# GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Panicum repens***

***Panicum repens*** 简体中文 正體中文

**System:** Terrestrial

| Kingdom | Phylum | Class | Order | Family |
|---|---|---|---|---|
| Plantae | Magnoliophyta | Liliopsida | Cyperales | Poaceae |

**Common name**

wainaku grass (English), Victoria grass (English), torpedograss (English), torpedo grass (English), panic rampant (French), couch panicum (English), creeping panic (English), kriechende Hirse (German), canota (Spanish), millet rampant (French)

**Synonym**

*Panicum gouinii* , (Fourn.)
*Panicum airoides* , R. Br.
*Panicum aquaticum* , A. Rich.
*Panicum arenarium* , Brotero
*Panicum chromatostigma* , Pilg.
*Panicum convolutum* , P.Beauv. ex Spreng.
*Panicum hycrocharis* , Steud.
*Panicum ischaemoides* , Retz.
*Panicum kinshassense* , Vanderyst
*Panicum leiogonum* , Delile
*Panicum littorale* , C.Mohr ex Vasey
*Panicum nyanzense* , K.Schum.
*Panicum roxburghianum* , Schult.
*Panicum sieberi* , Link
*Panicum tuberosum* , Llanos
*Panicum uliginosum* , Roxb. ex Roem. & Schult.

**Similar species**

**Summary**

Panicum repens is a perennial grass that frequently forms dense colonies and has long, creeping rhizomes. It grows in moist, often sandy soils and its rhizomes often extend several feet out into the water. Panicum repens frequently forms dense floating mats that impede water flow in ditches and canals and restrict recreational use of shoreline areas of lakes and ponds. Management of Panicum repens involves the repeated application of herbicides. There is very little physical management that can be used to control Panicum repens, as disturbance encourages its growth.

view this species on IUCN Red List

**Species Description**

*P. repens* is a perennial grass that frequently forms dense colonies and has long, creeping rhizomes. Flowering stems are erect and up to 0.8m tall. The lower stems sometimes lack leaf blades and consist of only sheaths. Leaves of the upper stem have sheaths and blades. The blades are relatively short, flat or sometimes folded and from 2 to 5mm wide. The inflorescence is a loose, open panicle that is 3 to 10cm long that has weakly divergent to ascending branches. Spikelets are about 2.5mm long (ERDC, UNDATED).

**Lifecycle Stages**
Hossain *et al.* (2001a) state that, \"*P. repens* propagates mainly by rhizomes, which are difficult to control when well established. *P. repens* develops rhizomes when around 50 days old in the summer season (24-30°C), and primary and secondary branches of the rhizome usually develop 70 and 130 days after planting (DAP), respectively. Rhizomes can penetrate into soil up to 50cm deep, and they require up to 120 days after planting to complete emergence depending on their burial depth. A single culm emerging from a single rhizome bud produced about 23,000 rhizome buds in 1 year. The biomass of *P. repens* increases rapidly from 50 DAP with the increasing number of rhizome buds and shoots.\"

**Uses**
Hossain *et al.* (2001b) state that, \"*P. repens* is also recognized as a pasture grass, and it could be harvested five to seven times a year in tropical and subtropical areas. A higher amount of rhizomes and roots makes a loose mat-like structure in soil up to 50cm in depth, and indicates that this species could be used for soil erosion control.\"

**Habitat Description**
ERDC (UNDATED) reports that, \"*P. repens* grows in moist, often sandy soil along beaches and dunes, margins of lagoons, marshy shorelines of lakes and ponds, drainage ditches and canals. Its rhizomes or runners often extend several feet out into the water, and the plant frequently forms dense floating mats.\"
Brecke *et al.* (2001) state: \"*P. repens* is a perennial weed that can be found along ditch banks, around ponds, along roadsides, and in managed turfgrass areas, including golf courses (McCarty *et al.* 1993). This exotic grass persists in terrestrial, wetland, and aquatic environments of tropical and subtropical regions around the world (Sutton 1996). It has spread throughout the gulf coast region from Florida to Texas (McCarty*et al.* 1993; Murphy *et al.* 1992). It is a serious problem in the lower coastal plain of Alabama and Mississippi, and in much of Florida where it is primarily a weed of moist, sandy soils, but it can also grow in finer textured soils (Wilcut *et al.* 1988).\"

**Reproduction**
Brecke *et al.* (2001) state that, \"*P. repens* rhizomes have the potential to regenerate and produce dense stands from small fragments. Due to the lack of apical dominance, each node has the unique ability to produce axillary buds along the entire rhizome (Wilcut *et al.* 1988 ). Emergence of new shoots from buried rhizome fragments occurs from as deep as 50cm (Hossain *et al.* 1999 ).\" FLEPPC (2003) report that *P. repens*'s growth rate is stimulated by tilling and fertilization, and reproduces principally by rhizome extension and fragmentation.

**Nutrition**
FLEPPC (2003) states that, \"*P. repens* is tolerant of drought and partial shade, and can grow on heavy upland soils, but thrives in moist to wet sandy or organic soil.\"

**General Impacts**
ERDC (Undated) reports that, \"The dense floating mats of *P. repens* may impede water flow in ditches and canals and restrict recreational use of shoreline areas of lakes and ponds.\" The Florida Exotic Pest Plant Council (FLEPPC, 2003) states that, \"*P. repens* has been reported as a weed of 17 crops in 27 countries, and is considered one of the most serious grass weeds.\" The authors go on to state that, \"*P. repens* quickly forms monocultures that displace native vegetation, particularly in or near shallow waters.\" Avid (1999) reports that, \"*P. repens* formed dense monotypic stands in response to increased hydroperiod (depth and duration of flooding).\" Brecke *et al.* (2001) states that in Florida, \"*P. repens* is very competitive and has reduced common bermudagrass (*Cynodon dactylon* (L.) Pers.) growth by nearly 40% after 2 yr (Wilcut *et al.* 1988). Tillage will not control *P. repens*, and may in fact serve to spread the weed to previously un-infested areas (Holm *et al.* 1977 ).\" Williams*et al.* (2003) states that, \"Because of the lack of apical dominance, every node along the entire rhizome may sprout nearly simultaneously (Wilcut *et al.* 1988 ).\"
Smith *et al.* (2004) state that, \"On Lake Okeechobee the ability of *P. repens* to disperse and become established at different water depths was evaluated in a series of experimental pond studies. These studies revealed that fragments remain buoyant for extended periods and so facilitate the dispersal of *P. repens* within the lake. If fragments become anchored to sediment that is either exposed or in shallow water, they can readily root and establish mature plants; Once established, *P. repens* can thrive in depths of 75cm or less and can survive prolonged exposure to flooding depths greater than I m. In this manner, low water periods can contribute to the dispersal and colonization pattern of *P. repens* in the lake. When coupled with lake elevation data, these findings suggest that low water levels or draw downs would increase the marsh area susceptible to *P. repens* invasion.\"

**Management Info**
For details on management of this species including physical, chemical and biological control please read our pdf file on *management information*.

**Pathway**

**Principal source:** PIER, 1999. *Panicum repens* L., Poaceae
ERDC, UNDATED. *Panicum repens* L. (Torpedo Grass)

**Compiler:** National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

**Review:**

**Pubblication date:** 2006-10-04

**ALIEN RANGE**

**[1]** AUSTRALIA
**[1]** NORTHERN MARIANA ISLANDS
**[17]** UNITED STATES
**[1]** CAMBODIA
**[1]** PALAU
**[1]** VIET NAM

**BIBLIOGRAPHY**
**21** references found for **Panicum repens**

**Managment information**
Brecke, B. J., J. B. Unruh, and J. A. Dusky. 2001. Torpedograss (*Panicum repens*) Control with Quinclorac in Bermudagrass (*Cynodon dactylon* x *C. transvaalensis*) Turf. Weed Technology 15: 732-736.
**Summary:** Scientific study containing detailed information on the control and management of species
Busey, P. 2003. Reduction of Torpedograss (*Panicum repens*) Canopy and Rhizomes by Quinclorac Split Applications. Weed Technology 17: 190-194.
**Summary:** Scientific study containing detailed information on the control and management of species

Champion, P.D.; Clayton, J.S. 2000. Border control for potential aquatic weeds. Stage 1. Weed risk model. Science for Conservation 141. .
**Summary:** This report is the first stage in a three-stage development of a Border Control Programme for aquatic plants that have the potential to become ecological weeds in New Zealand.
Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/sfc141.pdf [Accessed 13 June 2007]
Champion, P.D.; Clayton, J.S. 2001. Border control for potential aquatic weeds. Stage 2. Weed risk assessment. Science for Conservation 185. 30 p.
**Summary:** This report is the second stage in the development of a Border Control Programme for aquatic plants that have the potential to become ecological weeds in New Zealand. Importers and traders in aquatic plants were surveyed to identify the plant species known or likely to be present in New Zealand. The Aquatic Plant Weed Risk Assessment Model was used to help assess the level of risk posed by these species. The report presents evidence of the various entry pathways and considers the impact that new invasive aquatic weed species may have on vulnerable native aquatic species and communities.
Available from: http://www.doc.govt.nz/upload/documents/science-and-technical/SFC185.pdf [Accessed 13 June 2007]
David, P. G. 1999. Response of Exotics to Restored Hydroperiod at Dupuis Reserve, Florida. Restoration Ecology 7(4): 407-410.
**Summary:** Scientific study containing detailed information on the control and management of species
ERDC (Engineer Research and Development Center). UNDATED. *Panicum repens* L. (Torpedo Grass) U.S. Army Corps of Engineers: Noxious and Nuisance Plant Management Information System.
**Summary:** Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Florida Exotic Pest Plant Council (FLEPPC). 2003. *Panicum repens*.
**Summary:** Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Hanlon, C. G., and K. Langeland (Abstract). 2001. Comparison of experimental strategies to control torpedograss. Journal of Aquatic Plant Management 38:40-47.
**Summary:** Scientific study containing detailed information on the control and management of species
Hanlon C. G. and M. Brady 2005. Mapping the distribution of torpedograss and evaluating the effectiveness of torpedograss management activities in Lake Okeechobee, Florida. J. Aquat. Plant Manage. 43: 24-29.
Hossain, M. A., H. Kuramochi, Y. Ishimine, & H. Akamine. 2001a. Application timing of asulam for torpedograss (*Panicum repens* L.) control in sugarcane in Okinawa island. Weed Biology and Management 1:108-114.
**Summary:** Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Hossain, M. A., H. Kuramochi, Y. Ishimine, H. Akamine, & I. Nakamura. 2001b. Influence of temperature levels and planting time on the sprouting of rhizome-bud and biomass production of torpedograss (*Panicum repens* L.) in Okinawa island, southern Japan. Weed Biology and Management 1:164-169.
**Summary:** Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Jenkins, A. M., D. R. Gordon, and M. T. Renda. 2004. Native Alternatives for Non-Native Turfgrasses in Central Florida: Germination and Responses to Cultural Treatments. Restoration Ecology 12(2): 190-199.
**Summary:** Scientific study containing detailed information on the control and management of species
McCarty, L. B., J. M. Higgins, and D. L. Colvin (Abstract). 1993. Selective Torpedograss (*Panicum repens*) control in Bermudagrass (*Cynodon* spp.) Turf. Weed Technology 7(4):911-915
**Summary:** Scientific study containing detailed information on the control and management of species
PIER (Pacific Island Ecosystems at Risk). 1999. *Panicum repens* L., Poaceae.
**Summary:** Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Available from: http://www.hear.org/pier/species/panicum_repens.htm [Accessed 29 December 2003]
Smith D. H., R. M. Smart and C.G. Hanlon., 2004. Influence of water level on torpedograss establishment in Lake Okeechobee, Florida. Lake and Reservoir Management 20(1):1-13.
**Summary:** Scientific study containing detailed information on the control and management of species

**General information**

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]
ITIS (Integrated Taxonomic Information System). 2002. Online Database *Panicum repens*.
**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.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=504106 [Accessed March 2005]
Sutton, D. L (Abstract). 1996. Growth of torpedograss from rhizomes planted under flooded conditions. Journal of Aquatic Plant Management 34:50-53.
**Summary:** Scientific expirment assesing the health of species under varying environmental conditions.
USDA-GRIN (Germplasm Resources Information Network). 2003. *Panicum repens*. National Genetic Resources Program [Online Database] National Germplasm Resources Laboratory, Beltsville, Maryland.
**Summary:** Information on common names, synonyms, and the distributional range of species.
Available from: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?26620 [Accessed 29 December 2003]
USDA-NRCS (Natural Resource Conservation Service). 2002. *Panicum repens*. The PLANTS Database Version 3.5 [Online Database] National Plant Data Center, Baton Rouge, LA
**Summary:** Available from:
http://plants.usda.gov/java/nameSearch?mode=Scientific+Name&keywordquery=Panicum+repens&go.x=8&go.y=8 [Accessed 29 December 2005]
Williams, W., G. Wehtje, and R. H. Walker. 2003. CGA-362622: Soil Behavior and Foliar Versus Root Absorption by Torpedograss (*Panicum repens*). Weed Technology 17:366-372.
**Summary:** A study that documents the species responses to different nutrient uptake means.