

because fragmentary and much reduced specimens cannot be determined with certainty. Specimens which are clearly typical are so designated.

Egypt: *Delile* (Ms, UCf) as *C. breviflora*; Fajum, Fedmin, *Schweinfurth 133* (K) typical and m.v. 1; Nile Valley, *Schweinfurth* in 1887 (Genoa) typical; Tantah, *Muschler* in 1906 (K). **Palestine:** Dead Sea, Ghor-es-Safiyeh, *Meyers and Dinsmore 5845* (K). **Cyprus:** Bijokarpaso, *Haradjian 234* (DL) typical and m.v. 1; near St. Hilarion, *Sintenis and Rigo 283* (K) m.v. 1; Agricultural Experiment Station, *Waitsinger* in 1933 (UC) typical. **Turkey:** Cilicia, Anamour, *Cosson 59* (K) typical; Lydia, Smyrna, *Fleischer* in 1827 (K) typical; *ibid.*, Göstepe, *Bornmüller 9731* (K); Dumbrek Valley, Renkvei (?), *Sintenis 197* (K); Pontus, W. Samsun, *Krause 3921* (UC) typical; Pontus, near Çukurbük, south of Samsun, *Krause 3862, 3882* (UC) typical; Pontus, near Tutsal, *Krause 3790* (UC) typical. **Aegean Archipelago:** Scarpanto (= Karpathos), Olympus, *Forsyth Major 30* (Bo) typical; Scarpanto, Athos, *Pichler 420* (Bo) typical; Astypalaea, *d'Urville* in 1820 (DC) typical. **Greece:** *Haller 32* (Oxford-Druce) as *C. muricata*; Argolis, Kassos, near Argos, *Forsyth Major 822* (Bo); Thessaly, *Adamovic* in 1906 (K) typical; Dalmatia, Meleda I., Addolorata Cemetery, *Penza* in 1925 (Wellesley). **Iraq:** Bagubeh, Testing Station, *Graham* in 1920 (K) typical. **Caucasus:** *Radde 346* (K) typical, except for the nonsetose involucre. **Transcaucasia:** Azerbaijan Prov., Geortschai dist., Koromaijan, near the village Aral-Vechtiber, *Karjaje* in 1929 (G) involucre glabrous. **France:** Montpellier (?) port (Juvenal ?), G (= *Godron* ?) 208 (Ms) m.v. 1 (?) ; Var, Cap Brun, near Toulon, *Hall 21522* (UC) typical.

Relationship

Crepis parviflora is closest to *C. capillaris* but is usually distinguished from that species by the entire or denticulate cauline leaves and their acuminate sagittate auricles, and by the strongly setulose leaves, stems, and involucre. In size of heads, florets, achenes, and pappus the two species overlap, and in reduced forms the cauline leaves may not be characteristically developed. In such forms, if the characteristic pubescence is lacking, the color of the style branches will generally suffice. In *C. capillaris* these are usually yellow (though in a few forms they are greenish or green), whereas in *C. parviflora* they are green. The two species occupy different, though adjacent, geographic areas; and the chromosome numbers differ (*C. parviflora*, $n = 4$; *C. capillaris*, $n = 3$).

It has been suggested (Babcock and Navashin, *Bibliog. Genetica*, 6: 28. 1930) that *C. parviflora* may have originated from *C. capillaris* by fragmentation of one of the three *C. capillaris* chromosomes. But there are several objections to this hypothesis. An important one is the fact that recent cytogenetic research has practically proved that the 3-paired *Crepis* species have been derived from 4-paired ancestors. The two species are sufficiently alike genetically so that they can be crossed artificially, producing sterile hybrids. But the results of crossing both species to a third species (Babcock and Navashin, *op. cit.*, 61) indicate that they differ in certain genetic factors. It is more plausible to assume that the two species were derived from a common ancestor with 4 pairs of chromosomes.

163. *Crepis insignis* sp. nov.

(Plate 26, Fig. 254.)

Herba annua, caulibus numerosis circa 0.5 dm altis, rosella circa 1.8 dm lata; folia caudicalia numerosa, ad 9 cm longam 2 cm latam, oblanceolata acuminata pinnatifida vel bipinnatifida tomentulosa et puberula, rachi tenui, segmentis tenuis acuminatis lateralibus ad petiolum alatum irregulariter parvioribus, segmentis et dentibus corneo-mucronatis; folia caulina similia vel sessilia ad basim laciniatis vel linearia integris; caules numerosi tenues scapiformes vel 1-3-furcati, ramis pedunculatis interdum bicipitibus; capitula erecta parva circa 40-flora; involucreum campanulatum in anthesim circa 6 mm altum 4 mm latum, squamis exterioribus 5 circa 1/2 interiorum aequantibus ovatis acutis glabris scariosis, squamis interioribus

8–9, ovato-lanceolatis acutis, apice albo-ciliatis, medio-dorso valde setulosis, setis bicoloribus, ventre glabris; corolla 7–8 mm longa, ligula 1 mm lata, dentibus 0.2–0.4 mm longis, tubo 2.5 mm longo glabro; antherae flavidae circa 2.7 mm longae appendicibus 0.5 mm longibus lanceolatis acutibus, filamentis 0.3 mm longioribus; rami styli 1.5 mm longi 0.1 mm lati flavi; achaenia valde immatura 1.5 mm longa 0.4 mm lata fusiformia, sub discum pappiferum expansum valde constricta, 10-striata minutissime spiculata; pappus albus 2.5 mm longus 1–2-seriatus tenuissimus mollis deciduus.

Annual, with numerous stems about 0.5 dm high and a dense rosette about 1.8 dm wide; caudical leaves numerous, up to 9 cm long, 2 cm wide, oblanceolate, acuminate, pinnately or bipinnately parted with narrow rachis and remote narrow acuminate

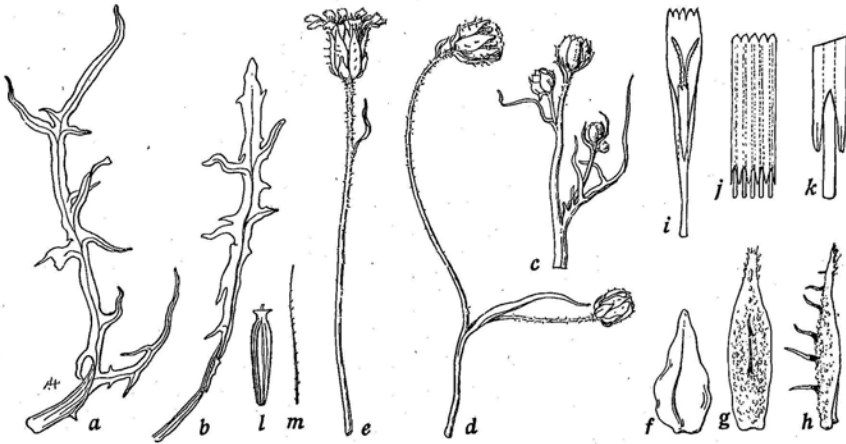


Fig. 254. *Crepis insignis*, from type (DL): *a, b*, rosette leaves, $\times 1$; *c-e*, details of inflorescence, $\times 1$; *f*, outer involucre bract, outer face, $\times 4$; *g, h*, inner involucre bracts, outer face showing bicolored setae, $\times 4$; *i*, floret lacking ovary, $\times 4$; *j*, anther tube, $\times 8$; *k*, detail of appendages, $\times 32$; *l, m*, immature achene and pappus seta, $\times 8$. Cf. pl. 26.

segments, lateral segments irregularly reduced toward the broadly winged 3–5-veined petiole, sparsely tomentulose and puberulent, lobes and teeth corneous-mucronate; cauline leaves similar or sessile and laciniately lobed near base or linear, entire and bractlike; stems numerous, slender, scapiform or 1–3-furcate, the branches pedunculate or sometimes 2-headed, sparsely canescent-tomentulose; peduncles and involucre canescent-tomentulose; heads erect, small, about 40-flowered; involucre campanulate, about 6 mm high, 4 mm wide at middle in anthesis; outer bracts 5, about $\frac{1}{2}$ as long as the inner in anthesis, ovate, acute, glabrous, scarious, membranous-margined; inner bracts 8–9, ovate-lanceolate, acute, white-ciliate at tip, with a median dorsal row of rather strong setae which are purple or brown at the base and yellow above, glabrous on inner face (condition in fruiting heads not seen, but probably carinate and spongy-thickened); corolla 7–8 mm long; ligule 1 mm wide; teeth 0.2–0.4 mm long; corolla tube 2.5 mm long, glabrous; anther tube yellow, about 2.7×0.7 mm dis.; appendages 0.5 mm long, lanceolate, acute, united; filaments 0.3 mm longer; style branches 1.5 mm long, 0.1 mm wide, yellow; very young achenes 1.5 mm long, 0.4 mm wide, fusiform, strongly constricted below the expanded pappus disk, 10-striate, very finely spiculate (one partly mature achene was 2.5 mm long, greenish-purple, fusiform, shortly attenuate at apex); pappus white, 2.5 mm long, 1–2-seriate, very fine, soft, deciduous. Flowering May; flowers yellow.

Known only from the type locality.

Monomorphic.

Syria: environs of Hammah (= Hamah or Hama), 457 m, *Haradjian 1848*, in 1908 between Apr. 20 and May 4, spec. unic. (DL, fragments and photographs in UC).

It is possible that the plant reported by Koch (Linnaea 23[7]: 688. 1850) as *C. multiflora* S. et S. var *humilis, diffusa*, from the shore of the Caspian Sea, in Daghestan, belongs here. He cites *C. corymbosa* Ten. as a synonym; and he suggests that *C. parviflora* Desf. might be a small-flowered subspecies. Unfortunately, this specimen of Koch's has not been seen by me.

Relationship

Crepis insignis is very distinct in its relatively large rosette of caudical leaves and very short flower stems. Although the outer involucrel bracts are like those of *C. vesicaria*, the inner bracts are very different, being glabrous on the inner face and having a dorsal median row of stoutish bicolored setae. Moreover, the mature achenes are probably not definitely beaked. It seems fairly safe to predict that in mature involucrel the inner bracts are carinate and spongy-thickened. *C. insignis*, therefore, appears to belong in this section, and the involucrel setae resemble those of *C. parviflora*, except that in the latter species they are not bicolored. On the other hand, it is probable that the mature achenes of *C. insignis* are more like those of *C. neglecta*. In size of heads, florets, and flower parts *C. insignis* is very close to *C. parviflora* and *C. neglecta*; but in habit of the plant *C. insignis* shows most resemblance to *C. fuliginosa*.

164. *Crepis neglecta* L.

Mant. Pl., ed. 6 et Sp. Pl. ed. 2, 107. 1767. (Fig. 255.)

Annual, 1-5 dm high, mostly erect, corymbiform, sometimes low, diffuse (see m.v. 2, 3); root slender; caudical leaves up to 14 cm long, 3 cm wide, oblanceolate, rounded-obtuse, denticulate to pinnately parted, corneous-mucronate, gradually attenuate into a narrowly winged petiole, hispidulous with short pale glandless hairs; cauline leaves similar or sessile, or lanceolate, acute or acuminate, with broad amplexicaul acutely auriculate \pm lacinate base, uppermost, sometimes all, much reduced; stem branched above middle or beginning near base, or stems numerous, semidecumbent, corymbosely branched above, \pm hispidulous below, glabrescent above; branches slender, ultimate branchlets bent down just below heads before anthesis; peduncles 0.5-5 cm long, arcuate, very slender, not much thickened in fruit, tomentulose, pubescent or setulose near head; heads in anthesis erect, small, few or many-flowered; involucrel cylindric-campanulate, 4-7 mm long, 1-4 mm wide at the swollen base in fruiting heads, ultimately reflexed; outer bracts few, small, linear, glabrous or pubescent; inner bracts 7-13, lanceolate, obtuse or acute, glabrous within, glabrous, tomentulose, or finely gland-pubescent without, rarely setulose near tip with greenish setalike hairs (see m.v. 1), ultimately carinate, spongy-thickened at base; receptacle alveolate-fimbrillate, fimbrillae low, membranous, very shortly and finely ciliate; corolla 5-8 mm long; ligule 1.25 mm wide, yellow with or without red on outer face; teeth 0.2-0.35 mm long; corolla tube about 2 mm long, densely pubescent with salient acicular hairs 0.05-0.4 mm long; anther tube 2.75×1 mm dis.; appendages 0.5 mm long, oblong, acute or obtuse; filaments 0.5 mm longer; style branches 1.5 mm long, 0.1 mm wide, green or yellow in certain variants; achenes pale brown, 2-2.5 mm long, fusiform, 10-ribbed, ribs spiculate, narrow with broader smooth spaces between, base narrow, hollow, calloused, apex \pm attenuate or very shortly beaked; marginal achenes seldom if ever beaked, some-