

**SAMPLES from**  
**KEY TO THE GENUS *PENSTEMON***  
by  
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- This section opens with a very broad description of the Genus *Penstemon* and its relatives.
- Next that broad category is divided into 14 Groups and descriptions are given for each.
- It will be noted that the first two groups are not in the Genus *Penstemon*.
- Groups III-XIV include all of the Genus *Penstemon*.
- A sample of the key for only Group III is found on p.3 to provide the reader with a sample of the Key structure.

**DESCRIPTIVE KEY TO GENUS *PENSTEMON***  
**and its Relatives in the Cheloneae Tribe**  
**(Scrophulariaceae)**  
**Sample**

Stamens 4, slender, usually reaching mouth of corolla, at least lower pair attached to corolla up to height of ovary; **staminode 1, slender, long** (about 1/2 to 1 1/2 length of stamens), attached partway to upper side of corolla

Corolla tubular, usually 2-lipped, with 2 lobes above, 3 below; lower lobes usually longer than upper lobes; lower lip often with guidelines; ovary superior

Leaves opposite (except in 2 species in genus *Keckiella*, 4 in genus *Penstemon*)

Perennial herb, shrub, or subshrub

Calyx lobes 5, distinct (in 1 genus, united)

Anther sacs 2, opposite, attached at tip of stamen; sacs split open lengthwise

Fruit a capsule, splitting lengthwise into 4 parts

01 **Stamens & staminode densely hairy at base**, all attached to corolla up to height of ovary Anther sacs, in 2 genera, wooly-pubescent

Genera *Chelone*, *Keckiella*, *Nothochelone*, *Pennellianthus*

**Group I**

01 **Stamens & staminode bare-looking at base**; upper pair of stamens attached to corolla at base of ovary, or up to 1/2 height of ovary

02 **Cyme 1 at a node, 1-flowered**; inflorescence short, 1-sided

Herb, not over 25 cm tall

Calyx lobes more or less united into a tube

Upper pair of stamens attached to corolla up to 1/2 height of ovary; staminode 1/2 length of stamens

Genus *Chionophila*

**Group II**

02 **Cymes 2 (rarely 1-4) at a node, usually several-to-many flowered**; inflorescence often long, usually not 1-sided

Herb, shrub or subshrub, between 2 & 280 cm tall

<sup>1</sup> The entire key may be ordered by contacting the authors.

Calyx lobes distinct

Corolla usually shades of blue-purple, red-purple, or red

Upper pair of stamens attached to corolla at base; staminode usually as long as stamens, or longer

Anther sacs, in 1 subgenus, wooly-pubescent

Genus *Penstemon*

**Groups III-XIV**

03 **Upper leaves dissected, fern-like**

Subgenus **Dissecti** (see Group XI)

03 **Leaves more or less toothed, or entire**

04 **Anther sacs wooly-pubescent**

Subshrub (1 species herb)

Staminode shorter than stamens

Subgenus *Dasanthera*

**Group III**

04 **Anther sacs glabrous, or sometimes hairy-pubescent**

05 **Anther sacs open partway, usually toothed along opening, sometimes hairy-pubescent**

(see also Group VI)

06 **Anther sacs open from inner end & across connective, remain closed at outer end**

Subshrub (see also 2 species in Group XI, 4 in Group XII)

Subgenus **Saccanthera**; Section **Baccharifolii**

**Group IV**

06 **Anther sacs open from outer end, remain closed at inner end** (rarely, open very narrowly across connective)

Subgenus **Habroanthus**

**Group V**

05 **Anther sacs open all the way, end to end & across the connective, narrowly (boat-shape) or flat-out (explanate); sacs essentially glabrous**

Subgenera **Cryptostemon, Dissecti, Penstemon**

07 **Anther sacs toothed along opening** (see also Groups IV, V)

Section **Chamaeleon**

**Group VI**

07 **Anther sacs essentially entire**

08 **Plant branching between base & inflorescence** Cyme few-flowered

09 **Shrub or subshrub** (see also Groups III, IV, several species in Groups IX, XIII)

10 **Leaves vary in shape** (often oblanceolate to lanceolate), **usually toothed** Corolla pale yellow, white, or pink

Subsection **Deusti**

**Group VII**

10 **Leaves mainly same shape, entire, often heathlike**

Sections **Ambigui, Ericopsls**; Subsection **Gairdneriani**

**Group VIII**

09 **Fasciculate herb**

Corolla shades of red or red-purple (rarely blue-violet)

Section **Fasciculus**

**Group IX**

08 **Plant not branching between base and inflorescence; herb** (see also Group V)

Cyme often many-flowered

11 **Herbage usually green, rarely glaucous**

12 **Staminode usually with dense deep-yellow beard, often exerted**

Plant often densely pubescent

Corolla usually shades of blue-purple

Section **Aurator**; Subsection **Harbouriani**

**Group X**

12 **Staminode usually with slight pale yellow or white beard, or no beard**

13 **Cyme usually longer than corolla; inflorescence spreading**

Corolla usually white, or shades of red-purple

Subgenera **Cryptostemon, Dissecti**; Subsections **Humiles** (in part),

**Multiflori, Penstemon, Tubaefflori**

**Group XI**

**13 Cyme about same length as corolla; inflorescence in distinct clusters**

Corolla shades of blue or blue-purple (rarely white, pale yellow, or pink)

Subsections **Humiles** (in part), **Proceri****Group XII****11 Herbage grey-green or blue-grey, usually glaucous****14 Leaves often toothed; bracts smaller than upper leaves** (in 9 species, leaves &/or bracts connate-perfoliate)

Inflorescence often long, 1-sided

Corolla white, or shades of red or red-purple

Section **Peltanthera****Group XIII****14 Leaves entire; bracts often larger than upper leaves**

Corolla blue-violet, or pink-lavender

Staminode usually expanded widely, 1-3 mm wide at tip

Section **Anularius**; Subsection **Arenarii****Group XIV**

\*Lodewick, Kenneth and Robin. *Key to the Genus Penstemon and its Related Genera in the Tribe Cheloneae (Scrophulariaceae)*. This key can be purchased from the authors at: 2526 University St, Eugene, OR 97403. Price is reasonable, but not known at present. The material above is a sample only.

**DESCRIPTIVE KEY for GROUP III**

Anther sacs wooly-pubescent (open end-to-end but hidden in white fuzz) (see also Group I, Genera *Chelone*, *Nothochelone*)

Corolla glabrous, usually large, expanded gradually, moderately, 1-ridged on top, flattened & 2-ridged underneath; mouth often partially closed, with upper lobes projecting, lower lobes large; no guidelines

Leaves toothed (in 3 species, sometimes entire), broad (in 1 species narrow, in 1 sometimes so), often leathery; lower leaves usually on petiole

Shrub or subshrub, often matforming, between 5 & 40 cm tall (1 species a herb, to 80 cm)

Cyme about 1 cm long, & 1-flowered (in 2 species, cyme longer &/or several-flowered); inflorescence often short (3-4 nodes) Calyx lobes usually narrow

Staminode short (1/2-2/3 length of stamens), slightly bearded (in 3 species, not bearded, or often so)

**01 Leaves on flowering stems as large as lower leaves, or larger; leaves mainly deciduous**

Calyx 7-15 mm long

Corolla usually pale red-purple, sometimes blue-lavender

**02 Leaves narrow, long**, dark green, to 130 mm long & 1/10 as wide; no basal leaves

Herb, 30-80 cm tall

Cyme 2-5 cm long, 2-5 flowered; inflorescence spreading, with 4-6 nodes

Corolla 30-45 mm long

Staminode not bearded

n ID, nw MT, nearby B.C. & Alta.

*P. lyallii*

**02 Leaves very broad, medium size or small**

Corolla 24-40 mm long

Staminode often not bearded

**03 Leaves medium size, thick, to 50 mm long**

Plant often matforming, 10-30 cm tall

*P. montanus*

**03a Leaves strongly toothed, ovate, grey-green pubescent**, 1/2 as wide as long; young leaves small, entire, spoon-shape, dark green (looking like *P. davidsonii*, except reddish underneath)

Plant often creeping in scree

Cyme 1-2 cm long

ec ID, sw MT, nw WY, s to c UT

*P. montanus* ssp.

*montanus*

**03a Leaves entire or slightly toothed, elliptic, blunt, either blue-grey glabrous & glaucous, or grey-pubescent**,

1/3-1/4 as wide as long

sc ID

*P. montanus* ssp.

*idahoensis*

**03 Leaves small, thin, fine-toothed, elliptic or oval, glabrous, dark green**, to 25 mm long & 2/3-1/3 as wide;

sometimes with teeth across tip

Plant matforming, 5-15 cm tall

Calyx lobes sometimes very wide, curving outward at tip

n ID, w MT, nearby WA, B.C., & sw Alta.

*P. ellipticus*

**01 Leaves on flowering stems reduced, about 1/3 size of lower leaves; lower leaves evergreen**

**04 Leaves blue-grey or grey-green, glaucous**

**05 Leaves medium size**; lower leaves oblanceolate, to 80 mm long & 1/3 as wide; upper leaves ovate, to 35 mm & 1/2 as wide Herbage glabrous

Shrub 20-40 cm tall, sometimes mat-forming & to 200 cm across

Cyme 1-2 flowered; inflorescence sometimes with 6 nodes

Calyx 5-7 mm long; lobes ovate

Staminode not bearded

Cliffs in Hood River & Wasco counties, OR; nearby Klickitat Canyon, WA (RARE) *P. barrettiae*

05 Leaves small, ovate, often blunt, slightly toothed; lower leaves to 20 mm long & 1/2 as wide

Matforming subshrub to 10 cm tall, often growing on vertical cliffs

Calyx 6-11 mm long

Corolla bright rose-red, red-purple or pink, 25-36 mm long

Cliffs in Cascade Range, c WA to s OR; Columbia Gorge; sw OR; n CA

*P. rupicola*

04 **Leaves green, not glaucous**

06 **Corolla shades of red**

Leaves elliptic or ovate, sometimes blunt, to 30 mm long & 1/2-1/3 as wide Shrub 15-30 cm tall

Inflorescence often long, with 4-10 nodes

Calyx 7-12 mm long

*P. newberryi*

06a **Anthers exerted**

Corolla narrow, 20-30 mm long; lobes spreading

06b **Upper stem bare-looking with long internodes, leaves much reduced**

Corolla scarlet

Mt Shasta & s in Sierra Nevada to sc CA, nearby NV

*P. newberryi* ssp.

*newberryi*

06b **Upper stem with short internodes, leaves slightly reduced**

Corolla rose-purple

peaks in Lake, Napa & Sonoma counties, CA

*P. newberryi* ssp.

*sonomensis*

06a **Anthers not exerted**; sacs show as white spots in mouth

Corolla expanded slightly, pink or red-violet, 27-33 mm long (plants in OR probably hybrids with *P. cardwellii*)

Inflorescence with short internodes

nw CA; Josephine Co., OR

*P. newberryi* ssp. *berryi*

**Corolla shades of blue-violet, or pale red-purple**

07 Leaves medium size, elliptic or ovate

Inflorescence sometimes with 6 nodes

08 **Leaves often with blunt tip; leaves on flowering stem often broad at base**; lower leaves to 40 mm long & 1/3 as wide, upper leaves to 16 mm & 2/3 as wide

Shrub 10-30 cm tall

Calyx 8-12 mm long

Corolla often blue-purple, sometimes white, 25-38 mm long

Wside Cascade Range in s WA & OR; Coast Range, OR; sw OR

*P. cardwellii*

08 **Leaves usually with sharp tip; leaves all taper to base**

Inflorescence often 1-sided; cyme 1-2 cm long

Shrub 15-40 cm tall

(see also 09, *P. fruticosus*)

*P. fruticosus*

08a **Leaves usually broad, rarely entire**, to 60 mm long & 1/3-1/6 as wide

E side Cascade Range, n WA to c OR, e to sw MT, nw WY

*P. fruticosus* var. *fruticosus*

08a **Leaves narrow, entire, or toothed near tip**, to 50 mm long & 1/7-1/10 as wide

Calyx 10-15 mm long; lobes with long narrow tip

Corolla 3 5-50 mm long

Interior of s B.C., n WA e of Cascade Range, n ID

*P. fruticosus* var. *scouleri*

07 **Leaves small**

09 **Leaves strongly toothed, elliptic**, to 25 mm long & 1/2-1/4 as wide

Shrub 10-20 cm tall

Calyx 7 mm long; lobes with short tip

Corolla 30-40 mm long

Se WA, ne OR, nearby ID

*P. fruticosus* var. *serratus*

(see also 08, *P. fruticosus*)

09 **Leaves entire or slightly toothed, ovate**, to 20 mm long

Matforming subshrub to 10 (rarely 15) cm tall

Calyx 7-12 mm long

Corolla sometimes medium size

*P. davidsonii*

09a **Leaves toothed at least near tip**, glossy, 1/2 as wide as long

Corolla 18-35 mm long

Sw B.C. (at sea level), s to Mt Rainier on w side Cascade Range; Olympic Mts, WA  
 (plants with toothed leaves in Marion Co., OR, are hybrids of *P. d.* var. *dauidsonii* with  
 [probably] *P. cardwellii*)

*P. dauidsonii* var. *menuesii*

09a **Leaves essentially entire**, dull green

09b **Leaves blunt**, often spoon-shape, 2/3 as wide as long

Corolla 20-36 mm long

high elevations in Cascade Range (on e side only, n of Mt. Rainier) & Sierra Nevada,  
 from s B.C. to c CA; sw OR; nw CA

*P. dauidsonii* var. *dauidsonii*

09b Leaves with sharp tip, 1/2 as wide as long

Corolla 3 5-45 mm long

Steens Mtn, OR; nearby NV

*P. dauidsonii* var. *praeteritus*