Key to the Species-Groups

1 Ovules more or less numerous, in any case more than 4; seeds usually more or less numerous, very rarely only 4.
  2 Corolla in most spp. soon deciduous, never wholly yellow, though sometimes ochroleucous or with yellow tube and anthocyanic limb; flowers normally pentamerous.
    3 Seeds more or less pitted-reticulate or raised-reticulate, or seldom nearly smooth, but not cross-corrugated; plants annual to perennial (sect. *Eutoca*) ..... Group I, p. 158
    3 Seeds evidently cross-corrugated as well as alveolate-reticulate; plants annual or winter-annual (sect. *Euglypta*, or *Microgenetes*) ..... Group II, p. 159
  2 Corolla marcescent-persistent, yellow except in a single sp. with tetramerous flowers; seeds mostly cross-corrugated as in Group II (sect. *Miltitzia*) ..... Group III, p. 160
1 Ovules 4; seeds 1–4 (*Phacelia* proper).
  4 Seeds not or scarcely excavated; plants variously annual to perennial, with the leaves variously entire to pinnately compound or dissected ..... Group IV, p. 160
  4 Seeds conspicuously excavated on one or usually both sides of the prominent ventral ridge (shallowly so in *P. alba*); plants annual to biennial; leaves strongly toothed to more often pinnately lobed or dissected ..... Group V, p. 161

Key to the Species of Group I

1 Plants evidently perennial.
  2 Stamens evidently exserted; seeds mostly 8–18, 1–2 mm long; leaves pinnatifid, with entire or cleft segments; widespread montane sp. ..... 1. *P. sericea*
  2 Stamens included; seeds very numerous (50–100, or more), ca 0.5 mm long or less; leaves broad-based or cordate, lobulate-toothed nearly all the way around; local sp. along the s. margin of our range ..... 5. *P. perityloides*
1 Plants annual or winter-annual, or in *P. franklinii* sometimes biennial.
  3 Leaves deeply pinnatifid or subbipinnatifid; northern sp., disjunct in the Uinta Mts. ... 2. *P. franklinii*
  3 Leaves entire or merely toothed or shallowly lobed, or some of them with a few irregular lateral segments below the middle.
    4 Corolla more or less showy, generally more than 6 mm long and (except in *P. mustelina*) more than 5 mm wide.
      5 Leaves narrow, sessile or tapering to a subpetiolar base, at least 4 times as long as wide (exclusive of any lateral lobes that may be present); plants with an erect central axis, variously simple to much-branched; corolla open-campanulate, commonly wider than long ..... 3. *P. linearis*
      5 Leaves broader, evidently petiolate, the blade rarely as much as 3 times as long as wide; plants when well developed freely branched, generally without an erect central axis, often as broad as or broader than high; corolla campanulate or funnelform-campanulate to nearly tubular, up to about as wide as long.
        6 Ovules and seeds relatively few, mostly 10–16, the seeds mostly 1–1.7 mm long; leaves entire or nearly so; pedicels short, seldom any of them more than 5 mm long even in fruit; widespread on barren clays in the Colorado Plateau region ..... 12. *P. demissa*
        6 Ovules and seeds generally more numerous, mostly (16) 20–80, the seeds up to about 1 mm long; leaves and pedicels various; more southern or western spp., extending n. to Kane and Washington cos., Utah, and to the s. fringe of our range in Nev.
          7 Stem very finely and shortly stipitate-glandular or glandular-puberulent, few if any of the hairs as much as 0.5 mm long; corolla evidently expanded upwards, not much longer than wide, the limb mostly well over 5 mm wide.
            8 Pedicels short, up to about 6 mm long in flower, to 9 mm in fruit, generally shorter than the fruiting calyx; plants typically growing on barren clay, or on soil influenced by such clay ..... 9. *P. pulchella*
            8 Pedicels longer, mostly 6–15 mm long, longer than the fruiting calyx; plants typically growing on canyon-ledges or on open, well drained slopes, in and about the Grand Canyon.
              9 Corolla relatively large, mostly 10–15 mm long; ovules and seeds mostly 35–45 ..... 10. *P. glechomifolia*
              9 Corolla smaller, mostly 5–8 mm long; ovules and seeds mostly 16–24 ... 11. *P. filiformis*
          7 Stem more loosely glandular-villous or glandular-villosulous, many of the hairs in the range of 0.5–1 mm long; corolla nearly tubular, the limb only 3–5 mm wide; mostly on cliffs and rocky or sandy slopes in the desert mts. of se. Calif. and s. Nev., barely entering our range in Nye Co., Nev. ..... 7. *P. mustelina*
    4 Corolla relatively small and inconspicuous, up to about 6 mm long and 5 mm wide.

3 Corolla short and inconspicuous, 4–6 mm long, whitish or pinkish; plants not mephitic, up to about 1 dm tall, the inflorescences not projected above the leafy part; anthers yellow ..... *P. neglecta* M. E. Jones

1 Leaves deeply lobed (more than half-way to the midrib) or divided to bipinnatifid.

4 Flowers relatively large and showy, the corolla (7) 8–20 mm long, conspicuously surpassing the calyx; style 3–8 mm long.

5 Inflorescences usually projected well above the leafy part of the plant; stamens attached at or just above the base of the corolla; filaments usually glabrous; sp. of the *Larrea* zone, barely entering the sw. portion of our range ..... 21. *P. fremontii*

5 Inflorescences not projected above the leafy part of the plant; stamens usually attached well above the base of the corolla; filaments usually sparsely hairy below the middle; widespread in se. Oregon, Nev., and adj. Calif. ..... 22. *P. bicolor*

4 Flowers relatively small and inconspicuous, the corolla 2.5–6.5 mm long, shorter than to only slightly surpassing the calyx; style 0.5–3 mm long.

6 Inflorescences usually projected well above the leafy part of the plant; calyx-segments in fruit relatively broad, more or less spatulate ..... 23. *P. affinis*

6 Inflorescences not projected above the leafy part of the plant; calyx-segments narrower, linear to linear-oblanceolate; widespread in our range.

7 Corolla 4–6.5 mm long, the limb lavender; style 2–3 mm long; filaments more or less hairy; leaves tending to be subbipinnatifid; se. Oregon, the Snake River Plains of Idaho, and n. Nev. ..... 24. *P. glandulifera*

7 Corolla 2.5–4 (4.5) mm long, the limb white; style 0.7–2 mm long; filaments glabrous; leaves mostly merely pinnatifid, seldom subbipinnatifid; widespread, but most abundant in the Colorado River drainage ..... 25. *P. ovatiana*

Key to the Species of Group III

1 Flowers 5-merous as to the calyx, corolla, and stamens; corolla mostly more than 2 mm long.

2 Seeds pitted-reticulate, with transversely oriented rows of areolae, but only inconspicuously or scarcely corrugated; plants characteristically growing in habitats that are inundated for part of the year ..... 26. *P. inundata*

2 Seeds evidently cross-corrugated as well as pitted-reticulate; plants not of periodically inundated habitats.

3 Corolla-lobes and tube subequal, the corolla nearly rotate at anthesis; local in c. Nev. ..... 27. *P. glaberrima*

3 Corolla-lobes much shorter than the tube, the corolla campanulate or tubular-campanulate at anthesis.

4 Seeds more than 1 mm long, or, if not so, then the filaments and the inner surface of the corolla-tube somewhat hairy; widespread sp. ..... 28. *P. lutea*

4 Seeds 0.6–0.8 mm long; filaments and inner surface of the corolla-tube glabrous; local in Inyo and Mono cos., Calif. ..... 29. *P. inyoensis*

1 Flowers mostly or all 4-merous as to the calyx, corolla, and stamens; corolla up to about 2 mm long ..... 30. *P. tetramera*

Key to the Species of Group IV

1 Plants perennials or coarse biennials; filaments conspicuously exserted.

2 Leaves entire, or with a large, entire terminal segment and 1 or 2 (4) pairs of much smaller lateral segments at the base.

3 Plants perennial from a taproot that is generally surmounted by a branching caudex, usually with several more or less equal, suberect to prostrate stems that are seldom more than 5 dm long; leaves all entire, or sometimes some of them with a single pair of small lateral lobes near the base; plants variously hairy, but in most of our range not notably spreading-bristly, often more or less silvery with mainly appressed hairs ..... 31. *P. hastata*

3 Plants biennial or short-lived perennial from a taproot, typically with a single erect stem that is well over 5 dm tall, or this surrounded by several ascending lesser stems; some of the middle and lower leaves usually with 1 or 2 (4) pairs of lateral lobes at the base; herbage often somewhat griseous, but scarcely silvery, and often markedly spreading-hairy ..... 32. *P. heterophylla*

2 Leaves pinnatifid to pinnately compound or dissected, with sessile or subsessile, coarsely toothed, or cleft and again toothed leaflets ..... 40. *P. ramosissima*

1 Plants annuals or winter-annuals; filaments included or only shortly exserted beyond the corolla-lobes.

4 Leaves entire, or with only 1 or 2 coarse teeth or small lobes on one or both sides.

5 Flowers relatively showy, the corolla mostly 4–7 mm long and wide; filaments rather sparsely spreading-hairy near the middle; style 4–7 mm long; anthers ca 0.4–0.5 mm long .. 33. *P. humilis*
5 Flowers small and inconspicuous, the corolla up to about 5 mm long and wide; filaments glabrous; style 2–4 mm long; anthers ca 0.2–0.4 mm long.
6 Herbage spreading-hairy, but not at all glandular; leaves all entire; Pershing Co., Nev., and Butte Co., Idaho ..... 34. *P. inconspicua*
6 Herbage spreading-hairy, with many of the hairs in the inflorescence gland-tipped; usually some of the leaves with 1 or 2 coarse teeth or small lobes on one or both sides; mts. of s. Calif., as far n. as the White Mts., and with outlying stations in the Pine Valley Mts. of Washington Co., Utah and the Toquima Mts. of Nye Co., Nev. ..... 35. *P. austromontana*
4 Leaves evidently (sometimes shallowly) pinnatilobate to pinnately compound or subbipinnatifid.
7 Corolla relatively small and inconspicuous, mostly 3–7 mm long, shorter than or about equaling the calyx.
8 Plants merely glandular-hairy, not at all bristly-hispid; calyx-segments lance-elliptic or somewhat oblong, about equally accrescent, firm and veiny in fruit; nw. part of our range .. .. 36. *P. thermalis*
8 Plants rather thinly bristly-hispid in the inflorescence or throughout; calyx-segments linear or oblanceolate to spatulate.
9 Leaves only shallowly lobed, with the lobes again few-toothed; calyx-segments unequally accrescent, the larger ones spatulate and generally 1.5–3 mm wide in fruit; nw. part of our range ..... 37. *P. rattanii*
9 Leaves pinnatifid, with a narrow rachis, the segments again toothed or cleft; calyx-segments subequally accrescent, up to about 1 or 1.5 mm wide in fruit; sw. part of our range ..... 38. *P. cryptantha*
7 Corolla larger and more showy, mostly 8–16 mm long, evidently longer than the calyx; sw. portion of our range ..... 39. *P. vallis-mortae*

Key to the Species of Group V

1 Leaves relatively strongly dissected, with mostly discrete, often again toothed or cleft segments or leaflets, only the upper segments more or less confluent.
2 Corolla-lobes evidently erose-fimbriate or erose-denticulate; leaves subbipinnatifid, the principal segments conspicuously toothed or again pinnatifid; ventral ridge of the seeds symmetrically placed, the seed rather shallowly excavated on both sides of the ridge; sp. of the s. Rocky Mts. and of the Utah Plateaus segment of the Colorado Plateau region, extending n. in our range only to Sevier and Wayne cos., Utah ..... 50. *P. alba*
2 Corolla-lobes entire or nearly so; leaves merely once pinnatifid, the primary segments entire or with a few inconspicuous low teeth, the upper segments generally confluent; ventral ridge of the seeds asymmetrically placed, turned towards one side, so that the seed appears to be deeply excavated along one side of the ridge and merely broadly and shallowly concave on the other; local in Utah Co., Utah ..... 49. *P. argillacea*
1 Leaves less dissected, only the lower (or none) of the sinuses reaching the midrib; corolla-lobes entire or nearly so; seeds deeply excavated on both sides of the ventral ridge.
3 Filaments included, or very shortly exserted (to less than 1 mm).
4 Corolla mostly 3–4.5 mm long; seeds mostly 2–2.5 mm long, the margins sharply differentiated from the body and more or less strongly corrugated; sp. chiefly of w. Texas (and adj. Chihuahua), N.M., and Ariz., extending w. to s. Nev. (Clark Co.) and adj. Calif. (San Bernardino Co.), and entering our range in Washington Co., Utah ..... 48. *P. coerulea*
4 Corolla mostly 5–7 mm long; seeds mostly 2.7–3.5 mm long, the margins not sharply differentiated from the body and not corrugated; southwestern sp., entering our range in s. Nev. and sw. Utah ..... 47. *P. anelsonii*
3 Filaments evidently exserted (to 2 mm or usually much more).
5 Flowers on evident, slender, densely spreading-hairy pedicels mostly 2–4 mm long (to 6 mm in fruit); malodorous sp. of the *Larrea* zone in Ariz., s. Nev., s. Calif., and n. Baja Calif., and to be sought along our s. border in Nev. ..... *P. pedicellata* A. Gray
5 Flowers on short, stout pedicels up to about 1 (1.5) mm long, or virtually sessile.
6 Leaves glabrous or nearly so, except sometimes along the petiole and the proximal part of the rachis; barren clay slopes in wc. and sw. Colo. and extreme nw. N.M., and to be expected in se. Utah ..... *P. splendens* Eastw.
6 Leaves evidently glandular or hairy or both.
7 Plants more or less strongly virgate, with an elongate, relatively narrow inflorescence typically consisting of many short, helicoid cymes crowded along the main axis; plants usually in barren clay soil, seldom in sandy or rocky soil

31. **Phacelia hastata** Douglas ex Lehm.

Phacelia hastata Douglas ex Lehm. Nov. Stirpium Pug. 2: 20. 1830. (*Douglas*, on the barren sandy plains of the Columbia; type material seen at K!)

P. leucophylla Torr. in Frém. Rep. Explor. Exped. Rocky Mts. . . . , Oreg. & N. Calif. 89. 1843. *P. magellanica* f. *leucophylla* A. Brand, Pflanzenr. IV. Fam. 251: 98. 1913. *P. hastata* var. *leucophylla* Cronq. Univ. Wash. Publ. Biol. 17(4): 163. 1959. (*Frémont*, sandy soil on road to Goat Island, upper North Fork of the Platte; holotype at NY!) = var. *hastata*.

P. frigida Greene, Pittonia 4: 39. 1899. *P. magellanica* f. *frigida* A. Brand, Univ. Calif. Publ. Bot. 4: 218. 1912. *P. heterophylla* f. *frigida* J. F. Macbr. Contr. Gray Herb. 49: 35. 1917. *P. heterophylla* var. *frigida* Jepson, Manual Fl. Pl. Calif. 819. 1925. *P. mutabilis* var. *frigida* G. N. Jones, Univ. Wash. Publ. Biol. 7: 175. 1938. *P. magellanica* var. *frigida* Jepson, Fl. Calif. 3(2): 248. 1943. (*Merriam*, Mt. Shasta, Calif., 3 Aug 1898; holotype at US!) = var. *compacta*.

P. alpina Rydb. Mem. New York Bot. Gard. 1: 324. 1900. *P. heterophylla* var. *alpina* A. Nels. in Coulter & Nels. New Manual Bot. Centr. Rocky Mts. 408. 1909. *P. magellanica* f. *alpina* A. Brand, Univ. Calif. Publ. Bot. 4: 217. 1912. *P. leucophylla* f. *alpina* J. F. Macbr. Contr. Gray Herb. 49: 34. 1917. *P. leucophylla* var. *alpina* Dundas, Bull. S. Calif. Acad. Sci. 33: 164. 1934. *P. hastata* var. *alpina* Cronq. Univ. Wash. Publ. Biol. 17(4): 163. 1959. (*Rydberg & Bessey 4855*, Cedar Mt., Mont.; holotype at NY!)

P. compacta Greene ex C. F. Baker, W. Amer. Pl. 1: 18. 1902, nom. nud.; ex J. T. Howell, Amer. Midl. Naturalist 30: 19. 1943. *P. magellanica* f. *compacta* A. Brand, Univ. Calif. Publ. Bot. 4: 217. 1912. *P. leucophylla* var. *compacta* J. F. Macbr. Contr. Gray Herb. 49: 34. 1917. *P. heterophylla* var. *compacta* Jepson, Manual Fl. Pl. Calif. 819. 1925. *P. hastata* var. *compacta* Cronq. Univ. Wash. Publ. Biol. 17(4): 163. 1959. *P. hastata* subsp. *compacta* Heckard, Univ. Calif. Publ. Bot. 32: 88. 1960. (*C. F. Baker 1142*, Spooner, Douglas Co., Nev.; holotype at NDG!)

Phacelia hastata var. **charlestonensis** Cronq. var. nov. (*Clokey 8463*, Kyle Canyon, Charleston Mts., at 2250 m, Clark Co., Nev., 12 June 1939; holotype at NY!) Caulibus 1–4 dm longis, gracilibus, laxis, saepissime e base adscendentibus; caulibus inflorescentiaque praeclarae setoso-hispidis; foliis nonnullis saepe alminae basi lobulis 2 lateralibus praeditis; calycum pedicellorumque pube nex manifeste glandulosa nec viscida; corolla saepe (forsans semper) anthocyanica.

Cordilleran phacelia.

Perennial, the taproot usually surmounted by a branching caudex; stems usually several and more or less similar, prostrate to suberect, up to about 5 dm tall; herbage typically more or less silvery with a fine, short, loose pubescence (often less so in var. *alpina*) less bristly than in *P. heterophylla*, the bristles when present mostly ascending or appressed (except in var. *compacta* and var. *charlestonensis*, peripheral to our range); leaves prominently veined, all entire or sometimes some of them with a pair of small lateral lobes or leaflets at the base of the blade; basal leaves tufted and persistent, narrowly to broadly elliptic, petiolate, the cauline ones progressively reduced and becoming sessile; inflorescences usually rather short and compact, sometimes more elongate and narrow; corolla dull whitish to lavender or dull (seldom bright) purple, 4–7 mm long and broad; filaments conspicuously exserted, usually hairy near the middle; ovules 4, commonly only 1 or 2 maturing; seeds 2–2.5 mm long. Polyploid complex based on $x = 11$.

In dry, open places at all elev., often in sandy soil; s. B.C. and Alta., s. to Calif., Nev., Utah, Colo., and w. Nebr. May–Aug.

Phacelia hastata and *P. heterophylla* belong to a polyploid complex that might conceivably be treated as a single, sharply limited species, *P. magellanica* (Lam.) Cov., with numerous infraspecific taxa. Such a treatment, which has been approached if not wholly realized by several botanists (notably Brand and Jepson), would have the merit of permitting the ready use of a binomial, but it is unattractive because of the excessive variability that would be encompassed within a single species. The opposite treatment, in which each of the ultimate taxa is dignified with a binomial, has also been approached by several botanists. Such a treatment misrepresents the relationships within the group and ignores the numerous intermediates. The treatment here presented holds the species to more reasonable limits, but minimizes the importance of the intermediates between *P. hastata* and *P. heterophylla*.

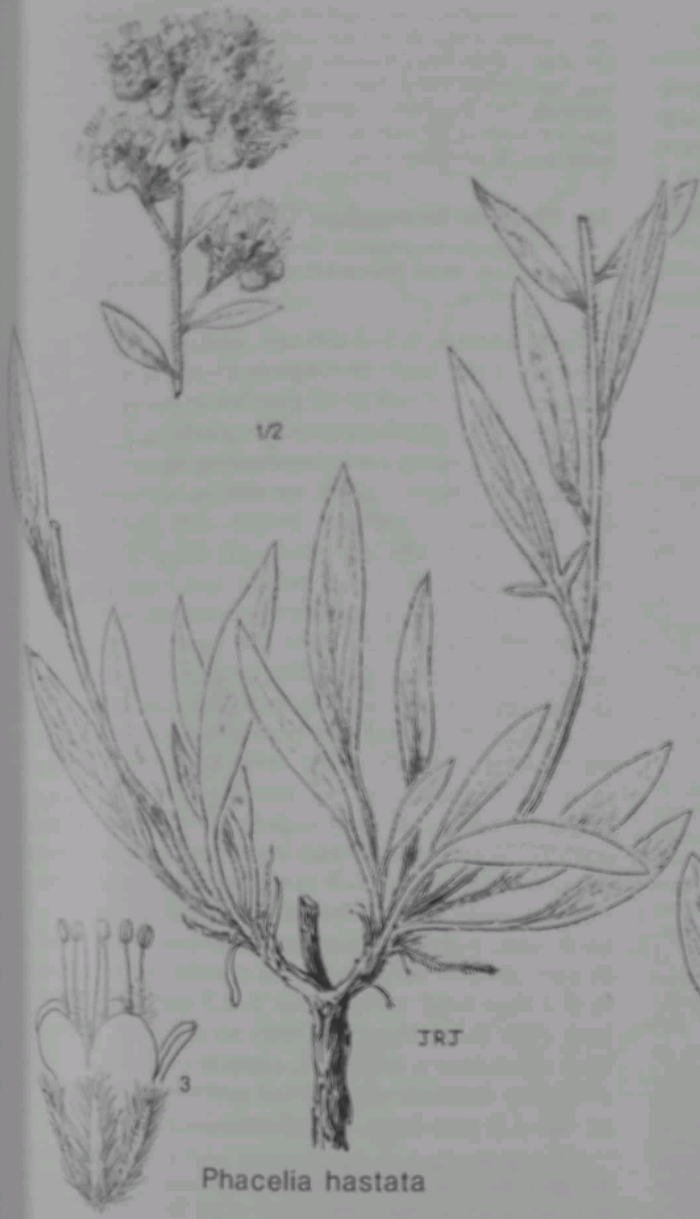
The common lowland phase of *P. hastata* has in the past usually been called *P. leucophylla*. It is now generally agreed that *P. leucophylla* is conspecific with *P. hastata*, a name that has 13 years priority. In Vascular Plants of the Pacific Northwest I maintained *leucophylla* as an admittedly weak variety of *P. hastata*, based on the consistent presence of a pair of lateral lobes on the leaves of var. *hastata* in a limited geographic area fanning out from the east end of the Columbia River Gorge, in contrast to the usual absence of such lobes in the more widespread var. *leucophylla*. I was well aware then that plants with some of the leaves lobed occur sporadically throughout the range of var. *leucophylla*, and after two decades I am now prepared to follow Heckard (1960) in reducing *P. leucophylla* completely to synonymy under *P. hastata*. The single difference is just not consistent enough to warrant taxonomic recognition.

Phacelia hastata var. *alpina*, on the other hand, merits continued taxonomic recognition, based on several morphological characters that are loosely correlated inter se and also correlated with the habitat. Intergradation between var. *hastata* and var. *alpina* is common, but the bimodal distribution of the variation seems evident.

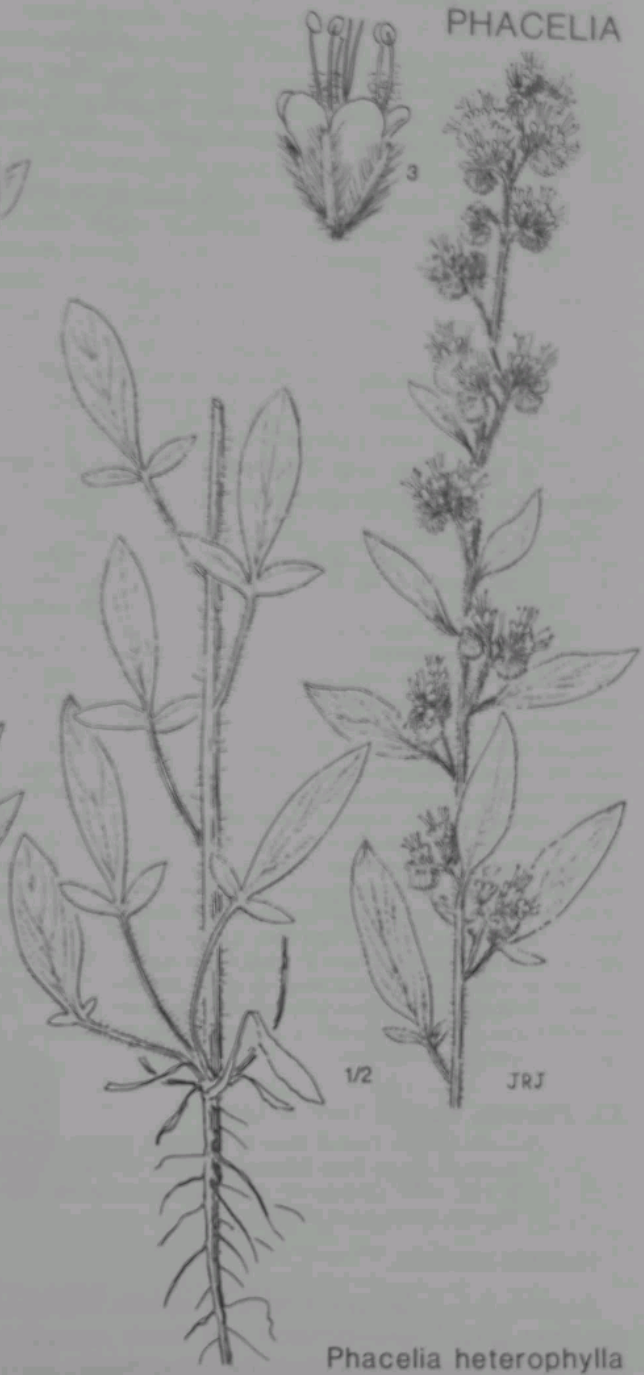
Heckard recognized the distinctiveness of the population here described as *P. hastata* var. *charlestonensis*, but he chose not to give it formal taxonomic recognition. I suggest that the distinctive features of var. *charlestonensis* may reflect genetic influence of *P. heterophylla* on *P. hastata* var. *alpina*. Neither *P. heterophylla* nor *P. hastata* var. *alpina* now occurs within the range of var. *charlestonensis*, but they might easily have done so in the past. The chromosome number of var. *charlestonensis* is unknown. Both of the presumed parents are tetraploid, at least within the Intermountain region. Variety *charlestonensis* might prove to be a hexaploid, with two genomes of *P. heterophylla* added to four of *P. hastata* var. *alpina*, or it might be a tetraploid, which has acquired genes of *P. heterophylla* through hybridization without a change in ploidy level.

Our varieties may be characterized as follows:

1 Herbage (especially the stem and inflorescence) conspicuously bristly-hispid, many of the hairs widely spreading; plants occurring along the w. and sw. border of our range.
2 Short under-pubescence of the calyces and pedicels evidently glandular or viscid; corolla white or sordid; leaves generally all entire; stem mostly 0.5–2 dm long, variously prostrate to ascending or erect; plants mainly of upper elev. along the Cascade-Sierran axis, barely extending into our range, as about Mono Lake in Calif. and in w. and n. Washoe Co., Nev.; tetraploid and hexaploid . . . . . var. *compacta* (A. Brand) Cronq.
2 Short under-pubescence of the calyces and pedicels not evidently glandular or viscid; corolla often (regularly?) anthocyanic; often some of the leaves with a pair of small lateral lobes at the base of the blade; stems 1–4 dm long, slender, lax, commonly loosely ascending; plants occurring from the base to near the summit of the Charleston Mts. in Nev., and extending northwestward at least to the Kawich Range in Nye Co. . . . . var. *charlestonensis* Cronq.
1 Herbage mostly with more appressed pubescence, or with only a small proportion of the hairs more or less spreading (occasional specimens with more spreading, bristly-hispid pubescence differ in other ways from each of the foregoing vars.); plants widespread in our range, but not extending into s. Nev.; tetraploid.
3 Stems mostly 0.5–2 (2.5) dm long, usually prostrate or merely curved-ascending toward the tip, seldom more strongly ascending or even erect; flowers mostly anthocyanic, ranging from pale lavender to dull or even bright purple; herbage tending to be greener and less strongly hairy than in the next var.; plants of the mts., at elevs. of (1800) 2000 to 3400 m, common and widespread in most of our range.



Phacelia hastata



Phacelia heterophylla

extending e. to Colo. and n. to ne. Oregon, c. Idaho, and nw. Mont. ..... var. *alpina* (Rydb.) Cronq.

3 Stems mostly (1) 2–5 dm long, mostly firmly ascending to suberect; corolla mostly white or sordid toward the n. and w. portion of the range, as in Idaho, Oregon, and Wash., but often anthocyanic southward and eastward, as in Nev., Utah, Wyo., Nebr., and Colo.; herbage typically rather densely silvery-pubescent; plants of the plains, valleys, and foothills, at elevs. up to 2200 or seldom 2400 m, common and widespread in the n. part of our range, as in s. Idaho and se. Oregon, and northward to the limits of the sp., but less common and more sporadic in Utah and Nev. ..... var. *hastata*

32. Phacelia heterophylla Pursh

Phacelia heterophylla Pursh, Fl. Amer. Sept. 140. 1814. *P. magellanica* var. *heterophylla* Kuntze, Revisio Gen. Pl. 3(3): 203. 1898. *P. magellanica* f. *heterophylla* A. Brand, Univ. Calif. Publ. Bot. 4: 218. 1912. (*Lewis*, "on dry hills and banks of the Kooskoosky" [Clearwater].)

P. virgata Greene, Erythea 4: 54. 1896. *P. magellanica* f. *virgata* A. Brand, Univ. Calif. Publ. Bot. 4: 219. 1912. *P. californica* var. *virgata* Jepson, Manual Fl. Pl. Calif. 820. 1925. *P. heterophylla* subsp. *virgata* Heckard, Univ. Calif. Publ. Bot. 32: 73. 1960. (*Greene 832*, Yreka, Siskiyou Co., Calif.; holotype at NDG!)

P. biennis A. Nels. Bull. Torrey Bot. Club 26: 132. 1899. *P. sericea* var. *biennis* A. Brand, Pflanzenr. IV. Fam. 251: 107. 1913. (*Nelson 1323*, Pole Creek, Albany Co., Wyo.; holotype at RM!) A small, purple-flowered form, perhaps reflecting genetic influence of *P. hastata* var. *alpina*.

Wand phacelia.

Biennial or short-lived perennial from a taproot, with a single erect, often stout stem mostly 2–12 dm tall, or this often surrounded at the base by several ascending, lesser stems; herbage green or grayish with pubescence,