

## ELAEAGNACEAE Jussieu

### \* Oleaster Family

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**Shrubs or trees**, polygamous or dioecious, terrestrial, armed or unarmed, clonal or not. **Stems** scurfy-pubescent, glabrate, or glabrescent [glabrous]. **Leaves** deciduous or evergreen, opposite or alternate, simple; stipules absent; petiolate or sessile; blade membranous or leathery, venation pinnate, margins entire, surfaces pubescent, covered with silver, yellow, or rust scales, or stellate trichomes, (glabrous adaxially in *Elaeagnus multiflora*). **Inflorescences** axillary, racemes, spikes, umbels, or flowers paired or solitary; bracts absent. **Pedicels** present or absent. **Flowers** bisexual or unisexual, actinomorphic; perianth in 1 series, hypogynous; hypanthium +/- tubular, sometimes constricted, accrescent to pistil; sepals 2 or 4, <appearing as lobes on hypanthium>, valvate, connate; petals 0; nectary disc well-developed or rudimentary; stamens 4 or 8, filaments adnate to hypanthium, <relatively short>; anthers basifixed or dorsifixed, dehiscent laterally, pollen coporate; pistil 1-carpellate; ovary superior, 1-locular; placentation basal; style 1, apical, <slender>; stigma 1, capitate or linear; ovule 1, anatropous, bitegmic. **Fruits** achenes, <covered by persistent and, sometimes, fleshy base of hypanthium, appearing drupe- or berrylike>. **Seed** 1 per fruit, oblong, ovoid, or ellipsoid; embryo axile and centric, nearly filling testa; endosperm scanty or absent.

Genera 3, species ca. 45 (3 genera, 9 species in the flora): North America, Europe, Asia, Australia.

All species of Elaeagnaceae have root nodules with nitrogen-fixing bacteria (*Frankia*). The capacity to fix nitrogen is advantageous to species colonizing disturbed habitats and may account, in part, for the occurrence of Russian olive (*Elaeagnus angustifolia*) as an invasive plant in parts of North America.

Some species of Elaeagnaceae that have been introduced into the horticulture trade have become weedy or problem exotics; see discussion under 1. *Elaeagnus*. Some species treated here have been reported as naturalized and caution should be used in selecting plants for landscape use; most Elaeagnaceae species have the potential to become weedy.

Phylogenetic trees based on chloroplast *rbcL* sequences group Elaeagnaceae and Rhamnaceae in the same clade (M. Clawson et al. 1998); no proposal has been made to combine the families. Some lines of evidence suggest a relationship with Rhamnaceae: wood anatomy and the presence of vestured pits (S. Jansen et al. 2000), DNA sequencing (J. E. Richardson et al. 2000), vegetative characteristics (R. F. Thorne 1992b), and the occurrence of nitrogen fixing symbioses in Elaeagnaceae and some Rhamnaceae, Rosaceae, and Ulmaceae (D. E. Soltis et al. 1995).

SELECTED REFERENCES Jansen, S., F. Piesschaert, and E. Smets. 2000. Wood anatomy of Elaeagnaceae, with comments on vestured pits, helical thickenings, and systematic relationships. *Amer. J. Bot.* 87: 20--28. Nelson, A. 1935. The Elaeagnaceae---A mono-generic family. *Amer. J. Bot.* 22: 681--683.

1. Flowers unisexual; plants dioecious; inflorescences appearing before leaves; leaves petiolate or sessile, alternate; calyces 2-lobed; hypanthia inconspicuous ..... 3. *Hippophaë*, p. xxx
1. Flowers bisexual or unisexual; plants polygamous or dioecious; inflorescences usually appearing after leaves (except *Shepherdia argentea*); leaves petiolate, alternate or opposite; calyces 4-lobed; hypanthia conspicuous.
  2. Leaves alternate; pedicels present; flowers bisexual; plants polygamous; stamens 4..... 1. *Elaeagnus*, p. xxx
  2. Leaves opposite; pedicels absent; flowers unisexual; plants dioecious; stamens 8..... 2. *Shepherdia*, p. xxx

1. ELAEAGNUS Linnaeus, *Sp. Pl.* 1: 121. 1753; *Gen. Pl.* ed. 5, 57. 1754 \* [Ancient name used by Theophrastus for a *Salix* taxon; derivation uncertain, probably Greek *elaia*, olive tree, and *agnos*, chaste tree, alluding to resemblance, or *helodes*, marsh, and *hagnos*, pure or sacred, alluding to habitat and fertility ritual of Thesmophoria]

**Shrubs or trees**, polygamous, armed or unarmed, clonal or not. **Stems** densely pubescent with scales and stellate hairs or glabrate. **Leaves** deciduous or evergreen, alternate; petiolate; blade ovate, ovate-oblong, elliptic, lanceolate, lanceolate-linear, or cuneate, base attenuate or blunt, apex rounded, surfaces with silvery scales and stellate hairs <scales brown abaxially in *E. commutata*, sometimes glabrous adaxially in *E. multiflora*>. **Inflorescences** umbellate, or flowers paired or solitary, appearing after leaves. **Pedicels** present. **Flowers** bisexual; hypanthium conspicuous; calyx lobes 5; nectary disc conspicuous or inconspicuous; stamens 4, alternate with calyx lobes; style linear, <stigmatic on 1 side>. **Fruits** drupelike, silver, pale green, red, reddish brown, or pink, fleshy or dry. **Seeds** striate. *x* = 6, 14.

Species ca. 45 (5 in the flora): North America, Eurasia, Australia.

The flowers of *Elaeagnus* are strongly sweet-scented with a fragrance that most people find pleasant; the fruits are generally edible and attractive to birds. Some Eurasian species have been introduced into the horticulture trade and are now naturalized in North America (M. A. Dirr 2009). Some of these species have the potential to hybridize with native species; *E. angustifolia*, *E. pungens*, and *E. umbellata* have become noxious weeds. New introductions should be carefully considered and monitored.

1. Shrubs or trees 2--10(--12) m; leaves deciduous, blade surfaces densely silver or silver-green, (sometimes less densely so or with scattered, brown scales abaxially).
  2. Leaf blades ovate-oblong or elliptic (lengths 2 times widths); nectary discs inconspicuous; stems unarmed, scales gray in age ..... 1. *Elaeagnus commutata*

2. Leaf blades lanceolate-linear to narrowly elliptic (lengths 3--8 times widths); nectary discs conspicuous; stems usually armed <with thornlike lateral branches>, scales reddish brown in age.....2. *Elaeagnus angustifolia*
1. Shrubs or trees 1--5 m; leaves deciduous or evergreen, blade surfaces silvery or silver-green abaxially, silver-green or green adaxially.
  3. Stems armed; leaves evergreen, blades leathery, margins wavy, surfaces with silver scales, more densely hairy and silvery-green abaxially, glabrous and lustrous dark green or dull silver-green adaxially; petioles woody ..... 4. *Elaeagnus pungens*
  3. Stems usually unarmed <young ones may be thornlike>; leaves deciduous, blades not leathery, margins entire or +/- wavy, surfaces silvery abaxially (sometimes with scattered, brown scales), green or dark green and sparsely pubescent or glabrous adaxially; petioles not woody.
    4. Flowers solitary or paired, hypanthium broadly flared, calyx lobes with brown scales outside; leaf blades 1--2.5(--5) cm, broadly lanceolate or cuneate.....3. *Elaeagnus multiflora*
    4. Flowers densely clustered, hypanthium narrowly funnellform, calyx lobes with silver scales outside; leaf blades (2--3)--8(--10) cm, elliptic or ovate .....5. *Elaeagnus umbellata*

**1. *Elaeagnus commutata*** Bernhardt ex Rydberg, Fl. Rocky Mts., 582. 1917 \* American silver-berry, wolf willow, chalef argenté **E F**

*Elaeagnus argentea* Pursh, Fl. Amer. Sept. 1: 114. 1813 (as *Elaeagnus*), not Moench 1794

**Trees**, 2--5 m, clonal. **Stems** unarmed, densely brownish scaly when young, scales fading gray in age. **Leaves** deciduous; blade elliptic or ovate-oblong, 2--7 x 1--3(--5) cm <length 2 times width>, surfaces with dense, silvery scales and stellate hairs, <sometimes with scattered, brown scales abaxially>. **Flowers** usually in pairs; hypanthium broadly flared, 4--7 mm distal to constriction; calyx yellow or yellow-green, 2.5--4 mm, <covered with silver scales>; nectary disc inconspicuous. **Fruits** silver, orbicular, 5--15 mm, densely scaly. **2n** = 28.

Flowering Jun--Jul. Stream banks, moist, open slopes; 0--2500 m; Alta., B.C., Man., N.W.T., Ont., Que., Sask., Yukon; Alaska, Calif., Colo., Idaho, Minn., Mont., N.Dak., S.Dak., Tex., Utah, Wyo.

**2. *Elaeagnus angustifolia*** Linnaeus, Sp. Pl. 1: 121. 1753 \* Russian olive, oleaster, Olivier de Bohême **I W**

**Shrubs or trees**, 5--10(--12) m, not clonal. **Stems** usually armed <with thornlike lateral branches>, densely silvery-scaly when young, scales reddish brown in age <glabrate>. **Leaves** deciduous (often tardily); blade lanceolate-linear to narrowly elliptic, 3--8(--10) x 0.5--1.5 cm <length 3--8 times width>, surfaces silvery and densely stellate-hairy. **Flowers** solitary or 2 or 3 clusters; hypanthium funnellform, 3.5--6 mm distal to constriction; calyx silver-green abaxially, yellow adaxially, 3--5 mm; nectary disc conspicuous, <forming thick cylinders around styles>. **Fruits** pale green, ovoid or ellipsoid, (8--10)--15(--20) mm, densely white-scaly <and succulent> becoming dull orange-yellow and dry in age. **2n** = 24, 28.

Flowering May--Jul. Roadsides, along streams; 0--2000 m; introduced; Alta., B.C., Man., N.B., N.S., Ont., Que., Sask.; Ariz., Calif., Colo., Conn., Del., D.C., Idaho, Ill., Ind., Iowa, Kans., Ky., La., Maine, Md., Mass., Mich., Minn., Mo., Nebr., Nev., N.H., N.J., N.Mex., N.Y., N.C., N.Dak., Ohio, Okla., Oreg., Pa., R.I., S.Dak., Tenn., Tex., Utah, Vt., Va., Wash., W.Va., Wis., Wyo.; Eurasia.

*Elaeagnus angustifolia* was originally planted as an ornamental and as a windbreak and for erosion control; it has become weedy along waterways and in disturbed areas, especially in the western United States. The roots grow to great depths and, because the plants are heavy users of water, they are known to lower dramatically the water table. Russian olive is globally invasive and is spreading in arid regions. Where it lacks competition from other trees, it forms dense thickets that exclude most other vegetation.

The fruit is somewhat succulent when young but quickly becomes dry and mealy; it is sweet and edible, and is widely dispersed by birds. The plant is prone to diseases such as leaf spot, canker, rust, and *Verticillium* wilt in humid areas (M. A. Dirr 2009). Two varieties, var. *angustifolia* and var. *orientalis* (Linnaeus) Kuntze, have been recognized. The dried, powdered fruits are reportedly mixed with milk for the treatment of rheumatoid arthritis and joint pain.

**3. *Elaeagnus multiflora*** Thunberg in J. A. Murray, Syst. Veg. ed. 14, 163. 1784 \* Cherry elaeagnus or silver-berry, gumi, natsugumi **I W**

**Shrubs**, 1--2.5(--3) m, not clonal. **Stems** unarmed, with gray or reddish gray scales. **Leaves** deciduous; blade broadly lanceolate or cuneate, 1--2.5(--5) x 1--1.5(--3) cm, surfaces silvery abaxially, also with scattered, brown scales, glabrous or sparsely stellate-hairy, green adaxially. **Flowers** solitary or paired; hypanthium broadly flared, 6--7 mm distal to constriction; calyx cream, 4.5--6 mm, lobes with brown scales outside, <glabrous inside>; nectary disc conspicuous. **Fruits** bright red with silver flecks, oblong, 10--15(--25) mm, sparsely pubescent.

Flowering Apr--May. Sandy or clay soils, alkaline or saline soils; 100--400[--1800] m; introduced; Ala., Ga., Ill., Ky., Mass., Mich., Mo., N.Y., N.C., Ohio, Tenn., Va.; Asia (China, Japan).

*Elaeagnus multiflora* is similar to *E. umbellata* and may have been overlooked in some locations; it is distinguished by a calyx tube and limb that are more or less equal in length, and fruits on elongated pedicels. The species has been grown as an ornamental in Utah and, apparently, has not become naturalized in the western United States.

**4. Elaeagnus pungens** Thunberg in J. A. Murray, Syst. Veg. ed. 14, 164. 1784 \* Silverthorn, spotted elaeagnus, thorny-olive **I**

**Shrubs or trees**, 2--5 m, clonal. **Stems** armed, dark gray-scaly or reddish. **Leaves** evergreen, <leathery>; <petiole woody>; blade broadly elliptic, (3.5--)4--8(--10) x 1.5--2.5 cm, <margins wavy>, surfaces with silvery scales, more densely pubescent and silver-green abaxially, glabrous and lustrous dark green or dull silver-green adaxially. **Flowers** 2--4 in clusters; hypanthium broadly flared, 2--3 mm distal to constriction; calyx white or cream, 6 mm, <glabrous>; nectary disc inconspicuous. **Fruits** reddish or red-brown, oblong, 8--12 mm, <somewhat fleshy>, sparsely lepidote <scales brown with silver margins>.

Flowering Apr, Sep--Oct. Sandy soils; 0--500 m; introduced; Ala., D.C., Fla., Ga., Ky., La., Miss., N.C., S.C., Tenn., Va., W.Va.; Asia (China, Japan).

Flowers of *Elaeagnus pungens* have a sweet gardenia-like fragrance that attracts butterflies and its fruits are favored by birds. It forms clumps that are broader than tall, with canes that often grow into neighboring shrubs and vines. Plants grow prolifically and can be propagated by cuttings. It has become invasive in some areas. The Florida Exotic Pest Plant Council has placed it in the category of invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities.

Cultivars vary in growth form and color: 'Fruitlandii' forms large bluish green mounds; 'Maculata' has large leaves with bright yellow variegations and blotches; and 'Marginata' has leaves with silvery-white margins. The leaves are distinctive with their leathery texture, wavy margins, and thick petioles. Most cultivars are thornless. Because these plants form large, vigorous clones, they are not recommended for small properties (M. A. Dirr 2009).

**5. Elaeagnus umbellata** Thunberg in J. A. Murray, Syst. Veg. ed. 14, 164. 1784 \* Autumn-olive **I W**

*Elaeagnus parvifolia* Wallich ex Royle; *E. umbellata* var. *parvifolia* (Wallich ex Royle) C. K. Schneider

**Shrubs or trees**, to 5 m, clonal. **Stems** armed when young, unarmed when older, silvery-green becoming densely brown-scaly in age. **Leaves** deciduous; blade elliptic or ovate, (2--)3--8(--10) x 1--2.5 cm, <margins entire or +/- wavy>, surfaces silvery-scaly abaxially, sparsely pubescent, dark green <glossy> adaxially. **Flowers** densely clustered, <3+, appearing to encircle stems>; hypanthium narrowly funnelform, 7--8 mm distal to constriction; calyx yellow to cream-white, 3.5--4 mm, <calyx lobes with silver scales outside, glabrous inside>; nectary disc conspicuous. **Fruits** bright red or pink, ovoid, 6--8 mm, <fleshy>, lepidote.

Flowering Apr--May. Sandy soils, open areas, oak-hickory woodlands, mesic forests; 0--300 m; introduced; N.B., N.S., Ont.; Ala., Ark., Conn., Del., D.C., Fla., Ga., Ill., Ind., Iowa, Kans., Ky., La., Maine, Md., Mass., Mich., Miss., Mont., Nebr., N.J., N.Y., N.C., Ohio, Oreg., Pa., R.I., S.C., Tenn., Vt., Va., Wash., W.Va., Wis.; e Asia (China, Japan, Korea).

The flowers of *Elaeagnus umbellata* are more densely clustered and umbel-like than in other species of the genus in the flora area. Originally introduced for soil conservation and as food for wildlife, it is not considered a good plant for home landscapes because it has a tendency to become weedy (M. A. Dirr 2009). The species thrives in acidic or basic soils and birds spread the seeds.

2. SHEPHERDIA Nuttall, Gen. N. Amer. Pl. 2: 240. 1818, name conserved \* Buffaloberry, sh  pherdie [For John Shepherd, 1764--1836, curator of the Liverpool Botanic Garden] E

**Shrubs or trees**, dioecious, armed or unarmed, clonal or not. **Stems** densely pubescent with brown or silver scales and stellate hairs or glabrescent. **Leaves** deciduous or evergreen, opposite; short-petiolate; blade elliptic, ovate, obovate, or subcordate, base attenuate or blunt, apex acute or blunt, surfaces sparsely pubescent or with silvery and rust scales and stellate hairs. **Inflorescences** usually umbellate, flowers rarely solitary, usually appearing after leaves (before in *S. argentea*). **Pedicels** absent. **Flowers** unisexual; hypanthium conspicuous <elongated>; calyx lobes 4; nectary disc conspicuous or inconspicuous; stamens 8, alternate and opposite calyx lobes; style linear, <stigmatic on 1 side>. **Fruits** berrylike, red, red-orange, yellow, or green, fleshy or dry. **Seeds** smooth.  $x = 11, 13$ .

Species 3 (3 in the flora): North America.

*Shepherdia* was considered part of *Elaeagnus* by A. Nelson (1935); it is easily distinguished by its opposite leaves and sessile, unisexual flowers. Species of *Shepherdia* are tolerant of alkaline soils and extremes of temperature. The first two species described here have been grown in arboreta; M. A. Dirr (2009) stated that neither is horticulturally attractive. The third species (*S. rotundifolia*) has horticultural potential for water-efficient landscapes in arid parts of the western United States.

1. Leaf blade surfaces bicolor, sparsely silvery-pubescent abaxially, with stellate hairs interspersed with rust-brown scales, glabrate and green adaxially ..... 2. *Shepherdia canadensis*
1. Leaf blade surfaces not bicolored, silvery pubescent and without rust-brown scales.
  2. Leaves deciduous, blades elliptic or obovate, margins plane; plants clonal ..... 1. *Shepherdia argentea*
  2. Leaves evergreen, blades broadly ovate, margins revolute; plants not clonal ..... 3. *Shepherdia rotundifolia*

1. **Shepherdia argentea** (Pursh) Nuttall, Gen. N. Amer. Pl. 2: 240. 1818 \* Silver buffaloberry E

*Hippopha   argentea* Pursh, Fl. Amer. Sept. 1: 115. 1813; *Elaeagnus utilis* A. Nelson; *Lepargyrea argentea* (Pursh) Greene

**Shrubs or trees**, 1--5 m, densely clonal <from underground stems>. **Stems** armed <spines 2--5 cm>. **Leaves** deciduous; blade elliptic or obovate, 2--5 x 0.5--1.5(--2.5) cm, margins plane, surfaces silvery-pubescent. **Flowers**: sepals yellow, 2--3 mm on staminate flowers, 1--1.5 mm on pistillate flowers; nectary disc conspicuous. **Fruits** bright red-orange or yellow, globose, 6--9 mm, fleshy, sparsely lepidote. **Seeds** brown, 3--4 mm.  $2n = 22, 26$ .

Flowering Apr--May. Moist habitats, canyon floors, meadows, open slopes, sometimes on alkaline soils; 300--2300 m; Alta., B.C., Man., Sask.; Ariz., Calif., Colo., Idaho, Iowa, Kans., Mich., Minn., Mont., Nebr., Nev., N.Mex., Oreg., S.Dak., Utah, Wis., Wyo.

*Shepherdia argentea* is possibly escaped in the eastern United States (reported from New York; possibly only in gardens).

2. **Shepherdia canadensis** (Linnaeus) Nuttall, Gen. N. Amer. Pl. 2: 241. 1818 \* Canadian or russet buffaloberry, rabbitberry, sh  pherdie du Canada E F W

*Hippopha   canadensis* Linnaeus, Sp. Pl. 2: 1024. 1753; *Elaeagnus canadensis* (Linnaeus) A. Nelson; *Lepargyrea canadensis* (Linnaeus) Greene

**Shrubs**, 0.3--3 m, not clonal. **Stems** unarmed. **Leaves** deciduous; blade elliptic, ovate, or subcordate, 3--5(--7) x 1--3(--4) cm, margins plane, surfaces sparsely silvery stellate-hairy abaxially with interspersed rust-brown scales, glabrate and green adaxially. **Flowers**: sepals yellow, 1.5--3 mm on staminate flowers, 1--2 mm on pistillate flowers; nectary disc inconspicuous. **Fruits** bright red or yellow, ellipsoid, 6--9 mm, fleshy, sparsely lepidote. **Seeds** dark brown to black, 4--5 mm.  $2n = 22$ .

Flowering Apr--Jun. Woods, open rocky slopes, sandy-gravelly shores, granitic sands; 0--3300 m; Alta., B.C., Man., N.B., Nfld. and Labr., N.W.T., N.S., Nunavut, Ont., Que., Sask., Yukon; Alaska, Ariz., Calif., Colo., Idaho, Ill., Ind., Maine, Mich., Minn., Mont., Nev., N.Mex., N.Y., N.Dak., Ohio, Oreg., Pa., S.Dak., Utah, Vt., Wash., Wis., Wyo.

**3. *Shepherdia rotundifolia*** Parry, Amer. Naturalist 9: 350. 1875 \* Roundleaf buffaloberry, silver-scale **E**

*Elaeagnus rotundifolia* (Parry) A. Nelson; *Lepargyrea rotundifolia* (Parry) Greene

**Shrubs**, 0.5--2 m, not clonal. **Stems** unarmed. **Leaves** evergreen; blade broadly ovate, 1.5--3.5 x 1--3 cm, margins revolute, surfaces silvery-pubescent, hairs stellate. **Flowers**: sepals green, 2.5--4 mm on staminate flowers, 2--3 mm on pistillate flowers; nectary disc conspicuous. **Fruits** light green, ellipsoid, 6--8 mm, dry (not fleshy), densely silvery-scaly and stellate-pubescent. **Seeds** brown, 3--4 mm.

Flowering Mar--May. Dry, open, often rocky places, sandstone, sometimes on clay soils, pinyon-juniper zone; 1000--2600 m; Ariz., Utah.

*Shepherdia rotundifolia* is an attractive shrub of the southwestern deserts of North America; it grows on rock ledges or slick-rock sandstone habitats where the rounded growth form and bright silver indument are distinctive. Drought tolerance makes it a good candidate for gardens in arid regions; it has been planted in some botanical gardens.

3. HIPPOPHAË Linnaeus, Sp. Pl. 2: 1023. 1753; Gen. Pl. ed. 5, 449. 1754 (as Hippophae) \*  
Seaberry [Greek hippos, of horse, and phaeos, splendor, probably alluding to ancient use of silvery leaves as horse fodder to supposedly make their coats shine or boost their energy] **I**

**Trees or shrubs**, dioecious, armed, clonal from root crowns. **Stems** glabrescent, trichomes gray. **Leaves** deciduous, alternate; petiolate or sessile; blade linear or linear-lanceolate, base attenuate or oblique, apex acute or rounded, surfaces covered with silver-green scales, <silver-gray abaxially, dark gray-green adaxially, hairs sparsely interspersed with brown scales>. **Inflorescences** spikes (in staminate plants) or racemes (in pistillate plants), appearing before leaves. **Pedicels** present or absent. **Flowers** unisexual; hypanthium inconspicuous; calyx lobes 2; nectary disc inconspicuous; stamens 4, alternate and opposite calyx lobes; style inconspicuous; <stigma sessile, capitate>. **Fruits** drupelike, orange or yellow-orange, fleshy. **Seeds** smooth. **x** = 12.

Species ca. 4 (1 in the flora): introduced; Europe, Asia.

Unlike other genera of Elaeagnaceae, *Hippophaë* is wind-pollinated and the flowers are unscented. Flowers are conspicuous in spring because they develop before the leaves; in fall, the plants blaze with large clusters of bright orange fruits. The fruits are a rich source of vitamin C; the juice may protect against arsenic toxicity (R. Gupta and S. J. Flora 2005).

SELECTED REFERENCES Bartish, I. V. et al. 2000. Inter- and intraspecific genetic variation in *Hippophaë* (Elaeagnaceae) investigated by RAPD markers. Pl. Syst. Evol. 225: 85--101. Lian, Y., Chen X., and Lian H. 1998. Systematic classification of the genus *Hippophaë* L. Seabuckthorn Res. 1: 13--23. Rousi, A. 1971. The genus *Hippophaë* L. A taxonomic study. Ann. Bot. Fenn. 8: 177--227.

**1. Hippophaë rhamnoides** Linnaeus, Sp. Pl. 2: 1023. 1753 (as Hippophae) \* Willow-leaved sea-buckthorn, argousier faux-nerprun **F I**

*Elaeagnus rhamnoides* (Linnaeus) A. Nelson

**Trees or shrubs** 3--6(--10) m, clonal, forming masses as broad as tall. **Stems** with terminal and axillary spines, spines 1--6 cm. **Leaf blades** 1--6 x 0.3--1 cm. **Pedicels** absent on staminate plants, present on pistillate plants. **Flowers:** sepals yellow, 3 mm, glabrous or sparsely pubescent. **Fruits** bright orange or yellow-orange, subglobose, 6--8 mm. **Seeds** orange-brown, oblong, 4--5 mm, shiny. **2n** = 24.

Flowering Apr--May; fruits often persisting through winter. Open areas, sandy loam or clay soils; 100--300 m; introduced; Alta., Ont., Que., Sask., Yukon; Ga., Wash.; c, n Europe; Asia.

*Hippophaë rhamnoides* is planted for erosion control and as an ornamental; it does well in nutritionally poor soils and is potentially invasive. Because the species is dioecious, both staminate and pistillate plants must be planted for viable seeds to develop. Reports of the species in Wyoming are based on collections from gardens; it has not become naturalized in the area (R. Hartman, pers. comm.). M. A. Dirr (2009) called this one of the best plants available for winter fruit color, one that is also tolerant of salt-spray.