

Juniperus communis L.
CUPRESSACEAE

common juniper

Synonyms: *Juniperus canadensis* Lodd. ex Burgsd.
J. alpina (Sm.) S.F. Gray
J. sibirica Burgsd.



Illustration source: USDA-Forest Service collection, Hunt Institute

General Description.—Common juniper is known by a variety of common names: dwarf, low, mountain, alpine, prostrate or Siberian juniper, ground cedar, genevrièr commun, and enebro (Elmore 1987, FNA 1993). There are several sub-species or varieties, each having several synonyms. For a list of the synonyms consult Kartesz (1994). Common juniper is a low shrub, with spreading or ascending branches, that generally grows no more than 1 m high. Larger individuals, up to 10 m, have been observed. It typically forms dense mats 1 to 4 m in diameter. The brown fibrous bark is smooth on small branches (<1 cm diameter) but exfoliates into thin strips on larger branches. The leaves are awl-shaped, in groups of three and tend to be “prickly” standing out from the stems. Common juniper is listed as extremely rare or critically imperiled in

many Southeastern States, including Georgia (Georgia Natural Heritage Program 2001) and Alabama (Alabama Natural Heritage Program 1996), or of likely rarity in South Carolina (South Carolina Heritage Trust 2000).

Range.—The range of common juniper is extensive. It is the only circumpolar conifer in the northern hemisphere (Pojar and Mackinnon 1994). It is found across the U.S.A. and Canada to Greenland, through Europe, across Siberia and Asia. However, within its range there are at least five sub-species or varieties (FNA 1993). For example, var. *depressa* occurs throughout much of Canada and the United States where it occurs in the Southwestern States of Arizona, New Mexico, Colorado, and Utah and extends west to California and east to North Carolina through Arkansas; var. *megistocarpa* occurs in Nova Scotia, Newfoundland, and Quebec; var. *montana* occurs in Greenland, British Columbia, and California, Oregon and Washington States (FNA 1993); var. *communis* and var. *nana* occur in Britain and Ireland (Stace 1997). Larger specimens of var. *depressa* in the United States have frequently been misidentified as var. *communis* (FNA 1993).

Ecology.—Common juniper is a hardy shrub that grows in a wide range of ecological conditions. Typically it grows on dry, open, rocky slopes and mountainsides but may be found in stressed and acid environments where competition with other plants is almost non-existent (Ward 1982). It also often grows in partial shade. Depending upon the latitude it can be found from lowland bogs at sea-level to sub-alpine ridges and alpine tundra at over 3,600 m (FNA 1993; Lanzara and Pizzetti 1977; Pojar and Mackinnon 1994). It is also a common shrub in abandoned lowland fields in Northern United States (Steele 1982).

Reproduction.—Common juniper has berry-like female cones that mature in 2 years in Mediterranean climates and every 3 years in cooler climates (Lanzara and Pizzetti 1977). Male and female cones are on separate plants. The dark blue

seed (female) cones are globose to ovoid in shape, 6 to 13 mm in diameter and are resinous to obscurely woody with two to three triangular-shaped seeds. From pale green the female cones ripen to dark blue in late summer and then tend to whiten with a waxy "bloom." The staminate cones are 3 to 6 mm in diameter (Cronquist and others 1972). Although the cones are generally terminal in other species of juniper, in *J. communis* the cones are axillary (FNA 1993). The fruits are of relatively low nutritional quality and on average number 80,500 seeds/kg (Stiles 1980). The seed is dispersed by birds, at least in North America, and commonly require a long maturation and germination period (Crane and Fischer 1986; Stiles 1980). Because seeds do not readily germinate, the establishment of seedlings, for example for re-vegetation projects, can be a problem (Dietz and others 1980, Stiles 1980). As well as poor germination, poor seed dispersal has been blamed for the relative rarity of juniper in areas where the majority of potential habitat is not occupied (Diotte and Bergeron 1989). Plant age also affects reproduction; 40 to 60 percent of old individuals are sterile and up to 94.8 percent of seeds of seed-producing old plants are non-viable. In contrast, 80 percent of seeds produced by young plants are viable (Diotte and Bergeron 1989).

Growth and Management.—Common juniper is often killed by fire (Crane and Fischer 1986). It has been described as having minimal "fire-surviving regeneration properties," and resprouting after fire is rare (Mallik 1995). The foliage is resinous and flammable (Diotte and Bergeron 1989). Mortality depends upon fire intensity. For example, in eastern Canada, older common juniper shrubs will survive fires of low severity, and some fire regimes allow common juniper to survive several fires; individuals of more than 170 years old have been observed to survive in areas exposed to fire (Diotte and Bergeron 1989). However, it should be noted that the patchy nature of fires leads to refugia for juniper shrubs, and so particular individuals can escape from harm and provide seed for re-vegetation of the burnt areas (Diotte and Bergeron 1989). Re-establishment of common juniper as a browse species after disturbance and fire has had varying success (Dietz et al. 1980). In the Black Hills, South Dakota, the only successful means for establishing common juniper was from nursery stock, and seed germination was particularly poor.

Benefits.—Common juniper has low value for short-term re-vegetation projects but moderate to

high value for long-term rehabilitation projects and is useful in preventing soil erosion (Tirmenstein 1999). Common juniper provides important cover and browse for wildlife such as mule deer (Dusek 1975). The cones are eaten by several species of birds and are important food sources for wild turkeys (Decker and others 1991), Cedar and Bohemian waxwings (Catling and Brownell 1998), and others. Domestic livestock rarely utilize common juniper (Tirmenstein 1999). The seed cones of common juniper are used to flavor gin, and the word for this alcoholic beverage was derived from the Latin "iuiperus" through the Old French and Dutch words "genevre" and "genever" respectively (Elmore 1987). The seed cones are also used as a flavoring for foods. Many Native American tribes used common juniper for medicinal and ceremonial purposes (Moerman 1998). It has been used medicinally for childbirth and to treat urinary infections (Pojar and Mackinnon 1994). However, it can also cause miscarriages. The different varieties of common juniper make excellent, vigorous landscaping shrubs, which are readily propagated by cuttings in the horticultural trade (Cronquist and others 1972).

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