

dentate or pinnatifid with lanceolate lobes; heads 3-7 in an inflorescence; involucre 11-17 mm high, completely glabrous; inner bracts conspicuously scarious-margined; outer bracts narrowly lanceolate, the longest about  $\frac{1}{2}$  the length of the inner; achenes 5.5-7 mm long, dark brown in color; pappus 7-8 mm. (*Crepis Barberi* Greenm., Proc. Am. Acad. 40:52, 1904; *C. mogollonica* Greene, Contr. U. S. Nat. Herb. 16:176, 1913.)

In the Mogollon Mtns., western New Mexico, and the Sierra Madre, province of Chihuahua, Mexico. The following have been seen: MEXICO: near Colonia Garcia, Sierra Madre Mtns., alt. 2285 m, *Townsend & Barber 206* (type of *C. Barberi*, G, US, Mo, Po); Sierra Madre, *Nelson 6107* (G, US); Mound Valley, Sierra Madre Mtns., alt. 2120 m, *Jones* in 1903 (Po). NEW MEXICO: west fork of Gila River, Mogollon Mtns., Catron ("Socorro") County, alt. 2420 m, *Metcalfe 576* (type of *C. mogollonica*, US, Minn).

This subspecies, though extreme in the narrow shape of its leaves, does not possess any other characteristics which set it off sharply from the others. The involucre is glabrous as in subsp. *glauca*, but the outer bracts are elongate, as in forms of subsp. *typica*. In these respects the involucre resembles that of specimens from Colorado listed as intermediate between subsp. *typica* and *glauca*. The involucre and achenes of the Mexican specimens are unusually large for *C. runcinata*, although they are equaled by those of some forms from Colorado, but the collection from New Mexico is intermediate in this respect.

Transitional from subsp. *glauca* to subsp. *Barberi*.—ARIZONA: White Mtns., *Griffiths 5354* (US). This specimen has the narrow leaves of subsp. *Barberi*, but the size of the involucre and the shape of the bracts is as in subsp. *glauca*.

9e (5). *Crepis runcinata* subsp. *imbricata* subsp. nov. (Fig. 11.)—Folia 5-11 cm longa, oblanceolata vel elliptica, valde dentata, dentibus albidomucronatis; capitula 10-12 mm alta; phylla imbricata, obtusa vel acuta, minute glandulosa; achenia 4.5-5 mm longa, ad apicem contracta vel attenuata nec rostrata.

Leaves 5-11 cm long, 1.5-3 cm broad, oblanceolate or elliptic; strongly and closely dentate, the teeth tipped with conspicuous white corneous mucros; stems 1.5-3 dm high; heads 3-7 in an inflorescence; involucre 10-12 mm high, inner bracts broad, mostly obtuse; outer bracts similar, elliptic, 2-3 mm broad, the longest about  $\frac{2}{3}$  the length of the inner; achenes 4.5-5 mm long, reddish brown, somewhat tapering at the apex but not at all rostrate; pappus 5-7 mm long.

Southern Oregon to northern and western Nevada, in alkaline meadows. The following have been seen: OREGON: Alvord Valley, Harney County, *Cusick 2014* (type UC no. 31293, G, Minn; all identified as *C. Andersonii* Gray); near Alvord Lake, alt. 1300 m, *Leiberg 2529* (UC, G); near Alberson, Harney County, *Peck 14019* (Will); north of Adel, Lake County, *Peck 19487* (UC, Will). NEVADA: Steamboat Springs, Washoe County, *Eastwood 14853* (CA); Lemmon Valley, Washoe County, *Kennedy 2061*, part (UC); east of Elko, Elko County, *Eastwood & Howell 276* (CA).

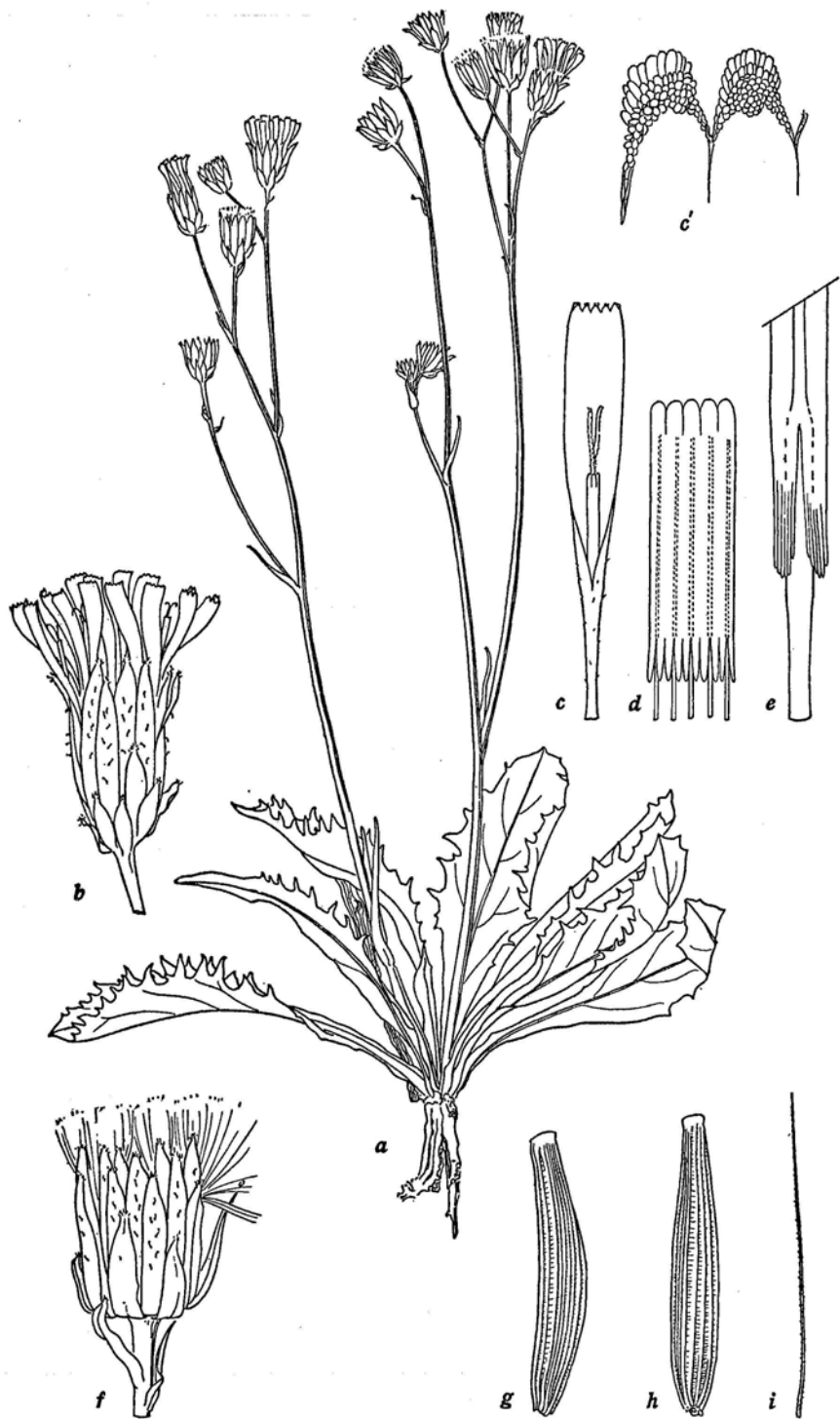


FIG. 11. *Crepis runcinata* subsp. *imbricata*. a-e, from the type, *Usick 2014*: a, plant,  $\times \frac{1}{2}$ ; b, flower-head;  $\times 2$ ; c, corolla,  $\times 4$ ; c', detail of ligule-teeth,  $\times 50$ ; d, anther-tube,  $\times 8$ ; e, detail of appendages,  $\times 32$ . f-i, from *Eastwood 14853*: f, fruiting head,  $\times 2$ ; g-i, achenes and pappus-bristle,  $\times 8$ .

This subspecies resembles subsp. *Andersonii* in its leaves and in the broad, strongly imbricated bracts of its involucre, but the heads are the same size as those of subsp. *typica*, while the achenes are not at all beaked.

9f (6). *Crepis runcinata* subsp. *Andersonii* (Gray) comb. nov. (Fig. 12.)—Leaves as in subsp. *imbricata*, but often larger, up to 2 cm long and 5 cm broad; stems mostly robust, 2.5–5 dm high; inflorescence generally with 6–20 heads; involucre 13–21 mm high, glandular-pubescent; inner bracts more or less strongly attenuate at the apex; outer bracts similar, 2–3 mm broad, the longest about 2/3 the length of the inner; achenes 6–8 mm long, pale yellow to reddish brown, more or less strongly rostrate at the apex; pappus 6–9 mm. (*Crepis Andersonii* Gray, Proc. Am. Acad. 6:553, 1865.)

Western Nevada and adjacent California, in damp, alkaline meadows. The following have been seen: NEVADA: near Carson City, Ormsby County, *Anderson* in 1865 (type G, US); about Carson City, alt. 1446 m, *Baker 1062* (UC, G); Reno, Washoe County, *Brandegee* in 1883 (UC); Washoe Lake, *Bryant* (UC); Soda Springs, Esmeralda County, *Shockley 266* (UC, G, DS). CALIFORNIA: Sierra County, *Lemmon* in 1874 (G); Loyalton, Sierra County, *Eastwood 7792* (CA); Purdy, Sierra County, *Heller & Kennedy 8666* (UC, G, DS, Nev). The specimens from Sierra Valley differ strikingly from typical *C. Andersonii* in their deeply pinnatifid leaves, which, along with the stems, are strongly hispidulose.

Subsp. *Andersonii* is by far the most marked variant of *C. runcinata*, but the specimens now available indicate that it intergrades with the other subspecies at the limits of its range. Although the beaked achenes have been generally used to keep it distinct from all its relatives, there is every transition from truly beaked achenes to those merely attenuate at the apex, even in plants otherwise typical of subsp. *Andersonii*, while well-developed beaks occur on some plants cited below which have involucre typical of *C. runcinata*. The large involucre and attenuate bracts are also in their most typical form strikingly different from those of *C. runcinata*, but the specimens from Purdy and from Washoe County show all degrees of transition in these characteristics. The following may be considered transitional forms (cf. *C. subcarnosa* Greene, Pittonia 3:107, 1896; *C. runcinata ciliosa* Greene, *ibid.* ? ex descr.): NEVADA: Lemmon Valley, Washoe County, *Kennedy 2061*, part (UC), involucre transitional from subsp. *Andersonii* to subsp. *imbricata*; Humboldt Wells, *Greene* in 1893 (type of *C. subcarnosa* Greene, UC), leaves and achenes as in subsp. *Andersonii*, involucre more as in subsp. *typica*, whole plant densely hispidulose.

9g (7). *Crepis runcinata* subsp. *Hallii* subsp. nov. (Fig. 13)—Folia glauca, 6.5–27 cm longa, 1.5–3 cm lata, oblanceolata vel anguste obovata, in petiolum latum alatum angustata, dentata vel subpinnatifida; capitula 4–14 pro inflorescentia; involucre 9–13 mm longa, minute glandulosa; phylla exteriora brevia, anguste deltoidea; phylla interiora angusta, apice acuta nec acuminata vel attenuata; achenia 4.5–6.5 mm longa, ad apicem longe attenuata vel rostrata.