Penstemon, with 271 species (mostly western) is the largest genus of flowering plants native solely to North America. Oregon ranks as fifth among the states in number of species, after Utah, California, Colorado and Nevada.

This key covers the 46 Penstemon species native to Oregon (3 rare, 1 possibly a hybrid) and 2 species from other genera once included in Penstemon (Keckiella and Nothochelone). It is meant for the amateur botanist who uses a 10X magnifier and centimeter rule as aids, and cannot return weeks later for seed. Ranges and subspecies given are for Oregon. Botany manuals should be used for verification (see references at end).

**General Description**

The corolla is the distinguishing feature of the genus. Bell-shape or tubular with 5 lobes (2 above, 3 below), it has a near-unique pattern of 4 stamens (each with 2 anther sacs attached at the tip) and one sterile stamen (staminode), which is usually as long as the stamens and has a slight yellowish beard at the tip; sometimes it is exserted outside the corolla mouth. Such a staminode occurs in 7 other genera, worldwide: 2 tropical, 5 (with 15 species) near relatives of Penstemon. (The relatives have stamens with hair at the base; penstemon stamens look bare at the base.)

Corolla color is mainly shades of blue-purple or red-purple, rarely red, pale yellow or white (blue-purple species may have white or pink variants). In Oregon, the corolla is usually expanded abruptly, more or less widely, from a narrow tube; sometimes it is expanded gradually, slightly; sometimes it is pleated underneath. Outside, the corolla is usually glabrous; usually it has a slight yellow or white beard, and often purplish guidelines, either within or on the lower lip.

The corolla lobes are usually 1/4-1/5 as long as the corolla, with lower lobes slightly longer than upper ones. The 5 sepals, usually 1/3-1/4 as long as the corolla, are lanceolate or sometimes ovate, often slightly scarious. A long-exserted staminode may reach the end of the corolla lobes.

Stem and inflorescence are usually leafy. The inflorescence is an indeterminate thryse, usually of 2-5 nodes, with opposite cymes (usually determinate and 2-several flowered), or sometimes raceme-like. The inflorescence is usually at least slightly pubescent.

Penstemons may be shrubs or herbs. Species that branch between base and inflorescence are shrubs (all woody) or subshrubs (with upper branches soft and dying back); they have no basal leaves but often form mats. Most Oregon species (25) are perennial herbs (with stems soft, not branching between base and inflorescence, and dying back to a branched woody base); they usually have basal leaves in a rosette, or tufted on short non-flowering stems.

Leaves in most species vary in shape. Usually lowest leaves are borne on petioles, upper leaves are sessile. In herbs basal leaves are usually oblong or obovate, lower stem leaves oblong, upper ones lanceolate or ovate. Usually leaves are glabrous, green (sometimes grey-green or blue-grey glaucous), and sharp-tipped. Leaves are opposite except in four species (all found in Oregon) where they may be alternate, or 1-4 at a node (see 26, deustus, 27, gairdneri, seorsus, 14, triphyllus).

Classification in Penstemon is based mainly on the method of opening, shape, and pubescence of the anther sacs; to see fully open sacs, look at fading flowers. (Illus. shows sac shapes.)

**Use Of The Key**

The actual key consists of the words in boldface, which form contrasting couplets (i.e., 02 Subshrub; 02 Herb). The rest of the description helps identify confusing species.

A description given in the introduction, or at any level of the key, applies to all species below it unless a variation is stated. Such descriptions are not repeated unless necessary. For instance, “inflorescence usually pubescent” means that the statement is true of more than half the following species. Where a species does have a glabrous inflorescence, its description will say that (or, “herbage glabrous,” or “sometimes glabrous”). In subsection Proceri, however, where all herbage is usually glabrous, “inflorescence pubescent” is said when necessary.

Note that some characteristics used in most keys are rarely mentioned here, because they are hard to see and not necessary for identification. These include pubescence on the stem, glandular (sticky or glistening) pubescence, and size of anther, seed, and capsule. (Anther sac and seed are usually less than 1.5 mm long, large in subgenera Habroanthus and Saccanthera. Seed is heavy, angular, ridged. Capsule splits at tip into four sections.)

Regard “medium size” as usual. In this key, for leaves, medium length means between 30 mm and 100 mm long: medium width, 1/5-1/17 as wide as long. Medium size corollas are between 15 mm and 25 mm long, from base of ovary to end of lobes. Large or long, small or short, mean as compared to medium. (Most measurements are made on dried plants; living plants are often slightly larger.)

And remember Murphy’s Law for Botanists: any plant you choose to, examine is probably abnormal — simply because the human eye notices the unusual!
COROLLA:

- pubescent, with anthers exserted and lip bearded
- inside view, with staminode exserted and bearded
- corolla front view, with guidelines

SEPALS:

- slightly scarious
- scarious erose

ANTHER SACS:

- unopen
- wooly, unopen
- wooly, open

open partway:

- from inner end, bag-shape
- arrowhead-shape hairy
- from outer end, horn-shape, with long hair
- S-shape, with short hair

open all the way:

- boat-shape
- explanate
- peltate-explanate
Anther sacs wooly-pubescent (open end to end & across connective, but hidden in white fuzz)
Leaves toothed (in 2 species, sometimes entire) Corolla usually large, expanded gradually, pleated underneath, with mouth slightly closed; lobes often small, projecting; no guidelines

(P. Subgenus DASANTHERA & Genus NOTHOCHELONE)

Subshrub, less than 40 cm tall (2 species, less than 10 cm)
Cyme to 1 cm long, 1-flowered (in 1 species, 1-2 flowered)
Leaves thick, broad (in 1 species sometimes narrow); upper stem leaves reduced
Staminode 1/2 length of stamens

(Subgenus DASANTHERA)

Inflorescence often long, 4-8 nodes
Leaves elliptic, to 40 mm long & 2/5 as wide
Corolla rose-pink, 27-33 mm long
Anther sacs show as white spots in mouth
s Josephine Co. (as P. cardwellii hybrid?)

NEWBERRYI var. berryi

Inflorescence short, 1-3 nodes
Leaves blue-glaucous, ovate at least above
Sepals ovate

Cyme 1-2 flowered; inflorescence glabrous; lower leaves obovate, to 80 mm long & 1/3 as wide; upper leaves to 35 mm & 2/3 as wide.
Calyx 5-7 mm long
Corolla pale red-purple, 25-38 mm long
Staminode not bearded
Columbia Gorge cliffs in Hood River & Wasco counties (RARE)

BARRETTIAE

Cyme 1-flowered
Leaves small, blunt, to 20 mm long & 2/3 as wide
Plant to 10 cm tall
Corolla rose-red, 25-36 mm long; not bearded
Staminode sometimes not bearded
high Cascade Range & Columbia Gorge

RUPICOLA

Leaves green, not glaucous
Corolla blue-lavender or blue-purple (rarely, pale red-purple

Leaves elliptic, medium size, usually 1/3-1/4 as wide as long
Corolla 25-40 mm long

Leaves just below inflorescence broad at base; lower leaves to 40 mm long
w Side of Cascade Range, Coast Range; sw OR

CARDWELII

Leaves just below inflorescence taper to base; lower leaves to 60 mm long (sometimes varying to narrow, 1/4-1/7 as wide as long); leaves sometimes entire
Inflorescence often one-sided
e side of Cascade Range, c OR to n & e OR

FRUTICOSUS var fruticosus

Leaves ovate, small
Leaves strongly toothed, to 25 mm long & 1/2-2/3 as wide
Plant to 20 cm tall
Corolla 30-40 mm long
e Wallowa Co.
FRUTICOSUS var. serratus

e Wallowa Co.

Leaves entire (in Oregon, except hybrids), to 20 mm long & 1/2-2/3 as wide
Plant to 10 (rarely 15) cm tall
DAVIDSONII

08a Corolla 34-45 mm long
Steens Mtn.
DAVIDSONII var. praeteritus

08a Corolla 20-36 mm long
Leaves usually blunt (hybrids in Marion Co. toothed)
high Cascade Range
DAVIDSONII var. davidsonii

Herb, 30-80 cm tall, usually growing in woods
Cyme 1-3 cm long, 1-4 flowered, spreading away from stem
Leaves all on petiole, to 110 mm long & 1/3 as wide; no basal leaves
Corolla pubescent, pale or deep red-purple, 25-35 mm long; not bearded
Stamens & staminode hairy at base; staminode bearded most of its length
w side of Cascade Range; Coast Range
NOTHOCHELONE NEMOROSA

Kalmiopsis 1994
01 Anther sacs glabrous, or (in 6 Oregon species) slightly hairy-pubescent
09 Anther sacs open partway, narrowly, remaining closed at one end; sacs
toothed along edge of opening
   Corolla expanded abruptly, widely (except in 1 species), often large (in 4
species sometimes small); usually not bearded
10 Anther sacs open partway from inner end, across connective; outer ends
   remain closed (saddlebag or arrowhead shape); hairy-pubescent in 5 species
   (See also 40, globosus, 44, euglaucus)
   Cyme usually 1-3 cm long, 1-3 flowered, sometimes longer and many-flowered
   (P. Subgenus SACCANTHERA)
11 Leaves toothed (in 3 species sometimes entire)
12 Subshrub, between 20 & 80 cm tall
13 Leaves narrow to base, or most leaves on petiole
   Corolla pubescent; rarely, lip bearded
   Staminode moderately exserted
14 Upper leaves not all opposite, 1-4 at node, often narrow, rarely en-
tire, to 50 mm long & 1/5-1/8 as wide; lower leaves 1/2 as wide
   Cymes 1-3 at a node, 1-5 flowered (sometimes to 8 cm long &
   15-flowered)
   Corolla expanded gradually, slightly, sometimes small, blue-lavender to
   violet, 13-19 mm long
14a Corolla 22-32 mm long
   Staminode bearded 1/2 its length
14b Leaves deeply toothed, to 80 mm long & 1/3-1/5 as wide
   c OR to north, Columbia Gorge, ne OR
14b Leaves moderately toothed, often grey-pubescent, to 50 mm long &
   1/2 as wide
   c & nc OR
14a Corolla 15-20 mm long
   Staminode not bearded
   Leaves usually like var. dentatus
   Wheeler & Wasco counties
   RICHARDSONII var. curtiflorus
13 Upper leaves rounded at base, sessile
   Corolla usually with no guidelines
   Inflorescence glabrous, or essentially so
   Sepals often scarious erose
15 Stamen-filament hairy just below anthers (only Penstemon like this)
   Cyme rarely to 8 cm long & 5-flowered
   Leaves long, often entire, to 120 mm long & 1/4 as wide
   Calyx 3-7 mm long
   Corolla bright red-purple, sometimes blue-violet, 25-38 mm long; lobes
   ciliate-edged
15 Stamen-filament glabrous
   Cyme 2-5 flowered (rarely to 6 cm long & 10-flowered)
   Leaves very broad, coarse-toothed, to 90 mm long & 1/2 as wide
   Calyx 5-11 mm long; sepals sometimes broad-scarious & deeply erose
   Corolla blue-purple, sometimes red-purple, 16-28 mm long
   Coast Range & w side of Cascade Range, from Lane Co. north
   SERRULATUS
12 Herb, 40-100 cm tall
   Herbage all sticky-pubescent
   Leaves very long; basal leaves to 350 mm long & 1/4 as wide; upper leaves
to 120 mm & 1/2 as wide
   Cyme 1-2 cm long; 2-4 flowered
   Corolla pubescent, dull lavender-purple, 28-40 mm long; rarely bearded
   Staminode not bearded, long-exserted
   GLANDULOSUS
12a Leaves strongly toothed
ne OR
n Hood River & Wasco counties GLANDULOSUS var. chelarlen_sis
12a Leaves entire, or nearly so
11 Leaves entire (see also 12, glandulosus, 14, triphyllus, 15, venustus)
Subshrub, mainly between 20 & 50 cm tall
Corolla shades of blue-purple (rarely, red-purple or pink); pale or white
guidelines show as 2 dots at lip; bud often yellow
Inflorescence bare-looking, with long internodes (except in 2 species)
Staminode usually not bearded
16 Corolla with lip bearded, 13-20 mm long
Staminode bearded
Leaves to 100 mm long & 1/8-1/10 as wide, often arched, folded; grasslike
Plant to 70 cm tall
Cyme sometimes to 5 cm long & 7-flowered
s Lake Co. GRACILENTUS
16 Corolla lip not bearded
Anther sacs hairy at inner end (in 15 species) or glabrous (in 1 species)
17 Herbage glabrous, blue-glaucous
Upper leaves very broad, 1/2 as wide as long; lower leaves 1/4 as wide
Calyx 3-6 mm long
Staminode rarely slightly bearded
18 Corolla 20-30 mm long
Leaves to 60 mm long
sw OR AZUREUS var. azureus
18 Corolla 14-20 mm long
Leaves often short, to 35 mm long
Plant to 35 cm tall
sw OR PARVULUS
17 Herbage pubescent, grey-green or grey
Leaves medium width or narrow, 1/6-1/10 as wide as long
19 Corolla pubescent
20 Herbage densely grey-pubescent
Anther sacs glabrous
Inflorescence leafy
Corolla purple or blue-purple, 15-22 mm long
Leaves to 50 (sometimes 80) mm long, often folded, arched
s Malheur Co. KINGII
20 Herbage moderately pubescent, grey-green
Corolla blue-violet with blue lobes
21 Anther sacs narrow at top, arrow-shape
Corolla 20-30 mm long
Leaves to 70 mm long, 1/8 as wide as long
sw OR LAETUS var. sagittatus
21 Anther sacs broad at top, saddlebag-shape
Corolla 14-24 mm long
Leaves to 70 mm long, 1/6 as wide as long
Wheeler Co. south to sw OR ROEZLII
19 Corolla glabrous, blue-violet or pink-lavender, 15-25 mm long
Inflorescence leafy; cyme sometimes to 4 cm long & 5-flowered
Herbage slightly pubescent, grey-green
Leaves to 70 mm long, often not quite opposite
Sepals sometimes slightly erose
Baker Co. to e & se OR CUSICKII
10 Anther sacs open partway from outer end; inner ends remain closed, or
rarely open narrowly across connective (horn-shape); sacs hairy-pubescent in
1 species
Corolla bright blue, slightly narrowed at mouth; lobes spreading; no
guidelines
Leaves entire, thick, firm; basal leaves very long, often narrow; upper leaves
long or broad
Inflorescence often long; cyme 1-2 cm long, mainly 2-4 flowered
(P. Subgenus HABROANTHUS)
22 Upper leaves very broad, 1/2 as wide as long
23 Anther sacs pubescent with short stiff hair, S-shape
   Basal leaves to 250 mm long & 1/7 as wide; upper leaves to 90 mm
   Corolla 25-35 mm long
   Plant 20-60 cm tall
   Staminode bearded
   n Wallowa Co. PENNELLIANUS
23 Anther sacs glabrous, straight
   Basal leaves to 160 mm long & 1/4-1/6 as wide; upper leaves to 70 mm
   Calyx 5-6 mm long
   Corolla 18-28 mm long
   Plant 10-70 cm tall
   Staminode sometimes bearded
   Wallowa Mtns. PAYETTENSIS
22 Upper leaves medium width or narrow, to 100 mm long & 1/5-1/8 as wide;
   basal leaves to 150 mm & 1/7 as wide
   Anther sacs glabrous, S-shape
   Corolla 25-38 mm long
   Calyx 4-8 mm long (rarely to 13 mm); sepals slightly scarious erose,
   sometimes with long narrow tip
   Herbage sometimes grey-pubescent
   Plant sometimes very short, 5-90 cm tall
   Staminode rarely bearded
   e of Cascade Range to e & s OR SPECIOSUS
09 Anther sacs open all the way end to end & across connective, narrowly
   (boat-shape) or becoming flat (explanate) (except in 40, globosus, 44, euglaucus)
   (P. Subgenus PENSTEMON & Genus KECKIELLA)
24 Shrub or subshrub
   Corolla pubescent
   Leaves in 3 species sometimes not opposite
25 Corolla pale yellow or white, usually small; usually with dark guidelines
   Leaves toothed (in 1 species sometimes entire)
26 Shrub, with stems bare-looking, 15-150 cm tall
   Corolla pale yellow, expanded widely to gaping mouth, 10-14 mm long;
   upper lobes hooded, tinged brown, lower lobes reflexed; not bearded
   Leaves ovate, very broad, to 60 mm long & 1/2-1/3 as wide
   Cyme 3-4 cm long, 1-4 flowered (sometimes longer & many-flowered)
   Calyx 4-7 mm long
   Stamens & staminode hairy at base; staminode dense-bearded 1/2 its
   length,long-exserted
   s Jackson Co. (RARE) KECKIELLA LEMMONII
26 Subshrub, with stems usually leafy, mainly 20-60 cm tall (sometimes,
   as in se OR, bare-looking with few leaves)
   Corolla white or pale yellow, often tinged brown or lavender, glistening
   within, usually expanded gradually, slightly; upper lobes very small, lower
   lobes spreading
   Cyme short, to 1 cm long & 1-4 flowered (rarely longer & 5-8 flowered);
   inflorescence long, narrow, of 3-9 clusters
   Leaves often leathery, varying on different plants, either lanceolate or
   ovate; lower leaves sometimes obovate, blunt
   Calyx 2-6 cm long
   A variable species DEUSTUS
26a Staminode densely bearded
   Corolla 8-10 (rarely 12) mm long; guidelines sometimes deep purple,
   crowded
   Leaves either lanceolate, coarse-toothed, sharp-tipped, to 60 mm long &
   1/3-1/4 as wide, or ovate, nearly entire, often blunt, to 30 mm & 1/2-1/3
   as wide
   Plant very woody at base
   sw OR DEUSTUS var. suffrutescens
26a Staminode not, or only slightly, bearded
   Corolla more than 10 mm long
26b Leaves strongly toothed, opposite, mainly broad, lanceolate, mainly to 60 mm long & 1/4-1/6 as wide, or ovate, to 40 mm & 1/2-1/4 as wide

26c Corolla with upper lobes pale yellow or white, 12-18 mm long (in ne Or, corolla often pure white with no guidelines)
Leaves coarse-toothed (sometimes narrow, to 75 mm long & 1/7 as wide)
W & e slopes of Cascade Range; ec & ne OR DEUSTUS var. deustus

26c Corolla with upper lobes tinged brown, 10-15 mm long from c OR south, corolla only slightly glistening
Leaves fine-toothed
Plant usually not over 40 cm tall
Deschutes Co. to s & se OR

DEUSTUS var. pedicellatus

26c Corolla with upper lobes tinged brown, 10-15 mm long from c OR south, corolla only slightly glistening
Leaves fine-toothed
Plant usually not over 40 cm tall
Deschutes Co. to s & se OR

DEUSTUS var. pedicellatus

25 Corolla pink-lavender or blue-violet, narrow, 13-23 mm long; sometimes no guidelines
Leaves entire, linear, sometimes not opposite, often crowded & heathlike
Plant between 10 & 40 cm tall, matforming
Herbage grey-pubescent
Cymes short, 1 cm long, 1-2 at a node, 1-2 flowered
Staminode with short beard most of its length

GAIRDNERI

27a Leaves alternate, 1 to a node, often small, to 35 mm long & 1/10 as wide

GAIRDNERI var. gairdneri

27a Leaves sometimes not opposite, to 50 mm long & 1/15 as wide

GAIRDNERI var. oreganus

27 Corolla with lobes medium size (1/4 length of corolla), often projecting
Leaves sometimes not opposite, to 50 mm long & 1/15 as wide

SEORSUS

24 Herb, with basal leaves often tufted (in 2 species, no basal leaves)

28 Staminode with long, dense, golden beard most of its length, usually long-exserted (in 2 Oregon var. sometimes not exserted)
Corolla pubescent; lower lobes reflexed
Inflorescence dense; cyme 1-2 cm long, 2-6 flowered
Herbage mainly grey-pubescent
Leaves toothed at least near tip, or entire (P. section AURATOR)

JANISHIAE

29 Corolla with long narrow tube (at least 1/3 of corolla length), deeply 2-lipped, dull purple or blue-violet
Basal leaves to 60 mm long & 1/4 as wide; upper leaves to 40 mm & 1/5-1/6 as wide

MISER

30 Staminode tip coiled
Corolla sometimes large, 18-28 mm long; tube & lips each 2/5 of corolla length
Plant 8-25 cm tall

ERIANTHERUS

30 Staminode tip straight, moderately exserted
Corolla 14-22 mm long; tube & lips each 1/3 of corolla length
Plant 10-40 cm tall

Baker & n Malheur counties

29 Corolla with short broad tube (1/5 of corolla length)
Basal leaves long, to 120 mm long, with upper leaves to 70 mm; leaves usually all narrow, 1/7-1/10 as wide as long (sometimes vary to all broad, 1/4 as wide)
Calyx 6-13 mm long; lobes narrow
Plant 10-40 cm tall
(Staminode long-exserted, except in OR)
29a Anther sacs 2/3-1/2 as wide as long, wide at connective
Corolla sometimes large, pink-lavender to violet, 15-27 mm long
Staminode sometimes not exserted; tip coils
Wallowa Co. ERIANTHERUS var. redactus

29a Anther sacs 1/2-2/5 as wide as long, narrow at connective
Corolla red-purple to blue-purple, 18-23 mm long
Staminode with slight beard 1/2 its length, tuft at tip, not exserted
OR ERIANTHERUS var. argillosus

28 Staminode with pale yellow or white beard at least at tip, or sometimes not bearded (see also 29, eriantherus)

31 Leaves toothed (or, in 3 species, sometimes entire); basal leaves long, on long petiole
Cyme sometimes long & many-flowered
Stem in 1 species often bare-looking
Corolla pubescent, sometimes large (in 2 species) or small (in 4 species)
(mainly P. section HUMILES)

32 Cyme spreading away from stem, 2-5 cm long, 2-7 flowered
(sometimes longer, to 10 cm & 20-flowered)
Leaves altogether toothed, mainly lanceolate; upper leaves broad, 1/3-1/4 as wide as long
Corolla expanded abruptly, widely, with lobes large
Plant 30-100 cm tall

33 Staminode long-exserted
Leaves coarse-toothed; basal leaves tapered to petiole, 1/5 as wide as long
Corolla pale or deep red-purple; lower lobes projecting, long

34 Corolla usually large, 24-30 mm long
Basal leaves very long, to 250 mm long, upper leaves to 90 mm
Cyme sometimes long
Plant 30-120 cm tall
Staminode with tuft of long hair at tip
Coast Range & w side Cascade Range, from c OR south
RATTANII var. rattanii

34 Corolla sometimes small, 13-18 mm long, sometimes not bearded
Basal leaves to 150 mm long, upper leaves to 60 mm
Cyme often long
Plant 20-90 cm tall
Staminode sometimes not bearded
Crater Lake to sw OR
ANGUINEUS

33 Staminode not (or only slightly) exserted
Basal leaves narrowed abruptly to petiole, often ovate, sometimes blunt, to 150 mm long & 1/3 as wide; upper leaves to 100 mm
Corolla blue or blue-purple, sometimes small, 15-23 mm long
Calyx 3-5 mm long
Plant 30-100 cm tall

35 Leaves coarse-toothed, pubescent
Cyme sometimes long
Multnomah Co.
OVATUS

35 Leaves usually fine-toothed (rarely coarse toothed or entire), usually glabrous
Cyme often long
ne OR
WILCOXII

32 Cyme held close to stem, 1-3 cm long, 2-4 flowered
Leaves toothed at outer end, or sometimes entire, moderately broad to narrow
Sepals sometimes scarious erose
Corolla expanded gradually moderately

36 Plant 30-80 cm tall, stem & inflorescence often bare-looking with long internodes
Basal leaves very long, to 200 mm long & 1/7 as wide; upper leaves to 60 mm & 1/4 as wide
Cyme rarely to 6 cm long & 10-flowered
Corolla often small, blue to blue-purple, 11-18 mm long
n Hood River Co.
SUBSERRATUS
36 **Plant 10-30 cm tall**
Basal leaves to 100 mm long & 1/7 as wide; upper leaves to 50 mm & 1/6 as wide
Corolla blue-violet to red-violet, 15-20 mm long; no guidelines
P globosus
n Wallowa Co. ELEGANTULUS

31 **Leaves entire** (see also 29, janishiae to eriantherus; 35, wilcoxii; 36, subseratus, elegantulus)
Inflorescence usually bare-looking with long internodes & 1-many dense separate clusters
Cyme usually short, often many-flowered
Corolla small (in 5 species, sometimes medium size), usually glabrous;
shades of blue-purple (or, in 3 species, yellow, white, or pink); lower lobes long, often project; no guidelines (except in 2 species)
Herbage essentially glabrous (except, in 5 species, both inflorescence & corolla pubescent)
Herb, mainly between 10 & 70 cm tall

37 **Stem stout** (to 10 mm diameter in inflorescence)
Leaves ovate, thick, green-glaucous; upper leaves & lower bracts very broad, to 70 mm long & 1/2 as wide; lower leaves to 150 mm & 1/7 as wide
Cyme to 1 cm long, 3-5 flowered, often hidden in bract; inflorescence very long, 5-15 clusters
Sepals usually not scarious
Corolla blue or blue-lavender
Staminode with stubbly beard at tip, or not bearded ACUMINATUS

37a **Corolla medium size, 15-20 mm long**
Upper bracts to 10 mm long & as wide
Calyx 5-11 mm long
Columbia Gorge near Hood R. ACUMINATUS var. acuminatus

37a **Corolla 10-15 mm long**
Upper bracts to 10 mm long & 15 mm wide
Calyx 4-7 mm long
se OR ACUMINATUS var. latebracteatus

37 **Stem slender** (less than 4 mm in diameter in inflorescence)
Cyme 0.5-2 cm long (in 2 species, rarely longer), 2-5 or many-flowered
Sepals usually scarious erose

38 **Leaves broad or medium width;** basal leaves usually many, often tufted, or matlike

39 **Upper leaves large or medium size, with stem often leafy;** leaves to 80 (rarely 120) mm long & 1/3-1/4 as wide; basal leaves long, to 170 mm & 1/4-1/6 as wide (see also 46, humilis, 47, rydbergii, procerus)

40 **Inflorescence crowded, with one large cluster** (15-25 flowered, often globe-shape), rarely 1-2 smaller clusters below; cyme rarely to 5 cm long
Leaves ovate or oblong
Calyx 5-10 mm long
Corolla expanded moderately, blue-purple or blue, 13-22 mm long
Anther sacs pouch-shape, open partway, narrowly, remain closed at outer ends
ne OR GLOBOSUS

40 **Inflorescence bare-looking with long internodes, 3-7 medium-size clusters,** reduced above; inflorescence pubescent; cyme rarely to 8 cm long (held close to stem) & 12-flowered
Leaves lanceolate, taper to long tip
Calyx 4-7 mm long; sepals taper to long tip, sometimes not erose
Corolla pubescent, blue (with dark buds), blue-violet, white or pale yellow
Plant 30-90 cm tall
ne OR ATTENUATUS

40a **Corolla 14-22 mm long**
ne OR ATTENUATUS var. attenuatus

40a **Corolla 7-14 mm long** wetlands ATTENUATUS var. palustris
39 Upper leaves reduced &/or few, upper stem usually bare-looking
   with long internodes
   Basal leaves mainly medium size, to 100 mm long & 1/4-1/6 as wide
   (rarely varying to 20 or 150 mm long, or 1/2-1/7 as wide)

41 Corolla pale yellow or white (see also 40, attenuatus, 48, peckii)

42 Corolla pale yellow, 8-12 mm long, narrow, drooping
   Sepals erose at sides, with long narrow tip; calyx 3-5 mm long
   Bracts often scarious erose
   Inflorescence often long, 2-10 clusters
   ne OR; n Sherman Co. CONFERTUS

42 Corolla white, expanded slightly, 11-15 mm long
   Sepals usually erose at outer end; calyx 4-8 mm long
   Staminode bearded 1/2 its length
   Steens Mtn. eastward PRATENSIS

41 Corolla shades of blue-purple, white within showing abruptly in
   lower lip

43 Leaves blue-glaucous, 1/4-1/5 as wide as long
   Calyx 3.5-6 mm long
   Corolla 11-15 mm long

44 Sepals ovate, narrowed abruptly to long tip, sometimes not
   erose
   Leaves mainly elliptic, to 110 mm long
   Corolla expanded moderately; guidelines
   Plant 15-50 cm tall
   Anther sacs rarely not open all the way to outer end, pouch-like
   Cascade Range from c OR north EUGLAUCUS

44 Sepals lanceolate, taper to tip, not erose
   Leaves ovate, to 60 mm long
   Plant 30-35 cm tall
   Staminode sometimes not bearded
   Gearhart Mtn., Lake Co. (RARE) GLAUCINUS

43 Leaves green (or, in 1 species, often grey-green pubescent)

45 Corolla pubescent, expanded moderately; lobes spreading
   Inflorescence pubescent

46 Corolla with large lobes (1/3 its length), blue-purple, 10-17 mm
   long
   Plant 5-60 cm tall (short at high elevations)
   Basal leaves vary between 20 & 100 mm long; upper leaves not
   always reduced; leaves often grey-green pubescent
   Sepals not erose
   A variable species e OR south to Ca HUMILIS var. humilis

46 Corolla with small lobes (1/5 its length), blue-violet, 10-13 mm
   long; with guidelines
   Plant 10-25 cm tall
   Basal leaves broad, often blunt, to 60 mm long & 1/3 as wide;
   leaves green
   high in Wallowa Mtns. SPATULATUS

45 Corolla glabrous
   Upper leaves sometimes not reduced

47 Corolla 10-14 mm long
   Basal leaves long, to 150 mm long & 1/7 as wide
   Inflorescence of 1-6 clusters
   Calyx 3-9 mm long RYDBERGII

47a Sepals broadly scarious, deeply erose, flat-ended or with short
   tip
   Steens Mtn. & ne OR RYDBERGII var. rydbergii

47a Sepals moderately scarious, usually erose, tapering to long tip
   e of Caskeade Range & Multnomah Co. RYDBERGII var. oreocharis

47 Corolla 6-11 mm long, deep blue-purple (in Oregon), drooping
   PROCERUS
47b Basal leaves medium size, tapered to petiole, to 50 mm long & 1/5 as wide (rarely to 100 mm & 1/7 as wide)
47c Calyx 3-6 mm long; sepals lanceolate, narrowed abruptly or tapered to long tip
Basal leaves few; stem leafy
Inflorescence short, 1-3 clusters
PROCERUS var. procerus
47c Calyx 1.5-3 mm long; sepals ovate with abrupt short tip
Basal leaves many; stem bare-looking
Plant to 35 cm tall
Cascade Range PROCERUS var. brachyanthus
47b Basal leaves short, broad, narrowed abruptly to petiole, to 20 mm long & 1/2-1/3 as wide (sometimes vary to 30 mm & 1/4-1/5 as wide, near CA); upper leaves 1/5 as wide
Calyx 1.5-3 mm long; sepals diamond-shape, erose on upper edges
Plant 5-12 cm tall
Inflorescence short, usually one cluster
Staminode usually not bearded
Wallowa, Blue, Strawberry, Steens Mtns.
PROCERUS var. formosus

38 Leaves very narrow, linear; lower leaves crowded; no basal leaves
Inflorescence sometimes long, 2-7 clusters
48 Corolla pubescent, pink, blue-violet, or white, 8-10 mm long, drooping
Inflorescence pubescent
Lower leaves to 70 mm long & 1/14 as wide
Plant 25-70 cm tall
foothills, Deschutes Co. (RARE) PECKII
48 Corolla glabrous, blue-purple, 6-10 mm long
Leaves arched, folded; lower leaves to 60 mm long & 1/10 as wide, crowded
Plant 15-40 cm tall
foothills e side of Cascade Range, from Deschutes Co. South
CINICOLA

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The author thanks Peter Zika, Dr. David Wagner, and several other botanists without whose constructive criticism this key would not have reached its present form; also Kenneth Lodewick for advice, and Dee Strickler for an added taxon.