

Summer descriptions

Felt-leaf willow

Salix alaxensis (Andersson) Coville

Identification

Summer: Shrub or tree up to 10 m tall. **Underside of leaves densely felty** contrasting with green upperside; leaf stipule elongated; **long female catkins** directly attached to the stem, upright to 14 cm long, **developing early** before the leaves; **ovary densely hairy; style long.**

Two varieties of Feltleaf willow grow in Alaska:

S. a. alaxensis: **branchlets densely covered with white-yellow woolly hairs, leaf petioles often swollen**, and the winter buds sometimes enlarged. This variety of the feltleaf willow develops as a shrub up to 4 m tall.

S. a. longistylis: differs by the branchlets lacking woolly hairs. Instead, the **branchlets are coated with a fine white waxy powder** (bloom) similar to that found on fresh plums or grapes. The leaf petioles are rarely swollen and the winter buds are often small. This variety may grow to tree size up to 10 m tall, trunk diameter up to 30 cm.

Winter: (see p. 32) a few dried leaves often remain on the shrub, **upperside reddish-brown, underside covered with greyish felty hairs**, leaf stems (petiole) may be inflated at the base, young stems covered with waxy powder (bloom) or densely covered with yellowish woolly hairs.

Similar species

In coastal meadows, early in spring, *S. a. alaxensis* female catkins may be confused with those of *S. hookeriana*, but the pistil of *S. alaxensis* is densely hairy, the style is long, and the two stigmas are elongated.

Habitat

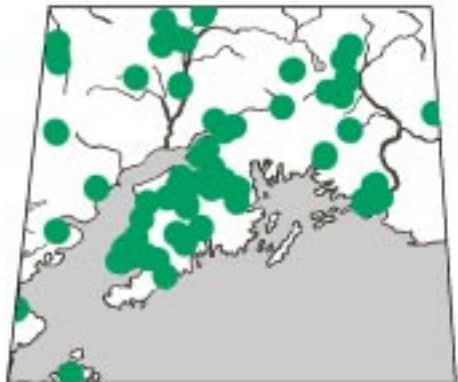
Felt-leaf willow forms dense stands on gravel bars of rivers with fast-flowing water and grows singly in stands associated with other willows in wetlands, alpine meadows, and young forest. It is one of the first tall shrub species to colonize gravel bars of glacier-fed rivers.

Wetland indicator status

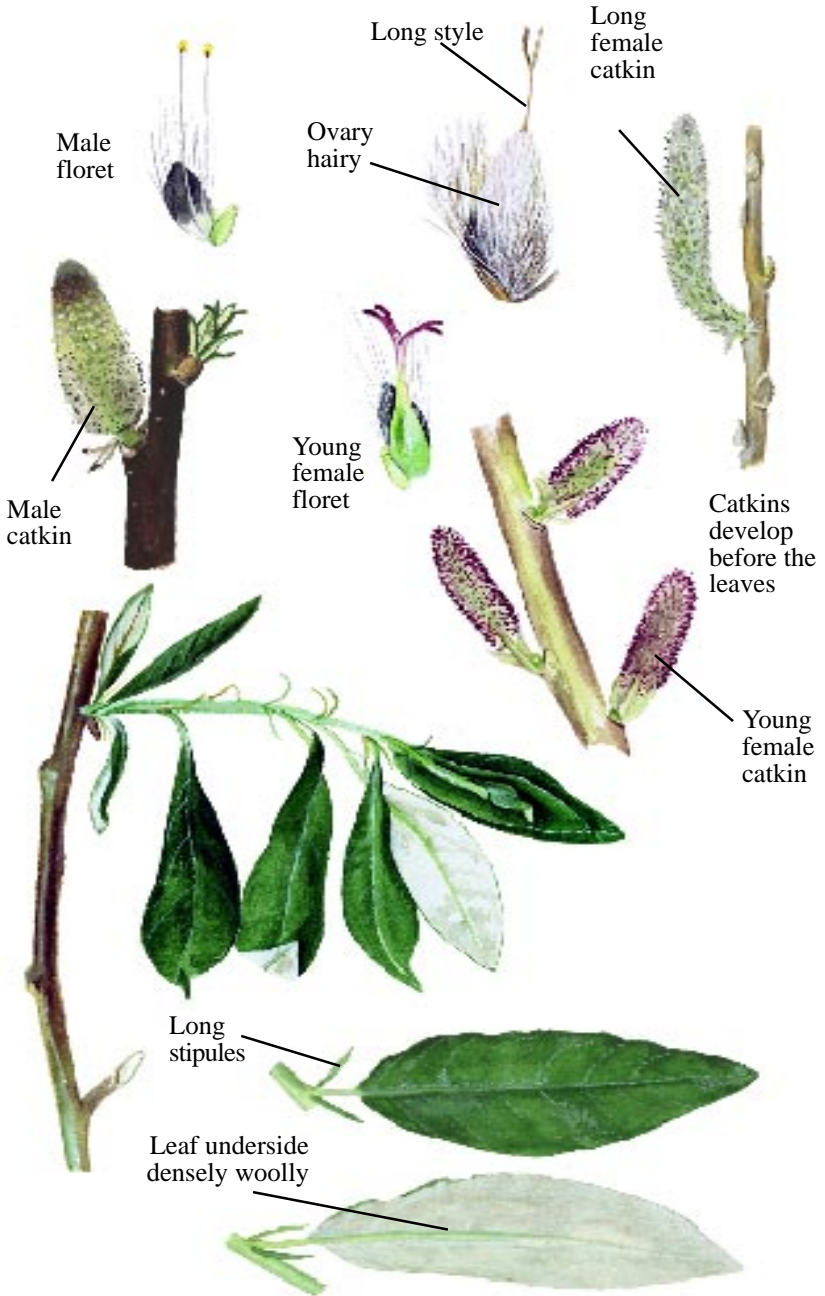
FAC (facultative).

Phenology

At low elevation in the forest zone, *S. alaxensis* catkins appear mid-April to mid-May; the female catkins start releasing seeds from mid-May to mid-June. The leaves appear in early May and are fully developed by mid-June. In the alpine zone above timberline, isolated *S. alaxensis* shrubs may start flowering as late as mid-June.



Continued p. 104.



Little-tree willow

Salix arbusculoides Andersson

Identification

Summer: Shrub or small tree 1-6 m tall. Branches thin and flexible; **leaves elongated, 3 to 6 times as long as wide**, hairless above, **silky below** with short white or reddish hair oriented toward the leaf tip, margin finely toothed; **ovary densely silky**.

Winter: (See p. 33) Stem tips are thin, whiplike.

Similar species

In Southcentral Alaska, this is the only willow species with the combination of leaves more than 3 times as long as broad, silky underneath surface, and finely glandular-toothed margin. Rarely *S. barclayi* and *S. pulchra* have elongated leaves, but both are hairless underneath. *S. barclayi* ovary is hairless, *S. pulchra* leaves are not finely toothed at the margin, and it has elongated stipules that remain on the stems for several years.

Habitat

Stream banks, lake shores, forest clearings, bogs, mixed forests, wetlands.

Wetland indicator status

FACW (facultative wetland).

Phenology

Catkins develop before or at the same time as the leaves, which are fully developed as early as the end of May. The capsule releases its seeds by mid-June.

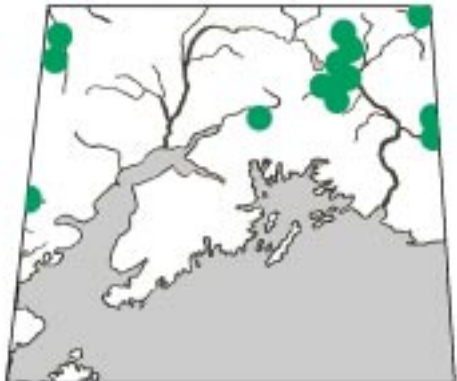
Uses

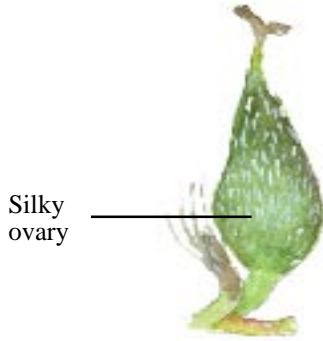
This species is recommended for revegetation projects using the dormant cuttings method.

“Diamond willows” are sometimes formed on this species.

Insects and diseases

Euura sp., *Pontania* sp. *Rabdophaga rigidae*, *R. rosaria*, tar spot fungus.





Silky ovary



Leaves 3-6 times
as long as broad

Margin
finely
toothed



Underside
silky-hairy

Arctic willow

Salix arctica Pall.

Identification

Dwarf shrub growing prostrate against the ground or erect; oval leaves hairless and shiny above, **whitish underneath** with **long white hairs that form a beard at the tip**; catkins borne on leafy branchlets; **female catkins long**, many-flowered; **Ovary hairy**; anthers purple; bract hairs long and straight.

Similar species

Usually, at least some leaves of *S. arctica* have long white hair on the undersurface and margin forming a beard at the tip, undersurface whitish whereas in *S. rotundifolia*, *S. phlebophylla*, *S. polaris* leaves are hairless, and the leaf undersides are green. *S. stolonifera* and *S. ovalifolia* have hairless ovaries. Specimens of *S. arctica* that lack the “beard” hair at the apex of leaves and have no female catkins may be difficult to distinguish from *S. stolonifera* and *S. ovalifolia*.

Habitat

Alpine meadows, exposed mountain ridges, glacial river sandbars.

Phenology

Catkins develop at the same time as the leaves. The male and female catkins of *S. arctica* appear from early June until mid-August, depending on the local conditions in its natural subalpine or alpine habitat. Fully developed leaves can be present as early as June.

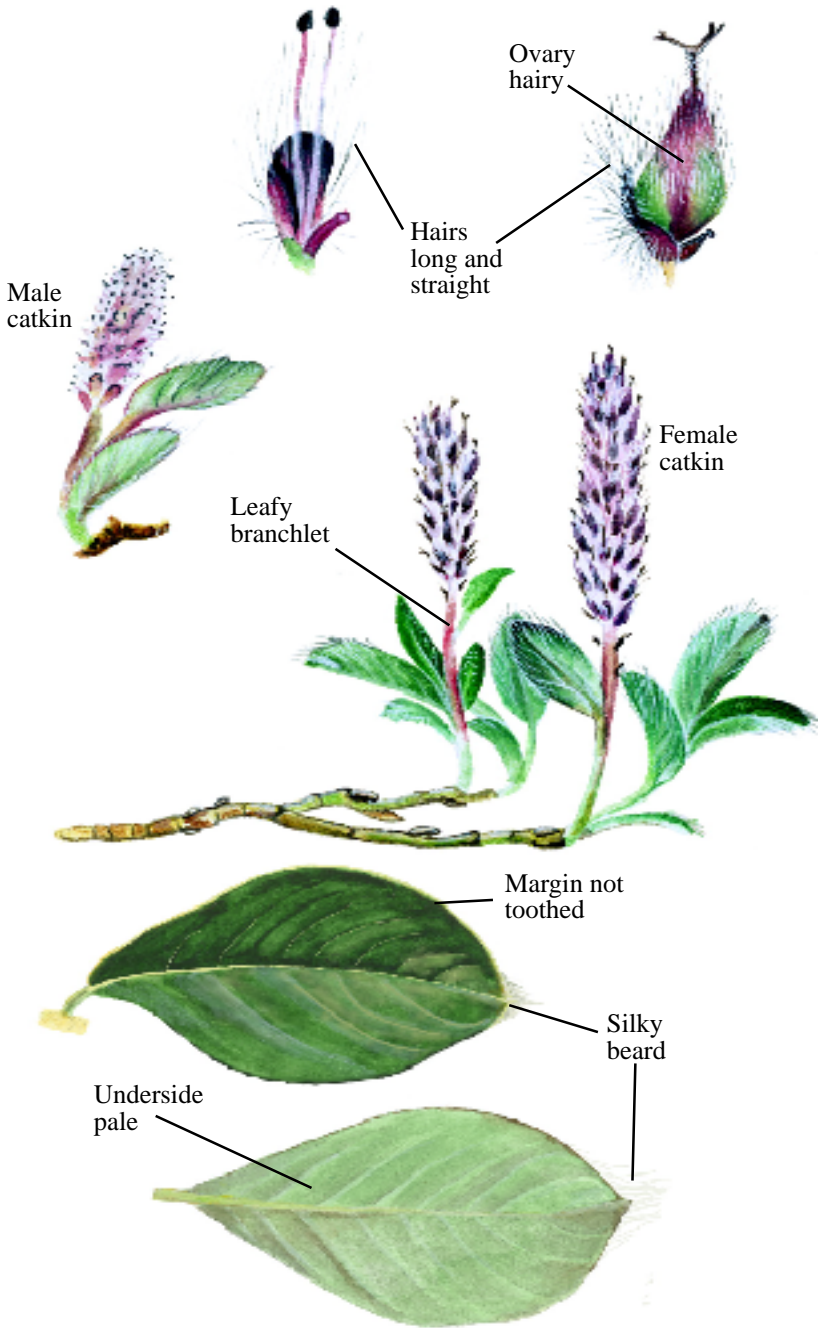
Note

Hybridizes with *S. barclayi* and *S. stolonifera*.

Insects and mites

Chrysomelidae, *Pontania* sp., *Rabdophaga salicis*, Eriophyiidae.





Barclay's willow *Salix barclayi* Andersson

Identification

Summer: Shrub 1-2 m tall occasionally to 5 m, branching from the ground level. Leaves develop at the same time as the catkins; mature leaves hairless, green above, **whitish underneath**, margin more or less toothed, **dry or bruise grey-black**; **stipules broad**, not persisting over winter; **catkins borne on leafy branchlet**; **ovaries pear-shaped, hairless**. Often **many large rosette galls**, especially in disturbed sites. Very common species from lowlands to subalpine. **Winter:** (see p. 34)

Similar species

S. barclayi is variable in appearance but can be distinguished from *S. myrtillofolia* and *S. pseudomyrsinites* by the leaf's pale underneath, from *S. hookeriana*, *S. richardsonii* and *S. pseudomonticola* by the catkins borne on well-developed leafed branchlets, appearing at the same time as the leaves. In addition, *S. barclayi* is distinguished from *S. hookeriana* in coastal thickets by the hairless ovaries and the branchlets lacking a row of long white hair at the base. In the subalpine, *S. barclayi* is distinguished from *S. richardsonii* by the lack of large dried stipules that persist several years on the stems.

Habitat

In Southcentral Alaska, *S. barclayi* is the dominant species in subalpine willow thickets and in moist disturbed sites at lower elevation. It reaches higher elevations in moist gullies in alpine habitats. *S. barclayi* can be found in openings in mixed forest, on river banks, and in decadent white spruce forest whose canopy has opened following spruce bark beetle mortality. *S. barclayi* is a very common species along road rights-of-way cleared above ground every few years by Hydroaxe tractors.

Wetland indicator status

FAC (facultative).

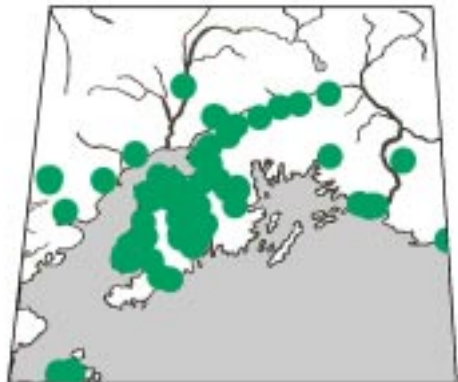
Phenology

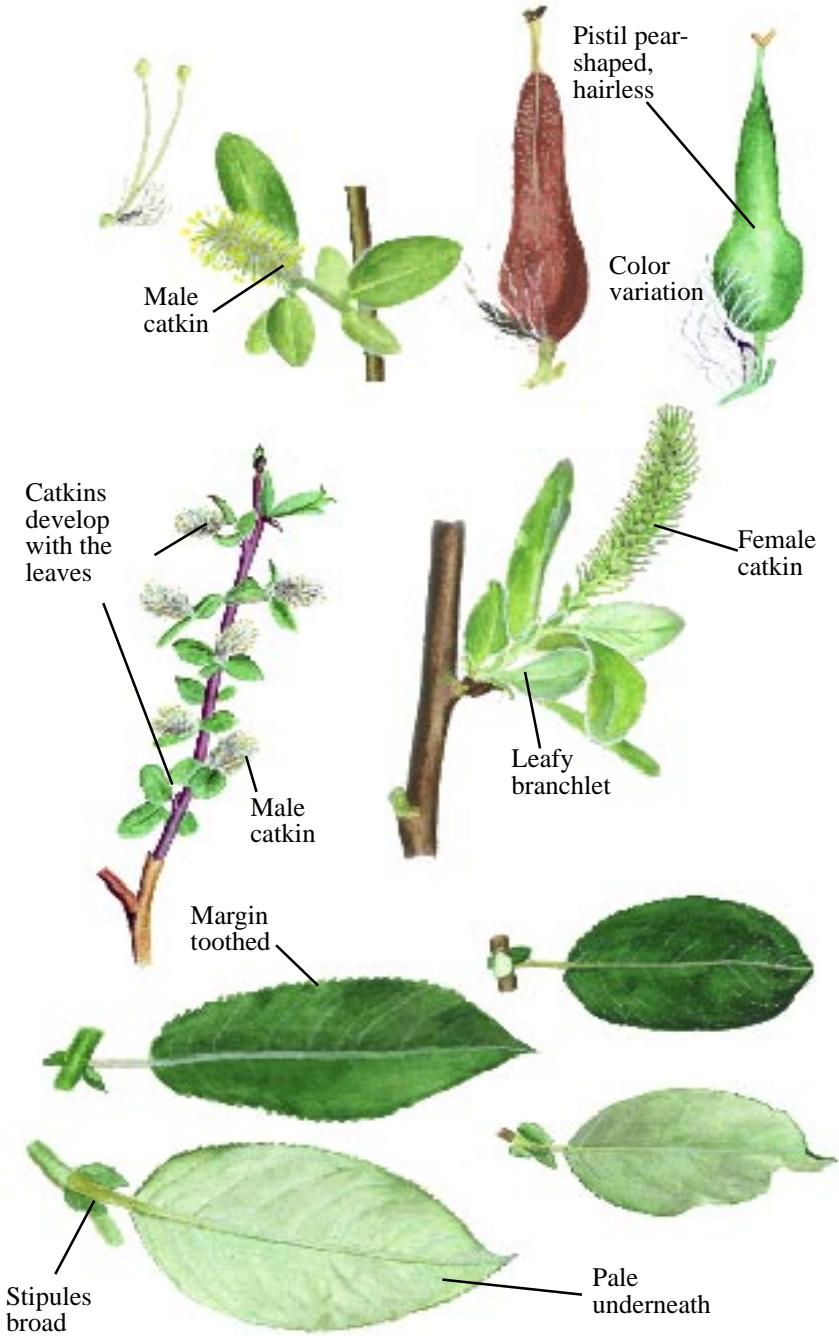
In the forest zone at low elevations, catkins and leaves start developing from mid-May until mid-June, and the capsules start releasing seeds in mid-June. The spent catkins drop at maturity.

In the alpine zone, the development of catkins and leaves may be delayed as late as mid-August by local snow conditions and may not mature every year.

Note

Hybridizes with *S. arctica*, *S. commutata*, *S. richardsonii*, *S. stolonifera*.





Bebb's willow***Salix bebbiana* Richardson***S. rostrata* Richardson, non Thuill.*S. depressa* L. subsp. *rostrata* (Richardson) Hiitonen**Identification**

Summer: Upright shrub or tree to 10 m tall. Many-branched from the base, lateral branches often inserted at right angle to the stems; upper surface of mature leaves embossed with **impressed veins**, underside whitish, **long wavy white hairs** on both surfaces; stipules falling off during summer; **capsule stipes long, female catkins loose; bracts tan-colored.**

Winter: (see p. 35) A few characteristic loose catkins often remain on female shrubs during winter. Fast-growing dark-red sucker shoots are very conspicuous in early spring in cleared powerline and road rights-of-way on well-drained soil. When present on sucker shoots, **small rosette galls** or **hollow spindle stem galls** are good winter fieldmarks for this willow. When heavily browsed by moose, upright shrubs are scraggly-knotty looking. George Argus noticed that *S. bebbiana* woody stems have elongated ridges under the bark.

Similar species

S. scouleriana is also found on well-drained soil, with the branches often inserted at right angles, and leaves are hairy on both sides; but the ends of the canopy branches are stouter, the veins are not embossed on the upperside of the leaves, the hairs on the leaf undersurface are short and flat, often reddish, especially on the smaller leaves of the upper canopy. *S. bebbiana* leaves usually are distributed on the shrub from the ground up, while for *S. scouleriana*, the canopy leaves are usually out of reach without bending the branches downward.

Habitat

Bebb's willow is a tall shrub in dry sites as an understory of aspen, birch and white spruce mixed forests; it is especially common near the forest edge, in wetlands, and along river banks.

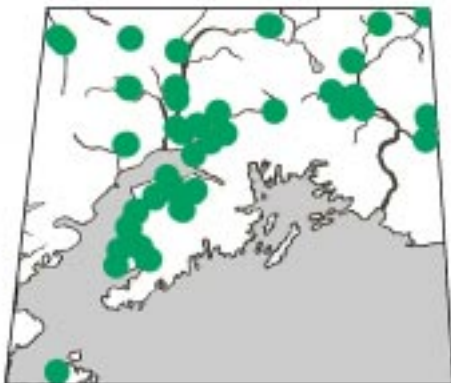
Wetland indicator status

FAC (facultative).

Phenology

Catkins appear from mid-June until mid-July, at the same time as the leaves develop. The abundant **yellow stamens of the male catkins** and the **grayish female catkins** appear simultaneously, making the Bebb willow shrubs stand out clearly against the background of the forest. The female catkins release seeds in midsummer but often a few dried female catkins remain on the shrub over winter.

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Under-green willow *Salix commutata* Bebb

Identification

Summer: Many-branched shrubs 20 cm (muskegs) to 3 m (coastal thickets) tall. **Leaves green underneath, long white hairs on both sides, stipules as long as the petiole;** catkins **late** flowering, borne on well-developed leafy branchlets; ovary color varies from entirely red to entirely pale green with intermediate colorations. Plants with **reddish catkins** and contrasting greyish-green foliage stand out from other willows.

Winter: (see p. 36) Stems white-hairy branching at right angles; reddish leaf buds similar in size to catkin buds. Rosette galls reddish-brown.

Similar species

Differs from *S. barclayi* and *S. hookeriana* by leaves green underneath, long white hairs on both sides, late flowering, and red ovaries when present. *S. myrtillofolia* and *S. pseudomyrsinites* leaf undersides are also green, but the leaves are mostly hairless.

Habitat

Under-green willow shrubs grow scattered in muskegs, loosely associated with other willows such as *S. pulchra*, *S. myrtillofolia*, and *S. barclayi*. Under-green willows form extensive dense coastal thickets in association with *S. barclayi*, *S. hookeriana* and *S. alaxensis* on glacier outwash plain, and above the Beach Wildrye (*Elymus arenarius*) belt on raised coastal mudflats.

Wetland indicator status

FAC (facultative).

Phenology

This willow is one of the last willows to flower, bearing male catkins and immature female catkins from end of May to mid-June. Capsules release the seeds from mid-June to mid-July.

Uses

This species is recommended for revegetation projects using the dormant cuttings method.

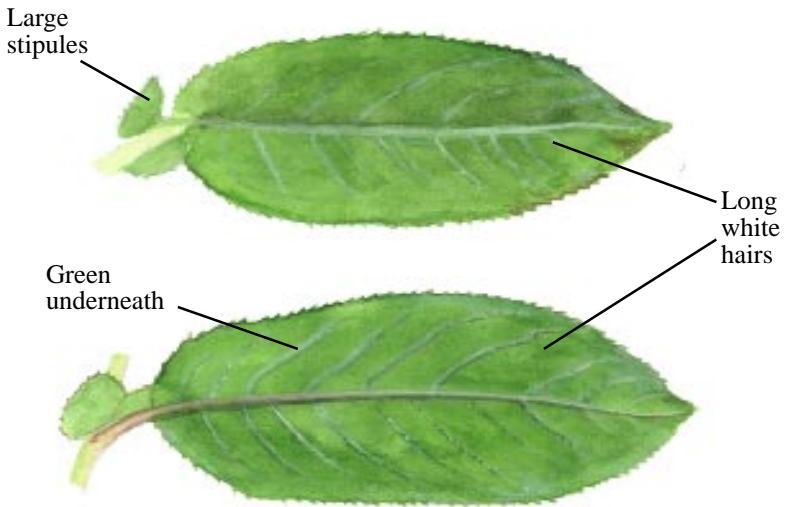
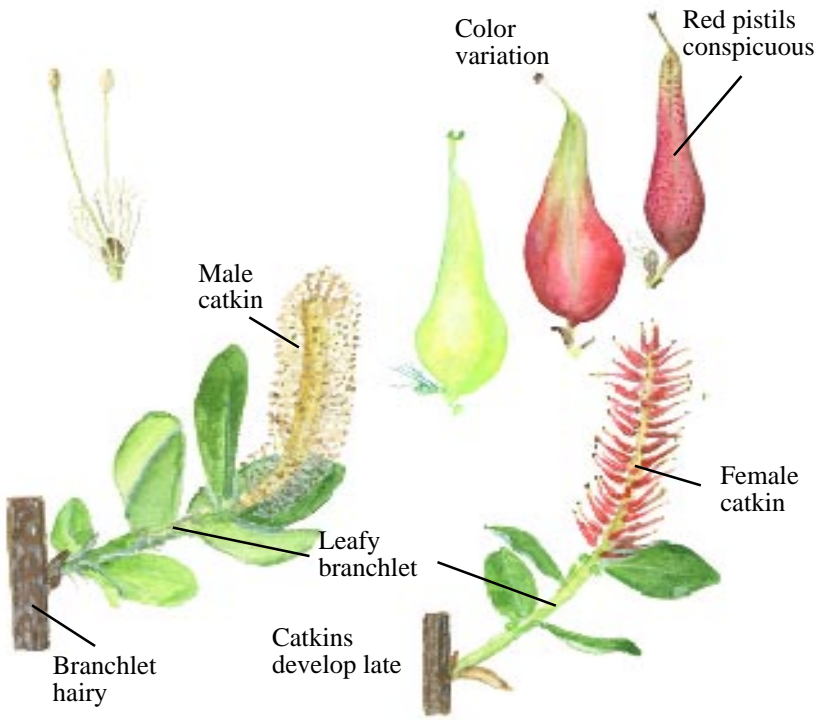
Note

Hybridizes with *S. barclayi*.

Insects

Chrysomelidae, *Orgyia antiqua*,
Phyllocolpa sp., *Pontania* sp.,
Rabdophaga rigidae, *R. rosaria*.





Alaska bog willow
Salix fuscescens Andersson

Identification

Low creeping shrub, mostly hidden in grass, **rooting from the stems**; leaves **hairless, broadest near the tip**, narrow toward the base, margin toothed near the base, **glossy green above**, waxy white beneath; **no stipules**; catkins on long leafy branches develop at the same time as the leaves; ovaries long pear-shaped, dark red and covered with short red hairs.

Similar species:

No other low-growing willow from Southcentral Alaska has the combination of smooth shiny leaves, broader near the tip and large pear-shaped and red-hairy ovaries.

Habitat

S. fuscescens is found in grassy fens and moist meadows, often growing alongside *S. barclayi*, *S. commutata*, *S. pulchra* and *S. myrtillofolia*, from the coastal plains to mid-elevations.

Wetland indicator status

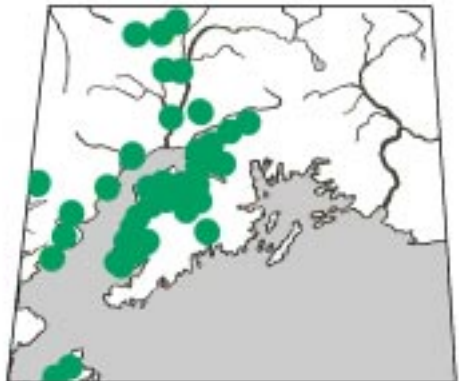
FACW (facultative wetland).

Phenology

At low elevations, catkins first appear in mid-May at the same time as the leaves and release the seeds starting mid-July.

Insects

Pontania sp., *Rabdophaga rigidae*, *R. rosaria*.





Gray-leaf willow

Salix glauca L.

Identification

Summer: Shrub 0.3-1m tall. Stem bark with translucent layer often peeling off; branchlets hairy; leaf upper surface dark green, underside **densely white hairy**, tip more or less pointed, **margins untoothed**; **yellowish petiole** 2-15 mm long; **stipules elongate**; densely flowered catkins borne on a leafy branchlet, leafy branchlet of male catkin remains on the stem after the catkin falls; ovaries short, **densely woolly**; styles 0.5-1 mm long; **4 long stigmas**; bracts light brown, hairs short and wavy; 2 nectaries, one on either side of the base of the pistil or stamens.

Winter: (see p. 37) 1st and 2nd year twigs and winter buds fuzzy-hairy; dried leaves and spent female catkins often remain on the shrub during winter.

Similar species

Not always easily distinguished from *S. niphoclada*, but *S. glauca* has a broader leaf pointed at the tip, longer petioles, stipules, and stipes and is typically found in the subalpine to alpine habitat, whereas *S. niphoclada* is usually found in coastal wetlands. Hybridizes with *S. arctica* and *S. niphoclada*.

Habitat

On the Kenai Peninsula, *S. glauca* forms thickets at treeline in association with *S. barclayi* and other willows and occasionally at the edge of the forest. Farther north, it is widespread at lower elevations in the boreal forest.

Wetland indicator status

FAC (facultative).

Phenology

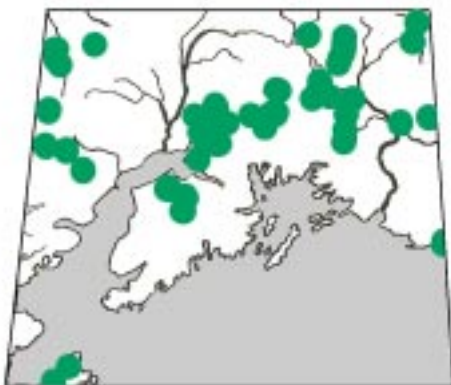
S. glauca is a late-flowering species. In the subalpine zone, depending on the local late snow conditions, the catkins appear at the same time as the leaves from mid-June until mid-August. The light brown mature female catkins often remain on the shrub over winter and the seeds may not be released until the following spring.

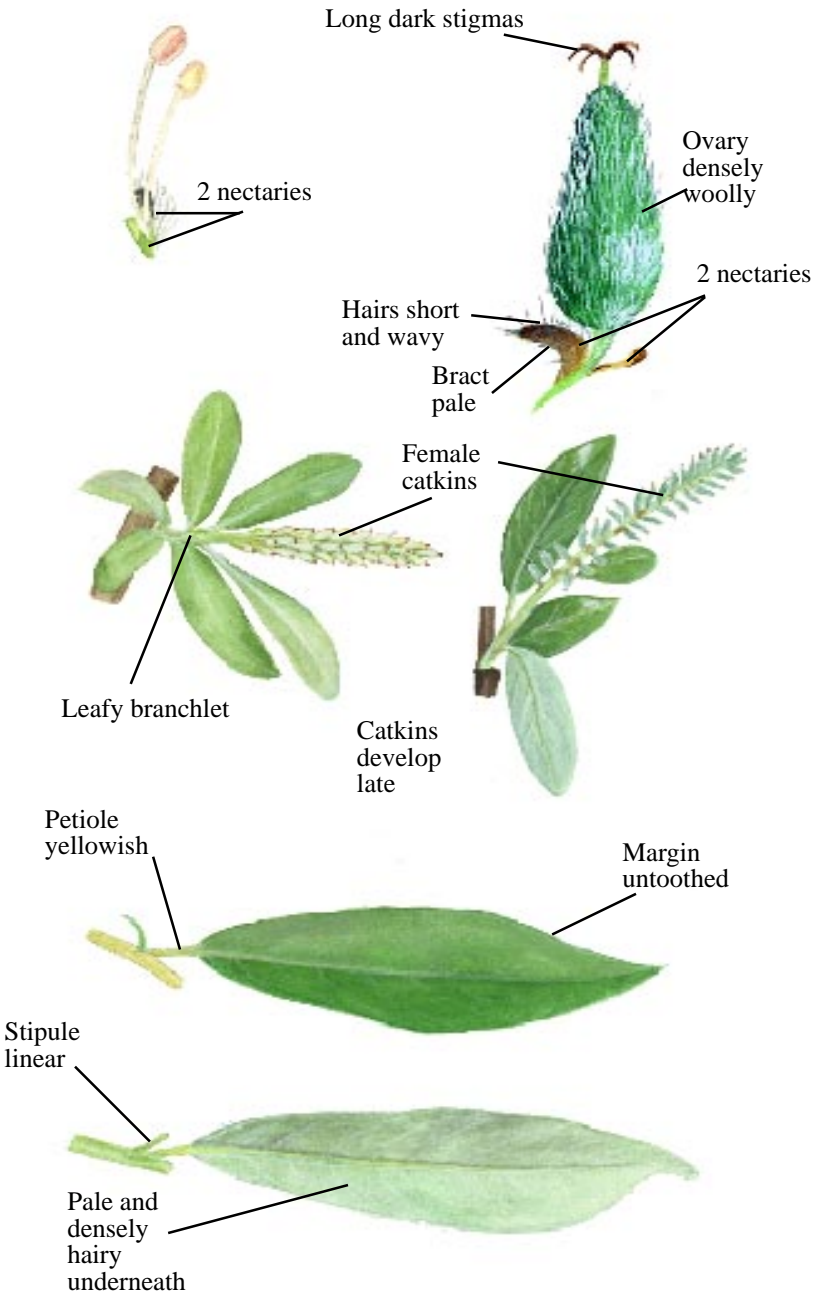
Uses

Winter cuttings do not root well and are not recommended for revegetation projects.

Insects and mites

Euura sp., *Pontania* sp., *Rabdophaga rigidae*, *R. rosaria*, *R. salicis*, Eriophyiidae.





Halberd willow
Salix hastata L.

Identification

Shrub 1-3 m tall. Branches covered with short hooked hairs; leaf margins not toothed, red hair persistent on upper surface midrib; ovaries reddish on very short stipe.

Similar species:

Differs from *S. barclayi* by leaf undersides only thinly pale-coated, the reddish hairs especially on the upper surface, the leaves not drying black, and the reddish petioles and ovaries. Differs from *S. myrtilifolia*, *S. commutata*, and *S. pseudomyrsinites* by the presence of reddish hairs on the young leaves persisting on the upperside main vein of mature leaves.

Habitat

In Southcentral Alaska, *S. hastata* forms thickets along streams in tundra at the headwaters of the Kuskokwim River.

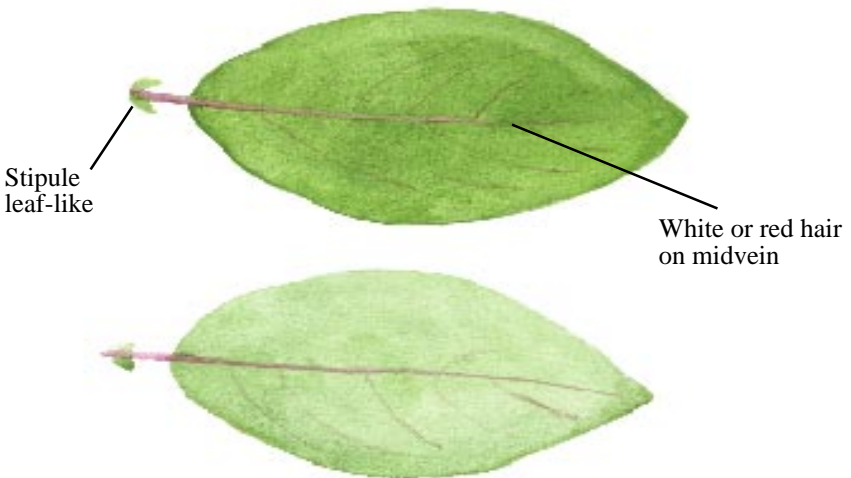
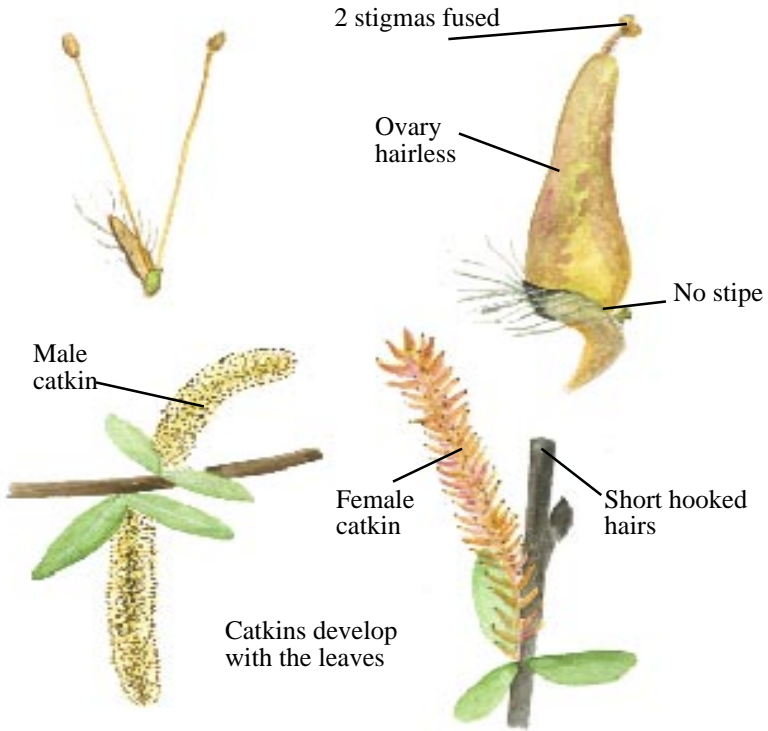
Wetland indicator status

FAC (facultative).

Phenology

Catkins develop at the same time as leaves.





Hooker's willow *Salix hookeriana* Barratt

Identification

Summer: Shrubs 1-3 m tall. **Branches brittle** and covered with thick **woolly white hairs** persisting several years; **crown of long white hair at base of the branchlets**; buds densely hairy; mature leaves bayleaf-like, margin untoothed, hairless except for the middle vein on the underside; stipules reduced or lacking; **female catkins cylindrical**, densely long-hairy, borne directly on the main stem or on short leafy branchlet, **developing early in the spring** before the leaves; bract hairs long and twisted giving the woolly appearance to the female catkins. **Winter:** (see p. 38) Tip of the stems densely hairy, crown of hair at the base of branchlets.

Similar species:

Early spring stems with female catkins resemble *S. alaxensis* var. *alaxensis*, but the stems are brittle at the base, and the pear-shaped ovaries are not so densely hairy. In summer, Hooker's willow is distinguished from *S. barclayi* and *S. commutata* by the crown of long white hairs at the base of branchlets, the lack of stipules, the catkins appearing long before the leaves and the hairy pistils. Leaves are darker green than those of *S. barclayi* growing under similar conditions; they bruise and dry reddish brown, whereas the leaves of *S. barclayi* bruise and dry blackish.

Habitat

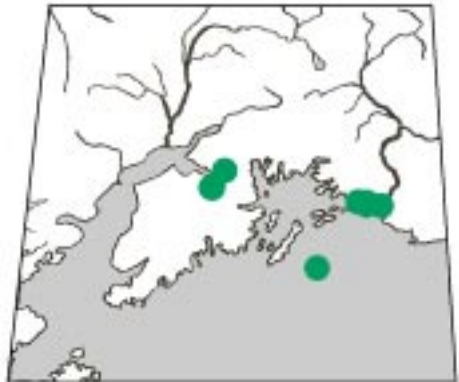
This is a coastal species found growing with *S. barclayi*, *S. sitchensis*, *S. alaxensis*, and *S. commutata* in extensive thickets above the Beach Rye (*Elymus arenarius*) belt in coastal meadows.

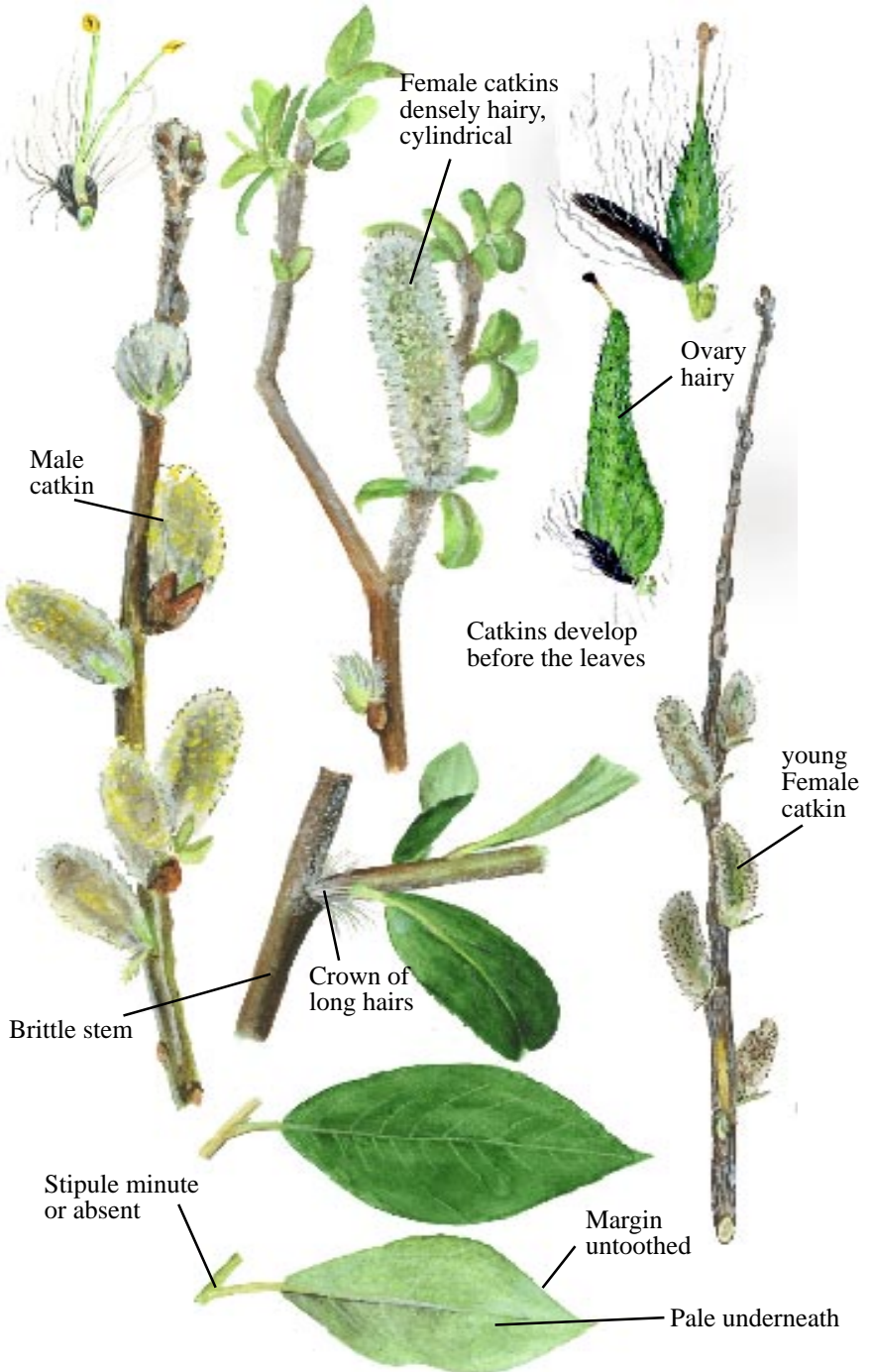
Phenology

Catkins first develop in mid-May, and capsules mature by the end of June. Leaves start developing in early June.

Insects

Euura sp., *Rabdophaga rigidae*, *R. rosaria*, *R. salicis*.





Pacific willow***Salix lasiandra* Benth.*****Salix lucida* Muhl. subsp. *lasiandra* (Benth.) E. Murray****Identification**

Summer: Shrub or tree up to 7 m tall. Old bark rough, blackish, and vertically furrowed like the bark of cottonwood; young stems yellow-green, waxy; leaves lance-shaped and rounded at the base, long pointed at the tip, green or sometimes reddish; two nectaries at the base of the flowers; 4-5 stamens for each male flower; bract of female flowers drops off after flowering.

Winter: (see p. 39)

Similar species:

In Southcentral Alaska, this is the only species with lanced-shaped leaves, 4 or 5 stamens in each male flower, and bract of female flower falling off.

Habitat

Wet habitat such as pond edges and fast-flowing stream banks.

Wetland indicator status

FACW (facultative wetland).

Phenology

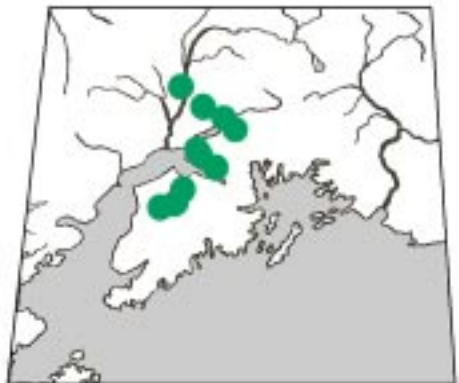
Catkins start developing in mid-May, maturing by the end of June. Leaves develop at the same time as catkins.

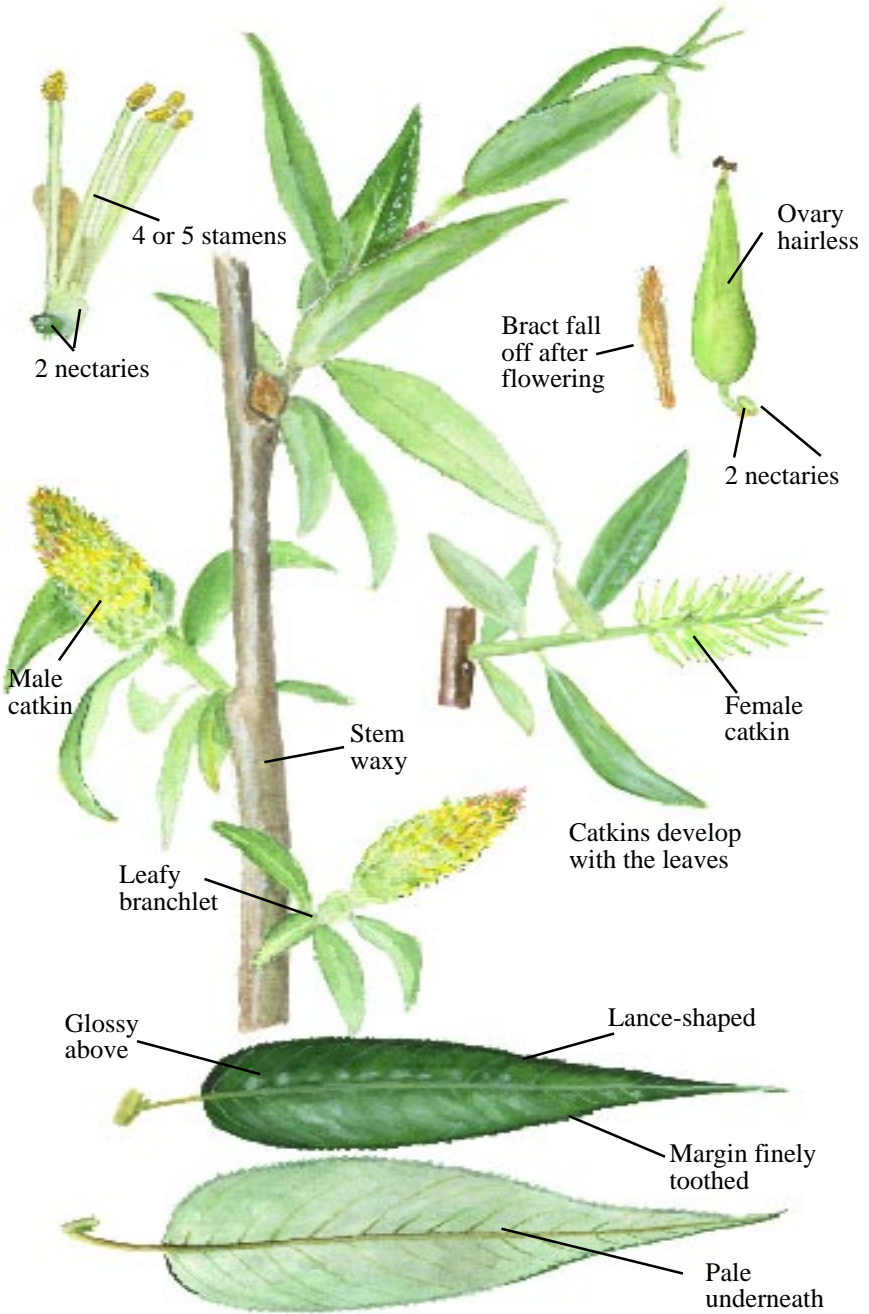
Uses

This species is recommended for revegetation projects using the dormant cuttings method.

Insects

Chrysomelidae.





Blueberry willow

Salix myrtilifolia Andersson

Identification

Low shrub 10-60 cm tall. Base of **stems trailing** and rooting, partially covered by grasses and sedges, **leaf underside green, hairless, leaf margin finely toothed**; stipules minute or leaflike, ovaries pear-shaped, **hairless**.

Similar species

In Southcentral Alaska, *S. myrtilifolia* can be distinguished from most shrubby willows by the green leaf underside. *S. pseudomyrsinites* and *S. commutata* underside are also green but their young leaves are hairy. The mature leaves of *S. pseudomyrsinites* usually have at least a few hairs and *S. commutata* is distinctly hairy, with long hairs on both sides of the leaves. Both are taller erect shrubs.

Habitat

Fens and muskegs, associated with dwarf birch (*Betula nana*), Labrador tea (*Ledum palustre*), *S. barclayi*, *S. fuscescens*, *S. pulchra* and *S. commutata*.

Wetland indicator status

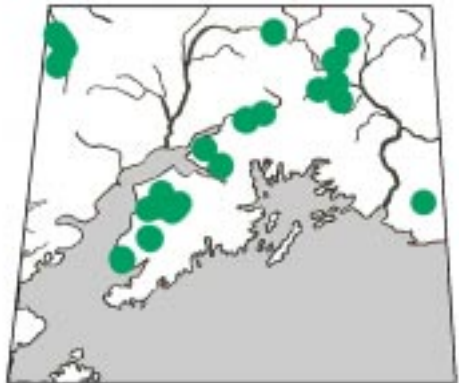
FACW (facultative wetland).

Phenology

In Southcentral Alaska, at low elevation in the forest zone, the catkins and leaves start to develop in mid-May and are fully developed by mid-July.

Insects and disease

Rabdophaga rigidae, *R. rosaria*, *R. salicis*, Eriophyiidae, tar spot fungus.





Barren-ground willow

Salix niphoclada Rydb

Salix brachycarpa Nutt. subsp. *niphoclada* (Rydb.) Argus

Identification

Summer: Low-to-medium-sized shrubs up to 1 m tall. Stems grayish black, not shiny, **grey-hairy**; leaves elongated with a rounded tip, **margin not toothed**, upper side slightly hairy, **underside whitish, more hairy**; **petiole short (1-3 mm)** yellow or reddish; stipules minute or leaflike; catkins persisting; ovaries barrel-shaped, **densely hairy**, short with **4 long dark stigmas** on a short style.

Similar species:

Resembles *S. glauca*, which mostly grows at a higher elevation and has oval pointed leaves, longer styles, and longer petioles (2.5-15 mm).

Habitat

In Southcentral Alaska, *S. niphoclada* is associated with other willows in thickets of coastal wetlands.

Wetland indicator status

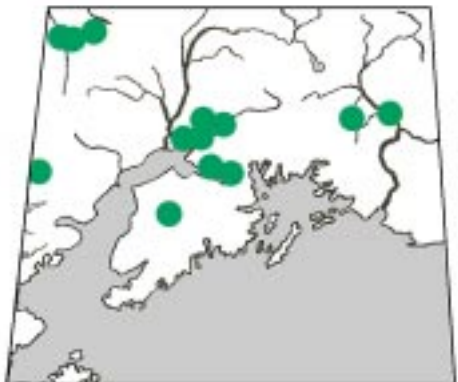
FAC (*S. brachycarpa*) (facultative).

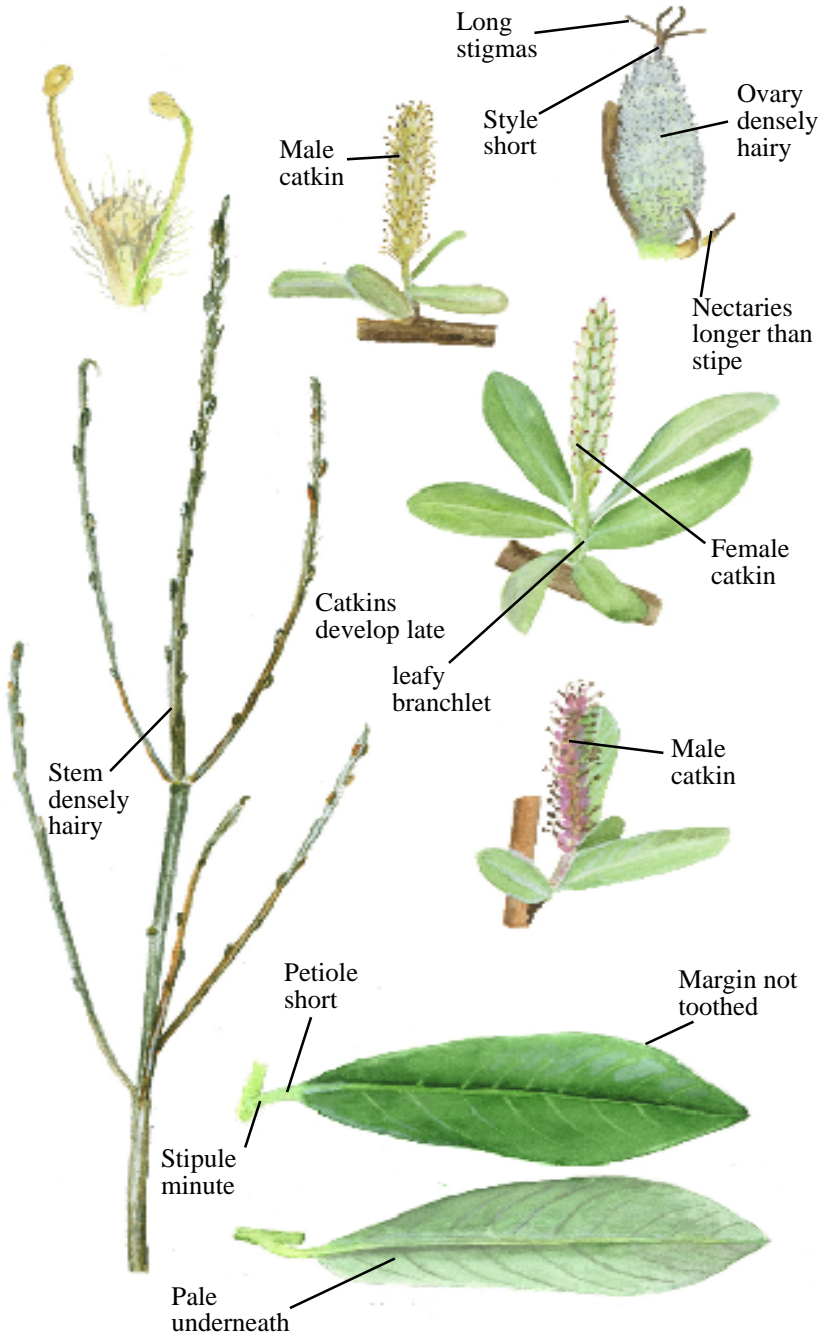
Phenology

Catkins and leaves start to develop from the end of May to mid-June, and catkins mature from mid-June.

Insects

Orgyia antiqua, *Pontania* sp. *Rabdophaga rigidae*, *R. rosaria*.





Oval-leaf willow

Salix ovalifolia Trautv.

Identification

Dwarf shrub 1-7 cm tall. Long flexible stems radiating from a stout root, crawling along the ground or in the low shrubby mat; leaves oval or elliptic, **margins not toothed**, often hairy at the margin, upperside glossy green, **underside whitish**, sometime purplish; **stipules minute**; catkins borne on leafy branchlets inserted toward the base of the trailing stems; ovaries dark purple or reddish, coated with whitish wax, hairless, or slightly hairy.

Similar species

S. ovalifolia is very similar to *S. stolonifera* from which it typically differs by the absence of buried yellowish leafless stems and the presence of a whitish coating on the ovaries. *S. ovalifolia* is distinguished from other dwarf willows by the combination of the following characters: stems trailing, leaves shiny green above, underside whitish, leaf margins not toothed, ovaries mostly hairless.

Habitats

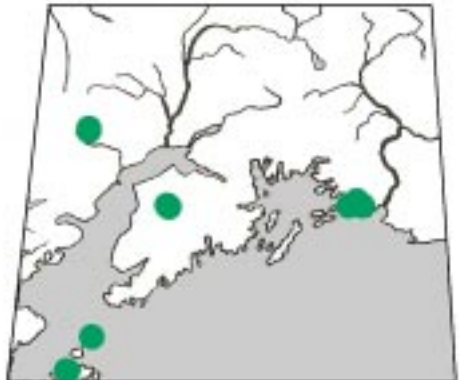
Brackish marsh, coastal beach ridges, lakes, and lagoon shores with crowberry (*Empetrum nigrum*), wet sedge meadows, and alpine tundra.

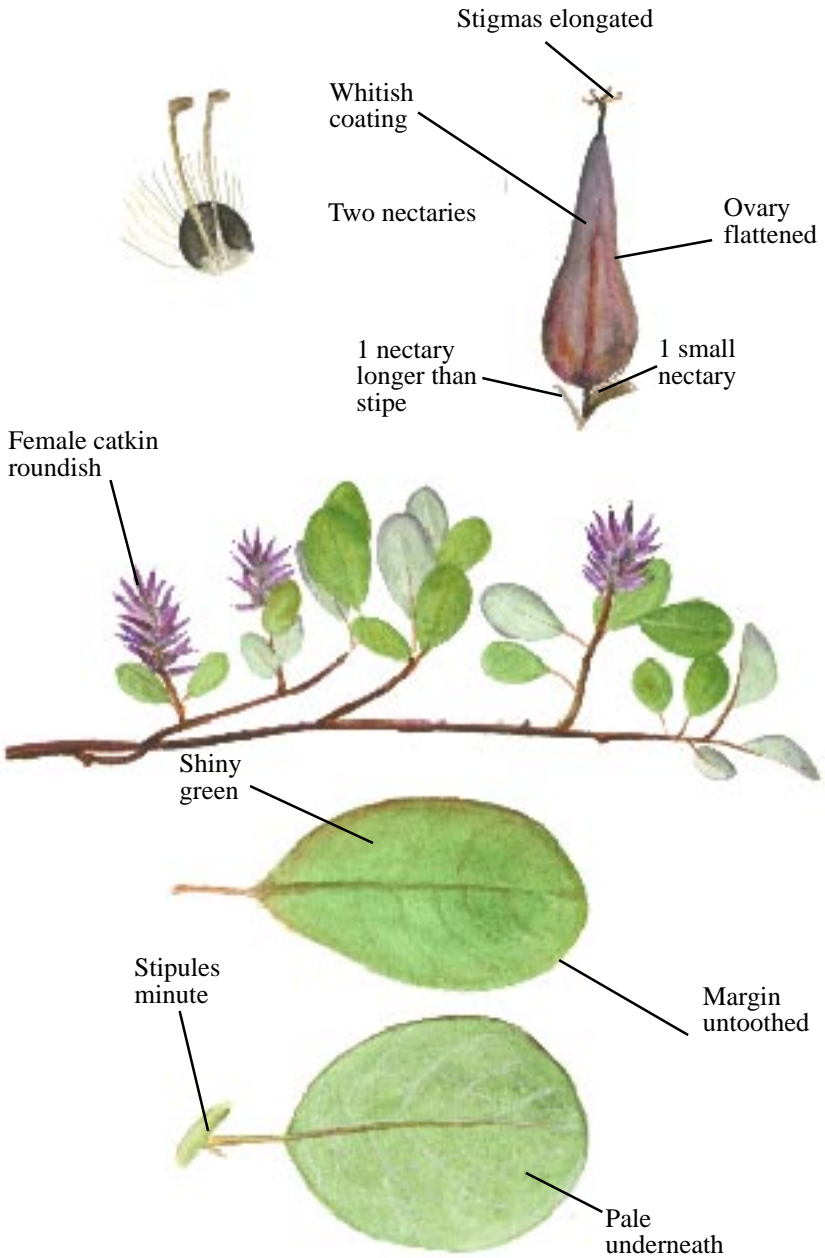
Wetland indicator status

FAC (facultative).
FACU (facultative upland).

Phenology

Catkins develop at the same time as leaves.





Skeleton-leaf willow
Salix phlebophylla Andersson.

Identification

Dwarf shrub 1-7 cm tall. Stem stout, resting on the ground and rooting, forming mats up to 2 m in diameter; **leaves green beneath, margin hairy**, leaves persisting for several years, disintegrating except for the **skeleton of leaf veins**; catkins robust, ovaries pear-shaped, usually **hairy, nectaries shorter or equal to the stipe**.

Similar species

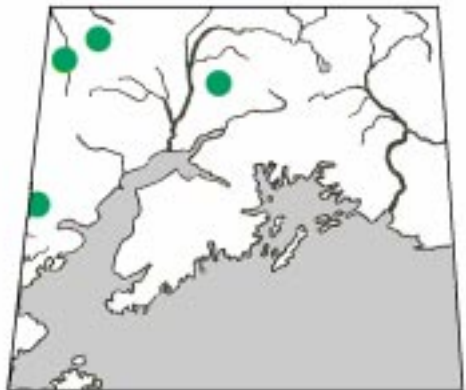
The skeletonized old leaves, dense mats, many-flowered female catkins and hairy ovaries distinguish *S. phlebophylla* from other dwarf willows. Separated from *S. polaris* by nectaries shorter than stipes and hairy leaf margins.

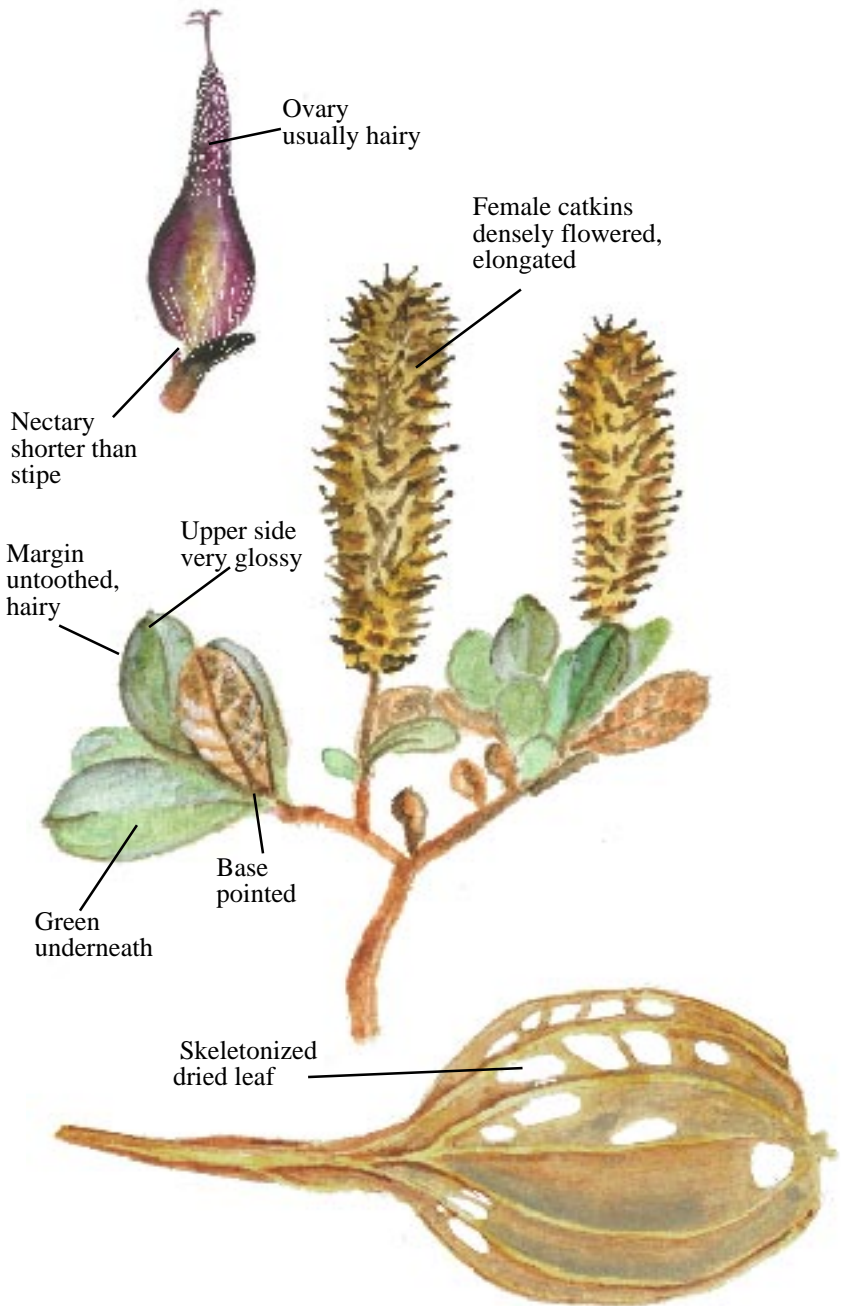
Habitat

Alpine tundra, *Dryas*-lichen tundra.

Insects

Pontania sp.





Polar willow*Salix polaris* Wahl.**Identification**

Dwarf shrub 1- 9 cm tall. Stems partly buried, rooting, branches coated with a **whitish layer**; leaves oval, **not hairy** at the margin, tip rounded, shiny above, underside **green** glossy, veins raised; no stipules; **ovaries hairy, style long**.

Similar species

Differs from other dwarf willows by leaves green below, hairy ovaries, and long styles.

Habitat

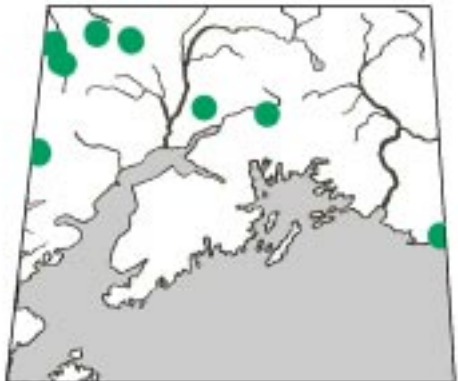
Alpine tundra, late snowbeds, alpine scree slopes.

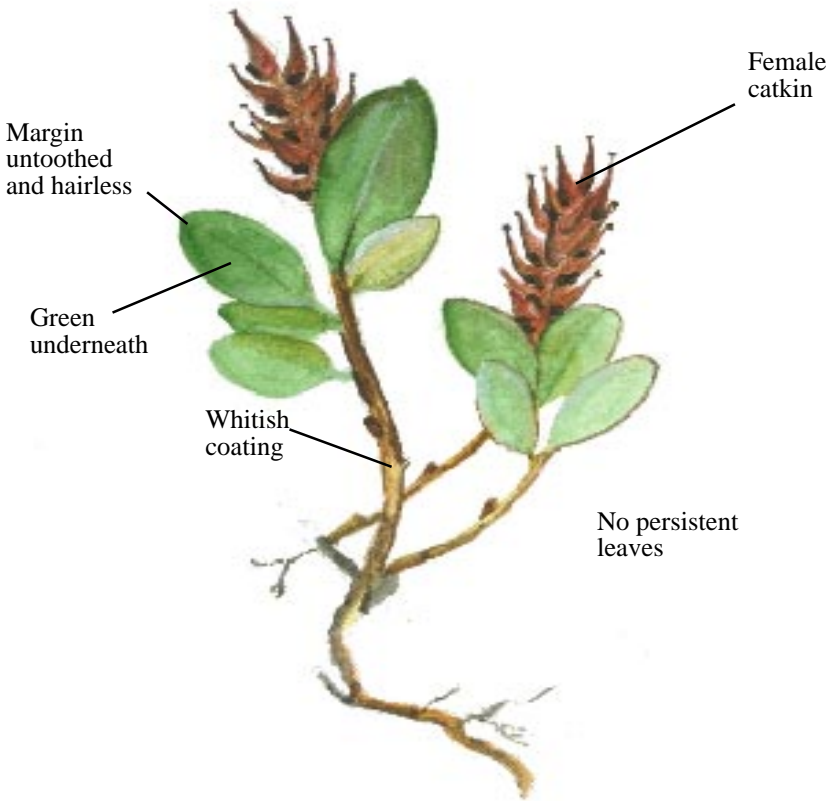
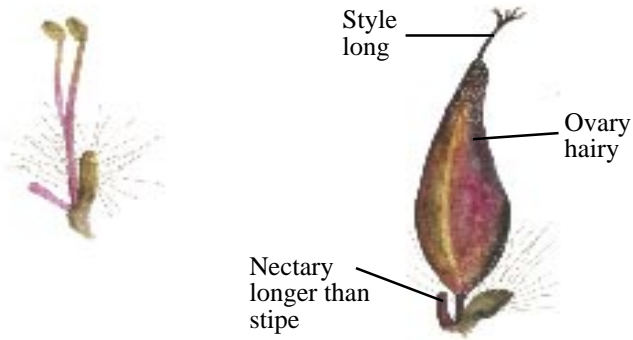
Wetland indicator status

FACW (facultative wetland).

Phenology

Catkins develop at the same time as leaves.





Park willow***Salix pseudomonticola* C. R. Ball.***Salix monticola* Bebb sensu Argus 1973**Identification**

Shrub 1-4 m tall. **Young leaves reddish**, mature leaves **pale underneath**, base rounded, tip pointed, margin finely toothed; **petiole and midvein reddish**; **stipules rounded**; **catkins appear before the leaves**, borne directly on the stem, **ovaries hairless**; stipe 0.5-3 mm.

Similar species:

Distinguished from *S. myrtilifolia* and *S. pseudomyrsinites* by the green underside of the leaves. Resembles *S. barclayi* from which it is distinguished by the catkins appearing before the leaves, and being attached directly to the main stem, the young leaves, and petiole reddish. *S. barclayi* catkins are borne on leafy branchlets and develop at the same time as the leaves. Distinguished from *S. richardsonii* by the lack of persisting stipules.

Habitat

Willow-sedge wetlands in *Picea glauca* forests.

Uses

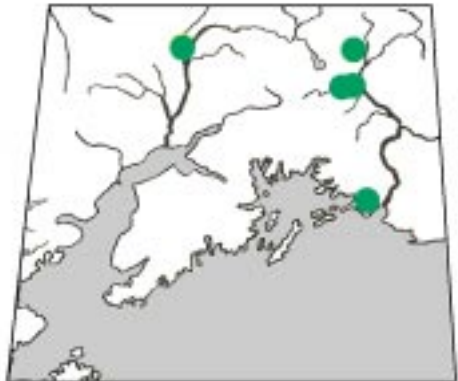
“Diamond willows” are sometimes formed on this species.

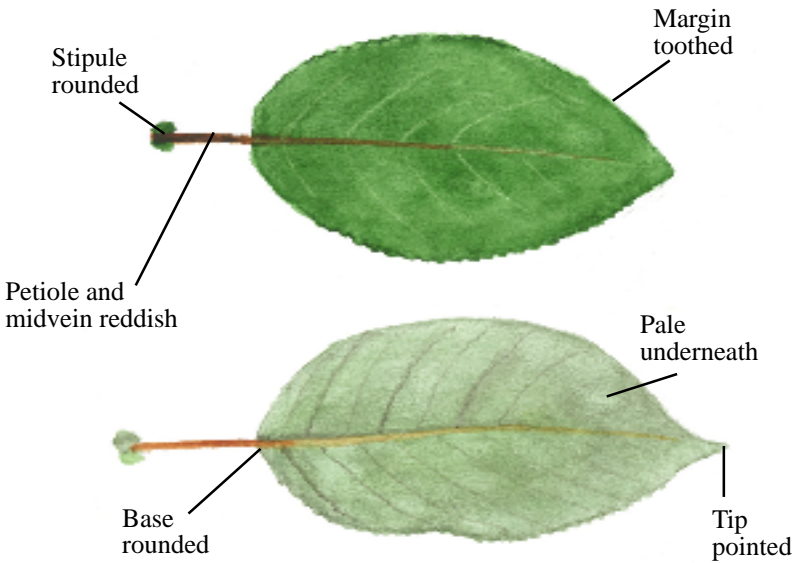
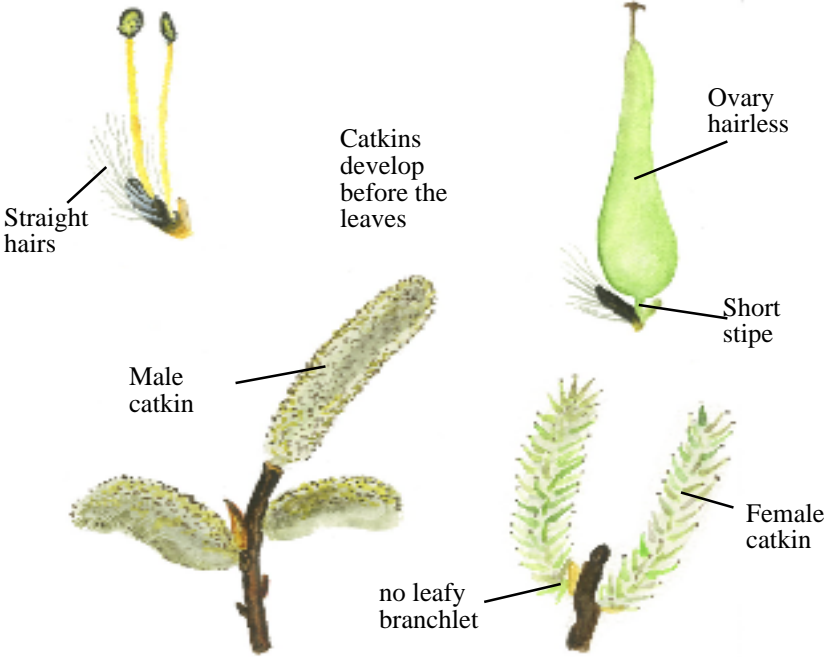
Phenology

Catkins develop early in the spring; leaves appear later.

Insects

Rabdophaga salicis





Tall blueberry willow***Salix pseudomyrsinites* Andersson**

S. myrtillofolia var. *pseudomyrsinites* (Andersson) Ball

S. myrtillofolia var. *cordata* (Andersson) Dorn

S. novae-angliae Andersson

Identification

Shrub 1-4 m tall. Young leaves reddish, hairless, or hairy with **white or rust colored hair, especially on the midvein**, mature leaves **green underneath**, upper side hairy on the midvein; catkins **on well-developed leafy branchlets**; ovaries **hairless**.

Similar species

Resembles *S. myrtillofolia*, which is smaller, has hairless leaves, and grows in fens and bogs.

Habitat

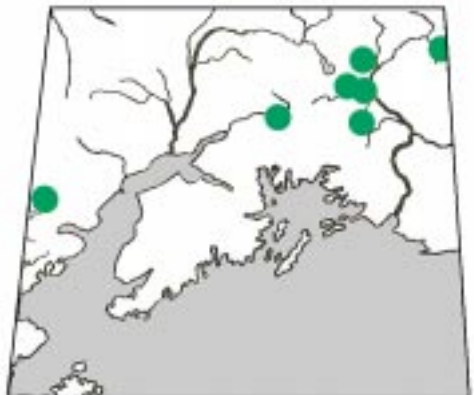
Uplands, lake shores, wetlands.

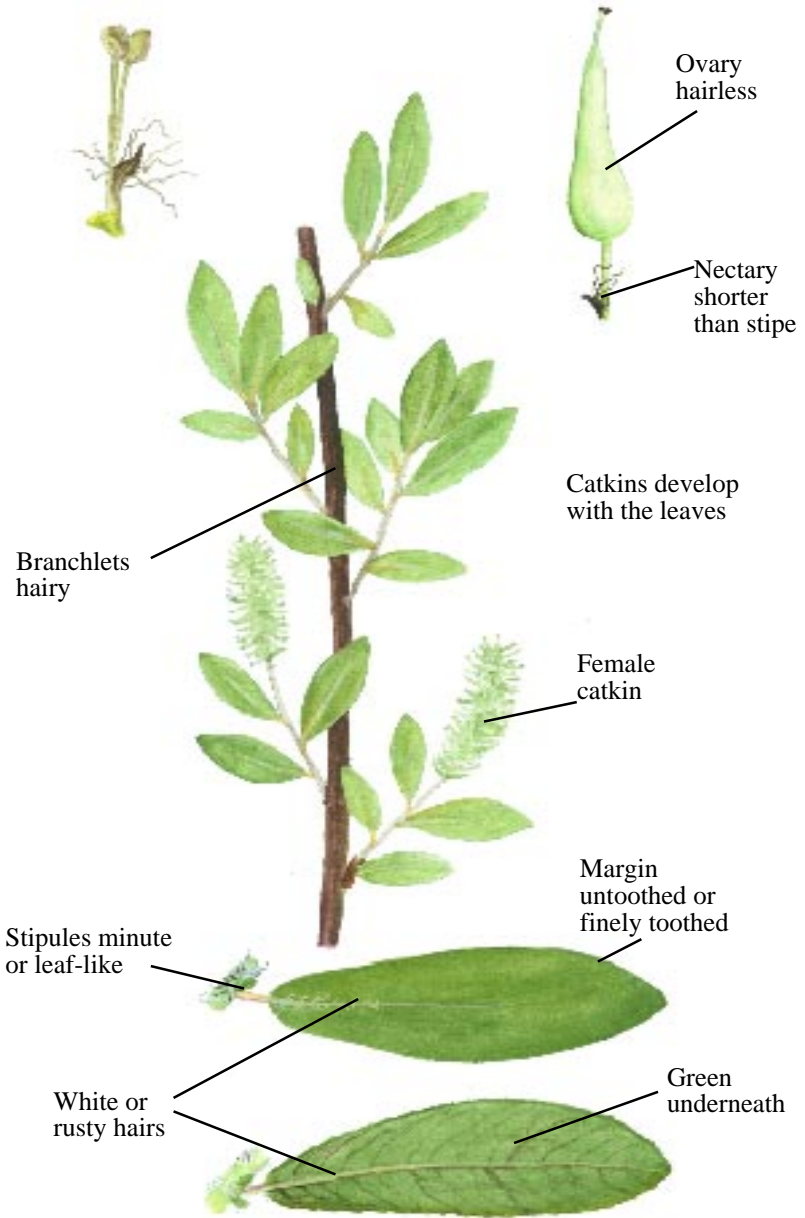
Phenology

Catkins develop at same time as leaves.

Insects

Rabdophaga rosaria





Diamond-leaf willow

Salix pulchra Cham.

Salix planifolia subsp. *pulchra* (Cham.) Argus var. *pulchra* Argus

Identification

Summer: Low to tall shrub, 1-4 m. **Stems glossy; leaves diamond-shaped**, tip pointed, **margin not toothed**, hairless, except on the upperside main vein, shiny green above, whitish beneath; **elongated stipules remain on the stem** for several years; **catkins borne directly on the stem; ovaries hairy.**

Winter: (see p. 40) Stems shiny, tip of catkin winter bud sharp-pointed, stipules linear persistent on the stems, few orange-brown leaves often remaining on the shrubs over winter. Sometimes very diagnostic rosette gall with scales pointed at the tips and center of the rosette gall with long straight white hairs.

Similar species.

S. pulchra is differentiated from other shrubby willows by hairless leaves green above and whitish beneath, persistent linear stipules, catkins developing before the leaves, and hairy ovaries.

Habitat

S. pulchra forms more or less dense thickets with other willows in wetlands bordering lakes and rivers and in moist sites above treeline. It is a low shrub in fens and bogs, often associated with *S. barclayi* occupying the wetter zone of the habitat. From sea level to high alpine tundra.

Wetland indicator status

FACW (*S. planifolia*) (facultative wetland).

Phenology

In the forest zone, the catkins start to develop as early as the end of February and start releasing seeds by mid-June to early July. Leaves develop later from end of May to mid-July. In the alpine zone, depending on the snow conditions, the catkins may only start maturing in mid-June or later with leaf development delayed even later.

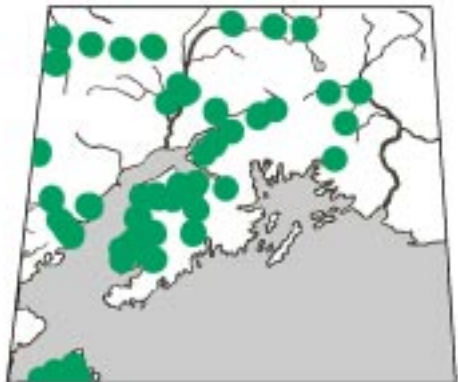
Uses

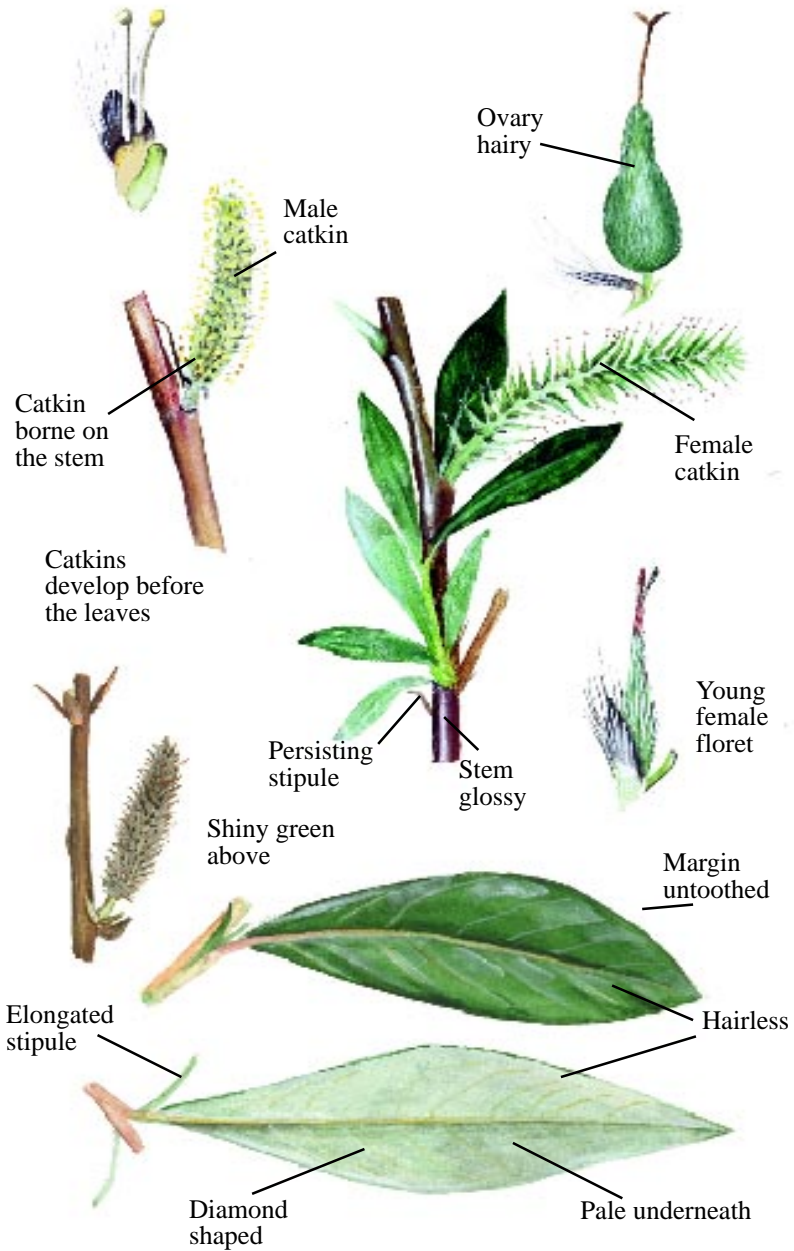
This species is recommended for revegetation projects using the dormant cuttings method.

In coastal Alaskan tundra, this willow forms extensive thickets along river's drainages and can be important source of firewood. It is also the main source of food for ptarmigan and arctic hare.

Insects, mites and diseases

Chrysomelidae, *Dorytomus* sp., *Euura* sp., *Pontania* sp., *Rabdophaga rigidae*, *R. rosaria*, *Trypophloeus striatulus*, Eriophyiidae, tar spot.





Net-vein willow

Salix reticulata L.

Identification

Dwarf shrub 1-15 cm tall. **Leaves deeply veined on long petiole**; stipules mostly lacking; **catkins on terminal branchlets**, appearing late in the summer; 2 nectaries, one on either side of the base of the pistil or stamens, the exposed nectary often forked as illustrated.

Similar species

The roundish deeply-veined leaves with long petioles are unique among our local willows. In the absence of catkins, they could only be confused with the alpine bearberry *Arctostaphylos alpina*, which is found in similar habitat.

Habitat

The net-vein willow does not tolerate shade and will grow in fens, where all plants remain short, and in the alpine tundra where it is fairly common. In the forest zone, it usually occupies cold microhabitats.

Wetland indicator status

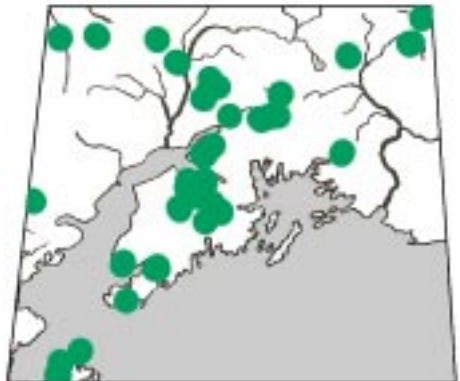
FAC (facultative).

Phenology

Catkins and leaves develop late in mid-June.

Insects and mites

Orgyia antiqua, *Pontania* sp., Eriophyiidae, rust fungus.





2 nectaries,
1 forked,
1 unforked (not
shown)



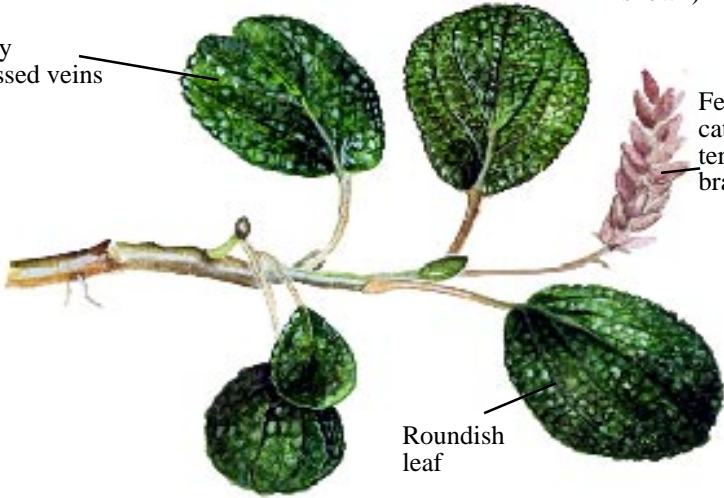
Male
catkin



Ovary
hairy

2 nectaries,
1 forked,
1 unforked (not
shown)

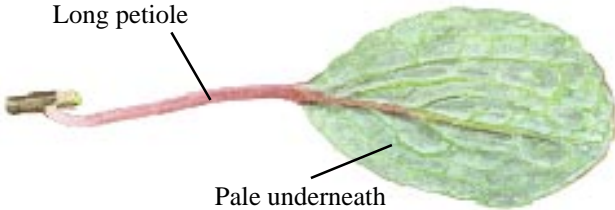
Deeply
embossed veins



Female
catkin on
terminal
branchlet

Roundish
leaf

Long petiole



Pale underneath

Richardson's willow

Salix richardsonii Hook.

Salix lanata L. subsp. *Richardsonii* (Hook) A. Skv.

Identification

Summer: Low-to-medium shrub 0.5 - 2 m. Leaves hairy and shiny above, whitish and hairless underneath; **stipules large leaflike**, persisting dried on the stem; **catkins are borne directly on the stem**; pear-shaped ovaries are **hairless**.

Winter: (see p. 41) Stems clothed with large leaflike persistent stipules in subalpine habitat.

Similar species

In Southcentral Alaska, the best character for distinguishing *S. richardsonii* from *S. barclayi* and other willows with which it forms thickets near or above timberline is the presence of large persistent leaflike stipules on *S. richardsonii*. These dried stipules give *S. richardsonii* a distinctive scraggly appearance.

Habitat

Dense willow thickets dominated by *S. barclayi* along mountain streams above treeline.

Wetland indicator status

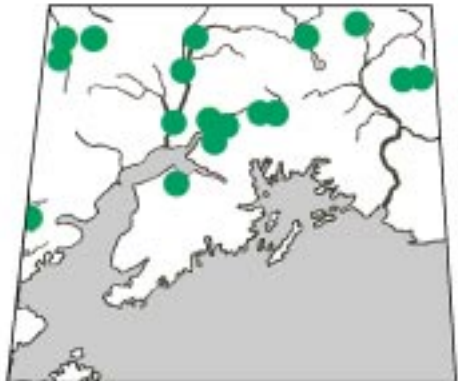
FAC (facultative).

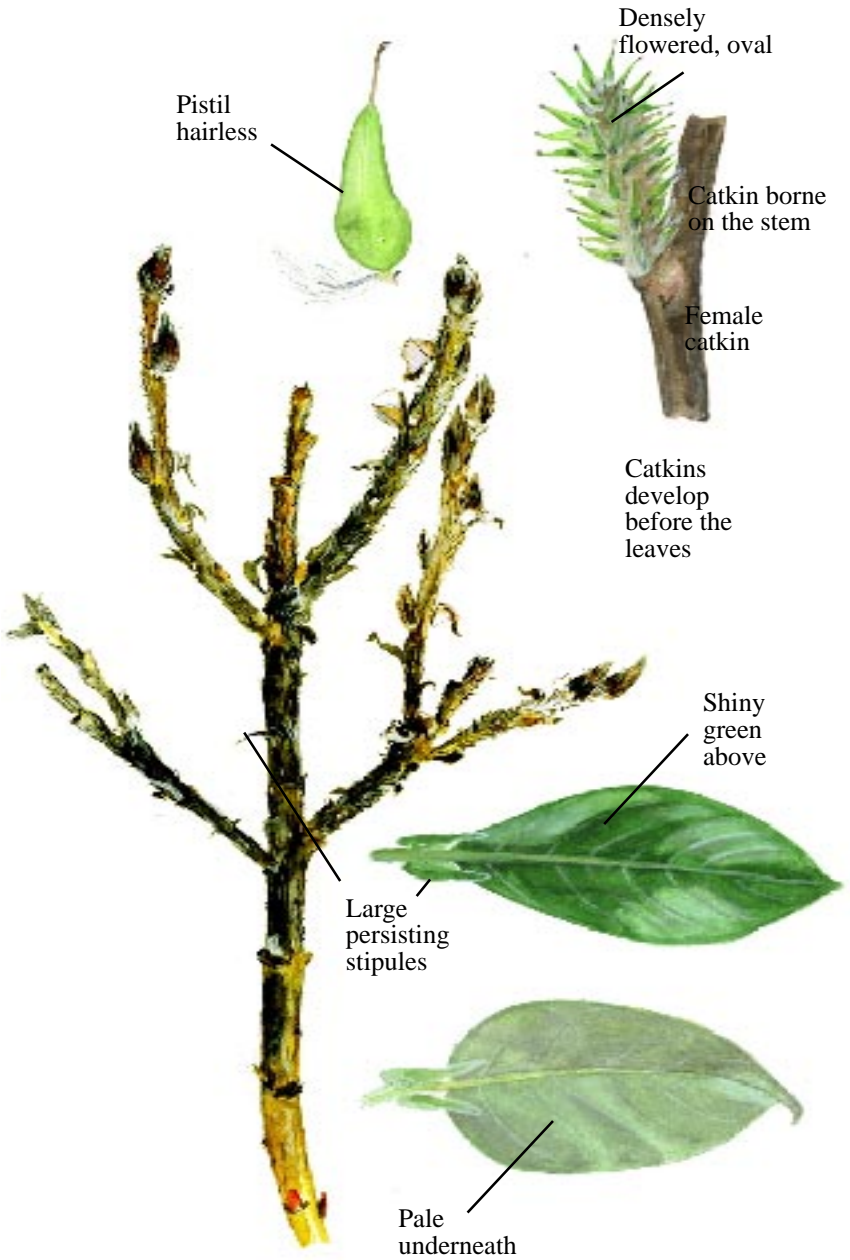
Phenology

Catkins develop before leaves.

Insects, mites and diseases

Chrysomelidae, *Pontania* sp, *Rabdophaga rigidae*, *R. rosaria*, *R. salicis*, Eriophyiidae, tar spot and rust fungi.





Least willow***Salix rotundifolia* Trautv.****Identification**

Minute shrub 5 cm tall. Stems mostly imbedded in ground vegetation or forming mats on rocky soil; leaves with **3 distinct veins, both sides glossy green**, hairless; **catkins few-flowered**.

Two subspecies in Southcentral Alaska:

S. rotundifolia subsp. *rotundifolia* is 1-5 cm tall, catkins 4-12 flowered; leaves 5-15 mm long, roundish.

S. rotundifolia subsp. *dodgeana* is very small: 0.5 to 2 cm tall, catkins 2-4 flowered; leaves 4-6 mm long, oval.

Similar species:

S. rotundifolia is the smallest willow in Southcentral Alaska. Distinguished from other dwarf willows by hairless leaves, green glossy on both sides, and few-flowered catkins.

Habitat

In Southcentral Alaska, this diminutive willow grows mostly on exposed mountain ridges, associated with other tenacious plants like Moss Campion (*Silene acaulis*), White Mountain-Avens, (*Dryas octopetala*), Crowberry (*Empetrum nigrum*), and lichens.

Wetland indicator status

NI (no indicator).

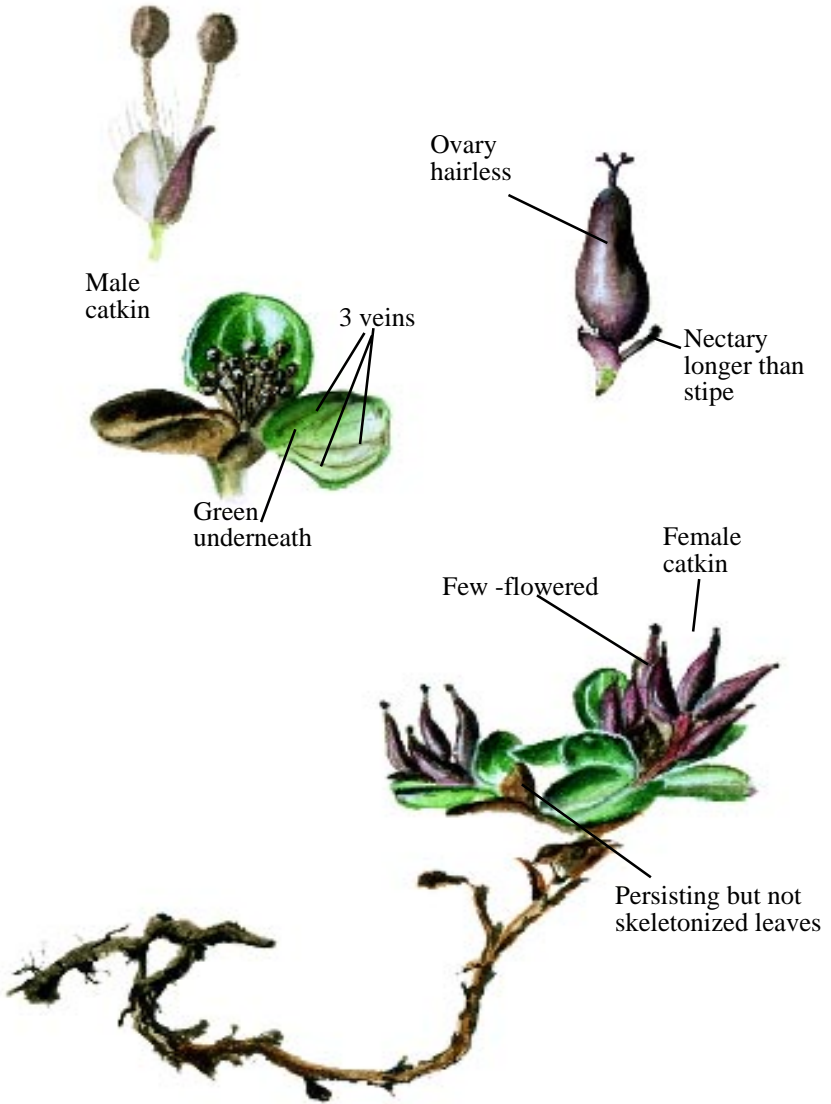
Phenology

S. rotundifolia catkins and leaves start to develop at the end of June or later, depending on the local weather conditions.

Insects

Pontania sp.





Scouler's willow

Salix scouleriana Barratt ex Hook.

Identification

Summer: Tall shrub or tree to 20 m. Several trunks, up to 60 cm in diameter; **bark gray, smooth; branches often inserted at right angle to the stems;** crown leaves are fairly small; broader near the tip; leaves on suckers and fast growing stem large; young leaves covered with white straight hair that shed on mature leaves and reveal short flat white or **reddish-brown hair on the underside;** catkins short; capsules pointing outward to give the female catkin a **spiky appearance; ovary densely hairy.**

Winter: (see p. 42) Catkin bud scales open as early as January and reveal the white silky hair of the catkins (“pussy willow”).

Similar species

In Southcentral Alaska in **early spring**, *S. scouleriana* is the first tree to develop catkins and stands out in the forest. *S. alaxensis* catkins also appear early in the spring, but the catkins are long and erect. By summer, no catkins remain on *S. scouleriana*. The diagnostic features of this species are the leaves broader near the tip and the short reddish hair from the underside of mature leaves that appear as an **orange-brown hue**. These reddish hairs are not always present on large sucker leaves. *S. bebbiana* leaf underside hairs are white, long and curly, whereas in *S. sitchensis* leaf underside hairs are white, short, and stiff, all oriented toward the tip of the leaves. *S. bebbiana* veins are more impressed on the upper side leaves than those of *S. scouleriana*.

Habitat

Very common in the forested zone. Scouler's willow colonizes disturbed and burned habitat. Isolated trees survive longer in mixed forest after other willow species have been overtopped by slow-growing birches and spruces. Very common at the edge of the forest, along roadways. Also called fire willow, because it recolonizes burned forest.

Wetland indicator status

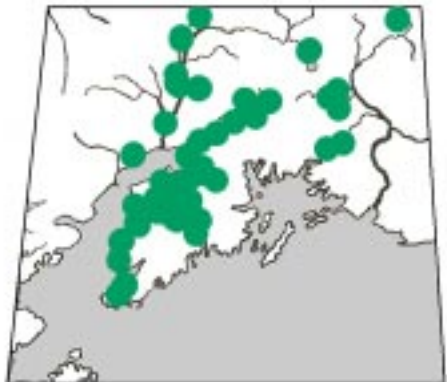
FAC (facultative).

Phenology

The short catkins appear early in the spring before any other plants leaf out. Female catkins mature, release their seeds, and shed before the leaves mature.

At low elevation in the forest zone, the catkins develop early in the spring, often before the snow melts. The catkins buds start to swell in midwinter and the male and female catkins open by the end

Continued p. 105.





Setchell's willow***Salix setchelliana* C. R. Ball****Identification**

Dwarf shrub up to 30 cm tall. Stem mostly unbranched. **Wax-coated** branchlets are at first densely woolly; leaves thick, hairless, **fleshy** like those of "Jade plant;" the dried leaves of the previous year pinkish-grey; female catkins showy; **ovaries large**, dark red turning bright yellow at maturity.

Similar species

In Southcentral Alaska, no other willow has fleshy leaves.

Habitat

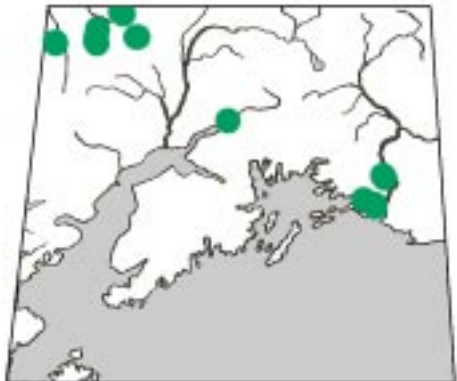
This willow favors mostly barren sandbars of glacier rivers where the seasonal rush of snowmelt water prevents other shrubs from getting established. This species is limited in distribution, but is common in the suitable habitat, such as sandbars of braided channel rivers in the Matanuska-Susitna valley and the Copper River delta.

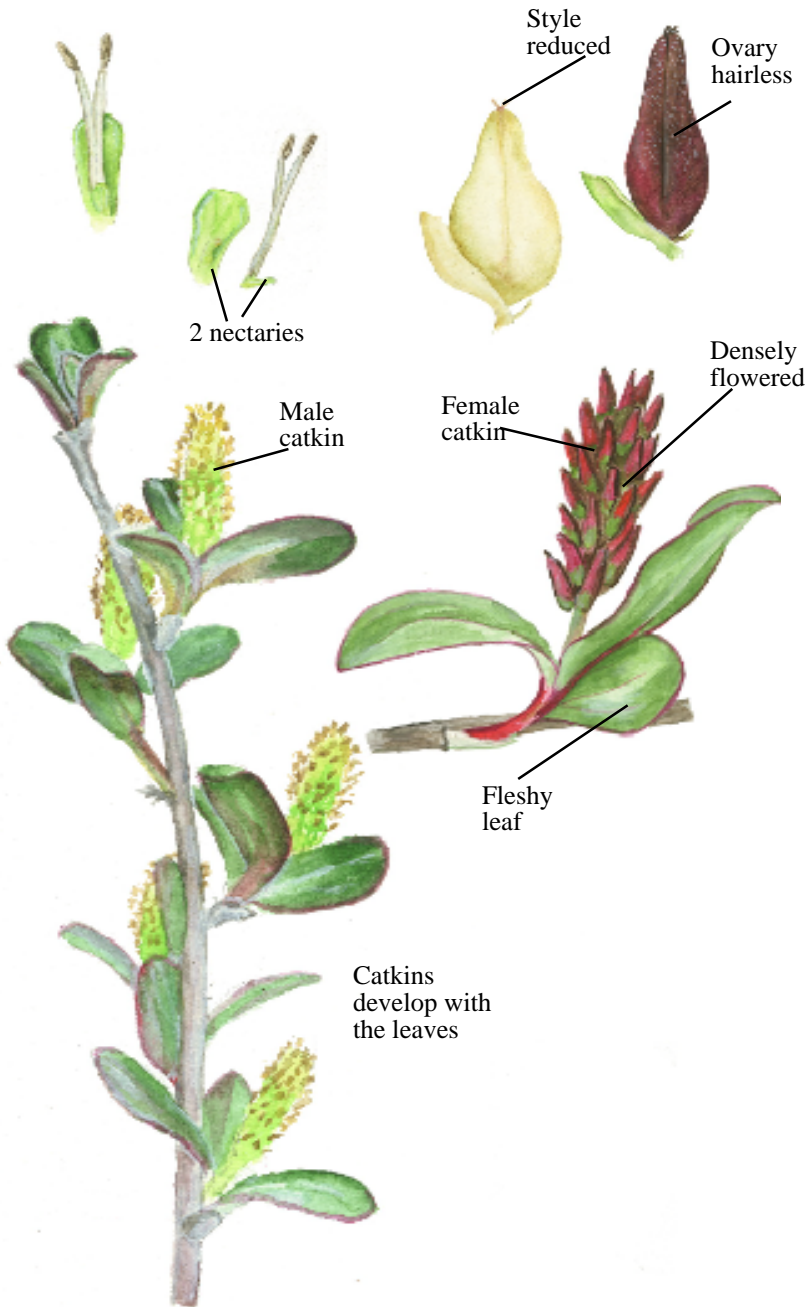
Wetland indicator status

NI (no indicator).
FAC (facultative).

Phenology

In Southcentral Alaska, *S. setchelliana* catkins and leaves start to develop in mid-June, and seeds start to disperse by mid-July.





Sitka willow

Salix sitchensis Sanson ex Bong

Identification

Summer: Shrub or tree up to 6 m tall. **Leaves broader toward the tip, margin toothless** and slightly rolled under, underside of leaves covered by short stiff hairs oriented toward the tip, giving a **silky shine**, like the fur of a seal; **catkins long** and narrow develop at the same time as the leaves; ovaries pear-shaped. In Southcentral Alaska, the only willow with a **single anther** for each male flower. **Winter:** (see p. 43)

Similar species

S. scouleriana leaf underside covered with short flat white or reddish hairs that are not oriented so evenly toward the tip of the leaves to give a silky look. *S. scouleriana* do not bear catkins and mature leaves simultaneously.

Habitat

Very common in coastal locations where it forms dense thickets in wetlands, disturbed sites, and on sandbars of fast-flowing creeks.

Wetland indicator status

Not available.

Phenology

At low elevations in the forest zone, *S. sitchensis* catkins and leaves develop at the same time, from mid-May to early July, and start releasing seeds in mid-June at favorable sites. At the higher elevations, the development of the catkins can be delayed as late as mid-August, sometimes too late for maturation.

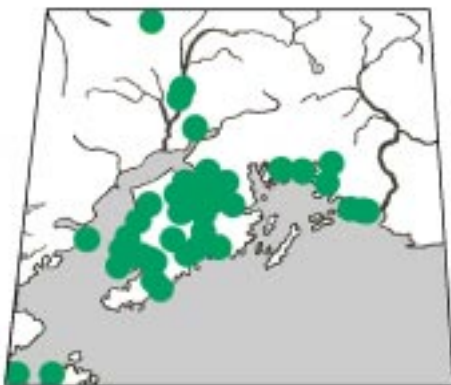
Uses

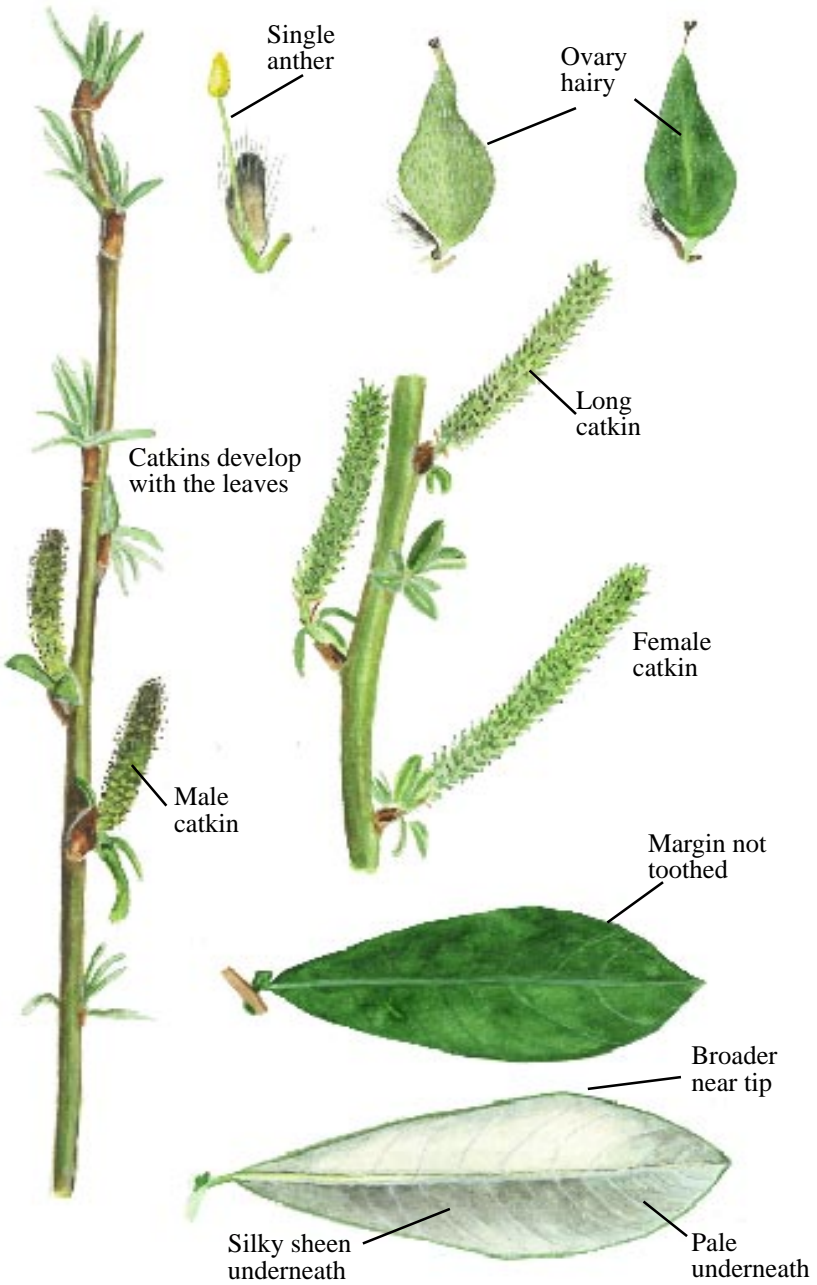
This species is recommended for revegetation projects using the dormant cuttings method.

The flexible twigs are used by coastal Indians for weaving baskets.

Insects and mites

Chrysomelidae, *Dorytomus* sp.,
Itomeyia sp., *Pontania* sp.,
Phyllocolpa sp., *Rabdophaga*
rosaria, Eriophyiidae.





Creeping willow

Salix stolonifera Coville.

Identification

Dwarf shrub 2-9 cm tall. **Yellowish stems partly buried**; branches hairless; leaf margins untoothed, **fringed with short hairs**, leaf upper surface very shiny, under surface whitish, hairy; stipules minute; female catkin egg-shaped, ovary pear-shaped, hairless or hairy only near the tip.

Similar species:

S. stolonifera is very closely related to *S. ovalifolia* and often difficult to distinguish. Differs most of the time by the production of slender, leafless, underground branches and the absence of a white coating on the ovaries. The buried branches seem to occur only in unstable habitat where new soil accumulates on the surface. Many specimens of *S. stolonifera* of south coastal Alaska lack subterranean branches and have long branches trailing on the surface similar to those of *S. ovalifolia*.

Habitat

Rock slides in tundra, moraines, sandy lake margins.

Phenology

Catkins appear at the same time as the leaves.

