

Trees and Shrubs to Watch

Caprifoliaceae
(Honeysuckle Family)

Thymeliaceae
(Mezereum Family)

Fabaceae
(Pea Family)

Pinaceae
(Pine Family)

Rosaceae
(Rose Family)

Bush Honeysuckle

Lonicera tatarica L.

Alternate Names

Tatarian honeysuckle

Description

Bush honeysuckle is a bushy, finely branched shrub that grows up to 10 feet in height. The trunk has grayish-brown bark in long, thin scales. Branches are thin and flexible and brown to greenish-brown, and older stems are often hollow. Leaves are hairless, opposite, ovate to oblong, and 1 to 2 1/2 inches long, with entire margins, obtuse to acute tips, and rounded bases. The flowers are pink or white, less than 1 inch long, and tubular, and they occur in pairs. The fruit is an orange to reddish-orange rounded berry, 3/16 to 5/16 inches wide, and has several seeds. Seeds are oval, flattened, and yellow.



XID Services photo by Richard Old

Similar Species

In fruit, the orange or red berries of the exotic honeysuckle separate it from the purplish-black-berried native bearberry honeysuckle (*Lonicera involucrata* Banks ex Spreng.).

Ecological Impact

Bush honeysuckle forms a dense shrub layer that shades out native vegetation in the woodland understory. It reduces the richness and cover of herb communities and delays establishment of new seedlings. Bush honeysuckle can alter habitats by decreasing light availability and depleting soil moisture and nutrients (Virginia DCR 2004). It can also reduce tree regeneration in early to mid-successional forests

(Batcher and Stiles 2000).

Biology and Invasive Potential

Bush honeysuckle has high seed production and can spread vegetatively (Batcher and Stiles 2000, Charles 2001, Hoppes 1988). Outside of Alaska, it has been shown to invade disturbed sites as well as intact forests (Batcher and Stiles 2000), although areas with disturbance are most vulnerable to invasion (WDNR 2003). The fruits are distributed by birds and small mammals (Butterfield et al. 1996). Many state and private nurseries still sell bush honeysuckle (Batcher and Stiles 2000). Germination occurs shortly after dispersal. Seeds can remain viable for 2 or more years. Seedlings establish most readily on open ground or in areas with sparse understory (Butterfield et al. 1996). Bush honeysuckle grows in a wide variety of soils, soil moisture regimes, environmental conditions, and on all slope exposures. It can withstand periodic flooding, drought, shade, and temperatures of -58° to 113°F (Butterfield et al. 1996). Bush honeysuckle is listed as noxious in Vermont and has been declared an invasive weed in Wisconsin.



XID Services photo by Richard Old



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Distribution and Abundance

Bush honeysuckle was first reported in Alaska in 1969 from Fairbanks and now is a cultivated ornamental in southcentral Alaska. In other states it has spread to lakes, river banks, marshes, roadsides, pastures, and wooded hillsides. Bush honeysuckle occurs along forest edges in Iowa,

where it has the potential to modify existing native plant communities (Butterfield et al. 1996) and has invaded the understory of woodlands and marshes in Ohio (ODNR 2004). Bush honeysuckle is native to Europe and eastern Asia. It has not yet been found growing in wild or riparian areas, but is widely planted in Fairbanks and southcentral Alaska.

Management

Mechanical methods, including hand-pulling and cutting, must remove all root fragments in order to be effective. Mechanical and chemical control methods can be used in combination for control by cutting off the stem just above the ground and applying herbicide with a foam paint brush. Treatment must be repeated for at least 3 to 5 years in order to stop new plants emerging from the seed bank (WDNR 2004, Batcher and Stiles 2000, Butterfield et al. 1996).

Notes

Birds consume the red berries of bush honeysuckle and spread the seeds into forests and woodlands where the plants readily establish. Another common name is “twin sisters” due to the paired fruits and flowers.



XID Services photo by Richard Old

Spurge Laurel

Daphne laureola L.

Description

This species is an evergreen shrub growing up to 3 feet. Leaves are crowded around the twigs and are oblong-lance shaped 1 1/4 to 5 inches long and 1/2 to 1 1/4 inches wide, dark glossy and green above, lighter beneath and narrow at the base. Flowers are yellowish-green, 1/4 to 1/3 of an inch long, and occur in dense axillary clusters in early spring. Fruits are oval and black.



KULAK photo by Paul Busselen

Similar Species

It is unlikely that spurge laurel would be confused with another species in Alaska.

Management

Hand-pulling followed by planting of native species has been recommended in forest habitats, while areas of less dense vegetation should be targeted for immediate uprooting and clipping (Percival 1997).

Notes

The Latin name of this plant is the title of a play from 1977 in Britain. This plant originated in Eurasia. While considered very poisonous, it contains various compounds that are being investigated for anti-leukemia effects.



UAB, Unitat de Botànica

Family: Thymeliaceae

Spurge Laurel



KULAK photo by Paul Busselen

Siberian Peashrub

Caragana arborescens
Lam.

Alternate Names

pea shrub, pea tree

Description

Siberian peashrub is a shrub to small tree reaching up to 20 feet in height under favorable growing conditions, with yellow-green bark on young twigs and gray to olive-green bark on mature branches and trunks. It is typically multistemmed with erect to spreading branches originating from a dense, spreading root system. Leaves are alternate or whorled, 2 to 4 inches long, and pinnately compound with 8 to 12 leaflets in pairs. The leaflets are about 1/2 to 1 inch long, entire, and elliptic to broadly oblanceolate with a short point at the top; they are short, silky, and hairy when young and later almost hairless. The stipules are narrow and often persist as spines. Flowers are borne singly or in small groups; they are long-stalked, yellow, and about 1 inch long. Pods are 1/2 to 2 1/2 inches long and about 1/8 of an inch wide. They are linear-lanceolate, green, and strongly flattened, becoming more cylindrical and brownish at maturity. The pods disperse seeds by opening explosively.



UAF Cooperative Extension Service
photo by Jamie Snyder



UAF Cooperative Extension Service
photo by Jamie Snyder

Similar Species

This is the only yellow-flowered, pinnately leaved shrub in the pea family in Alaska, except for other *Caragana* species that are occasionally grown as ornamental plants.

Ecological Impact

Siberian peashrub has recently been observed moving into natural areas in Alaska, particularly forests and riparian areas, with the potential for alteration of plant community structure and species composition. It has a symbiotic relationship with nitrogen-fixing bacteria and can therefore alter soil nutrient levels (GRIN 2004), which could also affect native plant species.

Biology and Invasive Potential

Siberian peashrub produces 4 to 6 seeds per pod and many pods per plant. It can also be propagated by bare roots, root cuttings, and layering (Duke 1983, GRIN 2004). The seeds are large and do not have any apparent adaptations for long-distance dispersal. Siberian peashrub is cultivated as an ornamental and food plant (Welsh 1974). It is widely planted in the United States and Canada for windbreaks, hedges, and outdoor screening, and in arctic and subarctic regions it has also been used as supplementary fodder for reindeer herds (Duke 1983). Cold-stratification is required for germination, which takes 2 to 3 weeks (Plants for a Future 2002). Siberian peashrub can grow in all soil textures with pH levels ranging from 5.0 to 8.5. It is highly tolerant of nutrient-poor soils, drought, and cold temperatures and prefers full sun and light, sandy, dry soils. Siberian peashrub favors continental climates with long summers and cold, fairly dry winters (Plants for a Future 2002).



*UAF Cooperative Extension Service
photo by Jamie Snyder*

Distribution and Abundance

Siberian peashrub is cultivated in the northern United States and Canada, including introductions to arctic regions (Isely 1993, Duke 1983). It is known as an invader

of forested areas in Wisconsin (WDNR 2003). It is native to Siberia, Kazakhstan, Mongolia, and China. Now, its range extends across Europe and North America as well (GRIN 2004). In Alaska, it has been grown in Anchorage, Fairbanks, Seward, and the remote community of Iditarod (ALA 2004).

Management

Control options have not been investigated. Siberian peashrub can resprout after cutting (GRIN 2004), suggesting that a combination of mechanical and chemical methods may be necessary for effective control of this species.

Notes

Siberian peasants reportedly overwintered their chicken flocks by feeding them the seeds of this plant. The leaves yield an azure dye.

Scotchbroom

Cytisus scoparius (L.) Link

Alternate Names

Englishbroom

Synonyms

Sarothamnus scoparius (L.) Wimmer ex Koch

Description

Scotchbroom is a woody shrub that grows up to 10 feet tall with many erect branches that are angled and dark green. Leaves are mostly 3-parted with entire leaflets. Leaflets are obovate to oblanceolate, 1/4 to 1/2 of an inch long. Flowers are showy, yellow, and abundant, and are usually borne solitarily in axils. Pods are flattened and brown or black with white hair on the margins.

Similar Species

There are several weedy species of the genus *Cytisus* that grow on the Pacific Coast and Cascade Mountains, but none are native to Alaska (Whitson et al. 2000). Gorse (*Ulex europaeus* L.) is another invasive shrub not yet known to occur in Alaska with yellow pea-like flowers and dense sharp spines, while Siberian peashrub (*Caragana arborescens* Lam., included in this book) has pinnate leaves. Spanish broom (*Spartium junceum* L.)



The Nature Conservancy photo by Barry A. Rice



UAF Cooperative Extension Service photo by Jamie Snyder

Scotchbroom tagged for removal.

Family: Fabaceae

Scotchbroom

is another exotic plant not yet in Alaska and can be distinguished from Scotchbroom by its fragrant flowers and rounded, bright green stems.

Management

Hand-pulling, cutting, or mowing can be used for Scotchbroom control. Herbicides are also effective. Root pieces that remain in the soil will resprout to form new plants, and so monitoring is needed after treatment (Hoshovsky 1986). Use of a brush chipper may be desirable to dispose of cut or pulled plants. Biological control may become a future option, given that there are several Scotchbroom-feeding insects from Europe.



USDA Forest Service photo by Tom Heutte

Notes

Scotchbroom was introduced as an ornamental to the Pacific Northwest, where it escaped cultivation. The Latin genus name *Cytisus* may be corruption of the name of a Greek island, Cythnus, where a broom species abounded and was written about by Pliny.



USDA Forest Service photo by Tom Heutte

Lodgepole Pine

Pinus contorta Dougl.
var. *latifolia* Engelm. ex
S. Wats.

Alternate Names

tamarack pine

Description

Lodgepole pine is a small to large resinous evergreen tree typically growing 50 to 75 feet tall, with 8 to 12 inch trunk diameter and a narrow crown. Yellow-green to dark green needles are relatively long (1 to 2 1/4 inches), stiff, and often twisted, and they are clustered in bundles of 2 with a sheath at the base. Twigs are orange when young, becoming gray brown, rough, and stout with age. Bark is gray to dark brown and scaly. Cones are 1 1/4 to 2 inches long, egg-shaped, almost stalkless, and pointing outward. Typically cones do not open and release seeds until after a forest fire, however, some open at maturity in Alaska. Seeds are brown and small with a long broad wing.



Similar Species

This species includes 2 geographic varieties in Alaska. The native coastal form, shore pine (*Pinus contorta* Dougl. var. *contorta*), grows in peat bogs and is generally a low spreading or scrubby tree with cones pointing backward that open at maturity but remain attached. The inland form, lodgepole pine (*Pinus contorta* var. *latifolia* Engelm.), differs from shore pine in being taller with a narrow crown and thinner scaly, unfurrowed bark, and it has closed cones pointing outward rather than backward.

Ecological Impact

Lodgepole pine forms dense thickets, replacing or overtopping the natural canopy (Richardson et al. 1994). Many birds and small mammals consume lodgepole pine seeds, and snowshoe hare, red squirrel, porcupine, and several vole species feed on seedlings. Moose browse on pine during the winter. The well-developed canopy likely attracts forest canopy birds, and might influence the abundance of species that utilize open habitats (Hansson 1985, Sjöberg and Danell 2001, Sullivan and Sullivan 1982). Lodgepole pine forms associations with several species of fungi, presumably to aid in the acquisition of soil resources (Despain 2001). Invasion by lodgepole pine can convert grassland and shrubland to forest. Increases in above-ground biomass that accompany these conversions cause increases in evapotranspiration and reduction in streamflow from catchment areas (Le Maitre et al. 1996, Richardson et al. 1994). Forests dominated by lodgepole pine have high rates of organic matter accumulation and slow rates of mineralization (Fahey 1983).



Photo by Larry Hufford

Biology and Invasive Potential

Lodgepole pine propagates by seeds, bare roots, and cuttings. The plant is capable of producing over 17,000 seeds per year. In its home range, lodgepole pine produces good seed crops as often as 3 out of every 4 years. Some trees produce seed at less than 10 years of age (Ledgard 2001). Usually, lodgepole pine invasions require moderate disturbance to facilitate seedling recruitment, such as grazing, browsing, trampling, altered fire frequency, or mechanical clearing. It can also spread into areas with naturally occurring disturbances such as volcanic activity, slope instability, fire, wind, and flooding (Richardson et al. 1994). Although most seeds are deposited within a few meters of the parent

tree, the seed wing allows long distance dispersal by wind (Despain 2001, Ledgard 2001). Small mammals, especially rodents, are also potential agents of long-distance dispersal and establishment (Despain 2001, Sjöberg and Danell 2001). Because of its economic importance, lodgepole pine has been introduced to areas outside its natural range (Richardson et al. 1994). Germination rate is generally high at 80 to 90% under laboratory conditions. Germination occurs at 75° to 80°F, equally well in light and dark. Cold-stratification is not necessary, but it increases germination (Baskin and Baskin 2002, Luna 2001). Field germination occurs in early spring, shortly after snowmelt; mineral soils provide optimal germination sites and moisture is required in the first year of establishment (Stuart et al. 1989). Lodgepole pine is adapted to soil textures ranging from coarse to fine and pH levels ranging from 6.2 to 7.5. This species is shade-intolerant and prefers soils with medium fertility and moisture. It requires a minimum of 100 frost free days for reproduction but can tolerate temperatures of -70°F. It has low anaerobic-, drought-, and fire-tolerance (GRIN 2004). At least 16 pine species have spread from planting sites to invade natural or seminatural vegetation in the southern hemisphere (Richardson et al. 1994).

Distribution and Abundance

The variety of lodgepole pine of concern is native to North America, occurring naturally from southeast Alaska east to the headwaters of the Mackenzie River and south through western Alberta and British Columbia and the Rocky Mountains to Colorado and Utah. The native range in Alaska extends only to the vicinity of Skagway and Haines in northern southeast Alaska, although it may be expanding northwestward. Lodgepole pine forms stands in the mixed forest with Sitka spruce, western paper birch, and subalpine fir. It has been introduced as a fast growing, hardy tree in the vicinity of Anchorage and Fairbanks, outside of its native range (Viereck and Little 1972), and is a major afforestation species in northern Europe (Hermann 1987). Invasion of natural areas by lodgepole pine has been

reported in New Zealand (Ledgard 2001).

Management

No control of lodgepole pine should be undertaken in southeast Alaska, where 2 native varieties occur. Different techniques for removal include grazing, burning, hand-pulling, felling, and chemical application. For areas in which lodgepole pine plantings are desired, it is recommended that the species be kept from spreading to hilltops to prevent long-distance dispersal of seeds. Configuration of lodgepole pine plantations in ways that reduce the spread of the species during seed dispersal is also recommended (Engelmark et al. 2001). Because most eradication techniques require a long-term management commitment (Ledgard 2001, Richardson et al. 1994), the expense of eradication is often prohibitive, making containment the most practical option.

Notes

Of the 3 other varieties of lodgepole pine, var. *contorta* is native to the Pacific coast from Alaska to California, var. *murrayana* (Balf.) Engelm. is native to Washington, Oregon, California, and Nevada, and var. *bolanderi* Lemmon, the Mendocino Sands shore pine, is rare and endemic to California.

European Bird Cherry

Prunus padus L.

Alternate Names

Mayday tree, Maybush

Description

European bird cherry is a small deciduous tree that grows to 15 to 30 feet high. Leaves are oval and dark green with 2 glands where the stalk joins the blade and often with a tuft of hair where each vein joins the midrib. Leaves have long stalks, up to 4 inches, and are elliptic to obovate and sharply serrate. Small, strongly aromatic white flowers, 1/8 to 1/4 of an inch long, are held in cylindrical spikes at various angles, often drooping. The fruit is a black cherry that is highly prized by birds.



National Park Service photo
by Jeff Heys

Similar Species

The species most easily mistaken for European bird cherry in Alaska is Canada red cherry, a cultivar of *Prunus virginiana* L. that holds its flower spikes more upright than those of European bird cherry.

The two species are easily distinguished once the foliage of Canada red cherry turns red in July. Other species that might be mistaken for European bird cherry in Alaska are sweet cherry (*Prunus avium* (L.) L.) and black chokecherry (*Prunus virginiana* L. var.



USDA Forest Service photo
by Michael Shephard

melanocarpa (A. Nels.) Sarg.). Sweet cherry is distinguished from European bird cherry by its generally larger size, the larger size of the teeth on the leaf margin, and flowers that are larger and arranged in clusters rather than a raceme. Black chokecherry can be distinguished by its leaves that have entire rather than serrate margins.

Ecological Impact

The fruits of European bird cherry are highly desirable to birds. Impacts on ecological processes are unknown, however it is successfully spreading along streams in Anchorage amidst native trees and shrubs, suggesting alteration of riparian community composition. Moose will browse the tree but often do not, further increasing its dominance over the native birch, willow, and cottonwood. The tree seems to germinate readily along riparian corridors and is often the primary, if not the only, species of saplings seen in the understory of greenbelt forests in Anchorage.



USDA Forest Service photo
by Michael Shephard

Biology and Invasive Potential

European bird cherry sets seed in most years, with an interval between large seed crops of 1 to 3 years. Seeds are very abundant (GRIN 2004) but viable for less than 1 year. Vegetative reproduction occurs by root suckers. European bird cherry is usually pollinated by flies, although self-pollination occurs regularly if insects fail to visit a plant. Seed viability averages 74% with variable germination rates, and seeds require 2 to 4 weeks of warm weather prior to 18 weeks of temperatures less than 40o F for germination. Seeds are widely distributed by birds that eat the fruits in large quantities. It is suited to coarse and medium textured soils with pH levels ranging from 5.0 to 7.0 and a low tolerance for anaerobic and saline soils. It can withstand temperatures to -33oF, requires 110 frost-free days for

reproduction, and is not drought- or shade-tolerant (GRIN 2004).

Distribution and Abundance

European bird cherry is native to Scotland and northern England and Wales and is the most northerly distributed *Prunus* species in Europe. It is commonly cultivated as an ornamental tree in southern Alaska and is colonizing several streams in Anchorage and the Chena River in Fairbanks (M. Shephard, pers. comm. 2004). It is not widely distributed in North America but also occurs in Illinois, New York, New Jersey, Pennsylvania, Delaware, Ontario, and New Brunswick.

Management

Control methods have not been tested for European bird cherry. One method likely to be effective would be to fell trees with a chainsaw and apply herbicide to cut stumps to prevent regrowth from root and stump suckers. Use only herbicides approved for frill application.

Notes

This small tree is from Europe, and is known as “hegg” in Norway, where it is thought to have originated. The bark has been used for traditional fabric dyeing.



*USDA Forest Service photo
by Michael Shephard*

European Mountain Ash

Sorbus aucuparia L.

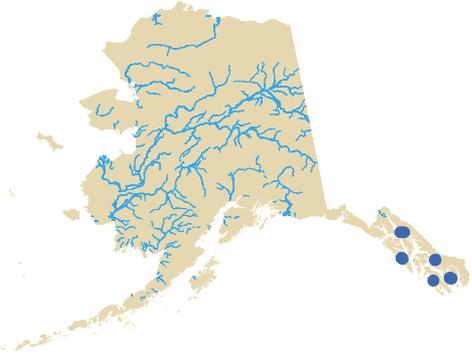
Synonyms

Pyrus aucuparia (L.) Gaertn.

Description

European mountain ash is an upright tree that grows 25 to 40 feet high with a rounded, open crown.

The bark is grayish or yellowish-green and smooth. Leaves are alternate, pinnately compound, and 5 to 8 inches long. There are 11 to 15 leaflets per leaf that are dull dark green above and paler below. Clusters of small white flowers appear in May or June and measure 3 to 5 inches across. Fruits are bright, deep orange to red, small, and fleshy, and they ripen in September and persist on the tree through winter.



XID Services photo by Richard Old

Similar Species

There are 3 native *Sorbus* species in Alaska: Sitka mountain ash (*S. sitchensis* M. Roemer), Cascade mountain ash (*S. scopulina* Greene), and Siberian mountain ash (*S. sambucifolia* (Cham. & Schlecht.) Roem.), a coastal tree, a southern Alaskan shrub, and a western Aleutian shrub, respectively. European mountain ash can be distinguished from the native species by its leaves and fruits. The leaflets are unequal and rounded at the base with more than 11 leaflets per leaf, and the fruits are borne in clusters of many (>25) individual fruits. Specimens in Sitka National Historical Park revealed possible hybridization with the native Sitka mountain ash.

Family: Rosaceae

European Mountain Ash

Ecological Impact

European mountain ash is able to integrate into coastal rainforest communities in southeast Alaska and dominate (e.g., Sitka National Historical Park). It has also been reported to invade forest communities in Wisconsin (WDNR 2003). Fruits are highly desirable to birds, suggesting the potential for alterations in abundance and composition of avian fauna (Gilman and Watson 1994). European mountain ash hybridizes with the native *S. scopulina* and *S. sitchensis* where their ranges overlap (Pojar and MacKinnon 1994).



Biology and Invasive Potential

European mountain ash is a perennial tree that grows rapidly and establishes by seeds, cuttings, or bare root propagation, but it does not spread vegetatively (GRIN 2004). Seeds are numerous and tiny, with many thousands of seeds produced per plant each year. Seeds have a strong innate dormancy that lifts gradually over a few years, and they remain viable in the soil for 5 years or more (Granström 1987). This species germinates well under experimental conditions of multiple years in moist soil (1 inch in soil, under a moss/litter layer) in central Sweden with full light and 68°F (Granström 1987). Cold-stratification is necessary (GRIN 2004). European mountain ash is suited to coarse-textured soils and not to fine soils, and it tolerates pH levels ranging from 5.5 to 7.5. It is unsuited to anaerobic, calcareous, saline, or low moisture soils. It grows in moderately fertile soil and has intermediate shade-tolerance (GRIN 2004). Seeds are spread by birds including thrushes



XID Services photo by Richard Old

and waxwings and small mammals (Dickinson and Campbell 1991). European mountain ash is widely planted as an ornamental in Southcentral and Southeast Alaska, where it has escaped (Welsh 1974). It has been reported to spread as a contaminant of horticultural stock (Hodkinson and Thompson 1997).

Distribution and Abundance

Originally from most of Europe, northern Africa, and western Asia, European mountain ash has naturalized in 27 northern states throughout moist cool regions of North America. It is commonly planted around communities in Southeast, Southcentral, and Interior Alaska, despite a USDA hardiness of zone 2 or less. Its native range in Europe extends from Spain north to Scandinavia and east to the Ural Mountains, and it also occurs in Iceland.

Management

Control measures for European mountain ash are largely untested. It has the ability to resprout after cutting. Frill methods—application of herbicide to exposed cambium—or felling the tree and applying herbicide to cut stumps to prevent resprouting should be effective. Use herbicides labelled for frill application only. Many natural seed predators are present in Scandinavia that likely limit its spread and establishment, but it is unknown if these or similar predators are present in North America.



US Geological Survey photo by Chris McKee

Notes

European mountain ash has frequently been planted at remote settlements in southeast Alaska and still remains at these sites. Birds enjoy the berries and can carry and spread them over long distances. Although rumor suggests that the berries are toxic, in Europe, where this species is called the rowan tree, the berries are commonly used in jams and jellies.