on drying, sometimes also finely stellate, seldom only stellate (without long setae) or even virtually glabrous and somewhat glaucous; lower cauline leaves elongate, persistent, and often somewhat crowded, mostly entire, commonly 10–25 (30) cm long (including the petiole or narrow base) and 1–3.5 cm wide; middle and upper leaves progressively reduced and distant (or wanting); heads few to many, sometimes crowded, (15) 20–50-flowered; involucre 7–12 mm high, finely stellate and usually with ±numerous, short, blackish, gland-tipped bristles, often also with some longer setae, these sometimes so numerous as to obscure the shorter hairs; outer bracts few, progressively shorter, sometimes hidden in the pubescence; ligules yellow, the outer much longer than the basal corolla-tube (commonly ca twice as long), well exserted (commonly by 3–6 mm) past the involucre; sinuses separating the teeth of the ligules, at least those marking the outer teeth, relatively deep, commonly 1–2 mm or more; corolla-teeth tending to be tinted blackish-green beneath; achenes short-columnar, 2.5–3.2 mm long; pappus-bristles in a single series; plants self-incompatible; $2n = 18$.

Dry, open places, dry meadows, brushy places, and open woods, only occasionally in denser woods, as under lodgepole pine (var. *scouleri*), 1300–3000 m elev.; s. B.C. and sw. Alta. to n. Calif. (as far s. in the Sierra Nevada as Placer Co.), the nw. corner of Nev. (n. Washoe Co.), Utah (as far s. as Garfield Co.), and w. Wyo. July, Aug.

The species consists of four wholly confluent but ecogeographically significant varieties. Only the var. *griseum* is common with us.

1 Herbage sparsely or moderately setose below, subglabrous (or merely inconspicuously stellate) and often glaucous above, varying to sometimes essentially glabrous throughout; involucre often glandular, but only seldom evidently long-setose.
2 Stems ±leafy, at least below the middle; plants of relatively mesic habitats at middle and lower elev.; Cascade region of Wash. (and adj. B.C.) and Oregon, s. into n. Calif. and adj. nw. Washoe Co., Nev., and e. to w. Mont., nw. Wyo., and the Caribou Range in Bonneville Co., Idaho ..... var. *scouleri*
2 Stems naked or nearly so above the leafy base; plants mostly of upper elev.; Cascade Mts. of c. Wash. s. to the c. Sierra Nevada (Placer Co.), w. into the Klamath region, and e. to the Warner Mts. and the mts. of c. and ne. Oregon and adj. Idaho ..... var. *nudicaule* (A. Gray) Cronquist
1 Herbage evidently long-setose above as well as below, not glaucous.
3 Involucre evidently glandular and rather sparsely setose, varying to moderately or not at all setose, the hairs mostly well under 5 mm long; the common phase with us; widespread from s. B.C. and sw. Alta. to n. Calif., s. Utah (Red Canyon in Garfield Co.), and w. Wyo. ..... var. *griseum* (Rydb.) A. Nelson
3 Involucre and herbage very densely and conspicuously long-setose (the hairs often 5–6 mm long), scarcely or obscurely glandular; c. and n. Idaho, w. into adj. Oregon and Wash., n. into se. B.C. and sw. Alta., e. into w. Mont. and nw. Wyo., and in Owyhee Co., Idaho; typically in drier and more open habitats than the other vars. ..... var. *albertinum* (Farr) G. W. Douglas & G. A. Allen

4. Hieracium horridum Fr.

Hieracium horridum Fr. Epicr. generis Hieraciorum 154. 1862. *Pilosella horrida* F. W. Schultz & Sch. Bip. Flora 45: 439. 1862. (*Bridges 127*, mts. of Calif.)

Stems clustered on a freely branching, fibrous-rooted rhizome-caudex, often forming large clumps, 1–4 dm tall, ascending to erect, simple to freely branched, usually densely and conspicuously setose with spreading, barbellate hairs up to ca 5 mm long, varying to more thinly so and glaucous, sometimes also stellate-hairy and sparsely glandular; leaves basal and cauline, rather numerous and crowded, softly setose like the stem, sometimes only thinly so, the lower rather broadly oblanceolate and blunt, mostly 4–13 cm long and 0.5–3 cm wide, the others somewhat smaller, more oblong, and sessile; heads several to usually ±numerous on slender peduncles in a freely branching, bracteate inflorescence, individually small and narrow; involucre 5–9 mm high, sparsely to copiously long-setose with black-based hairs, the outer bracts few and progressively shorter than the inner; flowers few, mostly 5–20 per head; ligules wholly yellow, the outer equaling or a little longer than the basal corolla-tube, well exserted (2 mm or more) past the involucre, with short, subequal teeth ca 0.5 mm long or less; achenes columnar, 2.8–3.5 mm long; pappus-bristles tending to be obscurely bi- or triseriate; plants self-fertile; $2n = 18$.

Rock crevices and outcrops, at middle and upper elev. in the mts., 2300–3350 m; mainly in the Sierra Nevada of Calif. and adj. Nev., n. in the Cascade Mts. to c. Oregon, and s. into the mts. of s. Calif.; entering our range in the White, Sweetwater, and Bodie mts., Calif. June–Aug.

5. Hieracium fendleri Sch. Bip.

Crepis ambigua A. Gray, Mem. Amer. Acad. Arts, II. 4: 114. 1849; not Balb. 1805, nor *Hieracium ambiguum* Ehrh. 1790. *Hieracium fendleri* Sch. Bip. Bonplandia 9: 173. 1861. *Heteropleura fendleri* Rydb. Bull. Torrey Bot. Club 38: 15. 1911. *Chlorocrepis fendleri* W. A. Weber, Phytologia 51: 371. 1982. (*Fendler 454*, Santa Fé Creek, N.M.; the apparent holotype at GH! bears the number *488*.)

Plants mostly single-stemmed from the end of a short, praemorse rhizome, 1–5 dm tall, the stem glaucous, rather sparsely beset with long, spreading bristles mostly 1.5–6 mm long, and thinly stellate in the inflorescence; leaves mainly basal or nearly so, glaucous, thinly (or at least not very densely) beset with long, spreading bristles like those of the stem, oblanceolate to elliptic, 3–17 cm long and 1–5 cm wide, entire or obscurely few-toothed; heads (1) few to several, mostly long-pedunculate (especially the lower) in a corymbiform or openly racemiform inflorescence; involucre mostly 10–15 mm high, sparsely setose and thinly stellate, the outer bracts few, of several lengths, much shorter than the inner; corolla-tube half again to more than twice as long as the short (2.5–4 mm), yellow ligule, the ligule-teeth minute, less than 0.5 mm long, often blackish-green; achenes elongate, 5–7 mm long, distinctly tapering upwards, sometimes almost beaked.

Thinly wooded slopes, often with ponderosa pine; Chihuahua and w. Texas to Ariz., n. to s. Colo. and the s. tier of cos. in Utah; disjunct (?) in n. Baja Calif. June, July.

The distinctive achenes set *H. fendleri* off sharply from all our other species of *Hieracium*.

128. CREPIS L. Hawk's-beard

Annual, biennial, or perennial herbs with milky juice, our species (except *C. nana*) all with a taproot or 2–several strong roots, without rhizomes; leaves alternate or all basal, entire or merely toothed to pinnatifid or

subbipinnatifid; hairs simple or branched, but (at least in our species) not obviously stellate; heads solitary to numerous, small or large, few- to many-flowered, in an open, corymbiform or paniculiform inflorescence; flowers all ligulate and perfect, yellow (sometimes reddish on the outer face, or in a few Old-World species pink or white); involucre cylindric or campanulate, its principal bracts in one or two series, the reduced outer ones few or many; receptacle naked (in all our species) or rarely chaffy; achenes terete or subterete, fusiform or nearly columnar, often beaked, 10- to 20-ribbed; pappus of numerous white or whitish capillary bristles, all more than 4-celled in cross-section at the base.

About 200 species, native to Eurasia, n. Africa, and N. Amer., only 12 native in the New World, these boreal or western. (Name used by Pliny for some plant, derived from the Greek *krepis*, a boot or sandal.)

Most of the native American species of *Crepis* belong to a polyploid-apomictic complex in which the lines among taxa can only be drawn arbitrarily. Babcock and Stebbins (1938) treated this complex as consisting of nine species and rather numerous subspecies. Their treatment is still useful today, although some of their subspecies do not seem to me to merit taxonomic notice. Our species 3–8 belong to this complex. The other three species of the complex occur mostly to the west of our range. Four of our six species include both sexual diploids and polyploid apomicts, the latter mostly of hybrid origin and often involving more than two ancestral species. Our other two species of this complex, *C. intermedia* and *C. barbigera*, are wholly apomictic taxa of convenience, reflecting past hybridization of different species and lacking a diploid base.

Given the multiplicity of possible genomic and infragenomic combinations, clear distinctions among our species 3–8 should not be expected and in fact do not exist. There is enough phenetic clustering to encourage our efforts to recognize and delimit taxa, but enough intergradation to frustrate the realization of a wholly satisfactory scheme. The key here presented emphasizes the phenetic clusters, at the expense of providing for the intermediates.

References:
Babcock, E. B. 1947. The genus *Crepis*. Part two, systematic treatment. Univ. Calif. Publ. Bot. 22: 199–1030.
———, and G. L. Stebbins. 1938. The American species of *Crepis*. Publ. Carnegie Inst. Wash. 504.

1 Introduced, weedy annuals ..... 9. *C. capillaris*
1 Native perennials, not weedy.
2 Stems and leaves glabrous, or more or less hispid, but not at all tomentose.
3 Flowers mostly 6–12 in each head; plants rarely as much as 2 dm tall ..... 1. *C. nana*
3 Flowers more numerous, mostly 20–50 in each head; plants mostly 2–7 dm tall .... 2. *C. runcinata*
2 Stems and leaves more or less tomentose or puberulent, at least when young, sometimes also setose or glandular-hispid.
4 Principal involucral bracts essentially glabrous; heads narrow and few-flowered, with 5–8 principal bracts and 5–12 flowers ..... 3. *C. acuminata*
4 Principal involucral bracts usually tomentose-puberulent or setose or both; heads often larger, often with more than 8 principal bracts and/or more than 12 flowers.
5 Lower part of the stem beset with stout, glandless bristles ..... 7. *C. modocensis*
5 Lower part of the stem not bristly, or the bristles gland-tipped.
6 Principal leaves deeply pinnatifid, with narrow rachis and linear or lance-linear, mostly entire segments ..... 6. *C. atribarba*
6 Principal leaves otherwise, either with broader, mostly lanceolate or deltoid segments (some of them usually toothed), or with the undivided central strip of the leaf relatively broad.
7 Involucre beset with glandless, yellow or greenish bristles; plants mostly tall and coarse, 3–8 dm high; northwestern; barely entering our range in n. Harney Co., Oregon ..... 8. *C. barbigera*
7 Involucre without bristles, or with glandless or gland-tipped blackish bristles; widespread in our range.
8 Plants mostly 3–7 dm tall; involucre tomentulose-puberulent but not setose; heads 10–60, with 7–12 (16) flowers ..... 4. *C. intermedia*
8 Plants mostly 1–3 dm tall; involucre setose or not; heads 2–25, with 10–40 flowers ..... 5. *C. occidentalis*

1. Crepis nana Richardson

Crepis nana Richardson in Franklin, Narr. Journey Polar Sea, Bot. Appendix, VII. 746. 1823. *Barkhausia nana* DC. Prodr. 7: 156. 1838. *Hieraciodes nanum* Kuntze, Revis. Gen. Pl. 1: 346. 1891. *Youngia nana* Rydb. Fl. Rocky Mts. 1021, 1069. 1917 [1918]. *Askellia nana* W. A. Weber, Phytologia 55: 7. 1984. (*Richardson s.n.*, Coppermine River, Arctic seacoast; holotype at K!)

Crepis nana var. **ramosa** (Babc.) Cronquist, comb. nov. *C. nana* subsp. *ramosa* Babc. Univ. Calif. Publ. Bot. 22: 542. 1947. *Askellia nana* subsp. *ramosa* W. A. Weber, Phytologia 55: 7. 1984. (*Thompson 7883*, talus slopes above Lake Constance, Jefferson Co., Wash.; holotype at UC!) The type is the extreme form with branched, ascending aerial stems and well spaced leaves.

Glabrous and glaucous low perennial, ours with a ±well developed talus-habit, the taproot giving rise to several or many slender, ±elongate and rhizome-like or stolon-like, apical or often lateral and adventitious stems and often then dying, so that the plant may persist by means of slender stems that creep in the talus; aerial stems seldom rising more than 1 (2) dm above the substrate; leaves basically alternate but generally clustered at ground-level on the stem-tips, rarely more spaced along the shortly ascending aerial stems (as in the type of var. *ramosa*), mostly spatulate to orbicular or ovate, up to 8.5 cm long (petiole included) and 2.5 cm wide; heads several or rather many, commonly

nestled amongst the leaves in short, terminal inflorescences, erect, narrow, (6) 9–12-flowered; involucre cylindric, 8–13 mm high; outer bracts less than half as long as the ca 10 inner ones; outer corollas 7–9 mm long, their ligules 1.25–1.5 mm wide, with terminal teeth 0.3–0.5 mm long; achenes golden brown, mostly 4–7 mm long, scarcely to evidently narrowed or attenuate above, or sometimes very shortly beaked, ca 10–13-ribbed, the ribs relatively broad, smooth or faintly rugulose; pappus deciduous; $2n = 14$.

Talus-slopes and other rocky or gravelly places at upper elev. in the mts., in our range at 2400–3600 m; n. Asia and nw. N. Amer., e. to Labrador and Que., and s. in the w. cordillera to Calif., Nev., Utah, and Colo.; in Calif. in the Sweetwater, White, and Panamint mts. as well as the Sierra Nevada; in Nev. in scattered ranges from Elko, White Pine, and Lander cos., and in the Charleston Mts. of Clark Co.; in Utah in the Wasatch Mts. and Utah Plateaus s. to Garfield Co., and in the Abajo and La Sal mts., but apparently not in the Uinta Mts. July, Aug.

Our plants, as here described, belong to the var. *ramosa* (Babc.) Cronquist, characterized by its talus-habit and confined to the mountains of the conterminous U.S. and nearby Canada. The more northern var. *nana*, which extends south to Montana and west into Asia, is depressed and compact, with the taproot surmounted by a short, stout, simple or few-branched caudex from which the numerous very slender, short and closely leafy aerial stems arise, so that the plant forms a small cushion. Occasional plants from well within the range of var. *ramosa*, even as far south as Colorado and southern Nevada, have the taproot surmounted by a shortly few-branched caudex and might pass as var. *nana* had they been collected in Alaska.

2. **Crepis runcinata** (E. James) Torr . & A. Gray

Hieracium runcinatum E. James, Account Exped. Pittsburgh 1: 453. 1823. *Crepis runcinata* Torr. & A. Gray, Fl. N. Amer. 2: 487. 1843. *Psilochaenia runcinata* Å. Löve & D. Löve, Taxon 31: 360. 1982. (*E. James s.n.*, depressed, grassy situations along the Platte; I did not find it at GH, NY, or US.)

Crepidium runcinatum Nutt. Trans. Amer. Philos. Soc. II. 7: 436. 1841. (*Nuttall*, grassy plains of the Platte; holotype at BM!) = var. *runcinata*.

Crepidium glaucum Nutt. Trans. Amer. Philos. Soc. II. 7: 436. 1841. *Crepis glauca* Torr. & A. Gray, Fl. N. Amer. 2: 488. 1843. *Crepis runcinata* subsp. *glauca* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 98. 1938. *Crepis runcinata* var. *glauca* B. Boivin, Naturaliste Canad. 87: 31. 1960. *Psilochaenia runcinata* subsp. *glauca* Å. Löve & D. Löve, Taxon 31: 360. 1982. (*Nuttall*, grassy plains of the Platte; holotype at BM!)

Crepis runcinata var. **andersonii** (A. Gray) Cronquist, comb. nov. *Crepis andersonii* A. Gray, Proc. Amer. Acad. Arts 6: 553. 1865. *Crepis runcinata* subsp. *andersonii* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 104. 1938. *Psilochenia runcinata* subsp. *andersonii* W. A. Weber, Phytologia 53: 189. 1983. (*C. L. Anderson 305*, Carson City, Nev.; holotype at GH!)

Crepis platyphylla Greene, Pittonia 3: 27. 1896. (*Greene s.n.*, Montpelier, Idaho, 3 July 1899; represented at NDG! by two duplicates, herbarium numbers 065619, 065620.) = var. *hispidulosa*.

Crepis runcinata var. *ciliosa* Greene, Pittonia 3: 107. 1896. (*Greene s.n.*, headwaters of the Humboldt River, Elko Co., Nev., 15 July 1896; represented at NDG! by four sheets, herbarium numbers 065624–7, from a meadow at Holborn.) = var. *runcinata*.

Crepis runcinata (var.) *hispidulosa* Howell ex Rydb. Mem. New York Bot. Gard. 1: 461. 1900. *Crepis runcinata* subsp. *hispidulosa* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 96. 1938. *Psilochenia runcinata* subsp. *hispidulosa* W. A. Weber, Phytologia 53: 189. 1983. (*T. Howell s.n.*, base of Stein's [Steens] Mt., Oregon, 1 June 1885; holotype at NY!)

Crepis runcinata subsp. *imbricata* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 102. 1938. *C. runcinata* var. *imbricata* M. Peck, Madroño 6: 136. 1941. *Psilochenia runcinata* subsp. *imbricata* W. A. Weber, Phytologia 53: 190. 1983. (*Cusick 2014*, Alvord Valley, Harney Co., Oregon; holotype at UC!)

Crepis runcinata subsp. *hallii* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 104. 1938. *Psilochenia runcinata* subsp. *hallii* W. A. Weber, Phytologia 53: 189. 1983. (*Hall 12281*, Benton, Mono Co., Calif.; holotype at UC!) = var. *imbricata*.

Perennial from one or several strong roots, mostly 2–7 dm tall, glabrous or somewhat hispid, not at all tomentose; stems 1–3; basal leaves oblanceolate to elliptic or obovate, entire to pinnatifid or often runcinately toothed; cauline leaves much reduced, the stem usually appearing scapiform; heads 1–30, mostly 20–50-flowered; corollas yellow, 9–18 mm long; involucre 7–21 mm high, with mostly 10–15 inner bracts; achenes light to dark brown, 3–6 mm long, slightly to strongly tapering above, varying to shortly beaked; $2n = 22$.

Moist or wet, sunny places, often in alkaline meadows, from the valleys and foothills to fairly high elev. (2900 m) in the mts.; Wash. (e. of the Cascade summits) to Calif., e. to Man., Minn., Nebr., N.M. and adj. Mex. May–Aug.

Several weak and ecogeographically widely overlapping varieties may be recognized, with some difficulty. In addition to the following, there is one variety well to the south of our range.

1 Heads large, the involucre (12) 13–21 mm high, its wider (outer) bracts 2–4 mm wide; involucre usually but not always glandular-hairy; w. Nev. and adj. Calif., e. to Humboldt and westernmost Nye cos., Nev. . . . . var. *andersonii* (A. Gray) Cronquist

1 Heads smaller, the involucre 7–12 (13) mm high, its bracts generally not over 2 mm wide.

2 Involucre glabrous or merely a little tomentose-puberulent (especially on the margins of the bracts), without gland-tipped hairs; wet to dry, usually alkaline meadows and swamps in the valleys and lowlands, 1000–2000 m elev.; nearly throughout our range, s. to Ariz. and N.M., and e. onto the high plains . . . . . var. *glauca* (Nutt.) B. Boivin

2 Involucre beset with gland-tipped hairs or setae.

3 Leaves relatively broad, at least the larger ones mostly 3–8 cm wide; heads relatively numerous, mostly (6) 10–20 or more; sweet to mildly alkaline meadows, up to ca 2100 m elev.; relatively northern, from Mont. and s. Alta. to c. Wash., s. to Colo., Utah (mainly in the Wasatch Mts. and Utah Plateaus sections), s. Idaho (Bear Lake and Owyhee cos.), and se. Oregon (Steens Mt.) . . . . . var. *hispidulosa* Howell ex Rydb.

3 Leaves narrower, seldom any of them more than 3.5 cm wide; heads few, rarely as many as 10.

4 Leaves entire to softly and irregularly toothed or shallowly lobed; meadows and other wet places, 1300–2900 m elev.; mainly on the Great Plains, but extending w., occasionally, to Idaho and Utah (Uinta and Wasatch mts. and Utah Plateaus) . . var. *runcinata*

4 Leaves tending to be regularly and rather closely toothed or shallowly lobed, the teeth callous-pointed; alkaline meadows and seeps, 700–2500 m elev.; widespread in Nev. (as far e. as Elko, Lander, and c. and s. Nye cos.) and adj. Calif. and Oregon (Harney and Malheur cos.) . . . . . var. *imbricata* (Babc. & Stebbins) M. Peck

3. **Crepis acuminata** Nutt.

Crepis acuminata Nutt. Trans. Amer. Philos. Soc. II. 7: 437. 1841. *Hieraciodes acuminatum* Kuntze, Revis. Gen. Pl. 1: 345. 1891. *Psilochenia acuminata* W. A. Weber, Phytologia 53: 188. 1983. (*Nuttall*, plains of the Platte; holotype at BM!)

Crepis acuminata subsp. *pluriflora* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 178. 1938. *Psilochenia acuminata* subsp. *pluriflora* W. A. Weber, Phytologia 53: 188. 1983. (*C. F. Baker 243*, Cedar Edge, Delta Co., Colo.; holotype at UC!; some isotypes said to be *C. intermedia*.)

Perennial with 1–3 stems from a taproot, 2–7 dm tall; herbage gray-tomentulose, or sometimes eventually glabrate; basal and lower cauline leaves mostly 1–4 dm long, pinnately lobed, mostly with broad undivided midstrip, the lobes entire or sometimes toothed

Crepis runcinata (cont.)

2/5

var. glauca

2/5

var. imbricata

2/5

var. runcinata

1.6

1.6

2/5

var. hispidulosa

or cleft; heads relatively numerous, commonly (12) 20–100 or more, cylindric, 5–10 (12)-flowered; involucre 8–16 mm high, essentially glabrous, or the very short outer bracts somewhat tomentulose-puberulent on the margins, the outer bracts mostly less than half as long as the 5–7 (8) inner ones; corollas 10–18 mm long; achenes mostly yellow or brownish, 6–9 mm long, more or less narrowed above; sexual and diploid, $2n = 22$, or apomictic and polyploid, $2n =$ 33–ca 88.

Dry, open places, mostly from the lowlands and foothills up to middle elev. in the mts., but sometimes up to 3100 m; se. Wash. to c. Mont., s. to s. Calif. (mainly in and e. of the Cascade-Sierran axis), s. Nev., n. Ariz. (Arizona Strip), and n. N.M.; common and widespread in our range, but poorly represented in the Canyonlands and s. Nev. May–July.

Babcock and Stebbins separated some plants mainly from the Colorado Plateau and vicinity as subsp. *pluriflora* on the basis of their heads with 8 principal involucral bracts and 9–12 flowers, but these scarcely transcend the range of variability of the more widespread, western plants. The same authors reported plants of subsp. *acuminata* (as subsp. *typica*) from southwestern Oregon and northern California with as many as 12 flowers.

4. Crepis intermedia A. Gray

Crepis intermedia A. Gray, Syn. Fl. N. Amer. 1(2): 432. 1884. *Hieraciodes intermedium* Kuntze, Revis. Gen. Pl. 1: 346. 1891. *Crepis acuminata* var. *intermedia* Jeps. Man. Fl. Pl. Calif. 1011. 1925. *Psilochenia intermedia* W. A. Weber, Phytologia 53: 189. 1983. (*Bolander 4930*, Yosemite Valley, Calif.; lectotype by Babc. & Stebbins.)

Perennial with 1 or 2 stems from a taproot, 3–7 dm tall; herbage densely or sparsely gray-tomentulose; basal and lower cauline leaves mostly 1–4 dm long, pinnatifid, with a usually fairly broad undivided midstrip and entire or dentate segments; heads commonly 10–60, cylindric-campanulate, 7–12 (16)-flowered; involucre 10–16 mm high, tomentulose-puberulent, the outer bracts less than half as long as the mostly 7 or 8 inner ones; corollas 14–30 mm long; achenes mostly yellow or brownish, 5.5–9 mm long, narrowed above; wholly apomictic and polyploid, $2n =$ ca 33–ca 88.

Mostly in open places in the foothills and at lower or middle elev. in the mts., 1200–2500 m elev., or in the White Mts. to 3200 m; c. Wash., s. along the e. side of the mts. to the Sierra Nevada of Calif., and e. irregularly to s. Alta., Wyo., w. Colo., and n. Ariz. May–July.

Plants passing under this name are polyploid apomicts, mostly reflecting past hybridization of *C. acuminata* and *C. occidentalis*. To the west of our area *C. pleurocarpa* A. Gray may substitute for *C. acuminata* in the hybrid combinations. Within our area, genomes of *C. modocensis* and *C. atribarba* may sometimes be added to the *acuminata-occidentalis* combination. The arbitrary line between *C. intermedia* and *C. acuminata* is here drawn on the vestiture of the involucre: glabrous in *C. acuminata* and tomentulose-puberulent in *C. intermedia*. In most specimens of *C. occidentalis* the involucre is beset with gland-tipped setae as well as being tomentulose-puberulent.

5. Crepis occidentalis Nutt.

Crepis occidentalis Nutt. J. Acad. Nat. Sci. Philadelphia 7: 29. 1834. *Psilochenia occidentalis* Nutt. Trans. Amer. Philos. Soc. II. 7: 437. 1841. *Hieraciodes occidentale* Kuntze, Revis. Gen. Pl. 1: 346. 1891. (*Wyeth*, on the borders and in the vicinity of the river Columbia.)

Crepis occidentalis var. *nevadensis* Kellogg, Proc. Calif. Acad. Sci. 5: 50. 1873. (*Kellogg s.n.*, summit of Sierra Nevada, Calif., 16 June 1870.) This would seem to be the oldest name in varietal status for the plant treated by Babc. & Stebbins as *C. occidentalis* subsp. *conjuncta*.

C. occidentalis var. *costata* A. Gray, Bot. Calif. 1: 435. 1876. *C. occidentalis* subsp. *costata* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 124. 1938. *Psilochenia occidentalis* subsp. *costata* W. A. Weber, Phytologia 53: 189. 1983. (*Watson 715*, Stansbury Island, Great Salt Lake, Utah; lectotype by Babc. & Stebbins, at GH!)

Crepis pumila Rydb. Mem. New York Bot. Gard. 1: 462. 1900. *C. occidentalis* subsp. *pumila* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 128. 1938. *C. occidentalis* var. *pumila* M. Peck, Madroño 6: 137. 1941. *Psilochenia occidentalis* subsp. *pumila* W. A. Weber, Phytologia 53: 189. 1983. (*Rydberg & Bessey 5305*, Bridger Mts., Mont.; holotype at NY!)

Crepis occidentalis subsp. *conjuncta* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 134. 1938. *Psilochenia occidentalis* subsp. *conjuncta* W. A. Weber, Phytologia 53: 189. 1983. (*Kellogg s.n.*, Camp Yuba, Cisco, Placer Co., Calif., 18 June 1870; holotype at UC!)

Stout perennial with a taproot and caudex; stems (0.5) 1–3 (4) dm tall; herbage densely and closely gray-tomentose, or glabrate in age, often glandular-hirsute above, and often with some glandless or gland-tipped black bristles on the involucre; lower leaves mostly 1–3 dm long, runcinately toothed to fairly deeply pinnatifid with toothed lobes; heads 2–25, mostly 10–40-flowered; involucre 11–19 mm high, its inner bracts 8–13, the outer in ours seldom as much as half as long as the inner; achenes light to dark brown, 6–10 mm long, fusiform; diploid and polyploid, $2n =$ 22–88, the diploids sexual, the polyploids mainly apomictic.

Dry, open slopes, from the lowlands and foothills to middle or fairly high elev. in the mts., 600–2900 m elev.; s. B.C. to s. Calif., e. to s. Alta., S.D., and N.M.; blanketing our range. May–July.

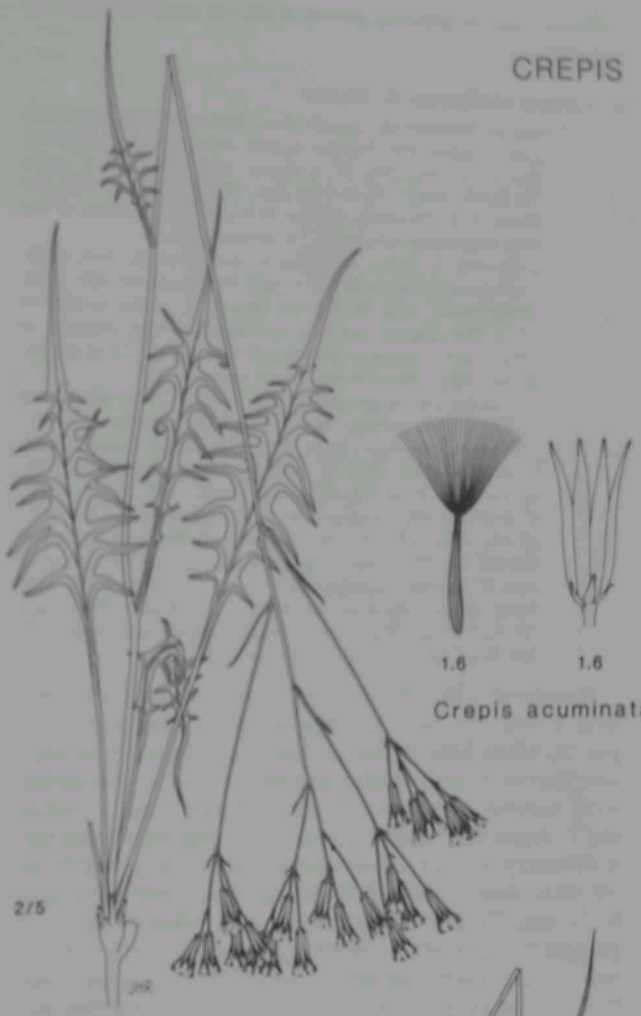
Babcock and Stebbins recognize four subspecies of *C. occidentalis*, characterized as follows:

1 Involucres with at least some glandular pubescence.
2 Involucres, peduncles, and upper cauline leaves slightly or strongly glandular; largest heads of the inflorescences with 10–13 inner bracts, 18–30-flowered ..... subsp. *typica* [= *occidentalis*]
2 Involucres, peduncles, and generally the upper cauline leaves covered with conspicuous dark, gland-tipped trichomes; largest heads of the inflorescences with 8 inner bracts, 12–14-flowered ..... subsp. *costata* (A. Gray) Babc. & Stebbins
1 Involucres completely devoid of glandular pubescence; if with a few glandular trichomes, the involucres with 8 inner bracts and less than 15 florets.
3 Stems well developed, 1–4 dm high, with a well defined primary axis; longest outer bracts of the involucre generally ⅓–½ the length of the inner; leaves, if pinnatifid, with closely spaced, strongly toothed or pinnatifid lobes; heads mostly with 8 inner bracts and 10–20 florets ..... subsp. *pumila* (Rydb.) Babc. & Stebbins
3 Stems low, 0.5–2 dm high; inflorescence branching from near the base of the stem and bearing heads mostly on the end of long, divergent peduncles; longest outer bracts (5) 7–9 mm long, ½–⅔ as long as the inner; leaves deeply pinnatifid, with remotely spaced, lanceolate, acute or acuminate, entire or coarsely few-toothed lobes ..... subsp. *conjuncta* Babc. & Stebbins

Subspecies *conjuncta* occurs mainly in forested regions in California and southern Oregon, with outliers in Washington and northwestern Wyoming. It is not known in our range. Presumably it reflects past hybridization with *C. modocensis* or *C. bakeri* Greene, another western species not known in our range.

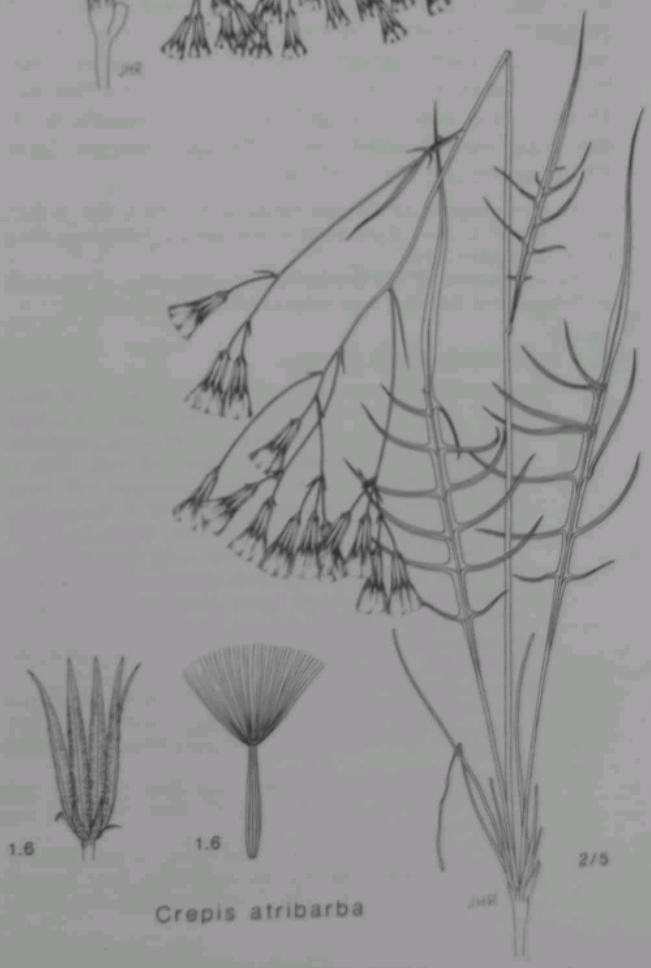
The other three subspecies of the Babcock and Stebbins treatment are all widespread in our range and are ecogeographically scarcely significant. The sexual diploid forms of subsp. *occidentalis* are thought to be restricted to northern California and adjacent Nevada, but many polyploid (and presumably mostly apomictic) forms with a wider distribution are also included in this subspecies. The other subspecies are thought to be wholly polyploid and apomictic. I do not think the proposed distinction between subsp. *occidentalis* and subsp. *costata* is conceptually useful, and I include all forms of *C. occidentalis* with setae on the involucre in var. *occidentalis*. Plants of *C. occidentalis* in our range that lack the setae on the involucre are morphologically transitional to *C. intermedia*, presumably reflecting the incorporation of a relatively small amount of genetic material from *C. acuminata*.

Crepis intermedia



Crepis acuminata

Crepis occidentalis



Crepis atribarba

Such plants may be called var. *pumila* (Rydb.) M. Peck if a distinction is desired.

6. Crepis atribarba A. Heller

Crepis occidentalis var. *gracilis* D. C. Eaton in King, Rep. U.S. Geol. Explor. 40th Parallel 5: 203. 1871. *C. intermedia* var. *gracilis* A. Gray, Syn. Fl. N. Amer. 1(2): 432. 1884. *C. gracilis* Rydb. Mem. New York Bot. Gard. 1: 461. 1900; not Hook. f. & Thomson, 1876. (*Watson 716*, canyons of the East Humboldt Mts., Nev.; holotype at YU!)

C. atrabarba A. Heller, Bull. Torrey Bot. Club 26: 314. 1899. *Psilochenia atribarba* W. A. Weber, Phytologia 53: 189. 1983. (*Heller 3302*, Lake Waha, Nez Perce Co., Idaho; isotype at NY!) The original spelling, *atrabarba* is here changed to *atribarba* in reluctant compliance with Article 73 of the International Code of Botanical Nomenclature.

Crepis exilis Osterh. Muhlenbergia 1: 142. 1906. (*Osterhout 2979*, Sulphur Springs, Grand Co., Colo.; isotype at NY!)

C. exilis subsp. *originalis* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 162. 1938. *C. atribarba* subsp. *originalis* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: Suppl. 1939. *C. atribarba* var. *originalis* M. Peck, Madroño 6: 137. 1941. *C. atribarba* var. *cytotaxonomicorum* B. Boivin, Naturaliste Canad. 87: 31. 1960. *C. occidentalis* var. *cytotaxonomicorum* B. Boivin, Phytologia 23: 128. 1972. *Psilochenia atribarba* subsp. *cytotaxonomicorum* W. A. Weber, Phytologia 53: 189. 1983. (*Wheeler s.n.*, Similkameen River, near Hedley, B.C., 19 June 1928; holotype at UC!)

Perennial with 1 or 2 stems from a taproot and caudex, 1.5–8 dm tall; herbage gray-tomentulose when young, often later glabrate; basal and lowermost cauline leaves mostly 1–3.5 dm long, deeply pinnatifid, with narrow rachis and linear or lance-linear, mostly entire segments; upper leaves becoming linear and entire; rarely all the leaves narrow and entire; heads 3–30 (40), mostly 10–40-flowered; involucre 8–15 mm high, usually gray-tomentulose and often with some glandless black setae, rarely (in forms approaching *C. acuminata*) glabrous; outer involucral bracts less than half as long as the mostly 8–10 inner ones; corollas 10–18 mm long; achenes usually green or greenish, 6–10 mm long, mostly attenuate at the apex; sexual, $2n$ = 22, or apomictic, $2n$ = 33–38.

Dry, open places in the mts. and valleys, up to 3000 m elev.; s. B.C. and s. Alta. to c. Nev. (Eureka and n. Nye cos.), s. Utah (Iron Co.), and c. Colo. May–July.

The organization of this species into two subspecies, as proposed by Babcock and Stebbins, does not impress me as meaningful.

7. Crepis modocensis Greene

Crepis occidentalis var. *subacaulis* Kellogg, Proc. Calif. Acad. Sci. 5: 50. 1873. *C. subacaulis* Coville, Contr. U.S. Natl. Herb. 3: 562. 1896. *C. modocensis* subsp. *subacaulis* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 148. 1938. *C. modocensis* var. *subacaulis* M. Peck, Madroño 6: 137. 1941. *Psilochenia modocensis* subsp. *subacaulis* W. A. Weber, Phytologia 53: 189. 1983. (*Brannan s.n.*, Cisco, Placer Co., Calif., 27 June 1870; isotype at GH!) A low, stout form, branching from near the base, with long peduncles and a few large heads; known from the n. Sierra Nevada and the Warner Mts., with an outlier in the San Bernardino Mts., Calif.; perhaps worthy of taxonomic recognition as var. *subacaulis* (Kellogg) M. Peck.

Crepis modocensis Greene, Erythea 3: 48. 1895. *Psilochenia modocensis* W. A. Weber, Phytologia 53: 189. 1983. (*Mrs. Austin s.n.*, lava beds, Modoc Co., Calif., June 1894; original at US!)

Crepis scopulorum Coville, Contr. U.S. Natl. Herb. 3: 563. 1896. (*Rose 680*, Yellowstone Natl. Park, Wyo., 16 Aug 1893; holotype at US!)

C. rostrata Coville, Contr. U.S. Natl. Herb. 3: 564. 1896. *C. modocensis* subsp. *rostrata* Babc. & Stebbins, Publ. Carnegie Inst. Wash. 504: 152. 1938. *Psilochenia modocensis* subsp. *rostrata* W. A. Weber, Phytologia 53: 189. 1983. (*Sandberg & Leiberg 225*, near Crab Creek, Grant Co., Wash.; holotype at US!)

Perennial with 1–4 stems from a taproot, commonly 1–3 (4) dm tall; herbage tomentulose at least when young, and at least the basal part of the stem conspicuously setose (but not glandular), the setae in ours generally yellowish; basal and lowermost cauline leaves mostly 5–15 (20) cm long, usually deeply pinnatifid, with rather crowded, lanceolate or narrower, again few-cleft or toothed segments, the teeth callous-mucronate; heads (1) 2–10 (12), mostly 10–60-flowered; involucre 11–16 mm high (to 21 mm in the *subacaulis* phase), gray-tomentulose and provided with stout, glandless setae, these in ours generally blackish; outer involucral bracts relatively well developed, the longest ones often half or even two-thirds as long as the mostly ca 13 (10–15) inner ones; achenes blackish or greenish to sometimes brownish or yellowish, 7–12 mm long; sexual and diploid, $2n$ = 22, or apomictic and polyploid, $2n$ = up to ca 88.

Dry, open, mostly rocky places, often with sagebrush, 600–3250 m elev.; s. B.C. to w. Mont., s. to Colo., Utah (as far as Beaver Co.), Nev. (as far as Douglas, Lander, and n. Nye cos.), and the n. Sierra Nevada in Calif., with an outlying station in the San Bernardino Mts. May–July.

All of our plants belong to the nomenclaturally typical phase, which is absent from Washington and British Columbia but otherwise occupies the range of the species as a whole.

8. Crepis barbigera Leiberg ex Coville

Crepis barbigera Leiberg ex Coville, Contr. U.S. Natl. Herb. 3: 565. 1896. (*Sandberg & Leiberg 313*, near Alkali Lake, Douglas Co., Wash.; holotype at US!)

Stout perennial with 1 to several stems from a taproot and caudex, 3–8 dm tall; herbage sparsely tomentulose-canescent or glabrate, and often evidently beset with stiff yellow glandless bristles; basal and lowermost cauline leaves mostly 1–4 dm long, pinnately or bipinnately toothed or parted, with mostly lanceolate segments, often approaching the leaves of *C. acuminata* in aspect; heads few or many, 8–25-flowered; involucre 9–17 mm high, tomentose and copiously beset with glandless yellow or greenish bristles; outer involucral bracts less than half as long as the mostly 6–10 principal ones; achenes olive or yellowish, mostly 7–10 mm long, narrowed to the summit; wholly apomictic, $2n$ = 44–88.

Dry, open places in the foothills and plains; Wash. (e. of the Cascade summits) and adj. n. Idaho, s. as far as n. Harney Co. in e. Oregon. May–July.

Crepis barbigera appears to be wholly apomictic, derived by hybridization between the *rostrata* phase of *C. modocensis* and *C. acuminata* (and/or to some extent *C. atribarba*). It barely enters our range, where it is known from a single old collection in northern Harney Co.

9. Crepis capillaris Wallr.

Crepis capillaris Wallr. Linnaea 14: 657. 1840. (Harz region of Germany; holotype said to be at PR.) The name *Crepis capillaris* is generally cited as (L.) Wallr., under the mistaken assumption that it was based on *Lapsana capillaris* L. The protologue of *C. capillaris* Wallr. has no reference to *Lapsana*.

Annual or occasionally biennial weed, the stem mostly 1–9 dm tall, often much branched (but simple in depauperate plants), generally hispidulous at least

CREPIS
TARAXACUM

near the base, sometimes throughout; leaves glabrous or hispidulous with short yellow hairs, the basal ones petiolate, with lanceolate or oblanceolate, obtuse or acute, denticulate to runcinate-pinnatifid or even bipinnately parted blade 3–10 cm long and 5–45 mm wide; cauline leaves reduced upwards, soon becoming sessile, lanceolate or narrower, generally clasping and acutely auriculate; heads several or numerous, 20–60-flowered; involucre 5–8 mm high, its inner bracts 8–16, slightly to evidently tomentulose-puberulent, and often glandular-bristly with black hairs as well, glabrous within, becoming spongy-thickened on the back toward the base; outer bracts linear, up to half as long as the inner; receptacle glabrous; achenes mostly tawny or pale brown, 1.5–2.5 mm long, narrowed at both ends, ca 10-ribbed, smooth or scabrous-hirtellous; $2n = 6$.

Meadows, pastures, lawns, and waste places; native of c. and s. Europe; established as a weed from B.C. to Calif., w. of the Cascade-Sierran summits, and sparingly introduced in e. U.S.; in our range known from Salt Lake and Washington cos., Utah, and to be expected occasionally elsewhere. May–Nov.

129. TARAXACUM F. H. Wigg. nom. conserv. Dandelion

Taprooted perennial scapose herbs with milky juice; leaves all basal and rosulate, entire to pinnatifid or subbipinnatifid; heads solitary, the flowers all ligulate and perfect, mostly numerous (rarely as few as 15 in some Old World species), yellow (white to pink or purple in some Old World species); involucral bracts biseriate, the outer generally shorter than the inner and often reflexed; inner involucral bracts in some species corniculate (i.e., with a hooded appendage near the tip); receptacle naked; achenes columnar or thickly fusiform, terete to 4- or 5-angled, longitudinally sulcate or ribbed, ordinarily muricate or tuberculate at least above, commonly topped by a conic or pyramidal cusp that tapers into a slender beak, or rarely beakless; pappus of numerous capillary bristles, white (in ours) to violet-brown; $x = 8$.

An indefinite number of species, native to the Northern Hemisphere and s. S. Amer. (Name of doubtful origin, perhaps from the Greek *taraxsein*, to stir up, referring to reputed medicinal qualities.)

The combined action of hybridization, polyploidy, and apomixis has produced a very complex populational structure in *Taraxacum*. Both the taxonomy and the nomenclature are in a state of utter confusion. Well over a thousand arcane microspecies have been described. Recent studies by European specialists would transfer the application of the traditional name for the common dandelion, *T. officinale*, to a Lapland plant considered to belong to a different section than our common weed. It is not clear what binomial should therefore be used for the common dandelion. I here retain the traditional nomenclature.

The conservative interpretation here adopted is essentially that of Sherff, cited below. His treatment represents a modification for the American species, based on more abundant material, of the monograph of the genus by Handel-Mazzetti, who in 1907 recognized only 57 species of the genus in the entire world.

References:
Handel-Mazzetti, H. 1907. Monographie der Gattung *Taraxacum*. Leipzig.
Kirschner, J., and J. Stepánek. 1987. Again on the sections in *Taraxacum* (Cichoriaceae). Taxon 36: 608–617.
Richards, A. J. 1985. Sectional nomenclature in *Taraxacum* (Asteraceae). Taxon 34: 633–644.
Sherff, E. E. 1920. North American species of *Taraxacum*. Bot. Gaz. 70: 329–359.

1 Introduced, weedy species.
  2 Achenes becoming red to brownish-red or purplish-red at maturity; inner involucral bracts commonly corniculate; outer bracts appressed to loose or sometimes reflexed; rare with us ..... 1. *T. laevigatum*
  2 Achenes olivaceous or stramineous to brown; inner involucral bracts not corniculate; outer bracts reflexed; common and widespread ..... 2. *T. officinale*
1 Native, unaggressive species of high mts.
  3 Achenes olivaceous to stramineous or brown; involucre mostly 11–16+ mm high, its inner bracts very often corniculate ..... 3. *T. ceratophorum*
  3 Achenes blackish at maturity; involucre only 6–11 (13) mm high, its bracts not or scarcely corniculate ..... 4. *T. lyratum*

1. Taraxacum laevigatum (Willd.) DC.

Leontodon laevigatus Willd. Sp. Pl. 3: 1546. 1803. *Taraxacum laevigatum* DC. Cat. Pl. Horti Monsp. 149. 1813. *T. officinale* var. *laevigatum* Bouvier, Fl. Alpes, ed. 2. 394. 1882. (Spain; holotype at B!)

T. erythrospermum Andrz. in Besser, Enum. Pl. 75. 1822. *Leontodon erythrospermum* Eichw. Naturhist. Skizze Lith. Volhyn. 150. 1830. *Taraxacum officinale* var. *erythrospermum* Bab. Man. Brit. Bot. 179. 1843. *T. laevigatum* var. *erythrospermum* J. Weiss, W. D. J. Koch's Syn. Deut. Schweiz. Fl. ed. 3. 1656. 1900. ("In Volhynia et Podolia frequens"; an original specimen at LE!)

Red-seed dandelion.

Similar to *T. officinale*, often more slender; leaves generally very deeply cut for their whole length, the lobes narrow, the terminal one seldom much larger than the others; heads a little smaller; involucre 1–2 cm high, its inner bracts 11–13, commonly somewhat corniculate; outer bracts appressed to loose or sometimes reflexed, a third to a little more than half as long as the inner; body of the achene becoming bright red or brownish-red or purplish-red at maturity, commonly somewhat rugulose below as well as muricate above, abruptly contracted into a cylindrical cusp just below the beak; beak usually stramineous, ½–3 times as long as the body; $2n = 16, 24, 32$.

Fields, pastures, lawns, and other disturbed sites; native of Eurasia; established throughout much of the U.S. and adj. Can., but less common than *T. officinale*; rare in our range (Lincoln and Owyhee cos., Idaho, and Cache and Salt Lake cos., Utah). Mar–Dec.

All of the characters marking *T. laevigatum* fail individually, but