

## Relationship

*Crepis Rueppellii* is closest to *C. Forskalii* and *C. abyssinica*, from both of which it is easily distinguished by the longer corolla, anther tube, and style branches, and the larger achenes. Also the leaves in *C. Rueppellii* (except in m.v. 1 and 2, which may be distinct entities) are merely denticulate or dentate, not pinnately lobed as in *C. abyssinica*, and the achenes are definitely beaked. *C. Rueppellii* is less close to *C. xylorrhiza* and *C. tenerrima* and farther still from *C. Friesii* and *C. Mildbraedii* of sec. 8. Although it is a strong-rooted perennial, *C. Rueppellii* is a more advanced species than any of the others mentioned above except *C. Forskalii*.

191. *Crepis Forskalii* sp. nov.

(Fig. 299.)

Herba perennis 1.8–3.5 dm alta; radix recta elongata lignea; caudex brevis 8–10 mm latus; folia caudicalia numerosa interdum 15 cm longa 3 cm lata oblanceolata vel elliptica acuta irregulariter denticulata petiolata tomentulosa vel glabra; folia caulina pauca lanceolata acuminata vel bracteiformia; caules 2–4 flexuosi vel semidecumbentes tenui glabri remote ramosi, ramis elongatis cymosis; pedunculi 0.5–4 cm longi tenuissimi; capitula pauca erecta parva circa 40-flora; involucrea cylindrica circa 8 mm alta 4 mm lata, squamis exterioribus circa 8 parvis linearibus fuscis vel purpureis scariosis laxis, interioribus 8–10 lanceolatis obtusis setulosis in maturitate ad basim spongioso-incrassatis ventrale glabris; receptaculum alveolatum breve ciliatum; corolla circa 10 mm longa, ligula circa 7 mm longa 1.25 mm lata, tubo papilloso pilis minutissimis; antherae 3.25 mm longae, filamentis brevissimis delicatis; rami styli circa 1.5 mm longi flavi; achaenia fulva 5–6 mm longa fusiformia in rostrum tenuissimum abrupte constricta 10-striata; pappus albus 3–4 mm longus 1-seriatus tenuis mollis deciduus.

Perennial, 1.8–3.5 dm high; root woody, vertical, elongated, 4–7 mm wide, bearing slender fibers; caudex short, 8–10 mm wide, leafy; caudical leaves numerous, up to 15 cm long or longer, 3 cm wide, oblanceolate or elliptic, acute, irregularly denticulate, denticles corneous-mucronate, attenuate into a rather short winged petiole with broader clasping base, finely tomentulose, glabrescent or glabrous; cauline leaves few, lanceolate-acuminate, linear or bractlike; stem 2–4, flexuous or semidecumbent, slender, terete, striate, glabrous, remotely branched from middle or near base, branches elongated, few-headed, forming an open compound cyme; peduncles 0.5–4 cm long, very slender, tomentulose or glabrescent; heads erect, small, about 40-flowered; involucre cylindric, 8 mm high, 4 mm wide in fruit, ± tomentose; outer bracts 7–8, longest  $\frac{1}{4}$  as long as inner bracts, linear, brown or purplish, becoming scarios, spreading; inner bracts 8–10, lanceolate, obtuse, ciliate at apex, pale green with dark dorsal stripe, margin white, membranous, dorsally setulose with short stout blunt black setules, ventrally glabrous, becoming spongy-thickened near base at maturity, ultimately reflexed; receptacle alveolate, ciliate, cilia very short; corolla about 10 mm long; ligule 1.25 mm wide, teeth 0.2–0.5 mm long, prominently gland-crested and hooded as in *C. Rueppellii*; corolla tube 2–3 mm long, beset with very short (up to 0.05 mm long) papilliform hairs; anther tube  $3.25 \times 1$  mm dis.; appendages 0.4–0.5 mm long, oblong, ± obtuse; filaments delicate, very short, scarcely longer than the appendages; style branches 1.5 mm long, 0.1 mm wide, yellow; achenes tawny, 5–6 mm long, fusiform, subcompressed, abruptly constricted into a filiform beak equal to body, constricted above the narrow brown pale-calloused base, 10-striate, striae pale, narrow, finely spiculate; pappus white, 3–4 mm long, 1-seriate, fine, soft, exceeding the involucre, deciduous. Flowering Feb.; flowers yellow, reddish on outer face of ligules.

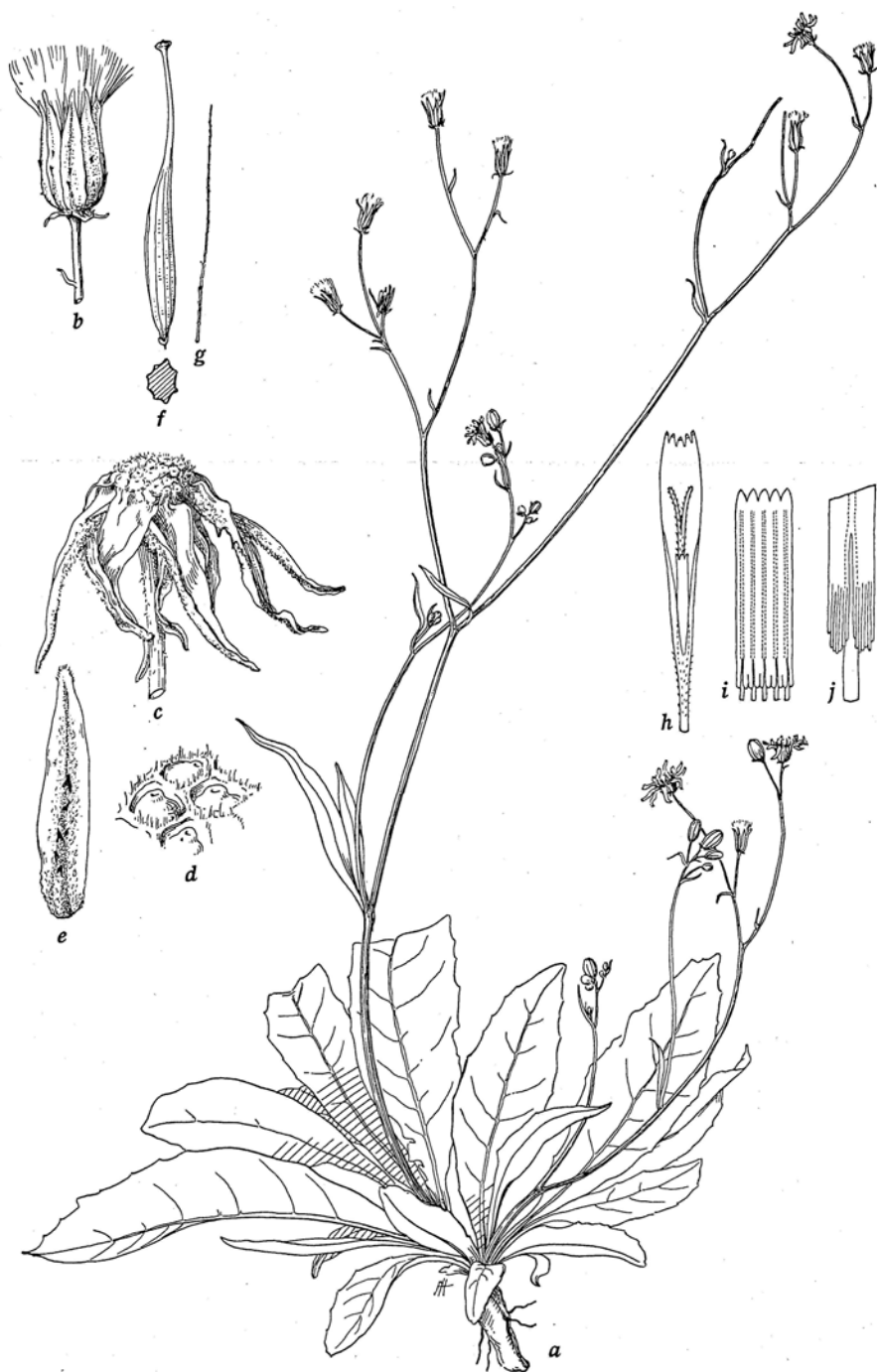


Fig. 299. *Crepis Forskalii*, from type (RB): a, plant,  $\times \frac{1}{2}$ ; b, mature head,  $\times 2$ ; c, old head with reflexed bracts,  $\times 4$ ; d, detail of receptacle,  $\times 16$ ; e, inner involucre bract, outer face,  $\times 4$ ; f, achene and outline of cross section,  $\times 8$ ; g, pappus seta,  $\times 8$ ; h, floret lacking ovary,  $\times 4$ ; i, anther tube,  $\times 8$ ; j, detail of appendages,  $\times 32$ .

Arabia, Yemen Prov., opposite Eritrea. The type collection, *Schweinfurth 1140*, was taken, according to the labels, at Uosril, elevation 1400 m, on February 9, 1889. It seems highly probable that "Uosril" is either an older form or a misspelling of Usil, a town on the lower border of the coffee belt, the altitude of which is 4300 ft. (= 1300 m) according to Encyclopaedia Britannica. This assumption is greatly strengthened by the fact that another collection of this species, *Schweinfurth 1417*, was taken on February 22, 1889 "below and above Menacha, 2000–2500 m." Menacha is undoubtedly a variant of Menakha or Manakha, an important center in the coffee belt which extends from 1200 to 2100 m altitude. These collections are part of a series entitled *In Memoriam Divi Forskalii ex Arabia Felici attulit*.

Monomorphic.

**Arabia:** Yemen Prov., Uosril (= Usil ?), 1400 m, *Schweinfurth 1140* (RB type, K, G, UWG, Ucf); Yemen Prov., below and above Menacha (= Menakha, Manakha), 2000–2500 m, *Schweinfurth 1417* (RB, K, UWG); locality ? *Forskal 479* (B, Ucf).

It should be noted that the Berlin specimen, cited last in the foregoing list, is certainly this species. The label reads "*Crepis radicata* Forsk. Fl. arab. No. 479." As there is no information concerning locality, one of the plants in Schweinfurth's first collection is chosen as the type. It is in the Reuter-Boissier herbarium; the specimens of the same number in the Kew and Gray Herbaria and in the general herbarium of the University of Vienna are isotypes. A photograph of the type is in Herb. Univ. Calif.

#### Relationship

*Crepis Forskalii* is closest to *C. Rueppellii*, from which it is very distinct in the more numerous, smaller heads; the shorter, linear outer involucre bracts and the stout, blunt, glandless setules on the inner involucre bracts; the much smaller florets with smaller anther tubes and appendages and shorter style branches; and the shorter achenes with relatively longer beaks and shorter pappus. The two species are very close, however, their differentiation having been due in part, no doubt, to geographic isolation. Both *C. Forskalii* and *C. Rueppellii* exhibit sufficient resemblance to *C. bellidifolia* and the other species of this section to suggest a common ancestry.

#### 192. *Crepis bellidifolia* Loisel.

Fl. Gallica, 527. t. 18. 1806. (Fig. 300.)

Perennial, flowering the first year, 0.35–5 dm high; root straight, elongated, woody; caudex simple, few-leaved and 1-stemmed, or  $\pm$  divided, leafy and few- or many-stemmed; caudical leaves up to 11 cm long, 3 cm wide, oblanceolate; entire, dentate, runcinate, or pinnately lobed or parted with close or remote entire or dentate segments, glabrous or pubescent beneath on midvein, the petiole usually short, narrowly winged, broader at base; cauline leaves similar or sessile, auriculate-amplexicaul, uppermost bractlike; stems decumbent or semidecumbent, slender, terete, striate, glabrous or hispidulous near base, simple, 1-headed, or racemously branched beginning near base, the branches remote, elongated, 1–4-headed; peduncles 2–15 cm long, slender, not much thickened at maturity, glabrous or tomentulose near base of head; heads erect, small, many-flowered; involucre 7–10 mm high, 4–5 mm wide at base in fruit, cylindric-campanulate, becoming broader and spongy-thickened at base, ultimately reflexed; outer bracts about 10, nearly equal, longest  $\frac{1}{4}$  or  $\frac{1}{3}$  as long as inner bracts, linear, glabrous, tomentulose or shortly gland-pubescent; inner bracts 9–13, lanceolate, obtuse, glabrous, tomentulose or shortly gland-pubescent, shortly pubescent on inner face, becoming carinate, infolding the marginal achenes sometimes closely; receptacle areolate, shortly white-ciliate;