chondrilla* on this character. Mature achenes of *Chondrilla spinosa* examined at a magnification of × 20 show a tendency to produce obscure protuberances near the apex. It is not clear whether these represent the remains of reduced scales (or their initiation?) or whether they are produced by shrinkage of the achene on drying.

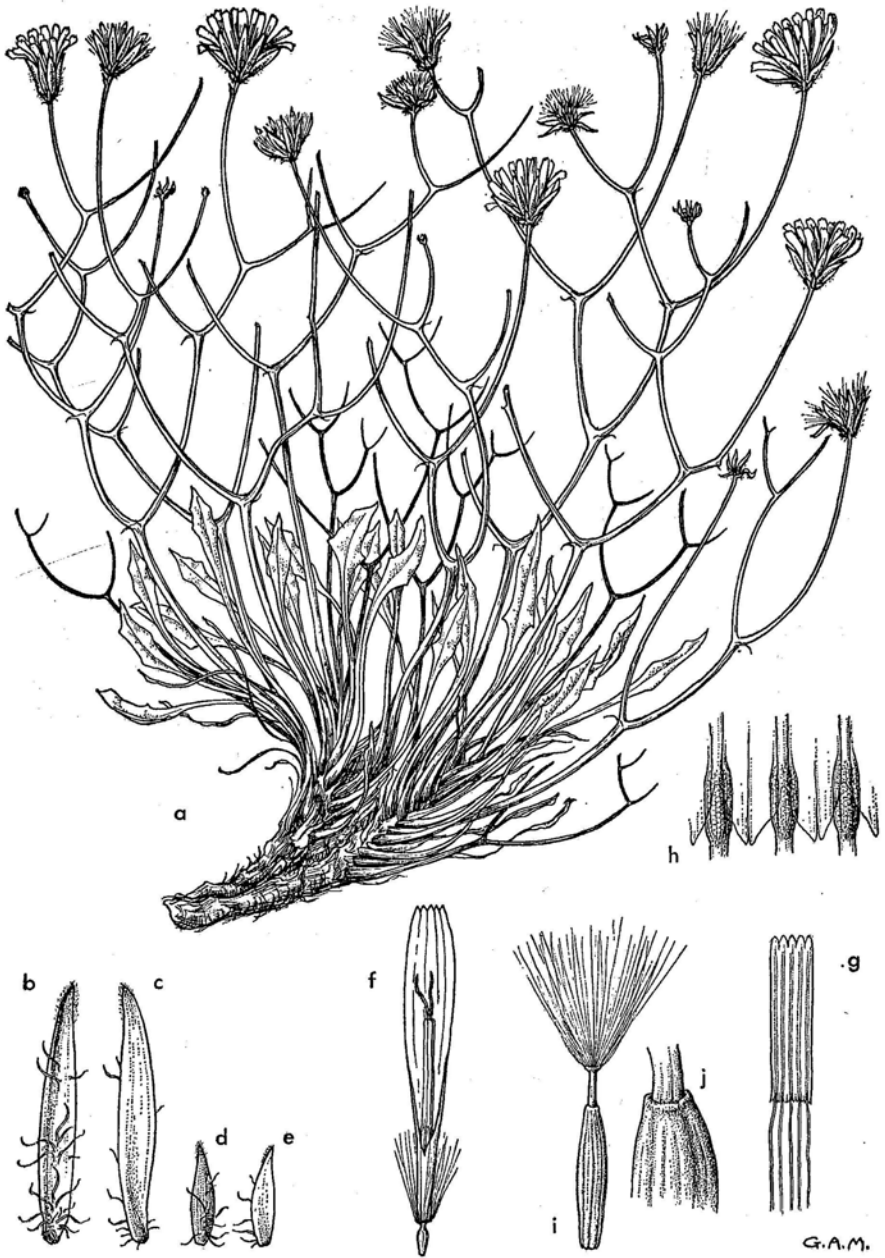


FIG. 2. *Chondrilla spinosa* Lamond & Matthews: a, habit  $\times \frac{2}{3}$ ; b-c, inner phyllaries, dorsal and ventral surfaces  $\times 3\frac{1}{2}$ ; d-e, outer phyllaries, dorsal and ventral surfaces  $\times 3\frac{1}{2}$ ; f, flower  $\times 3\frac{1}{2}$ ; g, anther-tube  $\times 4\frac{1}{2}$ ; h, detail of anther bases  $\times c. 30$ ; i, achene and pappus  $\times 4$ ; j, detail of base of beak of achene  $\times 10$ .

Sect. *Arthrorhynchus* Fisch. & Mey. of *Chondrilla* contains C Asiatic species all of which possess beaks jointed a little above the base; *C. spinosa* seems to have its nearest affinity here even though the position of the articulation is at the base of the beak. It is possibly allied to *C. phaeocephala* Rupr. whose achenes may or may not bear apical scales; however, it differs strikingly in its spiny habit and slender achene beak.

Whether or not *Chondrilla spinosa* should be placed in a section of its own could not be decided at this stage; a more thorough investigation of the genus is necessary. The problem of generic limits should also be considered as it was noticed for instance that *Chondrilla ambigua* Fisch. ex Kar. & Kir. is technically very similar to *Crepis*.

Thanks are due to several colleagues for helpful discussion but it should be pointed out that the authors take full responsibility for publishing this species as a *Chondrilla*.

### Crepis

J. M. LAMOND

#### *Crepis bupleurifolia* (Boiss.) Freyn & Sint.

In his monograph of the genus, Babcock (1947:451) placed *C. bupleurifolia* in his section *Berinia* (= sect. *Crepis*). Only three specimens had been seen by him, none of which had a complete rootstock—an important character in assigning a sectional position. The presence of a definite fibrous-rooted rhizome, clearly seen on a recent gathering from Central Anatolia (Davis 31348) together with the brown wool found both on the inner face of the petiole bases and on the caudex, and the 5(-10)-ribbed achenes shows that the species is better transferred to sect. *Hieracioides* Froehlich (sect. *Mesomeris* Babco.) in which all these characters are found.

#### *Crepis foetida* L. subsp. *rhoeadifolia* (M. Bieb.) Čelak.

*C. foetida* L. s.l. is a widespread, variable annual found throughout W and S Europe, SW and C Asia, characterized by having inner achenes with long slender beaks and a fine persistent pappus  $\pm$  completely exerted from the involucre. In Turkey, by far the most common and widespread of the subspecies recognized by Babcock (1947:687-705) is subsp. *rhoeadifolia*. It is found throughout the country growing in a variety of habitats from sea level to c. 2000 m, its range overlapping in certain areas with the other two subspecies. It differs from the type subspecies in having longer, broader outer phyllaries, usually with eglandular hairs and from subsp. *commutata* in lacking paleaceous setae on the receptacle. However intermediates occur, and within subsp. *rhoeadifolia* Babcock recognized 14 "minor-variants".

One variant worthy of further discussion, although not mentioned by Babcock, is found in the SW province of Muğla and represented by the Davis collections *D.* 25276, *D.* 41105, *D.* 41143 and *D.* 41412 (all E, K) and by Fitz & Spitzenberger, 23 iv 1969 s.n. (W). All are from limestone or serpentine habitats on the Marmaris peninsula, growing from 20-100 m above sea level. The plants have comparatively large capitula (involucres c. 10 mm, corollas 14-19 mm) and phyllaries with a dense indumentum of long, shaggy, eglandular hairs. In addition *D.* 41105 p.p., *D.* 41143 p.p. and *D.* 41412 have pale,