# **SALICACEAE** Mirbel

Willow family

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**Key to Salicaceae genera:**

1. Buds with 4+ scales; pith 5-angled; leaves usually greater than 2 times as long as wide; catkins pendulous; perianth reduced to a disc that does not produce nectar; stamens 6–60(70); trees ....***Populus***
1' Buds with a single scale; pith round; leaves greater or lesser than 2 times as long as wide; catkins erect, spreading or pendulous; perianth reduced to 1–2 nectaries, if 2, sometimes fused into an extremely inconspicuous disc; stamens 1–10; trees, shrubs, or creeping ground-huggers .....***Salix***

## **POPULUS** L.

Cottonwood, aspen, poplar

**Vegetative key to *Populus* species:**

1. Lower surface of leaves densely white tomentose when young, remaining so at least in patches when mature; leaves of longer shoots usually conspicuously lobed, maple-leaf shaped; introduced, planted and persisting, spreading vegetatively.....***P. alba***
1' Lower surface of leaves glabrous to pubescent or silky; upper leaf surface green; leaves not lobed.
    2. Petioles round in cross section or slightly flattened distally parallel to the plane of the leaf blades. .....***P. trichocarpa***
    2' Petioles flattened distally at right angle to the plane of leaf blades.
        3. Leaf blades broadly ovate to nearly circular, margins without thickened cartilaginous rim; bud scales not gummy; bark smooth and covered with a whitish powdery bloom; widespread, native. .....***P. tremuloides***
        3' Leaf blades broadly triangular to broadly diamond-shaped, margins with thickened cartilaginous rim; bud scales gummy; bark rough, lacking a whitish powdery bloom; local, introduced, planted and persisting, rarely escaping.
            4. Leave blades strongly triangular with truncate base and 0–6 round glands at base; margins of largest preformed leaves with sinuses 2(7) mm deep; tree more or less spreading. .....***P. deltoides*** ssp. ***monilifera***
            4' Leaf blades broadly diamond-shaped, often wider than long, with a cuneate base lacking glands at base; margins of largest preformed leaves with sinuses less than 1.2 mm deep; tree narrowly columnar.....***P. nigra***

**Fertile trait key to *Populus* species:**

1. Plants strongly clonal by root sprouts; floral bracts hairy on edges, the hairs white; stamens 6–12 per flower; flower discs narrowly cup-shaped, oblique; stigmas filiform; capsules narrowly ovoid to lanceoloid, 2–5(7) mm.
    2. Branchlets and terminal buds densely to sparsely tomentose; floral bracts with apex shallowly cut; lower surface of leaves densely white-tomentose; introduced, planted and persisting, spreading vegetatively.....***P. alba***
    2' Branchlets and terminal buds glabrous or pubescent; floral bracts with apex deeply cut; lower surface of leaves glabrous; native, widespread.....***P. tremuloides***

1’ Plants not strongly clonal, sometimes forming a few root suckers; floral bracts not hairy, sometimes finely divided into tan, hair-like divisions; stamens 20–60(70) per flower; flower discs broadly cup- or saucer-shaped, not oblique; stigmas broad; capsules ovoid to spherical, (4)7–11(16) mm.

3. Tree narrowly columnar, always staminate; stamens 20–30; introduced, planted and persisting. ..... ***P. nigra***

3’ Tree not narrowly columnar, pistillate or staminate; stamens 30–60; native or introduced.

4. Ovaries and young fruits usually evidently hairy to glabrate; discs cup-shaped, 4–8 mm diameter; mature capsules spherical, (6)7–9 mm; winter buds with reddish resin; native, widespread ..... ***P. trichocarpa***

4’ Ovaries and young fruits glabrous; discs saucer-shaped, 1–4 mm diameter; mature capsules ovoid, (4)8–11(16) mm; winter buds with yellow resin; introduced, locally naturalized. ..... ***P. deltoides*** ssp. ***monilifera***

## **SALIX** L.

Willow

Three keys are presented here, to pistillate, staminate, and vegetative specimens. Some specimens may not be identifiable with certainty, especially precocious staminate plants that lack mature leaves.

In the field, record plant height growth form (clonal shrub, rounded shrub, columnar shrub, or tree), branch brittleness, color of branchlets and older branches, whether the branchlets and younger branches are glaucous, and luster of the leaf upper surface (dull, somewhat shiny, and highly glossy).

**Key traits:**

- **Branch brittleness** is assessed by gently pushing a branch forward against the older branch from which it arose. If the young branch snaps under gentle pressure, it is brittle.
- **Branch color** may darken as specimens dry; it should be assessed only on fresh material.
- **Buds:** In general, buds with overlapping margins are pointed, and buds with fused margins are blunt. However, intermediate shapes may be misleading.
- **Leaf and twig surfaces:** Because it is a wax, the glaucous color may melt off of heat-dried specimens, or weather off old twigs in the field. When in doubt about whether twigs are glaucous, look behind the buds, a protected area where the wax may remain if it was present. A leaf surface described as “not glaucous” is usually green, but may have a silvery epidermis that can be rubbed off with some effort.
- **Growth form:** Clonal willows have branches that can’t all be traced back to a single origin. In contrast, branches of tree and shrub-form willows can all be traced back to a single, sometimes rather broad area of origin.
- **Leaf shape and size** should be assessed on the largest medial leaves. These are the largest leaves near the middle of normal shoots.
- **Petiole glands** are located at the distal end of the petiole, near the leaf blade.
- **Foliaceous stipules** are leaf-like in texture, color, and margins, although always smaller than the leaves. Rudimentary stipules are reduced and bract-like.

► Keys to varieties or subspecies of *Salix exigua, S. lasiandra, S. planifolia,* and *S. sitchensis* follow the key to species.

**Key to *Salix* species, pistillate plants:**

1. Ovaries glabrous.
    2. Floral bracts deciduous in fruit, more or less tan, sparsely hairy, tips often ragged.
        3. Bud scale margins free, overlapping, bud apex usually pointed in dorsal view; native tree.
            4. Branchlets sparsely hairy becoming glabrous, usually yellowish to gray, slender, often drooping at the tips; eastern Oregon but not in the Klamath Basin or upper Deschutes River drainage ..... ***S. amygdaloides***
            4’ Branchlets pubescent to glabrate, usually persistently hairy at least at the nodes, reddish, purplish, or brownish, stout, not drooping; Klamath Basin and Deschutes River drainage. ..... ***S. laevigata***
        3’ Bud scale margins fused, bud apex usually blunt to rounded in dorsal view; native or introduced shrub or tree.
            5. Petiole with glands (sometimes few and inconspicuous on *S.* × *fragilis*); plants not clonal; styles and stigmas usually persistent.
                6. Leaves without rusty hairs; stipes 0.2–0.8(1) mm; branches brittle; introduced tree, sparingly naturalized ..... ***S.* × *fragilis***
                6’ Leaves usually with rusty hairs (best seen on juvenile leaves); stipes (0.5)0.8–2(4) mm; branches usually flexible; native tree or shrub, widespread ..... ***S. lasiandra***
            5’ Petiole glands lacking; plants clonal by root-sprouting; styles and stigmas deciduous.
                7. Petioles hairy; mature leaves more or less persistently hairy, margins entire or with few, scattered small teeth; floral bract tip acute or obtuse ..... ***S. exigua*** var. ***exigua***
                7’ Petioles more or less glabrous; mature leaves more or less glabrate, margins often evidently serrulate; floral bract tip rounded ..... ***S. melanopsis***
    2’ Floral bracts usually persistent, tan to black, tips entire.
        8. Branches and branchlets pendent (‘weeping” willows); nectary greater than stipe; introduced tree ..... ***S.* × *pendulina***
        8’ Branches and branchlets spreading to erect; nectary less than stipe; native shrub or tree.
            9. Catkins emerging before the leaves.
                10. Capsules 5–10 mm; styles 0.6–2.3 mm; floral bract hairs dense and greater than the bract; leaf length/width ratio 1.4–3; internodes of branches of previous year 3–5.3 mm diameter; western Oregon ..... ***S. hookeriana*** (in part)
                10’ Capsules 2.4–5.5 mm; styles 0.1–1.2 mm; floral bract hairs dense to sparse, shorter or equal to the bract length; leaf length/width ratio 1.9–9.6; internodes of previous year’s branches 1.3–2.7(3.3) mm diameter; widespread.
                    11. Stipes 0.5–1.8(2.2) mm; styles 0.2–1 mm; floral bracts densely hairy, uniformly black (brown); leaf margins usually strongly revolute with glands displaced slightly onto the upper surface; widespread ..... ***S. lasiolepis***
                    11’ Stipes 1–3 mm; styles 0.1–0.5 mm; floral bracts moderately hairy, bicolored with dark tip and lighter base; leaf margins slightly revolute with glands marginal; southwest Oregon ..... ***S. tracyi***
            9’ Catkins emerging with or after the leaves.
                12. Lower surface of leaves not glaucous.
                    13. Larger leaves of catkin branchlets 3–7(12) mm wide; mature leaves usually glabrous at least on upper surface.
                        14. Stipes 0.5–2(2.5) mm; leaf blades tapering to base; floral bracts usually hairy throughout, occasionally glabrous on distal ⅓; stipules usually rudimentary; mid- to high elevations; widespread in and east of the Cascades ..... ***S. boothii***
                        14’ Stipes (1.5)2–3 mm; mature leaf blades usually truncate to cordate at base; floral bracts usually glabrous at least on distal ⅔; stipules usually foliaceous; lower elevations east of the Cascades in central and northeast Oregon. ..... ***S. monochroma***

13’ Larger leaves of catkin branchlets (6)7–20 mm wide; mature leaves hairy on both surfaces.
15. Branchlets with appressed hairs; lower surface of leaves sparsely to moderately hairy; ovaries glabrescent with age.....***S. eastwoodiae*** (in part)
15’ Branchlets with spreading hairs; lower surface of leaves moderately to densely hairy; ovaries glabrous .....***S. commutata***
12’ Lower surface of leaves glaucous.
16. Plants decumbent and branches sometimes rooting in *Sphagnum* bogs and fens at middle elevations in the northern Oregon Cascades; leaves often glaucous on both surfaces, with strongly revolute margins and strongly reticulate veins. .....***S. pedicellaris***
16’ Plants spreading to erect; habitat various; widespread; leaves usually without the above combination of characters.
17. Branches ashy-gray to yellow-gray; branchlets yellow-brown; Great Basin and hot canyons in the Blue Mountains.....***S. lutea***
17’ Branches and branchlets usually reddish to reddish brown; mostly cooler sites; widespread.
18. Hairs on branchlets appressed; stipes 0.5–1.2 mm; northeast Oregon. .....***S. farriae***
18’ Hairs on branchlets spreading; stipes 0.9–4.2 mm; widespread.
19. Stipes (0.5)1–2(2.5) mm; leaf blades linear to very narrowly elliptic, length 2.9–6.4 × width; stipule tips acute; Cascades from McKenzie Pass south and Klamath Basin; rare .....***S. ligulifolia***
19’ Stipes (1.5)2–4(5) mm; leaf blades narrowly oblong or lanceolate to obovate, length 2.4–4.5 × width; stipule tips rounded; widespread; common.....***S. prolixa***

1’ Ovaries hairy.
20. Dwarf alpine shrubs, forming mats by rhizomes or adventitious roots, to 10 cm tall.
21. Catkins 5–20 mm, with less than 20 flowers; floral bracts pale; styles 0.2–0.4 mm .....***S. nivalis***
21’ Catkins 10–60 mm, with greater than 20 flowers; floral bracts dark; styles 0.4–1.6 mm. .....***S. petrophila***
20’ Low to tall shrubs or trees, or plants clonal by root sprouts, not forming mats, more than 10 cm tall, alpine or not.
22. Catkins blooming as or after the leaves emerge, on shoots with more or less well developed leaves.
23. Stipes 2–6 mm, longer than floral bracts.
24. Catkins 16–85 mm long; veins on lower surface of leaves distinctly raised; mature leaves 1.7–3.9 times as long as wide.....***S. bebbiana***
24’ Catkins 8–21 mm long; veins on lower surface of leaves not raised; mature leaves 3.6–11.3 times as long as wide.....***S. geyeriana*** (in part)
23’ Stipes 0–2.1 mm, shorter or equal to floral bracts.
25. Lower surface of leaves not glaucous, or covered so thickly with hairs that the surface is not easily visible.
26. Lower and upper leaf surfaces distinctly different; lower surface of leaves more or less obscured by hairs; upper surface dark green, sparsely hairy, glabrous in age; twigs usually brittle at base.
27. Leaves 2.1–4(7.7) times as long as wide; plants 1–8 m tall; habitat various, from low to high elevation; widespread.....***S. sitchensis***
27’ Leaves 1.1–2.3 times as long as wide; plants 0.2–1.5 m tall; habitat alpine, Wallowa Mountains .....***S. vestita***

26’ Lower and upper leaf surfaces similar, sparsely to ± densely hairy, gray-green; twigs flexible at base.
28. Plants usually clonal by root sprouts, usually with slender, upright stems; catkins on flowering branches 2–55 mm; leaves 3–35 times as long as wide. ..... ***S. exigua***
28’ Plants distinct shrubs, not clonal; catkins on flowering branches 1–12 mm; leaves 2–6 times as long as wide.
29. Leaves usually lacking glands on margins, 5–15(20) mm wide; catkins 8–20(30) mm, averaging 15 mm; NE Oregon..... ***S. wolfii*** ssp. ***idahoensis***
29’ Leaves, at least the smallest, usually with conspicuous marginal glands, the glands often projecting at right angles to the margins; leaves 10–30 mm wide; catkins 10–60 mm, averaging 25–30 mm; widespread in and east of the Cascades and in the Klamath Mts..... ***S. eastwoodiae*** (in part)
25’ Lower surface of leaves glaucous, glabrous or hairy.
30. Mature leaf blades (2.9)3.5–10(12) times as long as wide; hairs white or white and rusty.
31. Catkins globose, 8–21 mm long; leaves usually sparsely hairy on both surfaces. ..... ***S. geyeriana*** (in part)
31’ Catkins cylindrical, 20–60 mm long; leaves densely hairy to glabrescent on lower surface, glabrescent on upper surface.
32. Leaves usually densely silver hairy on lower surface; subalpine to alpine; southeast Oregon (Steens Mt); rare. ..... ***S. sitchensis*** var. ***angustifolia*** (in part)
32’ Leaves sparsely hairy to glabrescent on lower surface; montane to alpine; high Cascades and eastern Oregon; common..... ***S. lemmonii*** (in part)
30’ Mature leaf blades 1.5–4 times as long as wide; hairs white.
33. Capsules 3.3–7 mm long, more sparsely hairy than the next; pistillate catkins 15–35 mm long ..... ***S. glauca*** var. ***villosa***
33’ Capsules 1.9–3.5 mm long, densely white-hairy, becoming glabrate with maturity; pistillate catkins 5–12.5 mm long..... ***S. brachycarpa*** var. ***brachycarpa***
22’ Catkins blooming before the leaves emerge, sessile or on short shoots with poorly developed, bract-like leaves.
34. Branchlets and branches of previous year usually strongly glaucous, sometimes only in leaf axils.
35. Lower surface of leaves densely hairy, the hairs more or less obscuring the surface. ..... ***S. drummondiana***
35’ Lower surface of leaves sparsely hairy to glabrous, the hairs not obscuring the surface. ..... ***S. lemmonii*** (in part)
34’ Branchlets and branches of previous year not glaucous or weakly so.
36. Habitat mesic uplands, often in forests..... ***S. scouleriana*** (in part)
36’ Habitat wetlands or streamsides, or habitat unknown.
37. Plants of lowlands west of the Cascades.
38. Mature pistillate catkins slender, 5–12 mm wide, 3–7.5 times as long as wide.
39. Stipes 1–2 mm; lower surface of leaves glabrous to densely hairy. ..... ***S. hookeriana*** (in part)
39’ Stipes 0–1.4 mm; lower surface of leaves densely hairy, hairs more or less obscuring the surface.
40. Stipe 0–0.3 mm; leaf blade densely hairy on both surfaces; serpentine substrates, southwest Oregon..... ***S. delnortensis***
40’ Stipe 0.4–1.4 mm; leaf blade densely hairy below, sparsely hairy to glabrate above; widespread..... ***S. sitchensis*** var. ***sitchensis***

38’ Mature pistillate catkins stout, 8–15(17) mm wide, 1–3(3.6) times as long as wide.
41. Plants large shrubs; styles (0.5)0.6–2.3 mm long; lower surface of leaves glabrous to densely hairy, the hairs white to yellowish; wetlands and streamsides ..... ***S. hookeriana*** (in part)
41’ Plants large shrubs or trees; styles 0.2–0.6 mm long; lower surface of leaves glabrous to sparsely hairy, often with some rusty hairs, the hairs not obscuring the surface; mesic uplands, often in forests ***S. scouleriana*** (in part)
37’ Plants in and east of Cascades.
42. Stigmas 0.2–0.4 mm long; leaf blade length/width ratio 3–12.
43. Capsules 5–7 mm; leaf hairs white and often also rusty; floral bract brown or bicolored; widespread in and east of Cascades ..... ***S. lemmonii*** (in part)
43. Capsules 3–5 mm; leaf hairs white; floral bract brown or light brown; Steens Mt. ..... ***S. sitchensis*** var. ***angustifolia*** (in part)
42’ Stigmas 0.4–1 mm long; leaf blade length/width ratio 1.7–3.5.
44. Plants tall shrubs or trees of more or less mesic habitats at low to high elevations, widespread ..... ***S. scouleriana*** (in part)
44’ Plants shrubs of wet habitats at mid to high elevations in north Cascades and Steens Mt. ..... ***S. planifolia***

**Key to *Salix* species, staminate plants:**

1. Stamens > 2 per flower.
2. Anthers 0.6–1 mm; bud scale margins fused, apex usually blunt to rounded in dorsal view; tree or shrub; widespread ..... ***S. lasiandra***
2’ Anthers 0.4–0.6 mm; bud scale margins free, overlapping, apex usually pointed in dorsal view; tree; east and southwest Oregon.
3. Branchlets sparsely hairy becoming glabrous, usually yellowish to gray, slender, often drooping at the tips; east Oregon but not in the Klamath Basin ..... ***S. amygdaloides***
3’ Branchlets pubescent to glabrate, usually persistently hairy at least at the nodes, reddish, purplish, or brownish, stout, not drooping; Klamath Basin and Deschutes River drainage. ..... ***S. laevigata***
1’ Stamens 1–2 per flower.
4. Stamen 1 per flower ..... ***S. sitchensis***
4’ Stamens 2 per flower.
5. Dwarf alpine shrubs forming mats by rhizomes or adventitious roots, to 10 cm tall.
6. Staminate catkins 7–19 mm; filaments hairy at base ..... ***S. nivalis***
6’ Staminate catkins 18–32 mm; filaments glabrous ..... ***S. petrophila***
5’ Shrub or tree, greater than 10 cm tall, not forming mats; alpine or not.
7. Trees, usually with a single trunk; branches sometimes pendent; introduced, rarely naturalized.
8. Branches erect to spreading ..... ***S.*** × ***fragilis***
8’ Branches pendent ..... ***S.*** × ***pendulina***
7’ Shrubs, multi-stemmed; branches not pendent; native.
9. Plants clonal from root sprouts; catkins sometimes more than 1 per flowering branchlet or forming from shoots of the year.
10. Leaves glabrescent to glabrous.
11. Anthers 0.8–1.1 mm long; floral bracts lanceolate to linear, tips usually rounded to acute; north Oregon along Columbia River and its tributaries west of Deschutes River ..... ***S. exigua*** var. ***columbiana***

11’ Anthers 0.5–0.8(0.9) mm; floral bracts obovate to broadly elliptic, tips generally blunt; widespread ..... ***S. melanopsis***

10’ Leaves hairy.

12. Leaf blade linear, length (8.5)10–31 times width ..... ***S. exigua***

12’ Leaf blade narrowly lanceolate to narrowly obovate, length 3–8.5 times width.

13. Petioles glabrous or mostly so, sometimes with short hairs on edges or with very scattered long hairs; widespread ..... ***S. melanopsis*** (in part)

13’ Petioles hairy, with spreading or both spreading and appressed hairs; mostly west of Cascades ..... ***S. exigua*** (in part)

9’ Plants not clonal from root sprouts; catkins 1 per flowering branchlet, produced from branches of the previous year.

14. Plants decumbent, branches sometimes rooting in *Sphagnum* bogs and fens at middle elevations in the north Oregon Cascades; leaves often glaucous on both surfaces, with strongly revolute margins and strongly reticulate veins. ..... ***S. pedicellaris***

14’ Plants spreading to erect; habitat various; widespread; leaves usually without the above combination of characters.

15. Catkins blooming before leaves (sometimes more or less so), sessile or on bracts on shoots or on leafy shoots to 4 mm.

16. Plants of low to moderate elevations west of the Cascades

17. Anthers 0.7–1.3 mm long, cylindrical; internodes of branches of previous year 1.4–2.8(3.2) mm diameter; habitat usually mesic uplands; leaves usually obovate, not glossy; hairs of lower surface of leaves usually dingy or rusty ..... ***S. scouleriana*** (in part)

17’ Anthers (0.4)0.5–0.9(1.0) mm long, orbicular to cylindrical; internodes of branches of previous year 1.3–5.3 mm diameter; habitat wetlands and streamsides; leaves mostly ovate to obovate, highly glossy above when fresh (sometimes dull on plants growing on serpentine); hairs of lower surface of leaves more or less whitish.

18. Anthers yellow (sometimes red-tipped when very young), (0.5)0.6–0.9(1) mm; internodes of branches of previous year (2)3–5.3 mm diameter; catkins 10–27 mm wide ..... ***S. hookeriana***

18’ Anthers purple, becoming yellow with age but usually remaining tinged with purple at the tip or brownish throughout, (0.3)0.5–0.6(0.7) mm; internodes of previous year’s branches 1.3–2.7(3.3) mm diameter; catkins 5–15 mm wide.

19. Shrubs widespread, not on serpentine substrates. ..... ***S. lasiolepis*** (in part)

19’ Shrubs of southwest Oregon on serpentine substrates.

20. Leaf hairs white or gray; juvenile leaves yellowish green, densely hairy; upper surface of mature leaves dull; lower surface of mature leaves often obscured by hairs. ..... ***S. delnortensis***

20’ Leaf hairs white or white and rusty; juvenile leaves yellowish green or reddish, glabrous to densely hairy; upper surface of mature leaves shiny to highly glossy; lower surface of mature leaves glabrous to sparsely hairy.

21. Floral bracts densely hairy, uniformly black (brown); leaf margins usually strongly revolute with glands displaced slightly onto the upper surface ..... ***S. lasiolepis*** (in part)

21’ Floral bracts moderately hairy, bicolored with dark tip and lighter base; leaf margins slightly revolute with glands marginal ..... ***S. tracyi*** (in part)

16’ Plants of low to high elevations in or east of the Cascades.

22. Lower surface of leaves green, not glaucous.

23. Young branches usually reddish-brown; hairs of leaves white; anthers purple becoming yellow; N-central and northeast Oregon. ..... ***S. monochroma*** (in part)

23’ Young branches often yellowish (reddish brown); hairs of leaves and catkin bracts white or white and rusty; anthers yellow (occasionally purple becoming yellow); widespread in and east of Cascades. ..... ***S. boothii*** (in part)

22’ Lower surface of leaves glaucous or obscured by hairs.

24. Floral bracts tan to medium reddish brown ..... ***S. bebbiana*** (in part)

24’ Floral bracts dark brown to black or bicolored (dark at tip, light below).

25. Branchlets and younger branches strongly glaucous, sometimes only in leaf axils.

26. Mature leaves densely hairy below; wood of peeled 3 to 5 year old branches lacking points or conical projections; young branches more vertical and less branched. ..... ***S. drummondiana***

26’ Mature leaves sparsely hairy below; wood of peeled 3 to 5 year old branches with points or conical projections; young branches more spreading and branched. ..... ***S. lemmonii*** (in part)

25’ Branchlets and younger branches not or slightly glaucous.

27. Anthers 0.7–1.2 mm, cylindrical; usually mesic uplands. ..... ***S. scouleriana*** (in part)

27’ Anthers 0.4–0.8 mm, more or less orbicular to elliptic or short-cylindrical; streamsides and wetlands.

28. Plants of Steens Mt above 8000 feet; mature leaves 10–20(30) mm..... ***S. planifolia*** var. ***monica***

28’ Plants of low to mid-montane habitats, widespread; mature leaves 25–135 mm.

29. Catkins 10–40 mm; peeled 3 to 5 year old branches with diamond-shaped depressions; Cascades from Mt. Jefferson area north; elevation 3000–6000 feet. ..... ***S. planifolia*** var. ***planifolia***

29’ Catkins 17–77 mm; peeled 3 to 5 year old branches lacking diamond-shaped depressions; widespread but not in north Cascades; elevation 0–7000 feet.

30. Floral bracts widest distally, rounded, black to dark brown, with tangled curly hairs; leaf hairs white or often white and rusty; widespread; elevation 0–7000 feet..... ***S. lasiolepis*** (in part)

30’ Floral bracts widest more or less at middle, acute, light brown to bicolored, with more or less straight, untangled hairs; leaf hairs white; crest of Cascades and east Cascades from McKenzie Pass

south and Klamath Basin; elevation 4000–5500 feet..... ***S. ligulifolia*** (in part)

15’ Catkins blooming with leaves, on (sometimes very short) leafy shoots.

31. Catkins 10–15(18) mm long.

32. Shrubs tall, columnar, usually greater than 2 m; branches often strongly glaucous, sometimes only behind the buds, glabrous to sparsely pubescent; lower surface of leaves glaucous, not obscured by hairs; habitat low to subalpine; widespread ..... ***S. geyeriana***

32’ Shrubs low, spreading, usually less than1.5 m; branches not or weakly glaucous, hairy to glabrous; lower surface of leaves glaucous or green, sometimes obscured by hairs; habitats montane to alpine; northeast Oregon and Steens Mt.

33. Lower surface of leaves not glaucous ..... ***S. wolfii*** var. ***idahoensis***

33’ Lower surface of leaves glaucous.

34. Leaf blades mostly 20–40 mm, usually densely hairy; petioles mostly less than 3 mm..... ***S. brachycarpa*** var. ***brachycarpa***

34’ Leaf blades mostly 30–80 mm, usually glabrous to moderately hairy; petioles mostly greater than 3 mm.

35. Plants of alpine habitats on Steens Mt. .... ***S. glauca*** var. ***villosa***

35’ Plants of montane to subalpine habitats in northeast Oregon. ..... ***S. farriae*** (in part)

31’ Catkins (10)15–45 mm long.

36. Lower surface of leaves not glaucous, glabrous to densely hairy, the surface visible through the hairs.

37. Larger leaves of catkin branchlets 3–7(12) mm wide; mature leaves usually glabrous (glabrate) at least on upper surface.

38. Mature leaf blades tapering to base; floral bracts usually hairy throughout, occasionally glabrous on distal ⅓; stipules usually rudimentary; mid- to high elevations; widespread in and east of the Cascades..... ***S. boothii*** (in part)

38’ Mature leaf blades usually truncate to cordate at base; floral bracts usually glabrous at least on distal ⅔; stipules usually foliaceous; lower elevations east of the Cascades in central and northeast Oregon..... ***S. monochroma*** (in part)

37’ Larger leaves of catkin branchlets (6)7–20 mm wide; mature leaves hairy on both surfaces.

39. Branchlets with appressed hairs; lower surface of leaves sparsely to moderately hairy ..... ***S. eastwoodiae***

39’ Branchlets with spreading hairs; lower surface of leaves moderately to densely hairy ..... ***S. commutata***

36’ Lower surface of leaves glaucous or obscured by hairs.

40. Lower surface of leaf blades more or less obscured by hairs.

41. Catkin branchlets leafy; catkins 11–13 mm wide; anthers 0.6–0.8 mm; branches and branchlets glabrous or short-hairy. ..... ***S. sitchensis*** var. ***angustifolia***

41’ Catkin branchlets naked; catkins 4–7(8) mm wide; anthers 0.3–0.5 mm long; branches and branchlets long-hairy ..... ***S. vestita***

40’ Lower surface of leaf blades not obscured by hairs.

42. Branches or branchlets strongly glaucous, sometimes only at nodes or behind buds.

43. Anthers purple turning yellow, 0.3–0.5 mm long; Illinois River drainage in southwest Oregon; low elevations. ..... ***S. tracyi*** (in part)

43’ Anthers yellow, 0.3–0.9 mm long; in and east of the Cascades at middle to high elevations ..... ***S. lemmonii*** (in part)

42’ Branches and branchlets not or only weakly glaucous.

44. West of Cascades.

45. Leaf bases cordate, subcordate, rounded, or convex; stipules usually prominent; anthers 0.5–0.6 mm; widespread on various substrates..... ***S. prolixa*** (in part)

45’ Leaf bases wedge-shaped to convex; stipules usually absent or rudimentary; anthers 0.3–0.5 mm; southwest Oregon on serpentine substrates ..... ***S. tracyi*** (in part)

44’ In or east of Cascades.

46. Habitat montane to alpine in the Wallowas or on Steens Mountain.

47. Upper surface of leaf blades hairy; Steens Mt. ..... ***S. glauca*** var. ***villosa*** (in part)

47’ Upper surface of leaf blades nearly to completely glabrous; northeast Oregon..... ***S. farriae*** (in part)

46’ Habitat not alpine, mostly at low to mid elevations; widespread.

48. Branches ashy-gray to yellow-gray; branchlets yellow-brown; Great Basin and hot canyons in the Blue Mountains ..... ***S. lutea***

48’ Branches and branchlets reddish to reddish-brown; widespread.

49. Leaf blade margin entire to crenate; floral bract 1.2–3.2 mm, hairs wavy; catkin branchlets 0.5–11 mm..... ***S. bebbiana*** (in part)

49’ Leaf blade margin usually serrate; floral bract 0.8–1.6 mm, hairs curly; catkin branchlets 0–3 mm.

50. Leaf blade linear to narrowly elliptic; stipule tip rounded to acuminate; Cascades from McKenzie Pass south and Klamath Basin. ..... ***S. ligulifolia*** (in part)

50’ Leaf blade narrowly oblong or lanceolate to obovate; stipule tip convex to rounded; widespread ..... ***S. prolixa*** (in part)

**Vegetative key to *Salix* species:**

1. Plants of lowlands to subalpine habitats.
   2. Plants distinct shrubs or trees, not clonal; petioles usually not as short relative to the leaf length, blades usually not subsessile; leaf blades lanceolate to ovate; plants flowering once in spring or early summer.
      3. Bud scale margins free and overlapping on the side toward the branchlet; bud apex usually pointed in dorsal view; leaf tips acuminate.
         4. Branchlets sparsely hairy becoming glabrous, usually yellowish to gray, slender, often drooping at the tips; eastern Oregon but not in the Klamath Basin or upper Deschutes River drainage ..... ***S. amygdaloides***
         4' Branchlets usually persistently hairy at least at the nodes, reddish, purplish, or brownish, stout, not drooping; Klamath Basin and Deschutes River drainage ..... ***S. laevigata***
      3' Bud scale margins fused; bud apex usually blunt to rounded in dorsal view; leaf tips round to acuminate.
         5. Tree with yellow, pendulous, "weeping" branches..... ***S.* × *pendulina***
         5' Shrub or tree with erect or spreading branches of various colors.
            6. Petiole with conspicuous, raised, often wart-like glands near base of leaf blade.
               7. Leaves not glaucous below, the underside sometimes paler green. ..... ***S. lasiandra*** var. ***caudata***
               7' Leaves glaucous below.
                  8. Leaves usually with rusty hairs (best seen on juvenile leaves); branches usually flexible; native tree or shrub, widespread...*S. lasiandra* var. *lasiandra*
                  8' Leaves without rusty hairs; branches brittle; introduced tree, sparingly naturalized ..... ***S.* × *fragilis***
            6' Petiole lacking conspicuous glands near base of leaf blade.
               9. Lower leaf surface not glaucous, sometimes a lighter green than the upper surface; lower surface sometimes hairy but not obscured by hairs ..... **Subkey A**
               9' Lower leaf surface glaucous or obscured by hairs.
                  10. Leaves with rusty, yellowish, or dingy hairs, at least in part ..... **Subkey B**
                  10' Leaves with white hairs or glabrous ..... **Subkey C**
   2' Plants clonal by root sprouts, usually with slender upright stems; petioles absent or very short relative to leaf length, blades sessile or subsessile; leaf blade linear to narrowly lanceolate; plants often blooming intermittently throughout the summer.
      11. Petioles hairy; mature leaf blades more or less persistently hairy to glabrate, margins entire or with few, scattered small teeth ..... ***S. exigua***
      11' Petioles and mature leaf blades glabrous to very sparsely hairy, margins often evidently serrulate to spinulose-serrulate.
         12. Leaves shiny; ovaries glabrous; floral bracts usually rounded at the tip, glabrous or sometimes hairy at base or on margins; anthers 0.5–0.8(0.9) mm; widespread. ..... ***S. melanopsis***
         12' Leaves dull; ovaries hairy; floral bracts usually somewhat pointed at the tip, hairy; anthers 0.8–1.1 mm; north Oregon along the Columbia River and its larger tributaries from the Deschutes River west ..... ***S. exigua*** var. ***columbiana***
1' Plants of alpine habitats..... **Subkey D**

**Subkey A. Lower surface of leaf blade not glaucous:**

1. Leaves entire, not serrate or gland-dotted on margins, persistently hairy on both sides; moderate to high elevations, Wallowa Mountains..... ***S. wolfii*** var. ***idahoensis*** (in part)

1’ Leaves entire to serrate or gland-dotted on margins, often glabrous at least on top when mature, usually moderately to sparsely hairy when young; low to high elevations; widespread
  2. Mature leaves becoming glabrous throughout or very sparsely hairy.
    3. Bases of leaf blades usually truncate to subcordate; shrubs green in overall appearance; north half of eastern Oregon.....***S. monochroma***
    3’ Bases of leaf blades usually slightly rounded to tapering; shrubs usually yellowish in overall appearance; in and east of Cascades.....***S. boothii*** (in part)
  2’ Mature leaves notably hairy on at least one side or on the midrib.
    4. Leaves with hairs only (or mostly) on the lower surface; twigs usually yellowish (often reddish on Steens Mt.) .....***S. boothii*** (in part)
    4’ Leaves with hairs on both surfaces (sometimes becoming glabrous with age); twigs usually reddish to brownish.
      5. Twigs of the year with spreading wavy to straight hairs; ovaries and capsules glabrous. .....***S. commutata*** (in part)
      5’ Twigs of the year with appressed curly or wavy hairs; ovaries and capsules pubescent. .....***S. eastwoodiae*** (in part)

**Subkey B. Lower surface of leaves glaucous; hairs rusty, brownish, or dingy, at least in part:**

1. Twigs often strongly glaucous, sometimes only behind the buds; leaf tips acute.
  2. Large, mature shrubs columnar in shape; leaves usually sparsely hairy on both surfaces; catkins globose, 8–21 mm.....***S. geyeriana*** (in part)
  2’ Large, mature shrubs rounded in shape; leaves densely hairy to glabrescent on lower surface, glabrescent on upper surface; catkins cylindrical, 16–45 mm .....***S. lemmonii*** (in part)
1’ Twigs not or only weakly glaucous; leaf tips rounded, obtuse, or broadly acute.
  3. Leaves obovate, broadest in the distal third; leaf blades up to 4 times as long as wide.
    4. Lower surface of leaf mostly obscured by hairs .....***S. hookeriana*** (in part)
    4’ Lower surface of leaf mostly visible.
      5. Plants usually of mesic uplands; leaves obovate, not glossy above, leaf margins thickened or rolled under.....***S. scouleriana*** (in part)
      5’ Plants of wetlands and streamsides; leaves mostly ovate to obovate, highly glossy above when fresh; margins usually not or only slightly rolled under.....**Subkey E** (in part)
  3’ Leaves mostly lanceolate to ovate, widest in the lower or middle third; leaf blades 1.5–12 times as long as wide.
    6. Plants decumbent, branches sometimes rooting in *Sphagnum* bogs and fens at middle elevations in the northern Oregon Cascades; leaves often glaucous on both surfaces, with revolute margins and strongly reticulate veins.....***S. pedicellaris*** (in part)
    6’ Plants spreading to erect; habitat various; widespread; leaves without the above combination of characters.
      7. Plants of lowlands west of the Cascades .....**Subkey E** (in part)
      7’ Plants of lowlands to alpine habitats in and east of the Cascades.
        8. Leaves 2–10 times as long as wide, 35–125 mm long; branches brittle to flexible; glands of leaf margins submarginal or on upper surface of leaves with (0)2–4 teeth/cm; widespread but not in north Cascades or Wallowa Mountains.....***S. lasiolepis*** (in part)
        8’ Leaves 1.7–5 times as long as wide, 20–75 mm long; branches flexible; glands of leaf margins marginal or submarginal; leaves with 2–13 teeth/cm; plants of north Cascades and northeast Oregon.
          9. Upper surface of leaf dull to slightly shiny; rusty hairs confined to the upper surface, often just the midrib; northeast Oregon.....***S. farriae*** (in part)
          9’ Upper surface of leaf highly glossy; rusty hairs confined to the lower surface. .....***S. planifolia*** (in part)

**Subkey C. Lower surface of leaves glaucous or obscured by hairs; hairs white or absent.**

1. Lower surface of leaf blade conspicuously, densely hairy, the hairs usually obscuring the surface and imparting a satiny sheen.
   2. Leaf tip rounded or notched; leaves (broadly elliptic) ovate to suborbicular, 1.1–1.3 times as long as wide; hairs of lower leaf surface long-silky; Wallowa Mountains.....***S. vestita*** (in part)
   2' Leaf tip rounded, acute, or acuminate; leaves linear to elliptic or obovate, 2–7.3 times as long as wide; hairs of lower leaf surface short and velvety.
      3. Twigs strongly glaucous; Blue Mountains, Steens Mt, Wallowa Mountains. .....***S. drummondiana*** (in part)
      3' Twigs not or slightly glaucous.
         4. Hairs of lower surface of leaf curving, with the lower part springing up from the surface; substrate serpentine; southwest Oregon.....***S. delnortensis*** (in part)
         4' Hairs of lower surface of leaf appressed; not on serpentine; widespread…*S. sitchensis*

1' Lower surface of leaf blade glabrous to densely hairy, hairs if present not obscuring the surface, not imparting a satiny sheen.
   5. Veins on lower surface of leaves distinctly raised; mature leaves broadly elliptic, resembling apple leaves; stipes 2–6 mm long; east Oregon.....***S. bebbiana***
   5' Veins on lower surface of leaves flat or slightly raised; mature leaves narrowly to broadly elliptic, not resembling apple leaves; stipes 0.5–4.2 mm long; widespread
      6. Leaf tips acute to acuminate.
         7. Leaf bases wedge-shaped to acute; stipules few, small, usually deciduous.
            8. Large, mature shrubs columnar in shape; leaves usually sparsely hairy on both surfaces; catkins globose, 8–21 mm long.....***S. geyeriana*** (in part)
            8' Large, mature shrubs rounded in shape; leaves densely hairy to glabrescent on lower surface, glabrescent on upper surface; catkins cylindrical, 16–45 mm long. .....***S. lemmonii*** (in part)
         7' Leaf bases rounded or truncate to cordate; stipules foliaceous, usually persistent
            9. Branches ashy-gray to yellow-gray; branchlets yellow-brown; Great Basin and hot canyons in the Blue Mountains.....***S. lutea***
            9' Branches and branchlets usually reddish to reddish brown; mostly cooler sites; widespread.
               10. Stipes (0.5)1–2(2.5) mm; leaf blades linear to very narrowly elliptic, length 2.9–6.4 × width; stipule tips acute; Cascades from McKenzie Pass south and Klamath Basin; rare.....***S. ligulifolia***
               10' Stipes (1.5)2–4(5) mm; leaf blades narrowly oblong or lanceolate to obovate, length 2.4–4.5 × width; stipule tips rounded; widespread; common.....***S. prolixa***
      6' Leaf tips rounded, obtuse, or broadly acute.
         11. Lower surface of leaf densely hairy.
            12. Lower leaf surface green under the hairs; hairs white; middle to high elevations in and east of the Cascades.....***S. commutata*** (in part)
            12' Lower leaf surface glaucous under the hairs; hairs white, sometimes also rusty or yellow; low elevations west of the Cascades.
               13. Leaves 30–70 mm long; serpentine substrates in Josephine and Curry counties but not at the immediate coast.....***S. delnortensis*** (in part)
               13' Leaves 35–125 mm long; widespread in west Oregon, not on serpentine, not in Josephine or Curry counties except at the immediate coast.....***S. hookeriana*** (in part)
         11' Lower surface of leaf glabrous or sparsely hairy.
            14. Leaves obovate, broadest in the distal third; leaf blades up to 4 times as long as wide.
               15. Plants usually of mesic uplands; leaves obovate, not glossy above when fresh, leaf margins thickened or rolled under.....***S. scouleriana*** (in part)

15’ Plants of wetlands and streamsides; leaves mostly ovate to obovate, highly glossy above when fresh; margins usually not or only slightly rolled under. ..... **Subkey E** (in part)

14’ Leaves mostly lanceolate to ovate, widest in the lower or middle third; leaf blades 1.5–12 times as long as wide.

16. Plants decumbent, branches sometimes rooting in *Sphagnum* bogs and fens at middle elevations in the northern Oregon Cascades; leaves often glaucous on both surfaces, with revolute margins and strongly reticulate veins. ..... ***S. pedicellaris*** (in part)

16’ Plants spreading to erect; habitat various; widespread; leaves usually without the above combination of characters.

17. Plants of lowlands west of the Cascades ..... **Subkey E** (in part)

17’ Plants of lowlands to alpine habitats in and east of the Cascades

18. Leaves 2–10 times as long as wide, 35–125 mm long; branches flexible to brittle; glands of leaf margins submarginal to on upper surface of leaf; leaves with (0)2–4 teeth/cm; widespread but not in north Cascades or Wallowa Mountains ..... ***S. lasiolepis*** (in part)

18’ Leaves 1.7–5 times as long as wide, 20–75 mm long; branches flexible; glands of leaf margins marginal or submarginal; leaves with 2–13 teeth/cm; plants of north Cascades and northeast Oregon.

19. Upper surface of leaf dull to slightly shiny; rusty hairs confined to the upper surface, often just the midrib; northeast Oregon. ..... ***S. farriae*** (in part)

19’ Upper surface of leaf highly glossy; rusty hairs confined to the lower surface ..... ***S. planifolia*** (in part)

**Subkey D. Willows of the alpine zone.**

1. Dwarf alpine shrubs, to 10 cm tall; forming mats by rhizomes or adventitious roots.
   2. Leaf blades 6–25 mm, lower surface of leaves strongly glaucous; veins on upper surface impressed, reticulate; catkins 7–20 mm long, arising from subterminal buds ..... ***S. nivalis***
   2’ Leaf blades 19–44 mm, lower surface of leaves green; veins on upper surface not impressed and reticulate; catkins 15–60 mm long, arising from lateral buds ..... ***S. petrophila***

1’ Low to tall shrubs more than 10 cm tall, not forming mats.

   3. Lower surface of leaves green, not glaucous, not obscured by hair.
      4. Leaves entire, densely, persistently long-silky on both sides, 20–45(60) × 8–15(20) mm. ..... ***S. wolfii*** var. ***idahoensis*** (in part)
      4’ Leaves toothed (rarely entire), moderately to sparsely pilose or tomentose when young often becoming glabrous at least on top, 23–110 × 5–45 mm wide.
         5. Mature leaves becoming glabrous throughout, though young leaves may be hairy. ..... ***S. boothii*** (in part)
         5’ Mature leaves notably hairy on at least one side or on the midrib.
            6. Leaves with hairs only or mostly on the lower surface; twigs usually yellowish (often reddish on Steens Mt.) ..... ***S. boothii*** (in part)
            6’ Leaves with hairs on both surfaces, twigs usually reddish to brownish.
               7. Twigs of the year with spreading hairs that are wavy to straight; ovaries and capsules glabrous ..... ***S. commutata*** (in part)
               7’ Twigs of the year with appressed hairs that are curly or wavy; ovaries and capsules pubescent ..... ***S. eastwoodiae*** (in part)
   3’ Lower surface of leaves glaucous or obscured by hair.

8. Lower surface of leaf blade densely hairy below, the hairs usually obscuring the surface, imparting a satiny sheen.
    9. Leaf tip rounded or notched; leaves 1.1–1.3 times as long as wide, (broadly elliptic) ovate to suborbicular; hairs of lower leaf surface long-silky; Wallowa Mountains.....***S. vestita*** (in part)
    9' Leaf tip rounded, acute, or acuminate; leaves 2–7.3 times as long as wide, linear to elliptic or obovate; hairs of lower leaf surface short and velvety.
        10. Branchlets and young branches strongly glaucous; Blue Mountains, Steens Mountain, Wallowa Mountains .....***S. drummondiana*** (in part)
        10' Branchlets and young branches not or slightly glaucous; Steens Mt. .....***S. sitchensis*** ssp. ***angustifolia***
8' Lower surface of leaf blade glabrous to densely hairy, but hairs if present not obscuring the surface, not imparting a satiny sheen.
    11. Largest leaf blades highly glossy on upper surface, 10–20(30) mm; buds dimorphic, some much larger than others; Steens Mt .....***S. planifolia*** var. ***monica***
    11' Largest leaf blades dull or shiny on upper surface but not highly glossy, 10–60 mm; buds monomorphic, all about the same size; widespread.
        12. Plants decumbent, branches sometimes rooting in *Sphagnum* bogs and fens at middle elevations in the northern Oregon Cascades; leaves often glaucous on both surfaces, with revolute margins and strongly reticulate veins .....***S. pedicellaris*** (in part)
        12' Plants spreading to erect; habitat various; widespread; leaves without the above combination of characters.
            13. Leaf blades mostly 20–40 mm, usually densely hairy; petioles mostly less than 3 mm; pistillate catkins 6–20 mm; staminate catkins 5–20 mm. .....***S. brachycarpa*** var. ***brachycarpa***
            13' Leaf blades mostly 30–80 mm, usually glabrous to moderately hairy; petioles mostly greater than 3 mm; pistillate catkins 20–55 mm; staminate catkins 15–50 mm.
                14. Upper surface of leaf blades hairy; ovaries and capsules hairy; Steens Mt. .....***S. glauca*** var. ***villosa***
                14' Upper surface of leaf blades nearly glabrous except along the midrib; ovaries and capsules glabrous; northeast Oregon.....***S. farriae*** (in part)

**Subkey E. Plants of wetlands and streamsides; leaves mostly ovate to obovate, highly glossy above when fresh.**

1. Plants of serpentine substrates in Josephine and inland Curry counties.
    2. Largest medial leaves mostly thickish, usually hairy; juvenile leaves usually green; catkin branchlets 0–7 mm; floral bracts nearly always uniformly blackish; stipes to 1.8(2.2) mm long; styles 2–10 mm. .....***S. lasiolepis*** (in part)
    2' Largest medial leaves relatively thin, often glabrous or nearly so; juvenile leaves usually conspicuously reddish; catkin branchlets 2–6(14) mm; floral bracts often bicolored; stipes 1–3.5 mm; styles 0.1–0.5 mm .....***S. tracyi***
1' Plants of non-serpentine substrates or of other locations.
    3. Leaves usually 1.5–5.2 times as long as wide, usually 18–63 mm wide, usually widest in middle third, bases of blades usually rounded to cordate (acute); lower surface glabrous to densely pilose, villous, or woolly, often eaten by insects and infected by fungi; internodes of previous year's branches (2)3–5.3 mm wide; floral buds ellipsoid; lowlands west of Cascades. .....***S. hookeriana*** (in part)
    3' Leaves usually (1.9)3.2–9.6 times as long as wide, usually 6–32 mm wide; widest in middle or upper third, bases usually wedge-shaped to acute (convex); lower surface glabrous or sparsely hairy, if hairy usually tomentose often free of insect and fungus damage; internodes of previous year's branches 1.3–2.7(3.3) mm wide; floral buds ovoid; widespread .....***S. lasiolepis*** (in part)

***Salix exigua*** Nutt., Coyote willow

**Key to *Salix exigua* varieties:**

1’ Petiole glabrous to very sparsely hairy; mature leaves glabrous to very sparsely hairy, margins usually all evidently serrulate to spinulose-serrulate; ovaries hairy ..... ***S. e.*** var. ***columbiana*** (in part)
1. Petiole hairy; mature leaves persistently hairy to glabrate, margins entire or with few, scattered small teeth; ovaries glabrous
    2. Petiole hairs 0.5+ mm; leaves elliptic to narrowly elliptic, 3–8.5 times as long as wide. ..... ***S. e.*** var. ***sessilifolia***
    2’ Petioles glabrous or with hairs less than 0.5 mm; leaves usually linear, 4–35 times as long as wide
        3. Leaves usually all spinulose serrulate, glabrescent to glabrous; northern Oregon along Columbia River and its tributaries west of the Deschutes River ..... ***S. e.*** var. ***columbiana*** (in part)
        3. Leaves usually not all spinulose-serrulate, usually permanently hairy; widespread.
            4. Branchlets densely short-hairy, hairs mostly appressed; stipes 0.2–0.9 mm long; ovaries usually glabrous, sometimes the beak hairy; widespread ..... ***S. e.*** var. ***exigua***
            4’ Branchlets pubescent and/or densely long-hairy, hairs both spreading and appressed; stipes 0–0.2 mm long; ovaries hairy throughout or becoming glabrous; southwest Oregon, in and south of Douglas County ..... ***S. e.*** var. ***hindsiana***

***Salix lasiandra*** Benth., Pacific willow, whiplash willow

**Key to *Salix lasiandra* varieties:**

1. Lower surface of leaves glaucous ..... ***S. l.*** var. ***lasiandra***
1’ Lower surface of leaves green ..... ***S. l.*** var. ***caudata***

***Salix planifolia*** Pursh, Tea-leaf willow

**Key to *Salix planifolia* varieties:**

1. Leaf blades (28)35–75 mm long; plants of the northern Cascades at 3000–6000 feet elevation. ..... ***S. p.*** var. ***planifolia***
1’ Leaf blades 10–25(30) mm long; plants of Steens Mountain, 8000+ feet elevation ..... ***S. p.*** var. ***monica***

***Salix sitchensis*** Sanson ex Bong., Sitka willow

**Key to *Salix sitchensis* varieties:**

1. Leaf blades 8–25 mm wide, 3–7.3 times as long as wide, margins flat or more or less rolled under; stamens 1–2 per flower; staminate catkins 1.2–1.4 times as long as wide; nectaries 0.3–0.6 mm; twigs very brittle at base; subalpine to alpine on Steens Mt. ..... ***S. s.*** var. ***angustifolia***
1’ Leaf blades 17–48 mm wide, 2–4 times as long as wide, margins strongly rolled under, especially basally; stamens 1 per flower; staminate catkins 1.6–5.6 times as long as wide; nectaries 0.5–0.9 mm; twigs flexible or more or less brittle at base; lowlands to subalpine, widespread ..... ***S. s.*** var. ***sitchensis***