

Leucaena leucocephala ✖ ✖ ✖

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

Common name

faux mimosa (French), acacia palida (English, Puerto Rico), guaje (Spanish), zarcilla (English, Puerto Rico), huaxin (Spanish), leucaena (English), uaxim (Spanish), wild mimosa (English, Bermuda), tamarindo silvestre (Spanish), wild tamarind (English, Puerto Rico), graines de lin (French), lino criollo (English, Dominican Republic), jumbie bean (English), tangantangan (Chamorro, CNMI), tangan-tangan (Chamorro, Guam), ganitnityuwan tangantan (Yapese), guaslim (Campeche, Mexico), guaxin (Maya, Yucatan), liliak (Totonaco, Veracruz, Mexico), tuhngantuhngan (English, Kosrae), koa-haole (English, Hawai'i), aroma blanca (English, Cuba), lamtoro (English, Indonesia), ipil-ipil (English, Philippines), kanthum thect (English, Cambodia), kan thin (English, Laos), kra thin (English, Thailand), bo chet (English, Vietnam), rohbohtin (English, Kosrae), subabul (English, India), kratin (English, Cambodia), schemu (English, Vietnam), false koa (English, Hawai'i), telentund (Palauan), lopa samoa (English, American Samoa), fua pepe (Samoan), lusina (Samoan), pepe (Niuean), nito (English, Cook Islands), siale mohemohe (Tongan), vaivai (Fijian), vaivai ni vavalangi (Fijian), vaivai dina (Fijian), balori (Fijian), cassis (English, Vanuatu), te kaitetua (I Kiribati), leucaena (English), horse/wild tamarind (English), lead tree (English), faux-acacia (French)

Synonym

Mimosa leucocephala , Lamark 1783
Acacia leucocephala , (Lamark) Link 1822
Leucaena glabrata , Rose 1897
Leucaena glauca , (L.) Benth. 1842

Similar species

Summary

The fast-growing, nitrogen-fixing tree/shrub *Leucaena leucocephala*, is cultivated as a fodder plant, for green manure, as a windbreak, for reforestation, as a biofuel crop etc. *Leucaena* has been widely introduced due to its beneficial qualities; it has become an aggressive invader in disturbed areas in many tropical and sub-tropical locations and is listed as one of the '100 of the World's Worst Invasive Alien Species'. This thornless tree can form dense monospecific thickets and is difficult to eradicate once established. It renders extensive areas unusable and inaccessible and threatens native plants.



[view this species on IUCN Red List](#)

Species Description

The genus *Leucaena* is distinguished from all other Mimosoid legumes by its hairy anthers which are easily visible with a hand lens. *Leucaena leucocephala* is distinguished from other species of *Leucaena* by its intermediate leaflets and large pods in clusters of 5-20 per flower head. It forms a small to medium-sized thornless tree 3-15 (-20)m tall and 5-50cm bole diameter. The leaves are bipinnate with an elliptic convex extrafloral nectary on the petiole, 4-9 pairs of pinnae and 13-21 pairs of leaflets per pinna. The leaflets are 9-16mm long and 2-4.5mm wide, nearly sessile and strongly asymmetric linear oblong and acute at the apex. The flowers occur in 12-21mm diameter heads, are cream-white, with ten free stamens per flower and hairy anthers. The pods occur in crowded clusters of 5-20 per flower head and are 11-19cm long and 15-21mm wide pendulous, flattened and papery, and passively dehiscent with 8-18 seeds per pod. Three subspecies are recognised, two of which - subsp. *leucocephala* and subsp. *glabrata* have been introduced pantropically. These two subspecies correspond to shrubby = subsp. *leucocephala* variants, sometimes referred to as the Common or Hawai'ian type, and to the more arborescent = subsp. *glabrata* variants, sometimes referred to as the Giant or Salvador type.

Lifecycle Stages

Trees are generally short-lived (20-40 years). The hard seed coat means that germination occurs over a prolonged period after seed dispersal and that seed can remain viable for long periods (at least 20 years) in the soil.

Habitat Description

Leucaena leucocephala is a weed of open (often coastal or riverine) habitats, semi-natural, disturbed, degraded habitats and other ruderal sites. It was assigned to the category of 'a serious or widespread weed invading semi-natural or natural habitats which are of some conservation interest' by Cronk and Fuller (1995) and as a Category II weed (a species which has a local distribution but either expanding populations, or known potential to invade and disrupt native vegetation elsewhere) in Florida by Gordon and Thomas (1997). It is not known to invade undisturbed closed forest habitats. It tolerates a wide range of rainfall from 500 - 3500mm and withstands strongly seasonal (6-8 month dry season) climates. However, it is not frost hardy and grows poorly, setting less seed in cooler tropical highland sites. The species also grows poorly on the acid soils with high Aluminium saturation that prevail in many humid tropical areas. In broad terms, it thus adapts well to a wide range of tropical and subtropical environments, especially seasonally dry tropical areas.

Reproduction

Self-fertile (promoting seed production even on isolated individuals), some outcrossing, pollinated by a wide range of generalist insects including large and small bees. Resprouts after cutting. Flowering and seeding continually throughout the year as long as moisture permits combined with self-fertility promotes abundant pod and seed set.

General Impacts

Leucaena leucocephala is spreading naturally and has been reported as a weed in more than 20 countries across all continents except Europe and Antarctica. It is a weed of open, often coastal or riverine habitats, semi-natural, and other disturbed or ruderal sites and occasionally in agricultural land. It can form dense monospecific thickets which are reported to be replacing native forest in some areas and threatening endemic species of conservation concern in some areas. Dense thickets, even if not of immediate conservation concern can render extensive areas of disturbed ground unusable and inaccessible.

Management Info

Preventative measures: In Queensland, Australia, management practices aimed at minimising the risk of spread and invasion are being promoted under a code of good practice for livestock farmers who cultivate *Leucaena*. The policy endorsed in November 2004 "addresses the need for land use management recommendations over the location, design and management of plantings of the shrub legume *leucaena* to reduce the weed risk. The policy has been developed by Government agencies with responsibilities for natural resource management following consultation with industry, local governments and community groups" (NRM, 2005).

A [Risk Assessment of *Leucaena leucocephala*](#) for Hawai'i 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 score of 15 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."

A [Risk assessment of *Leucaena leucocephala*](#) for Australia was prepared by Pacific Island Ecosystems at Risk (PIER) using the Australian risk assessment system (Pheloung, 1995). The result is a score of 11 and a recommendation of: reject the plant for import (Australia) or species likely to be of high risk (Pacific).

Biological: A bruchid beetle seed predator, *Acanthoscelides macrophthalmus* has been deliberately introduced and released in South Africa as a biocontrol agent and the same insect has been accidentally introduced to Australia. The accidental spread of the psyllid insect defoliator *Heteropsylla cubana* in the mid 1980s can cause cyclical defoliation, but does not kill trees and the psyllid appears to have been brought under control by a number of generalist local (and in some cases introduced) psyllid predators and parasites.

Integrated management: Once established, *Leucaena* is difficult to eradicate. It resprouts vigorously after cutting. Cut stumps need to be treated with diesel or other chemicals. Furthermore, the soil seed bank can remain viable for at least 10-20 years after seed dispersal.

Pathway

Widely promoted by national and international agricultural and forestry development agencies for agroforestry and agricultural use. Introduced by acclimatisation societies.

Principal source: [Pacific Islands Ecosystems at Risk \(PIER\), 2011. *Leucaena leucocephala* \(Lam.\) De wit](#)

Compiler: IUCN/SSC Invasive Species Specialist Group (ISSG)

Review: Dr. Colin Hughes, Department of Plant Sciences, University of Oxford, OXFORD, UK.

Publication date: 2010-08-16

ALIEN RANGE

[1] AMERICAN SAMOA

[1] ANGUILLA

[2] ARGENTINA

[3] AUSTRALIA

[1] BANGLADESH

[1] BENIN

[1] BES ISLANDS (BONAIRE, SINT EUSTATIUS AND SABA)

[1] BOTSWANA

[1] BRITISH INDIAN OCEAN TERRITORY

[1] BURKINA FASO

[1] CAMBODIA

[1] ANGOLA

[1] ANTIGUA AND BARBUDA

[1] ARUBA

[2] BAHAMAS

[1] BARBADOS

[1] BERMUDA

[1] BOLIVIA

[1] BRAZIL

[1] BRUNEI DARUSSALAM

[1] BURUNDI

[1] CAMEROON

[1] CAPE VERDE	[3] CAYMAN ISLANDS
[1] CENTRAL AFRICAN REPUBLIC	[1] CENTRAL AMERICA
[1] CHAD	[1] COLOMBIA
[1] CONGO	[1] CONGO, THE DEMOCRATIC REPUBLIC OF THE
[1] COOK ISLANDS	[1] COSTA RICA
[1] COTE D'IVOIRE	[1] CUBA
[1] CURACAO	[1] DJIBOUTI
[1] DOMINICA	[1] DOMINICAN REPUBLIC
[5] ECUADOR	[1] EGYPT
[1] EL SALVADOR	[1] EQUATORIAL GUINEA
[1] ERITREA	[1] ETHIOPIA
[1] FIJI	[1] FRENCH GUIANA
[1] FRENCH POLYNESIA	[1] GABON
[1] GAMBIA	[1] GHANA
[1] GRENADA	[1] GUADELOUPE
[1] GUAM	[1] GUATEMALA
[1] GUINEA	[1] GUINEA-BISSAU
[1] GUYANA	[1] HAITI
[1] HONDURAS	[1] HONG KONG
[1] INDIA	[5] INDONESIA
[1] JAMAICA	[1] KENYA
[1] KIRIBATI	[1] LAO PEOPLE'S DEMOCRATIC REPUBLIC
[1] LIBERIA	[1] MADAGASCAR
[1] MALAWI	[1] MALAYSIA
[1] MALI	[1] MARTINIQUE
[1] MAURITIUS	[1] MICRONESIA, FEDERATED STATES OF
[1] MONTSERRAT	[1] MOROCCO
[1] MOZAMBIQUE	[1] MYANMAR
[1] NEPAL	[1] NEW CALEDONIA
[1] NIGER	[1] NIGERIA
[1] NORTHERN MARIANA ISLANDS	[1] PAKISTAN
[1] PANAMA	[1] PAPUA NEW GUINEA
[1] PARAGUAY	[1] PERU
[1] PHILIPPINES	[1] PITCAIRN
[1] PUERTO RICO	[1] REUNION
[1] RWANDA	[3] SAINT HELENA
[1] SAINT KITTS AND NEVIS	[1] SAINT LUCIA
[1] SAINT VINCENT AND THE GRENADINES	[1] SAMOA
[1] SENEGAL	[1] SEYCHELLES
[1] SIERRA LEONE	[1] SINGAPORE
[1] SOLOMON ISLANDS	[1] SOMALIA
[1] SOUTH AFRICA	[1] SRI LANKA
[1] SUDAN	[1] SURINAME
[1] SWAZILAND	[1] TANZANIA, UNITED REPUBLIC OF
[1] THAILAND	[1] TIMOR-LESTE
[1] TOGO	[1] TONGA
[1] TRINIDAD AND TOBAGO	[1] TUNISIA
[1] TURKS AND CAICOS ISLANDS	[1] UGANDA
[4] UNITED STATES	[1] URUGUAY
[1] VANUATU	[1] VENEZUELA
[1] VIET NAM	[1] VIRGIN ISLANDS, BRITISH
[1] VIRGIN ISLANDS, U.S.	[1] ZAMBIA
[1] ZIMBABWE	

Acropogon bullatus NT	Acropogon calcicola EN
Albizia guillainii VU	Ancistrachne numaeensis EN
Atractocarpus platyxylo VU	Austromyrtus lotoides VU
Canavalia veillonii CR	Celtis balansae VU
Chamaesyce kuwaleana EN	Cupaniopsis globosa VU
Diospyros cherrieri VU	Diospyros impolita VU
Diospyros minimifolia NT	Diospyros pustulata VU
Emmenosperma pancherianum VU	Eugenia ericoides NT
Eugenia sp. nov. 'calcareae' VU	Eugenia sp. nov. 'dagostini' EN
Eugenia sp. nov. 'lepredourii' CR	Eugenia sp. nov. 'metzdorfii' EN
Guettardella sp. nov. 'durisylvatica' EN	Homalium leratiorum VU
Ixora margaretae VU	Jasminum noumeense VU
Justicia pinensis EN	Oldenlandia adscensionis EX
Oryza neocaledonica EN	Oxera balansae EN
Phyllanthus deplanchei VU	Phyllanthus unifoliatus EN
Pichonia balansana LC	Piliocalyx eugenioides EN
Pisonia artensis VU	Pittosporum brevispinum EN
Pittosporum gatopense VU	Podonephelium subaequilaterum VU
Polyscias crenata VU	Polyscias nothisii EN
Pseuderanthemum incisum VU	Psychotria deverdiana VU
Ptilinopus roseicapilla EN	Randia pancheriana VU
Solanum hugonis EN	Solanum pancheri NT
Syzygium pendulinum EN	Syzygium poyanum VU
Syzygium veillonii EN	Terminalia cherrieri EN
Turbina inopinata CR	Xylosma grossecrenatum EN

BIBLIOGRAPHY

25 references found for *Leucaena leucocephala*

Management information

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.

Hughes, C. E. 1998. *Leucaena*. A Genetic Resources Handbook. Tropical Forestry Papers 37. Oxford Forestry Institute, Oxford. 274pp.

Hughes, C. E. and Jones, R. J. 1999. Environmental hazards of *Leucaena*. In Shelton, H. M., Gutteridge, R. C., Mullen, B. F. and Bray, R. A. (eds.). *Leucaena - Adaptation, Quality and Farming Systems*, Proceedings of a Workshop, Hanoi, Vietnam, Feb. 1998. ACIAR.

[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.

Jones, R. J. and Jones, R. M. 1996. Thickening up of *Leucaena* stands in Australia - a caution. LEUCNET News 3: 19-20.

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.

Natural Resources and Mines (NRM) Environmental Protection Agency Department of Primary Industries Queensland Government, November 2004. Policy to Reduce the Weed Threat of *Leucaena*.

Neser, S. 1994. Conflicts of interest? The *Leucaena* controversy. Plant Protection News South Africa 6: 8.

Neser, S. 1996. *Acanthoscelides* of *Leucaena* in South Africa. LEUCNET News 3: 16-18.

[Pacific Island Ecosystems at Risk \(PIER\), 2011. *Leucaena leucocephala* \(Lam.\) de Wit, Fabaceae](#)

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

Available from: http://www.hear.org/pier/species/leucaena_leucocephala.htm [Accessed 5 March 2011].

[Rauzon, M. J. and D. C. Drigot., 2002. Red mangrove eradication and pickleweed control in a Hawaii wetland, waterbird responses and lessons learned. In *Turning the tide: the eradication of invasive species*: 381-388. Veitch, C.R. and Clout, M.N.\(eds\). IUCN SSC Invasive Species Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.](#)

Summary: Eradication case study in Turning the tide: the eradication of invasive species.

[Rentería, Jorge Luis; Rachel Atkinson, Ana Mireya Guerrero, Johanna Mader 2006. Manual de Identificación y Manejo de Malezas en las Islas Galápagos. Segunda edición, Fundación Charles Darwin, Santa Cruz, Galápagos, Ecuador.](#)

Summary: An illustrated guide providing practical information for the effective control of the worst invasive plant species in Galapagos. Designed for farmers and other land managers, it describes manual and chemical control methods. It also includes 8 species that are potential problems for Galapagos. Language: Spanish

Una guía con ilustraciones que provee información para el control efectivo de las peores plantas invasoras en Galápagos. Esta diseñada para los agricultores y personas involucradas en conservación. De una forma clara y simple se describe los métodos de control manuales y químicos; también incluye 8 especies que potencialmente podrían ser un problema para Galápagos. Lenguaje: Español.

[Rentería, Jorge Luis; Rachel Atkinson & Chris Buddenhagen., 2007. Estrategias para la erradicación de 21 especies de plantas. Fundación Charles Darwin, Departamento de Botánica. Programa de Especies Invasoras en Galápagos potencialmente invasoras en Galápagos.](#)

Summary: This document comprises costed eradication plans for 21 invasive species in Galapagos. The plans were developed as part of a GEF funded project ECU/00/G31 Control of Invasive species in the Galapagos Archipelago. The management plans report projects at different stages of development and for species that have invaded to different extents. Three of the projects have already been finished successfully, 5 have yet to be started, and for the rest the projects have been running for between 1 and 6 years. The cost and time needed for eradication varies considerably by species and demonstrates the importance of species eradication as soon as possible after detection

Resumen

El presente documento proporciona planes de manejo y el costo para la erradicación de 21 especies que se encuentran presentes en Galápagos. Los planes fueron desarrollados como parte del proyecto ECU/00/G31 Control de las especies invasoras en el Archipiélago de las Galápagos, suscrito por el Gobierno Ecuatoriano, representado por el Ministerio del Ambiente, con el Fondo para el Medio Ambiente Mundial (GEF). El Proyecto es implementado por el Programa de las Naciones Unidas para el Desarrollo (UNDP), tiene como instituciones ejecutoras al Servicio Parque Nacional Galápagos (SPNG), Instituto Nacional Galápagos (INGALA), Servicio Ecuatoriano de Sanidad Agropecuaria-Galápagos (SESA-Galápagos), y Fundación Charles Darwin (FCD). Los planes de manejo representan proyectos en diferentes estados de desarrollo y dimensión. Tres de estos proyectos ya han sido desarrollados completamente, trece están en proceso y cinco aún no se han iniciado. El costo y tiempo para la erradicación varía considerablemente según la especie y se muestra la importancia económica que implica desarrollar proyectos de erradicación tan pronto las especies son detectadas.

Sheil, D. 1994. Naturalized and invasive plant species in the evergreen forests of the East Usumbara Mountains, Tanzania. *African Journal of Ecology* 32: 66-71.

Smith, C. W. 1985. Impact of alien plants on Hawaii's native biota. In Stone C. P. and Scott J. M. (eds.) *Hawaii's Terrestrial Ecosystems: Preservation and Management*. University of Hawaii: 60-69.

[Soria, M. C.; M. R. Gardener and A. Tye., 2002. Eradication of potentially invasive plants with limited distributions in the Galapagos Islands. In *Turning the tide: the eradication of invasive species*: 381-388. Veitch, C.R. and Clout, M.N.\(eds\). IUCN SSC Invasive Species Specialist Group. IUCN. Gland, Switzerland and Cambridge, UK.](#)

Summary: Eradication case study in *Turning the tide: the eradication of invasive species*.

Swaziland's Alien Plants Database., Undated. *Leucaena leucocephala*

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.

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Walton, Craig, 2003. *Leucaena (Leucaena leucocephala)* in Queensland. Pest Status Review Series. Department of Natural Resources and Mines, Queensland.

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Summary: Compiler of original GISD profile of *Chromolaena odorata*.

General information

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[Gargominy, O., Bouchet, P., Pascal, M., Jaffre, T. and Tourneux, J. C. 1996. Conséquences des introductions d'espèces animales et végétales sur la biodiversité en Nouvelle-Calédonie.. *Rev. Ecol. \(Terre Vie\)* 51: 375-401.](#)

Summary: Consequences to the biodiversity of New Caledonia of the introduction of plant and animal species.

Gordon, D. R. and Thomas, K. P. 1997. Florida's invasion by non-indigenous plants: history, screening and regulation. In Simberloff, D., Schmitz, D. C. and Brown, T. C. (Eds.) *Strangers in Paradise: impact and management of non-indigenous species in Florida*. Island Press, Washington DC, USA: 21-37.

[ITIS \(Integrated Taxonomic Information System\), 2005. Online Database *Leucaena leucocephala*](#)

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/itiscat/taxastep?king=every&p_action=containing&taxa=Leucaena+leucocephala&p_format=&p_ifx=plgt&p_lang= [Accessed March 2005]