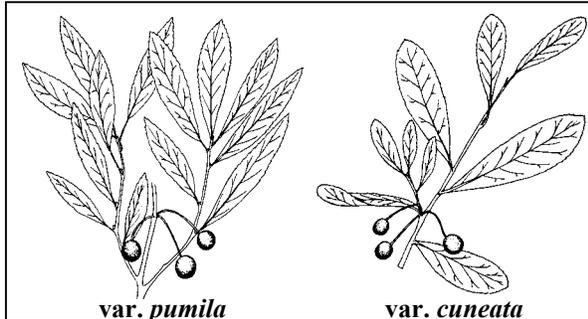


***Prunus pumila* L.**
ROSACEAE

sand cherry

Synonyms: *Cerasus pumila* (L.) Michx.
Prunus susquehanae Willd.
Prunus cuneata Raf.
Prunus depressa Pursh.
Prunus besseyi Bailey.



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General Description.--Sand cherry, also called beach plum, “cerise de sable” (Fernald 1923), or dwarf American cherry, is a diffusely branched, low growing (0.5 to 3 m tall, depending on variety and habitat) to sometimes decumbent or prostrate shrub (Fernald 1923, Gleason 1952, Lamson-Scribner 1891). Older stems develop a grayish, glabrous bark, while younger twigs are often tannish- to reddish-brown or brown. Its alternate leaves have glandular petioles up to half the blade length. While Fernald (1923) listed three different species of sand cherry (*P. pumila*, *P. susquehanae*, and *P. depressa*), Gleason (1952) recognized four varieties of *P. pumila*:

P. pumila L. var. *pumila*, the Great Lakes sand cherry, has narrow (10 to 18 mm wide) oblanceolate leaves, narrowly cuneate at their base, acute or acuminate at their apex, lustrous on their top surface and pale below. Stems are erect and diffusely branched, with some decumbent branches on active dunes.

P. pumila L. var. *cuneata* (Raf.) Bailey, the Appalachian sand cherry, has oblong to oblong-obovate leaves with acute bases, often 20 to 30 mm wide at maturity, pale green above and glaucous below. Stems are erect or diffusely branched. This variety is most common on dry or rocky sites.

P. pumila L. var. *depressa* (Pursh) Gleason, the flat sand cherry, has leaves that are narrow (10 to 20 mm wide), oblanceolate, often with obtuse, long-tapering bases, pale green above and whitish below. Stems are prostrate, forming low mats up to 2 m wide. New shoots are reddish, highly lustrous, and often freely rooted.

P. pumila L. var. *besseyi* (Bailey) Gleason, the

western sand cherry, has leaves that are somewhat glaucous underneath, oblanceolate, up to 18 mm wide, with acute to acuminate tips and long-cuneate bases.

Range.--Sand cherry is widely distributed in the northern half of the United States and eastern Canada, from New Brunswick down the Atlantic Seaboard to North Carolina, westward to Utah, Wyoming, and Montana, and as far north as northern Ontario and Quebec (BONAP 1999, Cusik 1985). The varieties of sand cherry are generally geographically distinct (BONAP 1999, Gleason 1952). *Prunus pumila* var. *pumila* is most common in the Great Lakes region, especially in Michigan, Minnesota, and Wisconsin. *Prunus pumila* var. *depressa* has been reported from New Brunswick to Pennsylvania and New Jersey, with isolated populations in Wisconsin, Tennessee, and possibly Kentucky. *Prunus pumila* var. *cuneata* ranges from Maine to Minnesota (and possibly Arkansas), southeast to Indiana and North Carolina. *Prunus pumila* var. *besseyi* is primarily a western subspecies, extending from Minnesota to Kansas westward to Utah and Montana, with isolated subpopulations noted as far east as Michigan. The widespread distribution of sand cherry has helped to conserve the species, although it is considered locally threatened by some States (e.g., Arkansas, Ohio) because of the rarity of the sometimes specialized habitats it occupies (Arkansas Department of Planning 1974, Cusik 1985, Emmitt and Cusik 1983).

Ecology.--As its name suggests, sand cherry is abundant in sandy areas, although var. *cuneata* is most common on rocky sites (Billington 1943, Gleason 1952). In the Great Lakes region, sand cherry is often found on deep, excessively drained glacial sand plains or sand dunes bordering major bodies of water (e.g., Cowles 1899, McAtee 1920, Walp 1935). Sand cherry also grows along gravel bars or shorelines, cliff faces, rocky slopes, or even on calcareous, saline, or serpentine soils (Fernald 1923, Gleason 1952). The habitat preferences of sand cherry have restricted its abundance in many parts of its range. For example, the sand cherry in Arkansas appears to have been limited to two locations on remnants of the Grand Prairie in Prairie County (Smith 1988). Sand cherry is opportunistic in its distribution, frequently

colonizing road cuts, gravel pits, or railroad beds (Cusick 1985, Fernald 1923, Stevens 1961). Preferred habitat is typically open, with few trees, other shrubs, or herbs to compete for light, nutrients, and water on the harsh sites it occupies. However, some have reported sand cherry as abundant in closed forests (e.g., Gysel 1966). Human activities and habitat alteration from changing natural disturbance regimes have been blamed for localized extinctions of sand cherry (Arkansas Department of Planning 1974, Cusick 1985, Drayton and Primack 1996).

Reproduction.--Depending on geographic location, from April to June a sand cherry may produce two to four white insect-pollinated flowers in umbels scattered amongst its leaves. Voss (1954) reported that butterflies pollinated sand cherry flowers in northern Michigan. Sand cherry fruits ripen by late July or August and are typically reddish- or purplish-black to nearly black, without bloom, subglobose to globose, and 10 to 15 mm in diameter (Billington 1943, Fernald 1950, Gleason 1952). *Prunus pumila* var. *pumila* is virtually inedible for humans (Rehder 1958), though Fernald (1923, 1950) mentions the palatability of var. *cuneata* and var. *besseyi*. Given their size, fleshy and edible fruit, and large stone, seed dispersal is primarily through birds and small mammals. Sand cherry can also vegetatively propagate (Olson 1958).

Growth and Management.--Sand cherry growth is best under open canopy conditions. As with many other species that specialize on poor sites, rates of growth are usually better on higher quality locations (i.e., those with abundant moisture and nutrients). However, these conditions also promote the growth of competitors that can exclude this low-growing, shade-intolerant species. Sand cherry's inconspicuous stature and spreading root system leave it vulnerable to overshadowing, trampling, soil compaction, erosion, and other surface disturbances (Cusick 1985, Emmitt and Cusick 1983). Road grading, for example, may have destroyed the two known pockets of sand cherry in Arkansas (Arkansas Department of Planning 1974). Habitat protection coupled with the restoration of openings should help conserve this species.

Benefits.--The small stature of sand cherry has minimized its economic benefits, as it does not produce merchantable wood and fruit production is generally limited. At least one cultivated hybrid is commercially available. Popular for its colorful foliage, the purpleleaf sand cherry (*P. x cistena* (N.E. Hansen) Koehne) is a cross between *P. pumila* and *P. cerasifera* Ehrh. Fernald (1923) fondly described the fruit of sand cherry along the rivers of New England and southeastern Canada: "...its juicy black 'plums' are highly prized either raw, cooked or as the source of a rich syrup-like jelly," suggesting that specialty food markets may be possible. While the

ecological benefits of sand cherry are poorly understood, the vanishing habitats occupied by this species often have considerable value. For example, var. *cuneata* was one of the primary floristic components of the Albany Pine Bush in northern New York, which is an important local refuge for numerous amphibians and reptiles (Stewart and Rossi 1981). Sand cherry may also play a critical pioneering role in the ecosystems where it is abundant. Its deep root network and dense thickets help to stabilize shifting sand, allowing for the invasion of other plant species and colonization by important invertebrates such as ants (Olson 1958, Talbot 1934). Soil stabilization and organic matter production by sand cherry also contribute to nitrogen biogeochemistry in dune habitats (Robertson and Vitousek 1981).

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