GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Urochloa maxima***

Urochloa maxima 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Cyperales	Poaceae

Common name

buffalograss (English), green panic (English), tinikarati (English, Cook Islands), capime guiné (French), panic élevé (French), zacate Guinea (English), vao Kini (English, Samoa), vao Kini (English, American Samoa), talapi (English, Cook Islands), Guinea grass (English), fataque (French), saafa (English, Tonga), yerba de Guinea (English), herbe de Guinéa (French)

Synonym

Panicum maximum , Jacq.
Panicum gongylodes , Jacq.
Panicum hirsutissimum , Steud.
Panicum jumentorum , Pers.
Panicum laeve , Lam.
Panicum maximum , var. *coloratum* C.T. White
Panicum maximum , var. *maximum*
Panicum maximum , var. *pubiglume* K. Schum.
Panicum maximum , var. *trichoglume* Robyns
Panicum polygamum , var. *gongylodes* (Jacq.) E. Fourn.
Panicum trichocondylum , Steud.
Urochloa maxima , var. *trichoglumis* (Robyns) R.D. Webster
Panicum maximum , var. *gongylodes* (Jacq.) Döll

Similar species

Summary

Although Urochloa maxima is the accepted name for this species, it is still widely known as Panicum maximum. Urochloa maxima is a native of tropical Africa where it occurs from sea level to 1,800m. It is used as a forage grass and its ability to tolerate a wide range of habitats make it a very productive species. Urochloa maxima has become prevalent in Samoa and Tonga and it is a problem species in Guam and Hawaii. Although it is a favourable grass in many areas it can also form dense stands and displace native species.

view this species on IUCN Red List

Species Description

Urochloa maxima is described as a tufted perennial, often with a short creeping rhizome, variable 60-200cm high, leaf blades up to 35mm wide tapering to a fine point; panicle 12-40cm long, open spikelets 3-3.5mm long, obtuse, green or purplish, glumes unequal, the lower one being one-third to one fourth as long as the spikelet, lower floret usually male or empty depending on the variety. Upper floret (seed) distinctly transversely wrinkled lemma and palea. The grain is about 2mm long. (Skerman and Riveros, 1990; Bogdan, 1977).

Notes
Guinea grass is a very variable species. Many distinct types occur naturally in Africa and about a dozen varieties have been named. It spreads very slowly by seed but needs fertile soil to dominate. In the wet tropics weeds can quickly dominate guinea grass pastures unless pastures are well managed (Hare, M., pers. comm., 2003). Guineagrass, is reported to tolerate periods of drought, grazing, low pH, shade, slope, virus, but not waterlogging, and weeds. Will not withstand long periods of severe desiccation or long periods of hard continuous grazing. This grass is of primary economic importance in many tropical countries, including East Africa, Hawai'i, Virgin Islands, Puerto Rico, Southeast Asia and South America (James A. Duke. 1983). It can survive quick-moving fires which do not harm the underground roots (Tan, Ria. 2001).

Uses
Guinea grass is a most productive forage grass in tropical America and South East Asia, valuable for pasture, green-forage, hay, and silage. Reported to be diuretic and preventative, guinea grass is a folk remedy for tympanitis (Duke and Wain, 1981, cited in James A. Duke. 1983). It's seeds can provide food for birds, the long leaves can also provide nesting material for birds, (Tan, Ria. 2001). Guinea grass is considered as a suitable plant to stop soil erosion on slopes (it has dense root mats) while providing valuable fodder (Tan, Ria. 2001).

Habitat Description
Ranging from Tropical Dry to Wet Forest Life Zones, guinea grass is reported to tolerate annual precipitation of 6.4 to 42.9 (mean of 40 cases = 18.5), annual temperature of 12.2 to 27.8°C (mean of 40 cases = 23.4), and pH of 3.5-4.3 to 8.4 (mean of 33 cases = 5.9) (Duke, 1978, 1979. Handbook of Energy Crops. unpublished. Cited in James A. Duke. 1983.). Grows naturally in open grasslands, usually forming colonies under or near trees and shrubs, frequent in woodland bush thickets, and on abandoned cultivated land, fields and on waste lands, from sea level to 1800m in East Africa. Suited to areas with annual rainfall from 87 to 100cm. With sufficient moisture, plants grow extremely rapidly, providing much biomass. Grows well on a wide variety of well-drained soils. Does not thrive in areas subject to prolonged waterlogging or flooding, nor on saline soils. Not resistant to frost. Somewhat tolerant to shade and grows under trees or in stands of low bush. Grows in moderately dry ground and is drought-resistant, but will not tolerate dry periods longer than 4 months.

Reproduction
Seeds profusely but seeds are of low germination, often empty and do not survive long. The seeds are dispersed short distances by wind. Fire will sweep through stands of this grass but it regenerates rapidly from underground rhizomes (Hare. M., pers. comm., 2003).

Nutrition
In South Africa, it is suspected to cause a sheep disease (\"dikoor\"), perhaps in conjunction with a smut. The plant is said to cause fatal colic if eaten too wet or in excess. Traces of HCN occur in stems and leaves, more in the roots.

General Impacts
Urochloa maxima forms dense stands in open pastures and disturbed areas. Guinea grass can suppresses or displace local plants on fertile soils in pastures Its resistance to drought also means it builds up a dangerous mass of plant material so when fires occur, the blaze is fiercer and native plants which have not built up fire-tolerance are wiped out. As guinea Grass can survive fires, it can dominate the ground after a fire.

Management Info
Preventative measures: A Risk Assessment of \r\r\n*Urochloa maxima (Panicum maximum)* 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 17 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.\"
Physical: Hand pulling / grubbing also works, but spraying seems easier (Starr, F and Starr, K., pers. comm., 2003).
Chemical: \"Susceptible to glyphosate and readily controlled by drizzle applications. Young plants are susceptible to selective grass-killers\" (Motooka *et al*., 2002, cited in PIER, 2002).
Biological: Plants die rapidly under close continuous grazing (James A. Duke. 1983).

Pathway
Introduced to almost all tropical countries as a source of animal fodder. (Tan, Ria. 2001)

Principal source: Pacific Island Ecosystem at Risk (PIER, 2002)

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

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ALIEN RANGE

[1] AMERICAN SAMOA
[1] ASIA
[1] BAHAMAS
[1] BRITISH INDIAN OCEAN TERRITORY
[1] CENTRAL AFRICA
[5] COOK ISLANDS
[1] CUBA
[1] FIJI
[5] FRENCH POLYNESIA
[1] GHANA
[1] GUAM
[3] JAMAICA
[1] KIRIBATI
[1] KOREA, REPUBLIC OF
[1] MALAYSIA
[1] MAURITIUS
[1] MEXICO
[1] MOZAMBIQUE
[1] NIUE
[4] NORTHERN MARIANA ISLANDS
[1] PAPUA NEW GUINEA
[1] PUERTO RICO
[1] SAINT BARTHELEMY
[1] SAINT MARTIN (FRENCH PART)
[1] ANGUILLA
[2] AUSTRALIA
[2] BERMUDA
[3] CAYMAN ISLANDS
[1] CHINA
[2] COSTA RICA
[3] ECUADOR
[1] FRENCH GUIANA
[1] GEORGIA
[1] GUADELOUPE
[1] INDONESIA
[1] JAPAN
[1] KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF
[1] LATIN AMERICA
[1] MARTINIQUE
[1] MAYOTTE
[2] MICRONESIA, FEDERATED STATES OF
[1] NEW CALEDONIA
[1] NORFOLK ISLAND
[2] PALAU
[1] PHILIPPINES
[1] REUNION
[1] SAINT HELENA
[2] SAMOA

[1] SOLOMON ISLANDS
[1] TAIWAN
[1] THAILAND
[1] TRINIDAD AND TOBAGO
[1] UGANDA
[1] VANUATU
[1] VIET NAM
[1] WALLIS AND FUTUNA
[1] SOUTH AFRICA
[1] TANZANIA, UNITED REPUBLIC OF
[4] TONGA
[1] TURKS AND CAICOS ISLANDS
[8] UNITED STATES
[1] VENEZUELA
[1] VIRGIN ISLANDS, U.S.
[1] WEST AFRICA

BIBLIOGRAPHY

21 references found for **Urochloa maxima**

Managment information

Calvert, Greg. 1999. Weeds - The Silent Invaders. Number 16, December 1999. ISSN 1326-7469.
Summary: Distribution, habitats invaded and some management information.
Available from: http://farrer.riv.csu.edu.au/ASGAP/APOL16/dec99-2.html [Accessed 28 February 2003].

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.

Gee II, David E., pers. comm. 2006. Wildlife Biologist, Guam Division of Aquatic & Wildlife Resources and Guam team member of the Pacific Invasives Learning Network (PILN).

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.

PIER (Pacific Island Ecosystems at Risk), 2002. *Panicum maximum*.
Summary: Ecology, synonyms, common names, distributions (Pacific as well as global), management and impact information.
Available from: http://www.hear.org/pier/species/panicum_maximum.htm [Accessed 28 February 2003].

UN FAO. *Panicum maximum* Jacq. Important Weed Species in Crops and Countries. United Nations Food and Agriculture organisation.
Summary: Common names, description of plant, management information, and habitats.
Available from: http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/IPM/Weeds/ [Accessed 28 February 2003].

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]

General information

Boghan, A.V. (1977) Tropical pasture and fooder plants Longman, London

Centre des ressources biologiques. Plantes tropicales. INRA-CIRAD. 2007.
Summary: Available from: http://collections.antilles.inra.fr/ [Accessed 31 March 2008]

Chen, C.P. Chen and Hutton, E. M. (1992) Panicum maximum Jacq. In: Mannetje l. t and Jones R.M. (eds) Plant Resources of South-East Asia Pudoc Sxcientific Publishers, Wageningen. 172-174.

CONABIO. 2008. Sistema de informaci&#65533;n sobre especies invasoras en M&#65533;xico. Especies invasoras - Plantas. Comisi&#65533;n Nacional para el Conocimiento y Uso de la Biodiversidad. Fecha de acceso.
Summary: English:
The species list sheet for the Mexican information system on invasive species currently provides information related to Scientific names, family, group and common names, as well as habitat, status of invasion in Mexico, pathways of introduction and links to other specialised websites. Some of the higher risk species already have a direct link to the alert page. It is important to notice that these lists are constantly being updated, please refer to the main page (http://www.conabio.gob.mx/invasoras/index.php/Portada), under the section Novedades for information on updates.
Invasive species - Plants is available from: http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Plantas [Accessed 30 July 2008]
Spanish:
La lista de especies del Sistema de informaci&#65533;n sobre especies invasoras de m&#65533;xico cuenta actualmente con informaci&#65533;n aceca de nombre cient&#65533;fico, familia, grupo y nombre com&#65533;n, as&#65533; como h&#65533;bitat, estado de la invasi&#65533;n en M&#65533;xico, rutas de introducci&#65533;n y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la p&#65533;gina de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualizaci&#65533;n, por favor consulte la portada (http://www.conabio.gob.mx/invasoras/index.php/Portada), en la secci&#65533;n novedades, para conocer los cambios.
Especies invasoras - Plantas is available from: http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Plantas [Accessed 30 July 2008]

Conservatoire Botanique National De Mascarin (BOULLET V. coord.) 2007. - *Urochloa maxima* 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=7a0c1035bcb33b6d86942ecbedb37267 [Accessed 20 March 2008]

Duke, James A. 1983. Handbook of Energy Crops. Unpublished. Cited in Purdue University, 2002.
Summary: Uses, description, Distribution, Ecology, and cultivation information.
Available from: http://www.hort.purdue.edu/newcrop/duke_energy/Panicum_maximum.html#Uses [Accessed 28 February 2003].

Florence J., Chevillotte H., Ollier C. & Meyer J.-Y. 2007. *Urochloa maxima* Base de donn&#65533;es botaniques Nadeaud de l Herbier de la Polyn&#65533;sie fran&#65533;aise (PAP).
Summary: Available from: http://www.herbier-tahiti.pf/Selection_Taxonomie.php?id_tax=5618 [Accessed 20 March 2008]
Fournet, J. 2002. Flore illustr&#65533;e des phan&#65533;rogames de guadeloupe et de Martinique. CIRAD-Gondwana editions.
ITIS (Integrated Taxonomic Information System), 2005. Online Database *Urochloa maxima*
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=Urochloa+maxima&p_format=&p_ifx=plglt&p_lang= [Accessed March 2005]
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.
Plant protection society of Western Australia, 1998.
Summary: Distribution and habitats invaded.
Available from: http://members.iinet.net.au/~weeds/western_weeds/poaceae_seven.htm [Accessed 28 February 2003].
Skerman, P.J. and Riveros, F. (1990) Tropical grasses. FAO, Rome
Tan, Ria. 2001.
Summary: Habitat information, a brief description and general information.
Available from: http://www.naturia.per.sg/buloh/plants/guinea_grass.htm [Accessed 28 February 2003].
TROPICOS, Missouri Botanical Garden, Nomenclatural Data Base.
Summary: Taxonomy, Synonyms
Available from: http://mobot.mobot.org/cgi-bin/search_vast [Accessed 21 Jan 2003].