

*Dodecatheon* synonymized within *Primula*, per Mast, A.R., S. Kelso, A.J. Richards, D.J. Lang, D.M.S. Feller, and E. Conti. 2001. Phylogenetic relationships in *Primula* L. and related genera (Primulaceae) based on noncoding chloroplast DNA. *International Journal of Plant Science* 162:1381–1400.

**Primula** L. Primrose

Infl few- to ∞-fld, fls 4–5-merous, showy; calyx persistent, deeply lobed, lobes lanceolate; corolla salverf or with strongly reflexed lobes; stamens included or not, filaments short, free or connate, anthers connivent around style, sacs paired; pistils 1-5-carpellate; ovary 1-locular, placentation free-central with globose central axis; styles 1, terminal, included or not; stigmas 1, usually capitate (rarely truncate); fr cap, dehiscence valvate or operculate with lid opening as 5-10 toothlike segms; seeds 1-∞, brown to black, (rarely with eliasomes); herbaceous per (ours), rarely ann. farinose when young, with lvs simple, entire to dentate, forming a rosette (*L. primus*, early or first, many spp. fl early in spring). (*Dodecatheon*).

European intro *P. veris* L. coll once in s BC. Several spp. excellent garden orn; *P. latiloba* and *P. jeffreyi* easily grown. Molecular studies clearly show *Dodecatheon* nested within *Primula* (Mast et al. 2007).

- 1a Corolla salverf, lobes spreading or erect; anthers included **Group 1**
- 1b Corolla short-tubular, lobes strongly reflexed; anthers exerted, forming a distinct beak-like structure (*Dodecatheon*) **Group 2**

**Group 1**

- 2a Lvs coarsely dentate apically; fr globose; seed slightly winged; moist or wet meadows and heaths, rocky ridges, subalp and alp, on limestone and granite; AK to nw BC and n VI; wedge-lvd p., pixie-eyes; ours subsp. **saxifragifolia** (Lehm.) W.W. Sm. & Forrest **1 P. cuneifolia** Ledeb.
- 2b Lvs entire to sparsely and shallowly toothed; fr cylindric to ellipsoid; seed not winged

- 3a Infl bracts unequal lengths; lvs thick, not waxy; fls glandular or not

- 4a Lvs with strong odor; pls 15–50 cm; lvs 1.5–7 cm wide, broadly lanceolate to oblanceolate; fls glandular, pinkish-purple; subalp to alp meadows and ridges, steep wet or rocky slopes, ledges, cliffs, talus; ID s to NV and AZ, e to MT and NM; Parry’s p. **2 P. parryi** A. Gray

- 4b Lvs not malodorous; pls 3–10 cm; lvs 0.3–2.3 cm wide, lanceolate to oblong; fls glandular or not, often bluish-purple; dry to seasonally moist rocky and sandy slopes, dry to wet meadows, sagebr flats, mossy ledges; ne and se OR s to NV, e to ID; Cusick’s or Wallowa p.; ours var. **cusickiana** **3 P. cusickiana** (A. Gray) A. Gray

- 5b Infl bracts ± equal lengths; lvs thin, sometimes waxy when young; fls not glandular

- 5a Fls white, yellow near throat; calyx purple-striped; corolla tube = or slightly longer (1.2 ×) than calyx; limy wet meadows, often on hummocks, marl, seeps, peatlands, stream banks; Custer Co, ID, e to Beaverhead Co, MT; alkaline p. **4 P. alcalina** Cholewa & Douglass M. Hend.

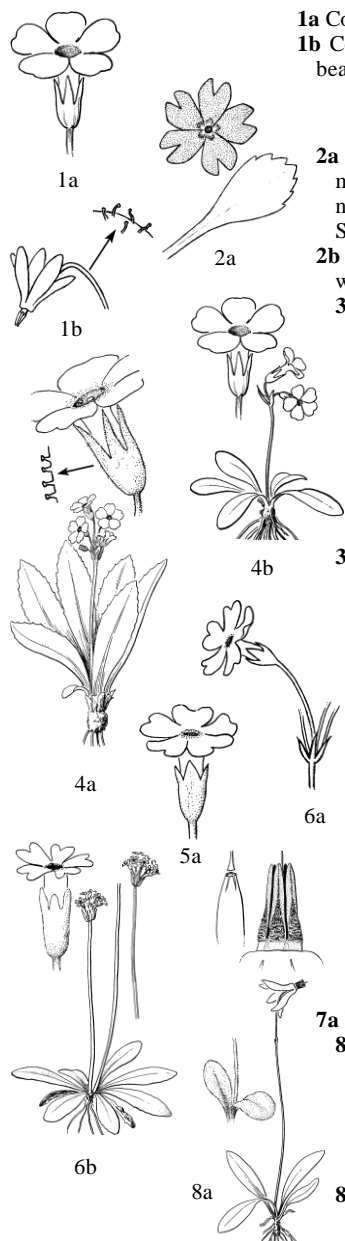
- 5b Fls mostly pink to pale purple (white), often with yellow near throat; calyx green

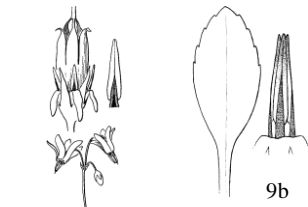
- 6a Invol bracts flat; corolla lobes 4–7 mm; corolla tube 1.5–2 × as long as calyx; limy riverbanks, marl, shores, small streams, ledges; AK to c BC, se BC, and adj Alta, e to Atl; bird’s-eye or Mistassini p. **5 P. mistassinica** Michx.

- 6b Invol bracts saccate; corolla lobes 2–4 mm; corolla tube as long as calyx; limy moist to wet meadows, often on hummocks, peatlands, seeps, marl, swales, shores, stream banks, ledges; AK to se BC, ID, and UT, in RM from Alta to CO, e to Que; mealy or silvery p. **6 P. incana** M.E. Jones

**Group 2** (former *Dodecatheon*)

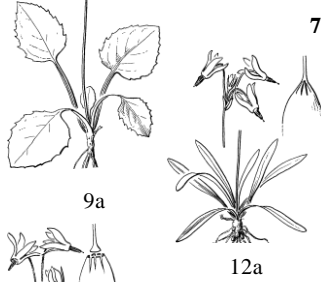
- 7a Filaments always free, distinct to base
- 8a Anther connectives rugose or transversely wrinkled; lf bls gradually tapered to an indistinct petiole; petals pink to pinkish-purple; lvs, lower scape, and peds smooth or glandular; dry to wet meadows, peatlands, shores, springs, rocky or gravelly slopes, sagebr steppe, open conif for, lowl to alp; se BC s, in and e Cas, to n CA, e to Sask and WY; slimpod or Bonneville s. (*D. c.*, *D. c.* subsp. and vars. *c.*, *viscidum*) **7 P. conjugens** (Greene) A. R. Mast & Reveal
- 8b Anther connectives smooth; most lf bls abruptly tapered to a distinct petiole; petals white or pink to pinkish-purple





**9a** Petals white, yellow at base; anther tips truncate to blunt or notched; lvs often prominently dentate; springs, stream banks, meadows, cliffs, rocky slopes, open for, low to subalp; s BC s, mostly e Cas, to CRG, e to ne OR, n ID; white s.; (*D. dentatum*) **8 P. latiloba** (A. Gray) A. R. Mast & Reveal

**9b** Petals pink to pinkish-purple, white at base; anther tips acute to acuminate; lvs gen entire to inconspicuously dentate; low to subalp; seeps, basalt cliffs, talus, and riverbank ledges below the high water mark, streams, waterfalls, turf in subalpine moist meadows; s OM and Coast Range, w WA and nw OR; frigid or Tillamook s. (*D. a.*)



**9 P. austrofrigida** (K. L. Chambers) A. R. Mast & Reveal  
**7b** Filaments fused on most fls into a tube at base of anthers

**10a** Anther connectives rugose or wrinkled transversely

**11a** Stigma capitate, enlarged, > 2 × the width of mid-style; seeds with thin wing

**12a** Petals 4, glab; corolla tube yellow; sepals, infl bracts and brs gen glab, rarely glandular; wet meadows, wet conif for, shores; s WA s, in and e Cas, to OR, CA, e to NV, UT, AZ; alpine s. (*D. alpinum*)

**10 P. tetrandra** (Suksd. ex Greene) A. R. Mast & Reveal

**12b** Petals 4–5, sometimes glandular; corolla tube white or yellow; sepals, infl bracts, and brs often glandular, rarely glab; peatlands, shores, stream banks, moist to wet meadows, springs, low to subalp; AK to coastal BC, both sides Cas in WA, s to CA, e to ID, MT, WY; Jeffrey's or tall mt s. (*D. j.*)

**11 P. jeffreyi** (Van Houtte) A. R. Mast & Reveal

**11b** Stigma not obviously enlarged, < 2 × the width of mid-style; seeds unwinged

**13a** Lvs oblanceolate, gradually tapered to an indistinct petiole; fr thick-walled, valvate, glandular, ovoid, 6–9 mm; moist to wet rocky slopes and meadows, stream banks, cliffs; s WA, e Cas and CRG, to n and e OR; poet's or narcissus s. (*D. p.*)

**12 P. poetica** (L. F. Hend.) A. R. Mast & Reveal

**13b** Lvs ovate to obovate, abruptly tapered to a distinct petiole; fr thin-walled, valvate or operculate, glandular or glab, ovoid-cylindric, 7–19 mm; low, dry to moist for or grassl, rocky slopes; s VI s, w Cas, to s CA; Henderson's or broad-lvd s. (*D. h.*)

**13 P. hendersonii** (A. Gray) A. R. Mast & Reveal

**10b** Anther connectives smooth

**14a** Lvs ovate to obovate, abruptly tapered to a distinct petiole (see lead 13b)

**14 P. hendersonii** (A. Gray) A. R. Mast & Reveal

**14b** Lvs oblanceolate, mostly gradually tapered to an indistinct petiole; widespread and variable; w N Am; 3 intergrading, poorly defined vars. needing study (*D. pulchellum*)

**15 P. pauciflora** (Greene) A. R. Mast & Reveal

**a1** Pls densely puberulent or glandular-puberulent on lvs, scapes, bracts, peds, and calyx; low to mont, grassl, sagebr steppe, and dry open for; sc BC s, e Cas, to ne OR, e to w MT, ID, and WY; Cusick's s. (*D. c.*, *D. pulchellum*. var. *c.*)

var. **cusickii** (Greene) A. R. Mast & Reveal

**a2** Pls usually glab, never glandular-pubescent; widespread

**b1** Anther sacs gen yellow, at least near tip, often with purple speckles or lines; connectives dark purple; filament tube yellow, sometimes marked with purple lines; marine beaches, tide flats, salt marshes, meadows, rocky or gravelly slopes, stream banks, cliffs, and open conif for, coastal, gen lowl, rarely mont meadows on VI; c AK to sw BC, PT, Wi Va, and nw CA; Alaskan s. (*D. pulchellum* subsp. or vars. *m.*, *superbum*)

var. **macrocarpa** (A. Gray) A. R. Mast & Reveal

**b2** Anther sacs yellow to dark purple, not speckled; connectives dark purple or yellow at base; filament tube yellow to purple, gen unmarked with purple lines; lowl to mont; ours mostly e Cas, AK to CA, e to RMS and n Gr Pl; pretty s. (*D. pulchellum*. vars. *monanthum*, *p.*, *shoshonense*, *watsonii*)

var. **pauciflora**

