

Elaeagnaceae



Silverberry
and
Buffaloberry



[Elaeagnaceae]

- Order *Rhamnales*
- Three genera: *Elaeagnus*, *Hippophaë*, *Shepherdia*
- Only two species in Alaska

[Key]

1. Leaves entire, simple, elliptic, with brown scales that are set in the epidermis. Axillary flowers in Alaskan species. Corolla fused, incomplete, 4-lobed, hypanthium present. One simple stigma. Fruit an achene, but drupe-like due to fleshy hypanthium.

- *Elaeagnaceae*

a. Stems and leaves alternate. Flowers incomplete and perfect, 4 stamens.

- *Elaeagnus*

i. With some brown scales on leaves. Stamens alternate with perianth. Prominent midrib on inner calyx. Calyx varies from red-gold to yellow-green inside, with silver-scurfy (same as leaves) outside. Hypanthium yellow inside.

- *Elaeagnus commutata*

b. Stems and leaves opposite, densely covered in brown scales. Leaves lighter below than above. Flowers imperfect and incomplete. Fruit drupe-like, with juicy hypanthium.

- *Shepherdia*

i. Ovate to lanceolate leaves lighter abaxially, with stellate pubescence most prominent on underside. Fused outer perianth brown, inner calyx a dark yellow. 8 stamens. Fruit reddish, beginning to develop in early July.

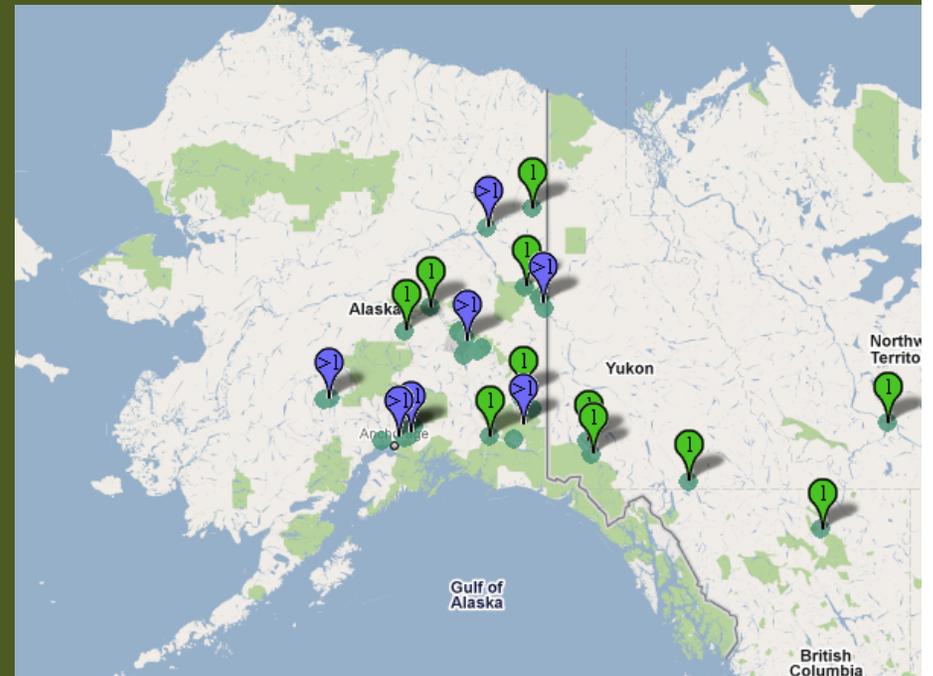
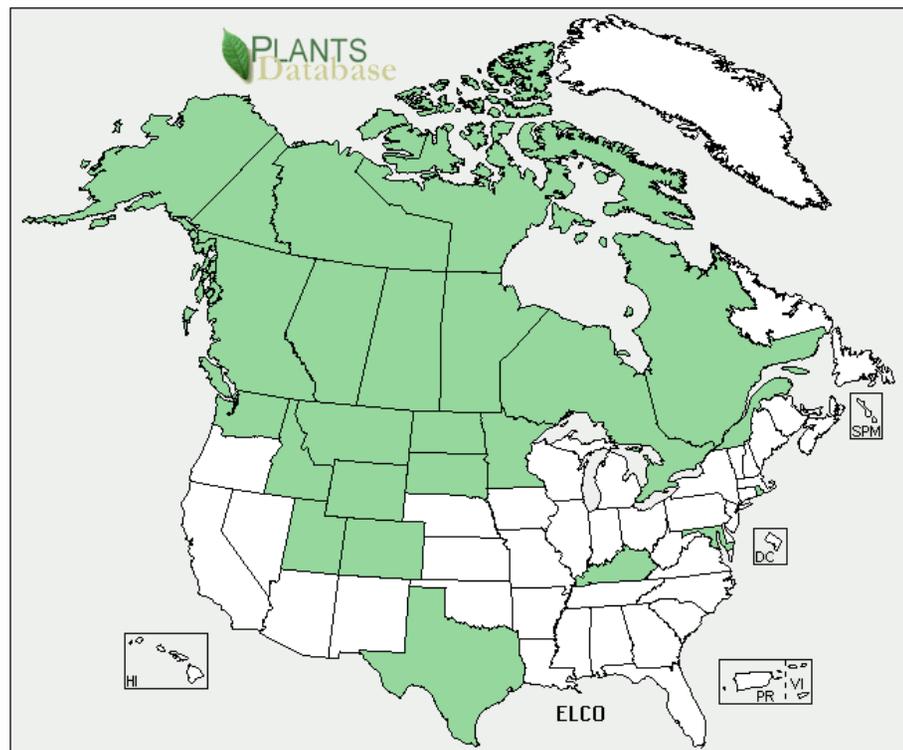
- *Shepherdia canadensis*

Distribution

ELCO *Elaeagnus commutata* Bernh. ex Rydb.

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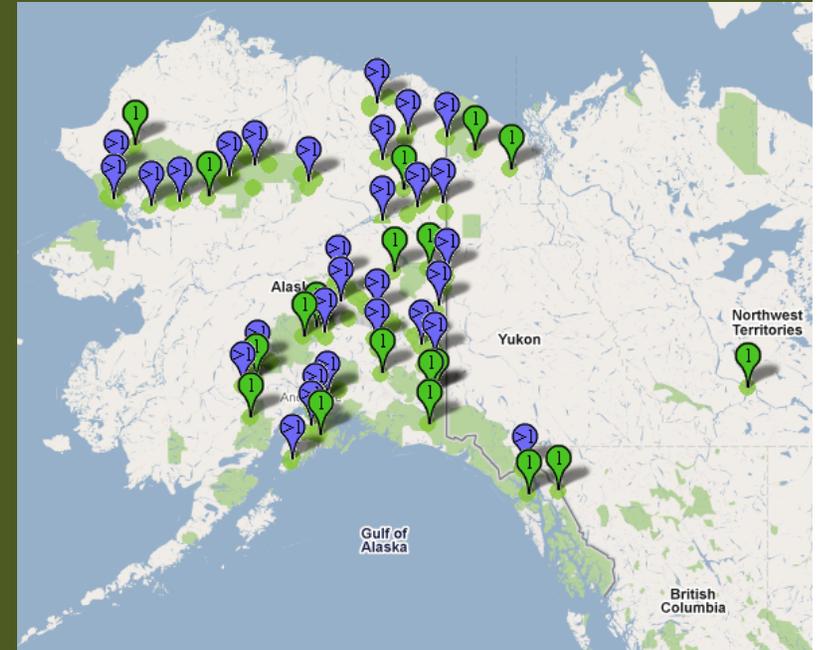
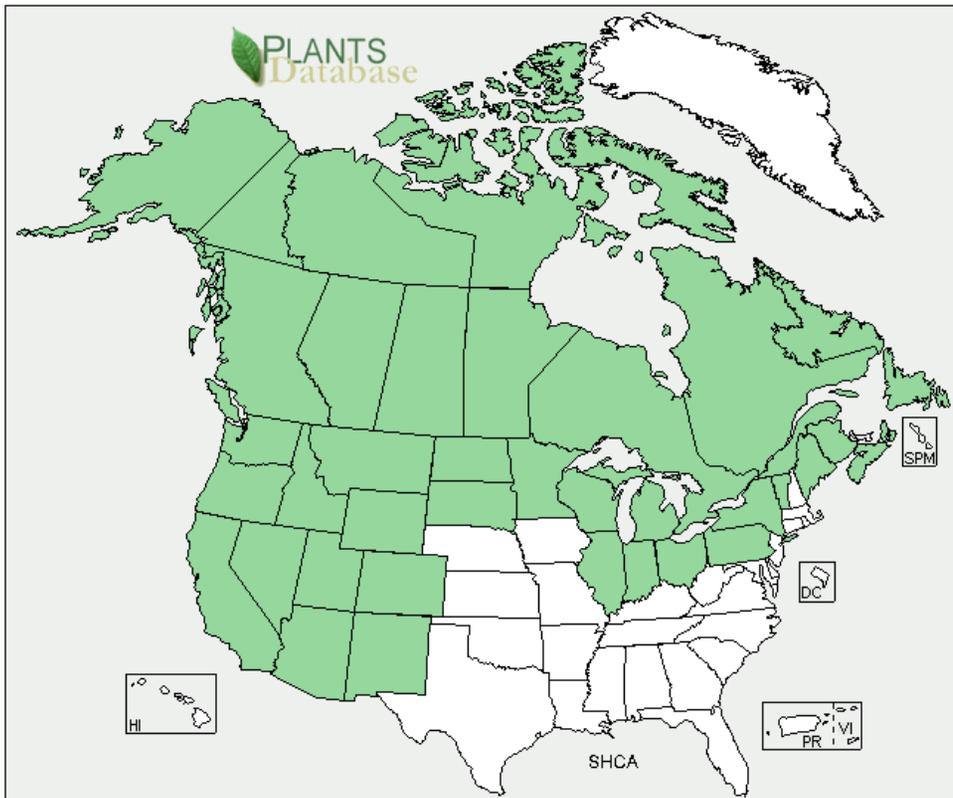
- Synonym: ELAR9 *Elaeagnus argentea*
- Common name: silverberry, wolf willow in Canada

Distribution

SHCA *Shepherdia canadensis* (L.) Nutt.

Distribution:

Shepherdia canadensis (L.) Nutt.



- Synonyms: ELCA15 *Elaeagnus canadensis* (L.) A. Nelson
LECA13 *Lepargyrea canadensis* (L.) Greene
- Common name: russet buffaloberry, rabbitberry, Canada buffaloberry, soopolallie

[Characters - Observations]

- Younger leaves of *Elaeagnus* more rounded apically than the full-grown leaves.
- Dioecious? Monoecious?

[Characters - Fruit]



Photo by D.E. Herman, courtesy USDA



Elaeagnus commutata

- *Elaeagnus commutata*
 - Crushed hypanthium has same color as calyx

[Characters - Fruit]



Photo by Phyllis Weyand



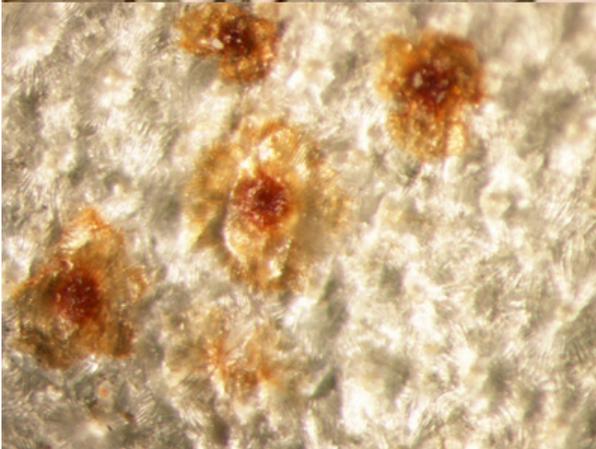
Shepherdia canadensis

- *Shepherdia canadensis*

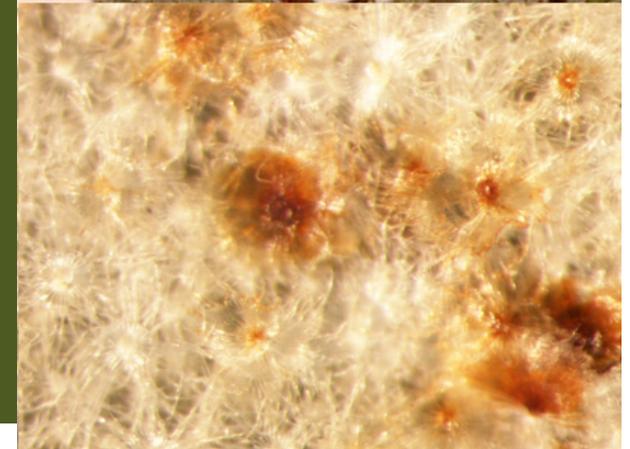
[Characters- Scales]



- Both species have varying degrees of scale density, but *Shepherdia* is consistently denser



- The scales appear to be the same morphologically.



[Characters - Pubescence]

- *Elaeagnus commutata* might have simple hairs radiate from silver scales.
- *Shepherdia canadensis* has stellate pubescence
- According to Anderson, stellate diagnostic for family



[Characters - Flowers]

- *Elaeagnus commutata*
 - Perfect, four stamens
 - Inner calyx between red-gold and yellow green, with prominent midrib
 - Outer calyx silver-scurfy like leaves



Elaeagnus commutata

[Characters - Flowers]

- *Shepherdia canadensis*
 - Outer perianth brown
 - Staminate – 8 stamens. Inner calyx yellow.
 - Pistillate inconspicuous.



[Reviewing the differences]



References and specimens

■ Herbarium specimens

Shepherdia flower: V113643, 5/1/10, Herbarium of Brigham Young University, Marvin LuDean, 5/19/1984, Chugach State Park, Eklutna Valley <http://arctos.database.museum/guid/UAM:Herb:62117>

Shepherdia pubescence and scale: V084860, 5/1/10, Homer Society of Natural History-Pratt Museum/University of Alaska Herbarium (ALA), B. Cumming, 7/6/1991, Kenai Mountains, Kachemak Bay, SE shore

Shepherdia fruit: V084228, 4/8/10, University of Alaska Herbarium, Fairbanks (ALA), J. Kristopeit, 8/7/1985, Sugar Loaf Mountain

Elaeagnus fruit: V121492, 5/1/10, Herbarium of Alaska Department of Fish and Game, Fred A. Anderson, 11/20/1983, mouth of Delta River

Elaeagnus pubescence: V151320, 4/8/10, National Park Service Plant Inventory (Site 3065), Carl Rolan and Alan Batten, 6/18/2003, Chisana River, 10.5km NW of mouth of Chavolda Cr.

Elaeagnus flower: 20112, 4/8/10, H.M. & K.G. Raup, Plants of Yukon Territory, 7/8/44 north shore of Kluane L. near mouth of Big Arm. <http://arctos.database.museum/guid/UAM:Herb:131843>

Shepherdia scale density: V96793, 4/13/10, J.R. Grant, University of Alaska Herbarium, 5-28-1988, Big Delta Quad.: Salcha River, 12 km up from bridge at Mile 323. <http://arctos.database.museum/guid/UAM:Herb:24696>

Elaeagnus scale density: 83710, 4/13/10, University of Alaska Herbarium, Fairbanks, Eric Taylor, 7/20/1978, Matanuska Loop Road near Palmer AK. <http://arctos.database.museum/guid/UAM:Herb:62764>

References and specimens

■ Literature

Welsh, Stanley L. *Anderson's Flora of Alaska and Adjacent Parts of Canada*. Brigham Young University Press (1974): Provo, Utah.

Hulten, Eric. *Flora of Alaska and Neighboring Territories*. Standord University Press (1968): Stanford, California

For *Elaeagnus* common names: <http://plantwatch.fanweb.ca/plant-information/wolf-willow>

For *Shepherdia* common names: <http://www.for.gov.bc.ca/rsi/fnb/soopolallie.pdf>

■ Other images

Weyland, Phyllis. Alaska. http://www.wildflower.org/plants/result.php?id_plant=SHCA (also for rabbitberry common name)

Herman, D.E., et al. 1996. *North Dakota tree handbook*. USDA NRCS ND State Soil Conservation Committee; NDSU Extension and Western Area Power Administration, Bismarck. http://content8.eol.org/content/2009/04/21/01/24546_large.jpg

USDA:PLANTS database North America distribution maps for *Elaeagnus commutata* and *Shepherdia canadensis*

respectively: <http://plants.usda.gov/java/profile?symbol=ELCO> and <http://plants.usda.gov/java/profile?symbol=shca>

Alaskan distribution maps obtained through ARCTOS, <http://arctos.database.museum/home.cfm>

■ Photos on first slide

Elaeagnus commutata: Virginia Skilton, Kootenay National Park, BC, near McLeod Meadows Campground. 6/26/2005, accessed 5/2/2010. <http://linnet.geog.ubc.ca/ShowDBImage/ShowStandard.aspx?index=3958>

Shepherdia canadensis: Gordon Neish, 5/10/2009, accessed 5/2/2010. 49.4702796936035 latitude by 119.507202148438 longitude. <http://linnet.geog.ubc.ca/ShowDBImage/ShowStandard.aspx?index=19467>.