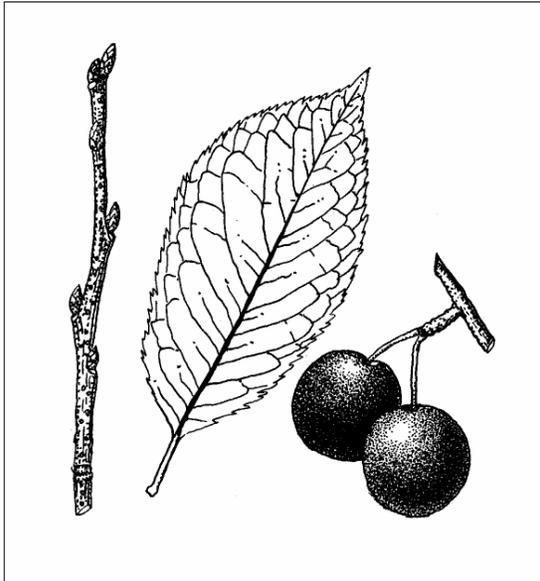


***Prunus americana* Marsh.**
ROSACEAE

American plum

Synonyms: *Prunus americana* Marsh. var. *floridana* Sarg.
Prunus domestica L. var. *americana* (Marsh.) Castigl.



General Description.—American plum, also known as Pottawattami plum, wild plum, yellow plum, red plum, river plum, goose plum, hog plum, and ciruela, is a shrub or small gnarled tree generally 1 to 8 m in height (rarely to 11 m) with stem diameters up to 30 cm. Maximum size depends on the environment. It usually produces a single stem and branches low to the ground but forms thickets by suckering from the roots. Stem bark is about 1.25 cm thick, gray or dark brown tinged with red, with the outer layer separating into thin, persistent plates. The twigs are green at first, becoming orange-brown and darker as they age. The plants become branchy and somewhat thorny, especially in older individuals. The wood is hard, heavy, and close-grained, with reddish-brown heartwood and light tan sapwood. Leaves are dark green, elliptic to obovate, 4 to 10 cm long, with an elongated point at the tip and a rounded base, margin serrate or doubly serrate, and having usually glandless petioles 1.5 to 2 cm long. Flowers are white, five-petaled, about 2.5 cm across, growing in two- to five-flowered lateral umbels. They are unpleasantly aromatic. Fruits (globose to oblong drupes) are 1.8 to 2.5 cm long and red to yellow (usually orange-red) when ripe. The fruits have a thick skin and sweet-tart, yellow

flesh. The brown stone forms a flattened oval, ridged on one edge and grooved on the other (Britton and Shafer 1908, Sargent 1923).

Range.—American plum is native to southeastern Canada and the conterminous states of the United States except Texas, Washington, Idaho, Oregon, Nevada, and California where it is planted and probably naturalized (Natural Resources Conservation Service 2003, Sargent 1923). It has been suggested that the current broad range is, in part, the result of planting by Native Americans and white settlers (Treeguide 2003). The species is widely planted in temperate areas of the World and probably has naturalized in some of them.

Ecology.—Across its vast range, American plum grows in a wide variety of sites. In the eastern and mid portions of the continent, it grows on roadsides, old fields, vacant lots, fencerows, gullies, clearings, edges of woodlots, and open prairies. In the West, it grows in riparian areas and ditch banks, at the edges of fields, and in moist foothills. American plum grows at elevations up to 2,300 m in Utah. The species grows on sand through clay soils on moist to somewhat dry sites. It tolerates a moderate amount of salt in the soil (Forest Service 2003). American plum is intolerant of shade and will not grow in the understory of forest or persist if overtopped by trees (Treeguide 2003). Other members of the genus and presumably American plum recover rapidly from fires by sprouting (Forest Service 2003).

Reproduction.—Flowering occurs from March through May and fruit ripens from late June through October, depending on habitat (Forest Service 2003, Oklahoma Biological Survey 1999). The flowers are pollinated principally by honeybees (*Apis mellifera* L.). Good fruit and seed crops are borne every 1 to 2 years (Grisez and others 2003). Fresh fruits collected by the author in Utah averaged 6.572 ± 0.139 g/fruit. Air-dried seeds separated from them averaged 0.5336 ± 0.0095 g/seed or 1,874 seeds/kg. Grisez (1974) reported 1,918 cleaned seeds/kg, and that 60 percent germinated after cold stratification.

Germination is hypogeal (Young and Young 1992). Seeds are dispersed by mammals and birds. Animals that ingest the seeds, such as black bear (*Ursus americanus*), are more effective dispersers than those that do not (Forest Service 2003). Seeds ingested by coyotes (*Canis latrans*) had a significantly lower germination rate than uneaten seeds (Cypher and Cypher 1999). Seeds may remain in the soil seed bank for many years until disturbance creates conditions for growth (Treeguide 2003). After dispersed plants become well established, they begin forming clonal thickets. Suckers may appear as much as 3 m away from the parent plants (Colorado Springs Utilities 2003).

Growth and Management.—American plum is only capable of a moderate growth rate, usually less than 30 cm in height per year (Michigan State University Extension 2003). Minimum seed-bearing age is 4 years (Grisez and others 2003). Individual stems rarely live longer than 20 years (Treeguide 2003). However, clones may last much longer. American plum fruits should be collected when fully mature for best quality seed. This can be done by hand stripping or shaking or beating onto a tarp spread under the shrub or tree. The seeds should be cleaned of all pulp by macerating and washing. The seeds are usually 96 to 100 percent filled. Seeds of this species can be stored at room temperature for up to 30 months without loss of viability. Seeds to be stored for longer should be surface dried and placed in a sealed container at 1 to 5 °C. Stratification of 90 to 150 days at 2 to 5 °C before planting is recommended for after-ripening of the seed. Alternately, seed may be sown in nursery beds 2.5 to 5 cm deep in the fall. Seedlings are ready for lifting (bare-root) at the end of one growing season (Grisez and others 2003). Plantings may be made with bare-root stock and potted nursery seedlings. Direct seeding in the fall with unstratified seed or spring with stratified seed in prepared seedspots will normally yield new seedlings. The species can be grafted or used as root stock, and it has been successfully propagated from stem cuttings (Forest Service 2003).

Benefits.—American plum is an early spring bloomer and with its white flowers beautifies the forests and prairies for a week or more each year. The species also helps protect the soil and provides benefits to wildlife and humans. The browse value of the plants to domestic ruminants and wild game animals varies from good to poor depending on the animal species and the location (Forest Service

2003). The cover provided by American plum thickets is important to many wild animals. The fruits are eaten by a number of species including bluejays (*Cyanocitta cristata*), brown thrashers (*Toxostoma rufum*), mockingbirds (*Mimus polyglottos*), red-headed woodpeckers (*Melanerpes erythrocephalus*), bobwhite quail (*Colinus virginianus*), white-tailed deer (*Odocoileus virginianus*), raccoons (*Procyon lotor*), squirrels (*Sciurus* spp.), and coyotes (*Canis latrans*) (Cowley 2003, Cypher and Cypher 1999, Kaiser 2001). The flowers furnish nectar food for great purple hairstreak (*Atlides halesus* [Cramer]) and Sweadner's Jupiter hairstreak (*Callophrys gryneus* [Hübner]) butterflies (Cowley 2003). Fruits are eaten raw or cooked, made into jams and jellies, and were dried for winter food in former times by Native Americans and pioneers. Several horticultural varieties of plum have been derived from American plum. It has also been used in hybrid crosses with other species of plums (Bircher and Bircher 2000). The wood, which has a specific gravity of 0.73 (Britton and Shafer 1908), makes excellent firewood except for being crooked and limby. American plum is used in amenity planting for wildlife and in revegetation projects.

References

- Bircher, A.B. and W.H. Bircher. 2000. Encyclopedia of fruit trees and edible flowering plants in Egypt and the Subtropics. The American University in Cairo Press, Cairo, Egypt. 568 p.
- Britton, N.L. and J.A. Shafer. 1908. North American trees. Henry Holt and Company, New York. 964 p.
- Colorado Springs Utilities. 2003. Plant details. <http://www.csu.org/cgi-bin/xeri/Xeriinclude?Xeridetail?PIS-pra>. 2 p.
- Cowley, M. 2003. Rose family (Rosaceae). <http://www.nsis.org/garden/family/rose.html>. 4 p.
- Cypher, B.L. and E.A. Cypher. 1999. Germination rates of tree seeds ingested by coyotes and raccoons. American Midland Naturalist 142(1): 71-76.
- Forest Service. 2003. Fire effects information system: species: *Prunus americana*. <http://fs>.

fed.us/database/feis/plants/tree/pruame/all.html.
14 p.

Grisez, T.J. 1974. *Prunus* L. cherry, peach, and plum. In: C.S. Schopmeyer, tech. coord. Seeds of woody plants in the United States. U.S. Department of Agriculture, Forest Service, Washington, DC. p. 658-673.

Grisez, T.J., J.R. Barbour, and R.P. Karrfalt. 2003. *Prunus* L. cherry, peach, and plum. In: F.T. Bonner and R.G. Nisley, eds. Woody plant seed manual. <http://wpsm.net/Prunus.pdf>. [not paged].

Kaiser, J. 2001. 2001 featured plant, American plum, *Prunus americana*. In: Plants for conservation, Vol. 4, No. 1. Elsberry Plant Materials Center, Elsberry, MO. p. 1.

Michigan State University Extension. 2003. *Prunus americana*—American plum. <http://www.msue.msu.edu/msue/imp/modzz/00002025.html>. 1 p.

Natural Resources Conservation Service. 2003. *Prunus americana* Marsh. http://plants.usda.gov/cgi_bin/plant_profile.chi?symbol=PRAM. 4 p.

Oklahoma Biological Survey. 1999. *Prunus americana* Marsh. <http://www.biosurvey.ou.edu/shrub/prun-ame.htm>. 2 p.

Sargent, C.S. 1923. Manual of the trees of North America (exclusive of Mexico). Houghton Mifflin, Boston, MA. 910 p.

Treeguide. 2003. American plum, *Prunus americana* Marsh. <http://www.treeguide.com/Species.asp?SpeciesID=770>. 3 p.

Young, J.A. and C.G. Young. 1992. Seeds of woody plants in North America. Dioscorides Press, Portland, OR. 407 p.

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