GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Spathodea campanulata***

Spathodea campanulata 简体中文 正體中文 **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Scrophulariales	Bignoniaceae

Common name Afrikanischer Tulpenbaum (German), tulipan africano (Spanish), amapola (English, Dominican Republic), baton du sorcier (French), flame of the forest (English), pisse-pisse (French), tulipier du Gabon (French), fountain tree (English), fireball (English), taga mimi (English, Fiji), tiulipe (English, Tonga), tuhke dulip (English, Pohnpei), rarningobchey (English, Yap), Indian Cedar (English), apär (Carolinian, CNMI), mata kō‘ī‘ī (Cook Islands, Cook Islands), mimi (Cook Islands, Cook Islands), patiti vai (Cook Islands, Cook Islands), pititi vai (Cook Islands, Cook Islands), Santo Domingo Mahogany (English), African tulip tree (English), orsachel kui (English, Palau), fa‘apasī (Samoan, Samoa), ko‘i‘i (Cook Islands, Cook Islands)

Synonym
Spathodea danckelmaniana , Buettner
Spathodea nilotica , Seem.
Spathodea tulipifera , (Thonn.) G.Don

Similar species

Summary The African tulip tree (Spathodea campanulata) is an evergreen tree native to West Africa. It has been introduced throughout the tropics, and, has naturalised in many parts of the Pacific. It favours moist habitats and will grow best in sheltered tropical areas. It is invasive in Hawaii, Fiji, Guam, Vanuatu, the Cook Islands and Samoa, and is a potential invader in several other tropical locations.

view this species on IUCN Red List

Species Description
The African tulip tree is described as follows a \"large tree with a stout, tapering often somewhat buttressed trunk, branches thickish, marked with small white lenticels, subglabrous to thinly puberulent, reaches heights of 25 m; leaves usually opposite (rarely 3 at a node), very widely diverging, up to 50cm long, (7-) 11-15 (-17) leaflets broadly elliptic or ovate, entire, to 15 x 7.5cm, with 7-8 principal veins on each side, puberulent and prominent beneath, apex very slightly acuminate, base somewhat asymmetrically obtuse, lower leaflets tending to be reflexed, petiolule short, 2-3mm, rachis nearly straight, brownish-puberulent, petiole up to 6cm long, thickened at base; raceme 8-10cm long on a peduncle of about the same length, with a pair of reduced leaves about halfway up, rachis and pedicels thick, brownish puberulent, bracts subtending pedicels lanceolate, curved, about 1cm long, caducous, pair of bractlets near summit of pedicel similar, opposite; calyx strongly curved upward, asymmetric, about 5cm long, tapering, somewhat ribbed, splitting at anthesis to within a fewmm of base along dorsal curve, apex horn-like, blunt, exterior brownish sericeous puberulent; corolla bright vermilion or scarlet, 10-12cm long, mouth of limb about 7cm across, lobes about 3cm long, obtuse, margins strongly crispate, orange-yellow; filaments about 5cm long, dull orange anthers arcuate, linear, very dark brown, 15mm long; style yellow, 8cm long, stigma reddish; capsule lanceolate, slightly compressed, 17-25 x 3.5-7cm\" (Fosberg *et al*, 1993, in PIER, 2002).

Notes
The trunks and limbs of the African tulip tree are weak and don't stand up to typhoons very well, branches also break off easily as the tree gets older (PIER, 2002). The seedlings establish rapidly and the tree grows quickly, making it one of the first trees to colonise wastelands (Tan, 2001).

Uses
The seeds are edible. In Singapore the timber is used for making paper. In West Africa the wood is used to make drums and blacksmith's bellows. The bark, flowers and leaves are also used in traditional medicine in its native home range. (Tan, 2001)
The wood is difficult to burn and so the tree can be used in fire resistant landscaping. Buds contain liquid that will squirt out if they are squeezed or pierced, which children enjoy using as water pistols. African hunters are said to have boiled the seeds to extract arrow poison. (Floridata.com L.C. Copyright 1996 - 2002)

Habitat Description
The African tulip tree invades both abandoned agricultural land and closed forest; it invades natural ecosystems in the Cook Islands, Fiji, Guam, Hawai'I, Samoa and Vanuatu (PIER, 2002; Labrada, pers.comm. 25 February 2003). Although the African tulip tree favours moist and wet areas below 1000m (Smith, 1985, in PIER, 2002), it grows upto 1,200m in French Polynesia (PIER, 2002).
The tulip tree does not tolerate frost and demands full sun for fast growth and best flowering. The biggest trees grow in moist sheltered ravines. This species loves rich soil, but puts up with just about anything with a little fertility to it, including limerock. It will survive a bit of salinity. (Floridata.com L.C. Copyright 1996 - 2002)

Reproduction
The flowers are pollinated by birds and bats and the seed is dispersed by the wind (Floridata.com L.C. Copyright 1996 - 2002). This plant is also capable of propagating by root suckers and cuttings (PIER, 2002), as well as by seed in cultivation. Each seed pod contains about 500 tissue papery seeds, (Floridata.com L.C. Copyright 1996 - 2002).

General Impacts
The African tulip tree invades agricultural areas, forest plantations and natural ecosystems, smothering other trees and crops as it grows becoming the prevailing tree in these areas (Labrada, pers.comm. 25 February 2003). In Hawaii, there are major infestations tucked away in almost every rainforest valley along the northern and eastern slopes of Kaua'I, O'ahu, and East Maui (Smith, Hawai'ian Alien Plant Studies).

Management Info
Preventative measures: A Risk Assessment of \r*Spathodea campanulata* for Haaii and other Pacific Islands was prepared by Dr. Curtis Daehler (UH Botany) with funding from the Kaulunani Urban Forestry Program and US Forest Service. The alien plant screening system is derived from Pheloung *et al*. (1999) with minor modifications for use in Pacific islands (Daehler *et al.* 2004). The result is a high score of 14 and a recommendation of: \"Likely to cause significant ecological or economic harm in Hawai'I and on other Pacific Islands as determined by a high WRA score, which is based on published sources describing species biology and behaviour in Hawai'I and/or other parts of the world.\"
Please follow this link to view and read *Auld and Nagatalevu-Seniloli, 2003. African tulip tree in the Fijian Islands* for management options.

Pathway
Widely introduced throughout tropical and subtropical regions of the world as an ornamental and street tree. (Labrada, 25 February 2003, pers.comm.)

Principal source: Pacific Island Ecosystem at Risk (PIER), 2010. *Spathodea campanulata* P.Beauv., Bignoniaceae
Ricardo Labrada, pers. comm. 25 February 2003.

Compiler: IUCN SSC Invasive Species Specialist Group
Updates with support from the Overseas Territories Environmental Programme (OTEP) project XOT603, a joint project with the Cayman Islands Government - Department of Environment

Review: Ricardo Labrada Ph. D. FAO Plant Protection Service.

Pubblication date: 2010-10-04

ALIEN RANGE

[1] SAINT LUCIA

Red List assessed species 1: CR = 1;

Pomarea nigra **CR**

BIBLIOGRAPHY

27 references found for **Spathodea campanulata**

Managment information

Auld, Bruce A. and Mereseini Nagatalevu-Seniloli, 2003. African tulip tree in the Fijian Islands. In Weed Management for Developing Countries Addendum 1 (Ed) by R. Labrada. Food And Agriculture Organisation Of The United Nations (FAO) Rome
Summary: Available from: http://www.ulib.org/cgi-bin/udlcgi/ULIBAdvSearch.cgi?listStart=80&&year1=2001&year2=2007&perPage=20 [Accessed 9 March 2011]

Daehler, C.C; Denslow, J.S; Ansari, S and Huang-Chi, K., 2004. A Risk-Assessment System for Screening Out Invasive Pest Plants from Hawaii and Other Pacific Islands. Conservation Biology Volume 18 Issue 2 Page 360.
Summary: A study on the use of a screening system to assess proposed plant introductions to Hawaii or other Pacific Islands and to identify high-risk species used in horticulture and forestry which would greatly reduce future pest-plant problems and allow entry of most nonpests.

IUCN/SSC Invasive Species Specialist Group (ISSG)., 2010. A Compilation of Information Sources for Conservation Managers.
Summary: This compilation of information sources can be sorted on keywords for example: Baits & Lures, Non Target Species, Eradication, Monitoring, Risk Assessment, Weeds, Herbicides etc. This compilation is at present in Excel format, this will be web-enabled as a searchable database shortly. This version of the database has been developed by the IUCN SSC ISSG as part of an Overseas Territories Environmental Programme funded project XOT603 in partnership with the Cayman Islands Government - Department of Environment. The compilation is a work under progress, the ISSG will manage, maintain and enhance the database with current and newly published information, reports, journal articles etc.

Kueffer, C. and Mauremootoo, J., 2004. Case Studies on the Status of Invasive Woody Plant Species in the Western Indian Ocean. 3. Mauritius (Islands of Mauritius and Rodrigues). Forest Health & Biosecurity Working Papers FBS/4-3E. Forestry Department, Food and Agriculture Organization of the United Nations, Rome, Italy.

Pacific Island Ecosystems at Risk (PIER), 2005. Risk assessment *Spathodea campanulata*
Summary: Available from: http://www.hear.org/pier/wra/pacific/spathodea_campanulata_htmlwra.htm [Accessed 9 March 2011]

Pacific Pest Info No. 51, August 2004. ISSN: 1728-5291. Secretariat of the Pacific Community, Plant Protection Service.
Summary: Available from: http://www.spc.int/pps/PestInfos/PestInfo51_Aug04.pdf [Accessed May 20 2005]

PIER (Pacific Island Ecosystems at Risk), 2002, 2010. *Spathodea companulata*
Summary: Ecology, synonyms, common names, distributions (Pacific as well as global), management and impact information. Available from:http://www.hear.org/pier/species/spathodea_campanulata.htm[Accessed 25 February 2003].

Swaziland s Alien Plants Database., Undated. *Spathodea campanulata*
Summary: A database of Swaziland s alien plant species.

Varnham, K. 2006. Non-native species in UK Overseas Territories: a review. JNCC Report 372. Peterborough: United Kingdom.
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]

Wilson, Colin, Wildlife Management Officer, Department of Infrastructure, Planning and Environment, Parks & Wildlife Service, Northern Territory, Australia.
Summary: Compilor of original GISD profile of *Chromoleana odorata*.

General information

Barthelat, F. 2005. Note sur les esp&#65533;ces exotiques envahissantes &#65533; Mayotte. Direction de l&#65533;Agriculture et de la For&#65533;t. 30p
Summary: Tableau synth&#65533;tique des plantes exotiques de Mayotte class&#65533;es en fonction de leur niveau d envahissement.

Bat Conservation International, Inc., 2000. Products derived from plants visited by bats. Found at: http://www.batcon.org/discover/ffecon4.html [Accessed 25 February 2003]
Summary: Products derived from a range of plants.
Centre des ressources biologiques. Plantes tropicales. INRA-CIRAD. 2007.
Summary: Available from: http://collections.antilles.inra.fr/ [Accessed 31 March 2008]
Conservatoire Botanique National De Mascarin (BOULLET V. coord.) 2007. *Spathodea campanulata*.- Index de la flore vasculaire de la R&#65533;union (Trach&#65533;ophytes) : statuts, menaces et protections. - Version 2007.1
Summary: Base de donn&#65533;es sur la flore de la R&#65533;union. De nombreuses informations tr&#65533;s utiles.
Available from: http://flore.cbnm.org/index2.php?page=taxon&num=cd17d3ce3b64f227987cd92cd701cc58 [Accessed March 2008]
Florence J. Chevillotte H. Ollier C.& Meyer J.-Y. 2007. *Spathodea campanulata*. Base de donn&#65533;es botaniques Nadeaud de l Herbier de la Polyn&#65533;sie fran&#65533;aise (PAP).
Summary: Base de donn&#65533;es sur le flore de Polyn&#65533;sie Fran&#65533;aise.
Available from: http://www.herbier-tahiti.pf/Selection_Taxonomie.php?id_tax=8204 [Accessed March 2008]
Floridata.com L.C. Copyright 1996 - 2002.
Summary: Good amount of information on the Spathodea including Description, Locations, Culture, and uses of the plant.
Available from: http://www.floridata.com/ref/s/spat_cam.cfm [Accessed 25 February 2003]
Fournet, J. 2002. Flore illustr&#65533;e des phan&#65533;rogames de guadeloupe et de Martinique. CIRAD-Gondwana editions.
Gilman and Watson, 1994. *Spathodea campanulata*, African Tulip-Tree. Fact sheet ST-600, Environmental Horticulture Dep., Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Found at: http://hort.ifas.ufl.edu/trees/SPACAMA.pdf [Accessed 25 February 2003]
Summary: Description of plant and general information.
ITIS (Integrated Taxonomic Information System), 2005. Online Database *Spathodea campanulata*
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.
Available from: http://www.cbif.gc.ca/pls/itisca/taxastep?king=every&p_action=containing&taxa=Spathodea+campanulata&p_format=&p_ifx=plglt&p_lang= [Accessed March 2005]
Labrada, Ricardo. 25 February 2003. personal communication.
Summary: Distribution information, Impacts and some reasons for introduction.
Meyer, Jean-Yves & Loope, Lloyd & Sheppard, A. & Munzinger, Jérôme & Jaffré, Tanguy. (2006). Les plantes envahissantes et potentiellement envahissantes dans l'archipel néo-calédonien : première évaluation et recommandantions de gestion.
Meyer, J.-Y. 2000. Invasive plants in the Pacific Islands. In: The Invasive Species in the Pacific: A Technical Review and Draft Regional Strategy. Sherley, G. (tech. ed). Published in June 2000 by the South Pacific Regional Environment Programme (SPREP).
Summary: Resource that includes the distribution of invasive species throughout the Pacific Islands.
Meyer, J.-Y. 2004. Threat of invasive alien plants to native flora and forest vegetation of eastern Polynesia. Pacific Science, 58, 357-375
Summary: Dans cet article, la menace croissante des plantes exotiques envahissantes est discut&#65533;e et les esp&#65533;ces les plus envahissantes sont d&#65533;crites. Des hypoth&#65533;ses sur l invasibilit&#65533; des &#65533;les sont pr&#65533;sent&#65533;es &#65533; la lumi&#65533;re des observations et des donn&#65533;es r&#65533;colt&#65533;es.
Smith, Clifford W. Hawaiian Alien Plant Studies. University of Hawaii, Botany Department.
Summary: Some distribution and habitat information.
Available from: http://www.botany.hawaii.edu/faculty/cw_smith/spa_cam.htm [Accessed 25 February 2003].
Tan. Ria, 2001. African Tulip Tree, *Spathodea campanulata*.
Summary: Uses for the Tulip Tree and some general notes.
Available from: http://www.naturia.per.sg/buloh/plants/african_tulip.htm [Accessed 25 February 2003].
Tassin, J., Rivi&#65533;re, J.N., Cazanove, M., Bruzzeses, E. 2006. Ranking of invasive woody plant species for management on r&#65533;union Island. Weed research 46, 388-403
Summary: L inventaire de 318 esp&#65533;ces de plantes ligneuses introduites &#65533; la R&#65533;union, permet d en identifier 132 comme naturalis&#65533;es dans les &#65533;cosyst&#65533;mes naturels. 26 de ces esp&#65533;ces choisies parmi les plus envahissantes ont &#65533;t&#65533; class&#65533;es en fonction de leur impact biologique sur les &#65533;cosyst&#65533;mes indig&#65533;nes.
Vos, P. 2004. Case Studies on the Status of Invasive Woody Plant Species in the Western Indian Ocean. 2. The Comoros Archipelago (Union of the Comoros and Mayotte). FAO.
Summary: Article de synth&#65533;se sur les esp&#65533;ces ligneuses envahissantes dans l archipel des Comores et &#65533; Mayotte et les strat&#65533;gies de gestion d&#65533;velopp&#65533;es localement.
Available from: http://www.fao.org/forestry/webview/media?mediaId=6556&langId=2 [Accessed 20 March 2008]