

Silver Buffaloberry



- Growth Form: round to irregular
- Crown Density: dense
- Size: 10 feet high; spreading
- Drought Resistance: good
- Cold Hardiness: excellent
- Growth Rate: moderate
- Life Span: long
- Elevational Range: to 7,500 feet
- Soil Conditions: tolerates alkaline
- Possible Insect Problems: unimportant
- Possible Disease Problems: unimportant
- Wildlife Value: good: food value; excellent: cover for small game and songbird nesting
- Seasonal Color: not conspicuous
- Miscellany: native; edible fruit for jellies; forms thickets

Silver Buffaloberry



Silver Buffaloberry (*Shepherdia argentea*)

General Description

A tall, thorny, thicket-forming native shrub. Well adapted to dry, moderately alkaline and saline soils. Tolerates infertile soils, in part because of its ability to fix and assimilate atmospheric nitrogen. Berries used for jellies.

Leaves and Buds

Bud Arrangement - Opposite.

Bud Color - Silvery.

Bud Size - Small, solitary or multiple, stalked, oblong.

Leaf Type and Shape - Simple, oblong-elliptical.

Leaf Margins - Entire.

Leaf Surface - Finely-scaled, pubescent.

Leaf Length - 1 to 2 inches.

Leaf Width - 1/4 to 5/8 inch.

Leaf Color - Silvery-gray on both surfaces.

Flowers and Fruits

Flower Type - Dioecious.

Flower Color - Yellowish.

Fruit Type - Drupe-like, insipid, ovoid.

Fruit Color - Predominately red, however, some female plants can produce yellow fruits.

Form

Growth Habit - Loosely branched shrub of rounded outline.

Texture - Medium-fine, summer; fine, winter.

Crown Height - 6 to 14 feet.

Crown Width - 8 to 14 feet.

Bark Color - Brown.

Root System - Spreading.

Environmental Requirements

Soils

Soil Texture - Grows well in most soils.

Soil pH - 5.5 to 8.0. Adapted to moderately alkaline and saline soils.

Windbreak Suitability Group - 1, 1K, 3, 4, 4C, 5, 6D, 6G, 8, 9C, 9L.

Cold Hardiness

USDA Zone - 2.

Water

Drought tolerant. Not adapted to wet, poorly-drained sites.

Light

Full sun.

Uses

Conservation/Windbreaks

Medium to tall shrub for farmstead and field windbreaks, riparian plantings, and highway beautification.

Wildlife

Highly important for mule deer browse. Ideal cover and nesting site for many birds. Preferred food source of many songbirds and sharptail grouse. Good late winter food source for birds.

Agroforestry Products

Food - Fruit processed as jams and jellies.

Urban/Recreational

Ornamental foliage and fruit, but limited in use because of thorns and suckering habit.

Cultivated Varieties

Sakakawea Buffaloberry (*Shepherdia argentea* 'Sakakawea')

- Released by USDA-NRCS, Plant Materials Center, Bismarck, North Dakota.

Related Species

Russet Buffaloberry (*Shepherdia canadensis*)

Russian-olive (*Elaeagnus angustifolia*)

Sea-buckthorn (*Hippophae rhamnoides*)

Silverberry (*E. commutata*)

Pests

Common diseases include stem decay and branch canker. Deer commonly browse the twigs and leaves. Stems are sometimes broken by snow.

SILVER BUFFALOBERRY

Shepherdia argentea (Pursh)
Nutt.

Plant Symbol = SHAR

Contributed by: USDA NRCS Bismarck Plant Materials Center



USDA NRCS Bismarck Plant Materials Center

Alternate Names

Buffaloberry, Bull berry.

Uses

Wildlife: Provides ideal cover and nesting sites for many birds. It is a preferred food source of many songbirds and sharp-tailed grouse. Seeds of this shrub are dispersed in the droppings of birds and ungulates, but sprouting of the seeds seems to occur very rarely in nature. It is also a browse source for big game animals, as well as rodents.

Windbreaks: This species is suitable for the outside rows of multi-row belts. In a single-row planting, it forms a low, dense barrier.

Recreation and Beautification: The grayish green foliage and bright red fruit in the fall are colorful. The thorns and moderate suckering may make it less desirable for urban plantings.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's

current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

General: Elaeagnaceae (Oleaster Family). Silver buffaloberry is a deciduous thorny, thicket-forming native shrub to small tree that is drought-hardy and winter-hardy. It has opposite branching. As the shrub matures, the thin bark becomes grayish-brown, and starts to peel. Its height varies from 3 to 20 feet. The leaves are silvery gray in color on both top and bottom. They are about 1 to 2 inches long and about 3/8 inches wide. The male and female flowers are found on separate plants. In early spring (late April), the yellow-colored male flowers are quite noticeable, while the female flowers remain inconspicuous. This species is insect pollinated, most commonly by honey bees and bumble bees.

The fruit is drupe-like, ovoid, about ¼ inch long and one-seeded. The seed is a small, shiny-brown achene that is very hard. The berries start to form in late may and ripen by late summer. Most of the fruit are reddish-orange in color. Rarely, yellow fruit are seen. The ripe berries remain on the shrubs and, if not eaten, dry berries may still be present the following spring.

Distribution: It is found primarily in the prairies and southern parklands of the Prairie Provinces of Canada and south to California, Arizona, New Mexico, and Oklahoma with small populations in western Minnesota and northwestern Iowa. It is most commonly found in the northern Great Plains. Precipitation in this region varies from 13 to 23 inches. It is hardy to Zone 3. In its area of distribution, it appears to be indifferent to variations in climate. No evidence of ecotypic variation has been noted.

Habitat: It is found growing along streams, in coulees and on exposed, moist hillsides where it forms thickets in which several woody species are represented. Silver buffaloberry is capable of fixing nitrogen in root nodules that contain bacteria. This nitrogen may be important to other species and in the establishment and maintenance of shrub communities.

Adaptation

Silver buffaloberry grows on most well-drained soils. It is tolerant of non-saline to slightly saline, calcareous soils. It prefers full sunlight, often on

United States Department of Agriculture-Natural Resources Conservation Service

Plant Materials <<http://plant-materials.nrcs.usda.gov/>>

Plant Fact Sheet/Guide Coordination Page <<http://plant-materials.nrcs.usda.gov/intranet/pfs.html>>

National Plant Data Center <<http://npdc.usda.gov>>

northwest to east facing slopes. The shrubs are excellent bank stabilizers, once established.

Establishment

Nursery grown seedlings generally establish readily if planted free of competing vegetation, in locations having 13 inches or more of annual precipitation. Occasionally, establishment problems are reported for no obvious reason. Bare root seedlings should be planted in the spring, once the threat of frost is over. The optimum spacing is 4 to 6 feet between plants. Successful establishment has been documented from direct seeding into native grassland. Seed should be sown about ½ inch deep in mid-September (Knudson et al. 2002).

Management

Control of invading weeds and grasses is important. Shallow cultivation works best. Silver buffaloberry is reported to be a suckering plant. However, the suckers do not seem to be strongly competitive. Browsing often sharply reduces the amount of suckers. Cultivation can also be used to stop the spread of shoots or suckers, if that is a concern. Shelterbelts which are regularly cultivated show little sign of suckering. Suckering may be encouraged for wildlife plantings. Control of competing vegetation is still needed to allow for adequate growth of the buffaloberry plants.

Pests and Potential Problems

Insect problems are not severe. White heart rot disease is a common problem on older plants. If diseased plants are pruned, the life of the planting can be prolonged.

Environmental Concerns

This plant is quite thorny and produces suckers. Care should be taken to prevent suckers from taking root in unwanted areas around homes and agricultural systems. The berries contain saponin which can cause irritation of the digestive system. However, small amounts can be consumed with little risk.

Seeds and Plant Production

Silver buffaloberry is a seed propagated species. The fruit ripens in late summer and should be picked slightly under ripe when making jellies because of the higher pectin levels. The fruit is best harvested by shaking branches and catching the fruits in a sheet or flat pan spread on the ground. When eating fresh, fruit that is harvested after a light frost has a sweeter taste. Looman (1984) estimates that a mature plant may have in excess of 10,000 seeds.

The harvested fruit should be macerated to remove the pulp from the seeds. The pulp is removed by floating, changing the water several times. Non-stratified seed should be sown about ½ inch deep in mid-September. Cover the seedbed with sand to prevent soil crusting. When growing seedlings indoors, stratify the seed for 90 days at 41° F in order to break dormancy. Seedlings can be transplanted after two growing seasons.

Cultivars, Improved, and Selected Materials (and area of origin)

Seedlings of silver buffaloberry are available from many commercial conservation nurseries. ‘Sakakawea’ was developed by the North Dakota Plant Materials Center, Bismarck. This cultivar originated from open-pollinated seed collected in 1954 in Canada. Within this selection, 12 to 20 percent of the plants produce yellow fruit.

Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under “United States Government”. The Natural Resources Conservation Service will be listed under the subheading “Department of Agriculture.”

References

- Hladek, K.L. 1971. *Growth characteristics and utilization of buffaloberry (Shepherdia argentea Nutt.) in the Little Missouri River badlands of southwestern North Dakota*. Fargo, ND: North Dakota State University. 106 p. Thesis.
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- PFRA. [n.d.] *Fruit-bearing shrubs for multi-use shelterbelts and orchards*. Prairie Farm Rehabilitation Administration. Indian Head, Saskatchewan.

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For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

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Southwest Colorado Wildflowers, Shepherdia



***Shepherdia argentea* (Silver Buffaloberry)**

Elaeagnaceae (Oleaster Family) Foothills, montane. Streamsides. Spring.

Near Yellowjacket Canyon, June 12, 2004.

Buffaloberry likes moist areas near rivers at lower elevations and it often forms massive thickets, very visible because of the silvery-gray leaves. The habitat, leaves, and thorny stems commonly cause Buffaloberry, a native shrub, to be mistaken for a young [Russian Olive](#), an invasive tree.

Buffaloberry grows to 15 feet; Russian Olive to 50. Buffaloberry has bright red or gold fruit (the ripening green fruit is pictured at left); Russian Olives have buff, olive-like fruit. Buffaloberry has opposite branching twigs and leaves; Russian Olive, alternate. Both make thickets; Buffaloberry's is denser because of numerous root shoots. Both plants produce innumerable berries. (See the ripening red fruit below.)

The genus name honors British botanist, John Shepherd, the first Curator of the Liverpool Botanic Garden. The specific epithet is from the Latin, "argenta", "silvery" for the silvery-green leaves. The genus was named by Thomas Nuttall in 1818 and he also named this species (changing the original name, *Hippophae argentea*, given by Frederick Pursh). *Shepherdia argentea* was first collected for science by Meriwether

Lewis in 1804 where the Niobrara River meets the Missouri River. ([More biographical information about Shepherd.](#))





***Shepherdia argentea* (Silver Buffaloberry)**
Elaeagnaceae (Oleaster Family)

Foothills, montane. Streamsides. Spring.

Near Yellowjacket Canyon, April 7, 2006 and March 22, 2009.

Tiny yellow flowers cluster by the thousands along stems making a very showy early spring. Bees and other pollen-gathering insects fill the air with buzzing.

Shepherdia is dioecious, i.e., male and female flowers are on separate plants. Both male and female flowers are quite small; the pale yellow sepals of male flowers are 2-3 millimeters long, about twice the length of those on female flowers. The male flowers at left have six stamens, although several botanical texts indicate that male flowers have eight stamens. Nectary glands surround the inner base of the lobes of the sepals on both male and female flowers. These nectary glands are especially visible as glistening yellow bumps on the lower left male flower.



***Shepherdia argentea* Silver Buffaloberry)**

Elaeagnaceae (Oleaster Family) Foothills, montane. Streamsides. Spring.

Near Yellowjacket Canyon, July 8, 2006. Buffaloberry's fruit is tart but sweetens some if given enough time to ripen bright red and to pass through several freezes. But Robins, Sparrows, Red-Winged Blackbirds, Grosbeaks, and many other birds usually eat the fruit when it is yellow or light orange in July and early August, weeks before humans would call it palatable. In the drought summer of 2006, the berries ripened early.



***Shepherdia argentea* (Silver Buffaloberry)**

Elaeagnaceae (Oleaster Family) Foothills, montane. Streamsides. Spring.

Near Yellowjacket Canyon, March 1, 2007. Buffaloberry main stems can grow quite stout to ten inches in diameter; this stem is three inches in diameter.