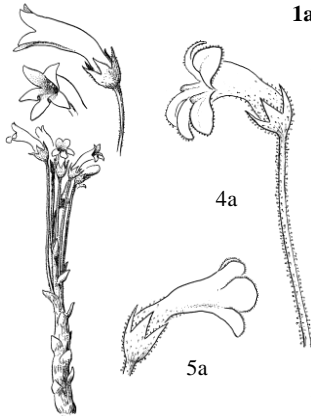


Key updated to include *Aphyllon franciscanum*, recognized as distinct from *A. fasciculatum* based on molecular, morphological, and host differences (A.C. Schneider and B.E. Benton. 2021. *Systematic Botany* 46(2): 446–455). Revised December 3, 2021 with input from Adam Schneider.

Aphyllon Mitch. Broomrape

Infl terminal, bracteate racemes, pans, or corymbs, or reduced to solitary fls; bractlets present or absent beneath calyx; calyx symmetrically 5-lobed; corolla 5-lobed, bilabiate, tube often curved, lips well developed, upper lip 2-lobed, lower lip 3-lobed; filaments glab or occ hairy; anther sacs gen with well separated, pointed, ± mucronate bases; ovary 2-carpellary, 1-locular, with 4 parietal placentae; stigma entire or 2-lobed; herbaceous, ann or per holoparasites lacking chlorophyll, often fleshy, gen yellowish to brownish or purplish, with alt, scalelike lvs. (Gr *a*, without, and *phyllum*, lf). (*Gymnocaulis*, *Myzorhiza*, *Thalesia*). Split from *Orobanche* (Schneider 2016). Pl height in the key includes below-ground portions of st.



1a Fls conspicuously long-ped, the peds mostly 3–10(–15) cm, without bractlets; sts inconspicuous, often scarcely visible above-ground

2a Fls (1–)5–20 per st; peds (at least the upper ones) < or ca = the st; scale lvs gen 5–10 per st

3a Infl corymbose (fully developed flowers at similar heights); corolla pale pink to deep reddish pink (rarely cream), lobe apex usually rounded, tube bent 45° or more from vertical (rarely as little as 25°); dry, open places, lowl to mont, parasitic on *Artemisia*; widespread e Cas, e to Great Lakes; clustered b. (*O. f.*)

1 A. fasciculatum (Nutt.) Torr & A. Gray

3b Infl subcorymbose (fully developed flowers at various heights); corolla pale yellow to lemon yellow, occasionally reddish-purple or tinged purple, lobe apex usually pointed or apiculate, tube erect or slightly bent usually < 45° from vertical (rarely as much as 60°); lowl to subalp, parasitic mainly on *Eriogonum*, *Eriophyllum lanatum*, and *Phacelia*, but not on *Artemisia*; s BC s to Mexico, from coast e to RM; Franciscan b.

2 A. franciscanum (Achey) A.C. Schneid.

2b Fls 1–3(–4) per st; peds much > the gen very short st; scale lvs gen 1–5 per st; corolla purple to whitish or occ yellow

4a Corolla bright yellow (ours), occ purple-tinged on outside; corolla lobe margins glandular-pubescent; calyx lobes triangular, ± as long as tube; pls 10–30 cm, parasitic on *Galium*; open oak or conif for, brushy slopes, lowl to subalp; in and w Cas, Lane Co, OR to s CA; ours subsp. **epigalium**

3 A. epigalium Colwell & A.C. Schneid.

4b Corolla pale to deep purple, ochroleucous, or white; corolla lobe margins ciliate; calyx lobes triangular to subulate; pls 3–20 cm, parasitic on hosts other than *Galium*

5a Calyx lobes ca = or only slightly > tube, triangular-lanceolate; corolla white to ochroleucous, occ pale lilac or with light purple veins; parasitic on herbaceous Asteraceae; widespread in e US, occ w to AK, and disjunct in lowl sw BC; naked b., one-fl d b. (*O. u.*)

4 A. uniflorum (L.) Torr. & A. Gray

5b Calyx lobes ca 2 × as long as tube, subulate to narrowly lanceolate; corolla pale to deep violet-purple, occ ochroleucous or yellow; lowl to mont, our pls parasitic mainly on Asteraceae, Apiaceae, Saxifragaceae, Crassulaceae; s BC and s AK s, both sides Cas, to CA, e to Alta and RMS; purple b. (*O. uniflora* vars. *minuta*, *p.*, *O. u.* subsp. *occidentalis*); undescribed host-specific varieties may warrant recognition

5 A. purpureum (A. Heller) Holub

1b Fls sessile or on peds up to ca 3 cm, with a pair of bractlets just beneath calyx, in addition to the subtending bract; sts short to elongate, visible or not

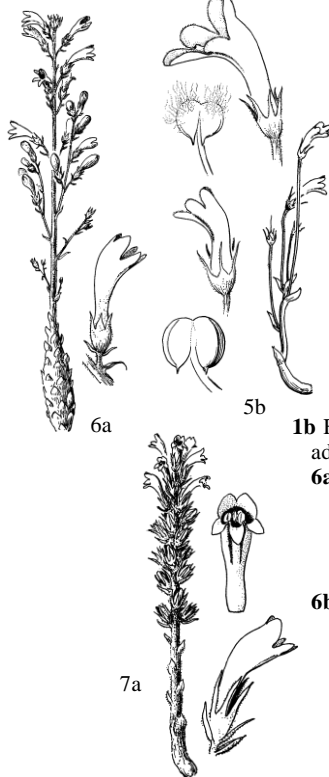
6a Calyx 5–7(–8) mm, lobes ca = or a little < tube; sts 1–3.5 dm, gen with ∞ short, slender, ascending brs, forming a loose, paniculiform infl; fls sessile to short-ped; corolla 13–20 mm, yellowish, marked with brownish-purple; anthers ± glab; mont conif for, parasitic on *Holodiscus*; scattered on both sides Cas, WA to CA, e to n ID, also NV and NM; pine b. (*O. p.*)

6 A. pinorum (Geyer ex Hook.) A. Gray

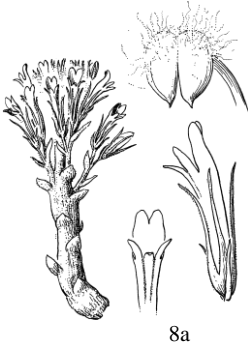
6b Calyx (7–)8–20 mm, lobes much > tube; sts simple or few-br, 0.5–2(–2.5) dm; corolla gen purplish or pink

7a Fls sessile or nearly so (lower peds occ to 4 mm); infl spicate, tending to be elongate; anthers glab; corolla gen 15–22 mm; dry, often sandy areas, parasitic on *Artemisia*, *Chrysopsis*, and other woody Asteraceae; scattered, e WA and e OR to MT, Gr Pl, and sw US; Louisiana b., Suksdorf's b. (*O. l.* var. *arenosa*)

7 A. ludovicianum (Nutt.) A. Gray



7b Fls, esp the lower, ± ped, the longer peds 5–30 mm; infl gen short and stout, often corymbose, but occ more elongate esp in forms of *A. corymbosum*; anthers woolly; corolla 16–40 mm



8a

8a Corolla 16–25(–30) mm, lips 4–9 mm, erect to slightly spreading; infl br or unbr, often ± corymbose; fls purplish; pls 5–18 cm; sagebr areas, parasitic mainly on *Artemisia tridentata*; e Cas, s BC to CA, e to MT, WY, UT; flat-topped b. (*O. c.*); possibly a hybrid of 7 × 9; 2 subspp.

8 **A. corymbosum** (Rydb.) A.C. Schneid.

a1 Infl (or infl brs) corymbose to subcorymbose, compact, 3–5(–7) cm; calyx lobes mostly < corolla tube, often purplish; corolla glandular-pubescent; Kittitas Co, WA, to e OR, se ID, UT, NV, and CA subsp. **corymbosum**

a2 Infl (or infl brs) racemose or subracemose, 5–10 cm; calyx lobes often > corolla tube, gen pallid; corolla glab to sparsely glandular; sc BC to c WA, n UT, nw WY (*O. c.* var. *m.*) subsp. **mutabile** (Heckard) A.C. Schneid.

8b Corolla (20–)25–40(–45) mm, lips 10–14 mm, widely spreading; infl unbr to occ br; fls purplish to pinkish, yellowish, or white; coastal and sub-coastal, or in meadows inl, parasitic on Asteraceae but not *Artemisia tridentata*; sw BC to Baja Cal, to e end CRG and e OR; CA b. (*O. c.*); 2 vars. in our area

9 **A. californicum** (Cham. & Schltld.) A. Gray

a1 Upper corolla tube and lips rich violet to pale lilac; calyx lobes, peds, and bracts violet-tinged, drying purplish-black; pls 5–20 cm; open areas near saltwater, parasitic mainly on *Grindelia*; Salish Sea and n PT of sw BC and nw WA, and coastal CA; pls from Wi Va are intermediate to subsp. *grayanum* (*O. c.* var. *c.*) subsp. **californicum**

a2 Upper corolla tube and lips white or yellowish to pinkish (occ purple-tinged), often with more deeply colored veins; calyx lobes, peds, and bracts pallid to pinkish-tinged, drying brown; pls 4–10 cm; mont (lowl) meadows and stream banks, parasitic on Asteraceae, mainly *Erigeron* and *Symphotrichum*; uncommon; w end CRG e to Klickitat Co, WA, and Baker Co, OR, s to CA (*O. c.* var. *g.*) subsp. **grayanum** (Beck) A.C. Schneid.



8b