**Global Invasive Species Database**

**FULL ACCOUNT FOR: Syzygium cumini**

**Syzygium cumini**

<table>
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<th>Kingdom</th>
<th>Phylum</th>
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<td>Plantae</td>
<td>Magnoliophyta</td>
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**System:** Terrestrial

**Common name**

jambol (English, Brazil), djooewet (English, Java), jamelao (English, Brazil), koeli (English, Surinam), guayabo pesjua (English, Venezuela), pesjua extranjera (English, Venezuela), jamoen (English, Surinam), jalao (English, Brazil), jambulao (English, Brazil), drijf (English, Surinam), jaman (English, India/Malaya), jamulongue (English, India/Malaya), jambu (English, India/Malaya), jamelongo (English, India/Malaya), jambool (English, India/Malaya), salam (English, India/Malaya), jambul (English, India/Malaya), jiwat (English, India/Malaya), jamblang (English, India/Malaya), koriaang (English, India/Malaya), jambolanier (French), faux-pistachier (French), Java plum (English), jamelonguer (French), jamelonguier (English, New Caledonia), jamboolan plum (English), paramu (English, Cook Islands (Aitutaki)), damson plum (English, Jamaica), Portuguese plum (English), duhat (English, Philippines), Ka'i'ka (English, Cook Islands), mesekerrak (English, Palau), wa (English, Thailand), mesegerak (English, Palau), duhat (English, Guam), Malabar plum (English), pistati (English, Cook Islands), black plum (English), lomboy (English, Philippines), kavika ni India (English, Fiji), jammun (English, Fiji), indian blackberry (English, Jamaica), purple plum (English), pring bai (English, Cambodia), ma-ha (English, Thailand), va (English, Laos), pring das krebey (English, Cambodia), voi rung (English, Vietnam), mesigerak (English, Palau), lunaboy (English, Philippines), doowet (English, Java), jamelongue (French), mesekerrák (English, Palau)

**Synonym**

_Eugenia cumini_ , (L.) Druce  
_Syzygium jambolana_ , (Lam.) DC.  
_Eugenia jambolana_ , Lam.  
_Syzygium jambolanum_ , DC.  
_Calyptranthes oneillii_ , Lundell  
_Eugenia caryophyllifolia_ , Lam.  
_Eugenia cumini_ , (L.) Druce  
_Eugenia jambolana_ , Lam.  
_Myrthus cumini_ , L.  
_Syzygium caryophyllifolium_ , (Lam.) DC.  
_Syzygium jambolanum_ , (Lam.) DC.  
_Calyptranthes caryophyllifolia_ , (Lam.) Willd.

**Similar species**
**Summary**

Syzygium cumini has been introduced to many different places where it has been utilised as a fruit producer, as an ornamental and also for its timber. It has the ability to form a dense cover, excluding all other species. This characteristic has allowed Syzygium cumini to become invasive in Hawaii where it prevents the re-establishment of native lowland forest and very invasive in the Cook Islands and in French Polynesia. This tree has not been evaluated for biological control, but vigorous efforts to exterminate it with herbicides are taking place in Hawaii.

*view this species on IUCN Red List*

**Species Description**

"The jambolan is fast-growing, reaching full size in 40 years. It ranges up to 100 feet (30m) in India and Oceania; up to 40 or 50 feet (12-15m) in Florida; and it may attain a spread of 36 feet (11m) with a trunk diameter of 2 or 3 feet (0.6-0.9m). It usually forks into multiple trunks, a short distance from the ground. The bark on the lower part of the tree is rough, cracked, flaking and discoloured; further up the trunk it is smooth and light-grey. The turpentine-scented evergreen leaves are opposite, 2 to 10 inches (5-25cm) long, 1 to 4 inches (2.5-10cm) wide; oblong-oval or elliptic, blunt or tapering to a point at the apex; pinkish when young; when mature, leathery, glossy, dark-green above, lighter beneath, with conspicuous, yellowish midrib. The fragrant flowers, in 1 to 4 inches (2.5-10cm) clusters, are 1/2 inch (1.25cm) wide, 1 inch (2.5cm) or more in length; have a funnel-shaped calyx and 4 to 5 united petals, white at first, then rose-pink, which quickly shed leaving only the numerous stamens. The fruit, in clusters, is round or oblong, often curved; 1/2 to 2 inches. (1.25 - 5cm) long, and usually turns from green to light-magenta, then dark-purple or nearly black as it ripens. A white-fruited form has been reported in Indonesia. The skin is thin, smooth, glossy, and adherent. The pulp is purple or white, very juicy and normally encloses a single, oblong, green or brown seed, up to 1 1/2 inches. (4cm) in length, though some fruits have 2 to 5 seeds tightly compressed within a leathery coat and some are seedless. The fruit is usually astringent, sometimes unpalatably so, and the flavour varies from acid to fairly sweet." (Morton, J. 1987)

**Notes**

In southern Asia, the tree is venerated by Buddhists, and it is commonly planted near Hindu temples because it is considered sacred to Krishna. The leaves and fruits are employed in worship, (Morton, J. 1987). It is not really fire resistant, but fires are rarely intense enough in the stands to produce other than peripheral damage, (Smith, 1998).
Lifecycle Stages

"The fruit is in season in the Marquesas in April; in the Philippines, from mid-May to mid-June. In Hawai‘i, the crop ripens in late summer and fall. Flowering occurs in Java in July and August and the fruits ripen in September and October. In Ceylon, the tree blooms from May to August and the fruit is harvested in November and December. The main fruiting season in southern Florida (where the tree blooms principally in February and March) extends through late May, June and July. Small second crops from late blooms have been observed in October. Individual trees may habitually bear later than others." (Morton, J. 1987). In India “Jamun is never leafless in the moist localities, the new coppery leaves start before the old leaves fall, however, in dry localities, it becomes leafless for a short period of time in the hot season. Usually leaves start falling about January and continue doing so during February and March.” (Luna 1996)
Uses
Jambolan fruit can be eaten raw and can be made into tarts, sauces and jams. Good quality
jambolan juice is excellent for sherbet, sirup and "squash", an Indian drink. In Goa and the
Philippines, jambolans are an important source of wine, somewhat like Port, and the distilled
liquors, brandy and "jambava" have also been made from the fermented fruit. Can also be made
into Vinegar. The jambolan tree is of real value in apiculture. The flowers have abundant nectar,
and the honey is of fine quality.
The leaves have served as fodder for livestock and as food for tassar silkworms in India. In
Zanzibar and Pemba, the natives use young jambolan shoots for cleaning their teeth. The
essential oil distilled from the leaves is used to scent soap and is blended with other materials in
making inexpensive perfume. Its chemical composition has been reported by Craveiro et al. in
Brazil. It consists mainly of mono- or sesqui-terpene hydrocarbons which are "very common in
essential oils."
Jambolan bark yields durable brown dyes of various shades depending on the mordant and the
strength of the extract. The bark contains 8 to 19% tannin and is much used in tanning leather
and preserving fishing nets. When kiln dried, the heartwood is hard, difficult to work but polishes
well. It is durable in water and resistant to borers and termites. In India, it is commonly used for
beams and rafters, posts, bridges, boats, oars, masts, troughs, well-lining, agricultural
implements, carts, solid cart wheels, railway sleepers and the bottoms of railroad cars. It is
sometimes made into furniture.
Medicinally, the fruit is stated to be astringent, stomachic, carminative, antiscorbutic and diuretic.
Cooked to a thick jam, it is eaten to allay acute diarrhea. The juice of the ripe fruit, or a decoction
of the fruit, or jambolan vinegar, may be administered in India in cases of enlargement of the
spleen, chronic diarrhea and urine retention. Water-diluted juice is used as a gargle for sore throat
and as a lotion for ringworm of the scalp. Seeds, in liquid or powdered form, are freely given
orally, 2 to 3 times a day, to patients with diabetes mellitus or glycosuria. In many cases, the
blood sugar level reportedly is quickly reduced and there are no ill effects. The leaves, steeped in
alcohol, are prescribed in diabetes. The leaf juice is effective in the treatment of dysestheny, either
alone or in combination with the juice of mango or emblic leaves. Jambolan leaves may be helpful
as poultices on skin diseases. The leaves, stems, flowerbuds, opened blossoms, and bark have
some antibiotic activity. A decoction of the bark is taken internally for dyspepsia, dysentery, and
diarrhea and also serves as an enema. The root bark is similarly employed. Bark decoctions are
taken in cases of asthma and bronchitis and are gargled or used as mouthwash for the astringent
effect on mouth ulcerations, spongy gums, and stomatitis. Ashes of the bark, mixed with water,
are spread over local inflammations, or, blended with oil, applied to burns. In modern therapy,
tannin is no longer approved on burned tissue because it is absorbed and can cause cancer.
Excessive oral intake of tannin-rich plant products can also be dangerous to health. The tree is
grown as shade for coffee in India. It is wind-resistant and sometimes is closely planted in rows as
a windbreak. (Morton, J. 1987)
Habitat Description
The tree occurs in the tropical and sub-tropical climates under a wide range of environmental conditions. Jambolan can thrive on a variety of soils in low, wet areas and on higher, well-drained land (loam, marl, sandy soils, calcareous soils).\cite{Coronel2001}. It grows well in areas receiving heavy rainfall between 1,500-10,000mm per annum. It develops most luxuriantly in regions of heavy rainfall, as much as 400 in. \textit{(1,000cm)} annually.\cite{Coronel2001}. In India it is usually found in areas receiving 900-5000mm. The mean relative humidity in July varies from 70 to 100\% and in January from 40 to 90 \%. It can tolerate prolonged flooding. It also grows well on well-drained soils and once established, can tolerate drought. The jambolan tree grows well from sea-level to 6,000 ft \textit{(1,800 m)} but, above 2,000 ft \textit{(600 m)} it does not fruit but can be grown for its timber. It prospers on river banks and has been known to withstand prolonged flooding. Yet it is tolerant of drought after it has made some growth. Dry weather is desirable during the flowering and fruiting periods. It is sensitive to frost when young but mature trees have been undamaged by brief below-freezing temperatures in southern Florida. Despite its ability to thrive in low, wet areas, the tree does well on higher, well-drained land whether it be in loam, marl, sand or oolitic limestone.\" \cite{Morton1987}

In its area of distribution, the absolute maximum shade temperature varies from 2.5\textdegree{} to 17.5\textdegree{}C. The mean daily maximum temperature in May which is the hottest month of the year, varies from 30\textdegree{} to 43.5\textdegree{}C, and the mean daily minimum temperature in the coldest month i.e. January varies from 5\textdegree{} to 23.9\textdegree{}C \cite{Luna1996}.

Reproduction
The panicles of small, greenish-white, sweet-scented flowers appear from March to May, the fruits are green at first; as they develop, turn pink and then finally purple –black at the time of ripening in June to August \cite{InIndia}. Fruit formation takes place about 32 days after flowering. The fruits are devoured by frugivorous birds, monkeys, squirrels and human beings, perhaps occasionally by feral pigs \textit{(Sus scrofa)} therefore widely dispersed. Natural regeneration is profuse around the mother trees as the seeds fall in large quantities. Germination takes place on moist ground, each fruit may produce from one to four or even five seedlings clustered together in dense masses. Sometimes, seedlings of different years may be found under the same seed bearer, showing their degree of tolerance to shade. The seedlings are somewhat frost-tender, particularly on grassy ground, where they are frequently killed back. The natural reproduction of the species is helped by fire protection. Weeding has a marked effect on the growth and vigour of seedlings.\cite{Luna1996}. Seeds loose viability quickly \cite{Coronel2001}.

General Impacts
This large evergreen tree forms a dense cover, excluding all other species. Although it is not an aggressive invader of undisturbed forest like the closely related roseapple \textit{(Syzygium jambos)}, it prevents the re-establishment of native lowland forest. \cite{PIER2002}

Management Info
This tree has not been evaluated for biological control \cite{Smith1998}, but vigorous efforts to exterminate it with herbicides are taking place in Hawai‘i \cite{Morton1987}.
Pathway
Was frequently grown in gardens in Malaya. (Morton, 1987)


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**ALIEN RANGE**

| [1] TRINIDAD AND TOBAGO | [5] UNITED STATES |

**BIBLIOGRAPHY**

17 references found for *Syzygium cumini*

Management information

**PIER (Pacific Island Ecosystems at Risk), 2002. ** _Syzygium cumini_.

**Summary:** Ecology, synonyms, common names, distributions (Pacific as well as global), management and impact information.


**Swaziland’s Alien Plants Database., Undated.** _Syzygium cumini_.

**Summary:** A database of Swaziland’s alien plant species.


**Summary:** This database compiles information on alien species from British Overseas Territories.

Available from: http://www.jncc.gov.uk/page-3660 [Accessed 10 November 2009]

General information
Summary: Tableau synthétique de des plantes exotiques de Mayotte clasées en fonc de leur niveau d envahissement.
Centres des ressources biologiques. Plantes tropicales. INRA-CIRAD. 2007
Summary: Base de donn?es sur le flore de Polyn?sie Fran?aise.
Florida Exotic Pest Plant Council.
Summary: Description, ecology, Distribution and life history of the Jambolan. A good overview.
ITIS (Integrated Taxonomic Information System), 2005. Online Database Syzygium cumini
Summary: An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
Summary: Information on plants that pose threats to natural resource areas in Florida.
Summary: Resource that includes the distribution of invasive species throughout the Pacific Islands.
Summary: Description, Distribution, Ecology, habitat, varieties, climate and information on Pests and Diseases that effect Syzygium cumini. Considerable information on the uses of the plant.
Summary: Description, and brief summary of the plants history.