

and of these the outermost spiculate, the others smooth and weakly striate; pappus white, 3–5 mm long. See fig. 207.

Launaea pulchra N. Pav., Fl. Cent. Kazakstan III: 360. 1938.

Crepis carinata Babcock, in herb.

Central and S. Turkestan, Afghanistan, and westward through Persia and Turkey, thus overlapping the area of subsp. *typica*.

Turkestan: ex hort. genet. Calif. 29. 2566–4, cult. from seed collected by Dr. Zaetsev, Taskent Plant Breeding Station (UC) type; Syr-Darja Prov., Tashkent dist., near Tashkent, *Popov et Vvedensky* in 1924 (Mo, NY); Samarkand dist., Pistaly-tan Mts., *Spiridonow* in 1915 (UC); ex hort. genet. Calif. 29. 2370–2, cult. from seeds collected by Dr. Popov in Actau Mts., Samarkand (UC); Turcomania, Asehabad, mountains, *Litwinow 1416* (G); ex hort. genet. Calif. 34. 2371–3, cult. from seeds collected by Dr. Popov in Zervaschan Valley (UC); Pamir reg., Mailli-Tsai, *Kuschakewicz* in 1878 (B, P). **Afghanistan:** Kurrum Valley, *Aitchison* in 1879 (B, G); Kurrum Valley, Shalizan, *Aitchison 312*, Alikhel, *Aitchison 562* (DD); without locality, *Griffith 3358* ex herb. East India Co., distributed from Kew, 1862–1863 (Mu, G). **Persia:** ruins of Persepolis, *Kotschy 255* (Bo, PC, G, Mo); Kuh-Dana Mts., *Kotschy 691* (Bo); base of Mt. Demawend, *Kotschy* in 1843 (B); Kerman Prov., near Kerman, *Bornmüller 4141* (B, UWG). **Iraq:** "prope Tigrim," *Kotschy* in 1841 (UWM); Baghdad, *Hausknecht* in 1868 (Bo). **Turkey:** Kurdistan, Mardin, *Stapf 940* (B, Mu); Malatya, *Balls 2301* (UC); between Orfa (= Urfa) and Suerek, *Kotschy* in 1843 (Bo); Gulf of Adalia, port of Tekhirova, mines of Phasolis, no. 617 in 1845 (Bo); Smyrna, *Balansa* in 1854 (Bo).

Relationship

Crepis pulchra, the type species of sec. *Phaeasium*, occupies an intermediate position in the section, standing between *C. palaestina* and *C. pterothecoides*. Like the former, it usually has biform achenes, whereas the latter is more specialized in its shortly beaked, uniform achenes and its relative precocity.

139. *Crepis amanica* sp. nov.

(Fig. 208.)

Herba annua 5–6 dm alta; caulis erectus crassiusculus viridus striatus hispidulus 3-furcatus; folia caulina amplexicaulia auriculata inferioribus pinatifidis superioribus integris; rami elongati ad summitatem cymose ramulosi subcorymbosi 2–4-cephalici ramulis et pedunculis dense pubescentibus et glandulosis; capitula parva circa 20-flora; involucrem nigro-viridum campanulatum 7–8 mm altum 4–5 mm latum, squamis exterioribus 6–8 parvisimis acuminatis, interioribus 12–15, lanceolatis acutis intimibus late marginatis membranaceis in dorso dense pubescentibus vel setulosis et glandulosis ventrale pubescentibus pilis brevissimis in maturitate incurventibus valde carinatis et spongioso-incrassatis ultimo reflexis; receptaculum areolatum glabrum; corolla circa 6–7 mm longa, ligula 1.5 mm lata ad basim pubescenti, tubo 2–2.5 mm longo dense pubescenti pilis tortuosis; antherae



Fig. 208. *Crepis amanica* from type (DL): a, fragment of stem, showing upper cauline leaves and glandular pubescence, $\times 1$; b, head in anthesis, $\times 2$; c, mature involucre, $\times 2$; d, old head, showing naked receptacle, $\times 2$; e, inner involucreal bract from mature head, $\times 4$; f, floret lacking ovary, $\times 4$; g, anther tube, $\times 8$; h–j, marginal and inner achenes and a pappus seta, $\times 8$.

pubescentibus vel setulosis et glandulosis ventrale pubescentibus pilis brevissimis in maturitate incurventibus valde carinatis et spongioso-incrassatis ultimo reflexis; receptaculum areolatum glabrum; corolla circa 6–7 mm longa, ligula 1.5 mm lata ad basim pubescenti, tubo 2–2.5 mm longo dense pubescenti pilis tortuosis; antherae

circa 3 mm longae flavido-viridae; rami styli 1 mm longi nigro-viridi; achaenia fuscata 3.7–4 mm longa 0.7–1 mm lata incurvata ad basim valde attenuata ad apicem paululum attenuata ad basim valde 5-callosa 10-costata costis latis contiguous convexis glabris; pappus albus 3 mm longus tenuissimus mollis caducus.

Annual, 5–6 dm high; stems erect, rather stout, green, striate, hispidulous, 3-furcate; cauline leaves amplexicaul, auriculate, the lower ones pinnately parted, uppermost entire; branches elongated, cymosely branched above, bearing subcorymbiform clusters of 2–4 heads, the branchlets and peduncles densely gland-pubescent; heads small, about 20-flowered; involucre dark green, campanulate, 7–8 mm high, 4–5 mm wide at middle; outer bracts 6–8, very small, lance-linear, acuminate; inner bracts 12–15, lanceolate, acute, innermost broadly membranous-margined, densely gland-pubescent or -setulose, appressed-pubescent with very short white hairs on inner face, becoming incurved, strongly carinate and pale spongy-thickened in fruit, ultimately reflexed; receptacle areolate, glabrous; corolla 6–7 mm long; ligule 1.5 mm wide, pubescent toward base; corolla tube 2–2.25 mm long, densely pubescent with several-celled tortuous hairs; anther tube about 3×1 mm dis., yellowish-green; appendages about 0.5 mm long, narrow, acute; filaments about 0.5 mm longer; style branches 1 mm long, 0.1 mm wide, dark green; achenes light brown, 3.7–4 mm long, 0.7–1 mm wide, \pm curved, more strongly attenuate toward the base than the apex, constricted below the narrower pappus disk, with a strong 5-lobed basal callosity, 10-ribbed, ribs close, strong, broadly rounded, glabrous; pappus white, 3 mm long, very fine, soft, caducous. Flowering June–July; flowers yellow.

Known only from the type locality in N.W. Syria.

Monomorphic.

Syria: Amanus, Mt. Dümanly, 700–1200 m, *Haradjian 3719* (DL, fragments in UC).

Relationship

C. amanica is beyond question a distinct species. Although its achenes show general resemblance in shape to those of *Arnoseris minima*, they are actually more like those of *C. Stojanovi*, and the broadly rounded ribs resemble those of *C. bupleurifolia*. The dense glandular pubescence on branches and peduncles resembles that of *C. pterothecoides*; and *C. amanica* is intermediate between that species and *C. Stojanovi* in size of flower heads, outer involucre bracts, anther tubes, and style branches; although the corolla is somewhat shorter than in *C. Stojanovi*. Unfortunately the type itself is an incomplete specimen, the caudical leaves being entirely lacking. But, from the similarities mentioned above, there is no reason to question its classification in this section. Furthermore, its geographical location is in the area occupied by this group.

140. *Crepis Stojanovi* Georg.

Mitt. Bulgar. Bot. Gesellsch. (Bull. Soc. Bot. Bulgarie) 1: 67. 1927. (Fig. 209.)

Annual, 3.5–4 dm high; caudical leaves numerous, ascending, up to 15 cm long and 3 cm wide, obovate, acute, coarsely pinnately dentate, gradually attenuate into a winged petiole, pubescent on both sides and on the margin with short fine white glandular or glandless hairs, and \pm pubescent along midrib with long white erect glandless hairs; cauline leaves reduced, bractlike, or in cultivated specimens up to 6 cm long, similar to caudical leaves or linear, entire; stems 1–3, or more in cultivated specimens, erect or ascending, terete, fistulose, striate, pubescent below with long white glandless hairs, corymbosely branched above with few or many heads; peduncles 1–5 (10) cm long, slender, glabrous or sparsely canescent-tomen-