Eugenia uniflora L.

Myrtaceae

LOCAL NAMES
English (cayenne cherry,surinam cherry,red Brazil cherry,pitanga,french cherry,Barbados cherry); French (cerisier de Cayenne,cerisier carré); Portuguese (pitanga); Spanish (pitanga,nagapiry,monki monki kersi,cerezo de Cayena)

BOTANIC DESCRIPTION
The Surinam cherry is a bush or small tree to 7.5 m in height with a slender, spreading branches and resinous aromatic foliage. The irregular trunk is heavily branched, red colored and shows some loose bark.

Leaves small, 3-7 cm long, 1.5-3 cm wide, opposite, pointed, ovate-lanceolate, glossy green turning red in winter, margins often slightly and irregularly wavy, or entire. Immature leaves have a coppery color that adds to its ornamental value. The leaves, when crushed, give off a pleasant odor.

Flowers small cream-colored, long-stalked, borne singly or fascicled produced in profusion in the axils of the leaves, each with 4 delicate, recurved petals and a tuft of 50-60 prominent white stamens with pale yellow anthers. Each flower is about 1.3 cm in diameter.

Fruits round, red to dark red when ripe, deeply longitudinal grooved, succulent berries, 1.5 cm long, 2 cm wide. The flesh is juicy with an acid to sweet flavour. The fruits contain 1-2 round light brown seeds each with a flattened side.

BIOLOGY
Surinam cherry seedlings grow slowly and may begin to fruit when 2 years old but may delay fruiting for 5 or 6 years, or even 10 if in unfavorable situations. The fruits develop and ripen quickly, only 3 weeks after the flowers open. Flowering and fruiting continue over an extended period (6-8 weeks) and, depending on the climate, there may be several crops in a year.



Branch with flower and fruit at Haiku, Maui, Hawaii (Forest & Kim Starr)



Leaves at Sarasota, Florida (Forest & Kim Starr)



Habit at Long Key, Florida (Forest & Kim Starr)

ECOLOGY
The Surinam cherry is adapted to tropical and subtropical regions and prefers full sun to partial shade in fertile moist soils and low elevations, especially valley floors.

BIOPHYSICAL LIMITS
Altitude: 0-1800 m
Temperature: Mean of 24° C, can withstand temperatures up to at -2° C when foliage damage occurs, but serious damage occurs at -5° C.
Rainfall: 1000 mm, are drought tolerant, needing only moderate rainfall.
Soil type: Grows in almost any type of soil and can stand water logging for a time but has no tolerance for salt.

DOCUMENTED SPECIES DISTRIBUTION

Native: Brazil, French Guiana, Guyana, Paraguay, Surinam, Uruguay

Exotic: Argentina, Bahamas, Bermuda, Cayman Islands, China, Colombia, Cuba, Dominican Republic, Guatemala, Haiti, India, Israel, Jamaica, Malaysia, Philippines, Puerto Rico, Samoa, South Africa, United States of America, Venezuela



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Food: Surinam cherry is mainly grown for its edible fruit which can be eaten fresh, often with sugar or processed into preserves. It is an excellent addition to fruit cups, salads and custard pudding; also ice cream; and can be made into pie or sauce. It has high vitamin C content, a good source of calcium, and a fair amount of phosphorus, iron, vitamin A, riboflavinine and niacine. The juice can be fermented into vinegar or wine; sometimes distilled liquor is prepared.

Medicine: The leaf infusion is taken as a stomachic, febrifuge and astringent; a leaf decoction is used as a cold remedy and, in combination with lemongrass, as a febrifuge. Fruits have been used as a remedy for blood pressure.

Tannin or dyestuff: The bark contains 20-28% tannin and can be used to treat leather.

Essential oils: The leaves have an essential oil containing citronella, cineole, and turpentine.

SERVICES
Ornamental: Due to its peculiar bright coloured fruits, Surinam cherry is often planted as an ornamental. Surinam cherry is also used for bonsai. In temperate zones, the plant is grown in pots for its attractive foliage and bright fruits.

Boundary or barrier or support: In Florida, the Surinam cherry is one of the most common hedge plants throughout the central and southern parts of the state and the Florida Keys. It is popular particularly for home gardens, becoming densely branched when trimmed regularly.

Forage: This plant is attractive to bees, butterflies and/or birds

Poison: The seeds are extremely resinous and should not be eaten. The strong, spicy emanation from bushes being pruned irritates the respiratory passages of sensitive persons.

Other services: In Brazil, the crushed leaves release pungent oil which is used as an insect repellant, and are often spread on floors.

TREE MANAGEMENT
Plants should be planted out 3-4 m apart or planted in hedge rows at spacing of 5 m x 1-2 m. Plants are most productive if left unpruned for a number of years, but still produce a great many fruits when close-clipped in hedges. Application of fertilizers and irrigation promotes fruiting and fruit development. Regular watering is necessary, taking care not to overwater.
Fruits should be picked daily when fully ripe, otherwise they become too resinous.

GERMPLASM MANAGEMENT
Fruit must be significantly overripe before harvesting seed; harvested seeds should then be cleaned and dried. The seed storage behaviour is recalcitrant; viability can be maintained for 1 month in open storage and for 6 months with partially dried seeds stored at 5° C.

PESTS AND DISEASES
Surinam cherry is attractive to fruit flies, scale insects and caterpillars. Sometimes diseases such as leaf spot caused by Cercospora eugeniae, Helminthosporium sp., and Phyllostica eugeniae; thread blight by Corticium stevensii; anthracnose from Colletotrichum gloeosporioides;, twig die back and root rot caused by Rhizoctonia solani and Armillariella (Clitocybe) tabescens occur.

FURTHER READNG

Csurhes S & Edwards R. 1998. Potential environmental weeds in Australia: Candidate species for preventative control. Queensland Department of Natural Resources.

Duke JA et al. 2002. CRC Handbook of medicinal herbs (2nd ed.). CRC Press, Boca Raton, FL, London, & NY.

Facciola S. 1990. Cornucopia - A Source Book of Edible Plants. Kampong Publications. Vista, CA.

Fosberg, F. R., M.-H. Sachet and R. L. Oliver. 1979. A geographical checklist of the Micronesian dicotyledonae. Micronesica. 15:239.

Hong TD, Linington S, Ellis RH. 1996. Seed storage behaviour: a compendium. Handbooks for Genebanks: No. 4. IPGRI.

Howard R. 1974-1989. Flora of the lesser Antilles. Arnold Arboretum of Harvard University, Jamaica Plain, Massachusetts.

Huxley A. 1992. The New RHS Dictionary of Gardening. 1992. MacMillan Press. London.

Markle GM. et al., eds. 1998. Food and feed crops of the United States (2nd ed.).

McCormack G. 2002. Cook Islands Natural Heritage Project database. Cook Islands Natural Heritage Project.

Rehm S. 1994. Multilingual dictionary of agronomic plants. Kluwer Academic Publishers.

Sykes WR. 1970. Contributions to the flora of Niue. New Zealand Department of Scientific and Industrial Research Bulletin 200.

Verheij EWM, Coronel RE (eds.). 1991. Plant Resources of South East Asia No 2. Edible fruits and nuts. Backhuys Publishers, Leiden.

Wagner WL, Herbst DR, and Sohmer SH. 1999. Manual of the Flowering Plants of Hawai'i. 2 vols. Bishop Museum Special Publication 83, University of Hawai'i and Bishop Museum Press, Honolulu, HI.

Walters SM. et al., eds. 1986. European garden flora. Vols. 1-5.
Cambridge University Press.

Welsh, S. L. 1998. Flora Societensis: A summary revision of the flowering plants of the Society Islands. E.P.S. Inc., Orem, Utah. p. 31.

SUGGESTED CITATION

Orwa C, A Mutua, Kindt R , Jamnadass R, S Anthony. 2009 Agroforestree Database:a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/sites/treedbs/treedatabases.asp)