

European mountain ash

Sorbus aucuparia L.

Synonyms: *Pyrus aucuparia* (L.) Gaertn., *Sorbus aucuparia* L. var. *xanthocarpa* Hartwig & Rumpler

Other common names: rowan

Family: Rosaceae

Invasiveness Rank: 59 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

Description

European mountain ash is an upright tree that grows from 7 ½ to 12 m tall with a rounded, open crown. Bark is gray or yellow-green and smooth. Leaves are alternate, pinnately compound, and 13 to 20 cm long with 11 to 15 leaflets per leaf. Leaflets are dark green above and pale green below. Flowers bloom in May and are borne in clusters that are 7 ½ to 13 cm across. They are small and white. Pomes (fruits) are bright orange, small, and persistent. They ripen in September (Welsh 1974).



Flowers and foliage of *Sorbus aucuparia* L. Photo by R. Old.

Similar species: Three *Sorbus* species are native to Alaska: Sitka mountain ash (*Sorbus sitchensis*), Cascade mountain ash (*S. scopulina*), and Siberian mountain ash (*S. sambucifolia*). Sitka mountain ash grows along the

Pacific Maritime coast, Cascade mountain ash grows throughout the southern half of Alaska, and Siberian mountain ash grows in the western Aleutian Islands. European mountain ash can be distinguished from all other native *Sorbus* species in Alaska because it is a tree (usually growing taller than 5 m), whereas all native *Sorbus* species are shrubs (usually growing shorter than 5 m). Additionally, European mountain ash can be distinguished from native *Sorbus* species by the presence of leaflets that are unequal and rounded at the base and fruits that are borne in clusters of more than 25.



Sorbus aucuparia L. Photo by R. Old.

Ecological Impact

Impact on community composition, structure, and interactions: The ecological impacts of European mountain ash are largely unknown. This species can integrate into and dominate largely undisturbed, coastal

rainforest communities, such as at Sitka National Historic Park. It has been reported to invade forest communities in Wisconsin (Wisconsin Department of Natural Resources 2003). The fruits are highly desirable to birds; the presence of European mountain ash may alter the abundance and composition of avian fauna (Gilman and Watson 1994). European mountain ash hybridizes with native *S. scopulina* and *S. sitchensis* where their ranges overlap (Pojar and MacKinnon 1994).

Impact on ecosystem processes: The impacts of European mountain ash on ecosystem processes are largely unknown.

Biology and Invasive Potential

Reproductive potential: European mountain ash grows rapidly and can grow up to 10 ¾ m tall in 20 years. It establishes by seeds, cuttings, or bare roots. However, this species does not spread vegetatively (USDA 2010). Seeds are numerous and small (125,000 seeds per pound), and each tree produces many thousands of seeds annually. Seeds have a strong, innate dormancy that lifts gradually over a few years. They can remain viable in the soil for five years or more (Granström 1987).

Role of disturbance in establishment: Unknown. *Potential for long-distance dispersal:* Seeds are spread by birds (thrushes and waxwings) and small mammals (Dickinson and Campbell 1991).

Potential to be spread by human activity: European mountain ash is widely planted as an ornamental tree in southern and southeastern Alaska, where it has escaped cultivation (Welsh 1974). It can be spread as a contaminant of horticultural stock (Hodkinson and Thompson 1997).

Germination requirements: Seeds germinate well in Central Sweden in full light when the temperature is 20°C and when they are buried under 2 cm of soil covered with a moss/litter layer (Granström 1987). Cold stratification is necessary for seeds to germinate successfully (USDA 2010).

Growth requirements: European mountain ash is well suited to coarse-textured, moderately fertile soils with pH between 5.5 and 7.5. It does not grow well in fine-textured, anaerobic, calcareous, saline, or dry soils. It is

tolerant of some shade (USDA 2010).

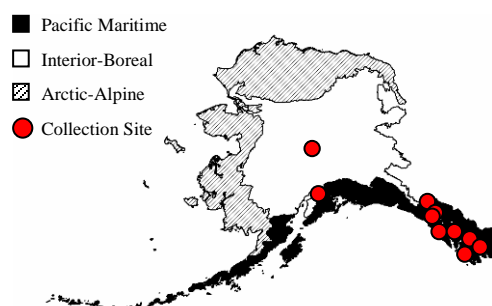
Congeneric weeds: A number of *Sorbus* species have been introduced into North America; however, none are listed as weeds (USDA 2010).

Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states
- Federal noxious weed
- Listed noxious in Canada or other countries

Distribution and Abundance

Native and current distribution: European mountain ash is native to most of Europe, Iceland, northern Africa, and western Asia. It has naturalized in 29 states of the U.S. and much of Canada (USDA 2010). European mountain ash has been documented from the Pacific Maritime and Interior-Boreal ecogeographic regions of Alaska (AKEPIC 2010, UAM 2010).



Distribution of European mountain ash in Alaska

Management

Control measures for European mountain ash are largely untested. It has the ability to resprout after cutting. Many natural seed predators are present in Scandinavia, which likely limits the spread and establishment of this species. It is unknown if these or similar predators are present in Alaska.

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