GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Setaria verticillata***

Setaria verticillata 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Cyperales	Poaceae

Common name

Kransnaaldaar (English, Netherlands), bur bristle grass (English), pata de gallina (Spanish), bristly foxtail (English), pega-pega (Spanish), rough bristle grass (English), almorejo (Spanish), hooked bristlegrass (English), carreig (Spanish), bur grass (English), khishin (English, Lebanan), rabo de zorro (Spanish), capim-grama (Portuguese), zacate pegarropa (Spanish), alorejo (Spanish), lagartera (Spanish), almorejo verticilado (Spanish), quam el-far (Arabic), oehoe (English, Indonesia), kamala (English, Indonesia), milha-verticilada (Portuguese), pega-saias (Portuguese), Kletten Borstenhirse (German), Quirl Bortenhirse (German), Wirtel Borstenhirse (German), dukhain (English, Lebanan), panico maggiore (Italian), fieno stellino (Italian), zaratsukienokorogusa (Japanese), amor de hortelano (Spanish), foxtail (English), lossaig (English, Sudan), kolvhirs (English, Sweden), yah hang chnig-chok (English, Thailand), kirpi dari (English, Turkey), whorled pigeon grass (English), cola de zorro (Spanish), panissola (Spanish), setaria spondyloti (Greek), mau' pilipili (Hawaiian), setaire verticillée (French)

Synonym

Panicum verticillatum , L.
Pennisetum verticillatum , R. Br.
Chaetochloa verticillata , (L.) (Scribn.)
Panicum verticillatum , (L., 1762)
Setaria carnei , (A.S. Hitchc.)
Panicum adhaerens , (Forssk., 1775)
Setaria nubica , (Link)
Pennisetum respiciens , (A. Rich., 1851)
Setaria respiciens , (A. Rich, 1852)
Panicum aparine , (Steud., 1854)
Panicum respiciens , (A. Rich., 1854)
Setaria virdis , (Terracc., 1894)
Setaria aparine , (Stued. 1912)
Setaria adhaerens , (Forssk., 1919)
Panicum rottleri , (Nees, 1841)
Panicum asperum , (Lamk., 1778)
Pennisetum verticillatum , (L.) (Nash, 1817)
Ixophorus verticillatus , (L.) (Nash, 1859)
Setaria verticillformis , (Dumort.)
Setaria ambigua , (Guss.)

Similar species

Summary

Setaria verticillata is a native European grass, invading agricultural, urban, and other disturbed areas throughout North America, Central America, South America Africa, Asia, and the North and South Pacific. A problematic crop weed *S. verticillata*, has inflicted considerable environmental and economic costs, is known to adapt to local conditions rapidly, and has developed resistance to atrazine and other C 1/5 herbicides.

view this species on IUCN Red List

Species Description
Setaria verticillata is a loosely tufted, annual grass. Its culms reach 10–100 cm high or more, geniculately ascending. Leaf-blades broadly linear, 5–30 cm long, 4–16 mm wide, flaccid, glabrous to loosely pilose; sheaths glabrous to pubescent. Panicle spiciform, linear to untidily lobed, 2–15 cm long, often entangled, the rhachis hispidulous; bristles 3–8 mm long, retrorsely barbed, tenaciously clinging. Spikelets ellipsoid, 1.5–2.5 mm long; lower glume 1/3–1/2, the upper as long as the spikelet; lower floret sterile, the palea minute; upper lemma finely rugose (Aluka, 2008).

Notes
Some authorities recognize *Setaria verticillata* and *Setaria adhaerens* as one species while others recognize them as two. The more temperate *S. verticillata* has ciliate sheath-margins, glabrous blades and spikelets over 2 mm long. The more tropical *S. adhaerens* has glabrous sheath-margins, hairy blades and spikelets under 2 mm long. However, these are only two among a number of intergrading populations, and some recommend treating the whole complex as a single polymorphic species (Aluka, 2008).

Uses
In South Africa the seeds of *Setaria verticillata* are used to produce malt for beer. In Nambia, the Topnaar people harvest *S. verticillata* seeds and use them in making porridge (Biodiversityexpolorer, undated).

Habitat Description
Setaria verticillata generally occurs in temperate to tropical climates, altitudes 0-2200 m, and agricultural or other disturbed locations. It has been reported to prefer shady damp sites, but is rarely found in wetlands generally (PIER, 2008; Aluka, 2008; Calflora, 2009)

Reproduction
Setaria verticillata is a self pollinated annual which forms long-lived, heterogeneous seed pools in the soil resulting from a dormant seed rain. In soil seed pools, after-ripening, the occurrence and timing of seedling emergence, and the induction of secondary, summer dormancy are regulated by seasonally and diurnally varying soil oxygen, water, and temperature signals. This precise and adaptable seed emergence contributes greatly to *S. verticillata*'s success in disturbed areas. It is known to have a considerably low intrapopulation genetic diversity and huge genetic diversity between populations compared to similar plant species (Dekker, 2003).

General Impacts
Setaria verticillata is problematic, cosmopolitan crop weed. It has the ability to adapt to a wide range of habitats enabling widespread infestation in temperate, disturbed areas throughout the world. It exhibits phenotypic plasticity and is quite resilient to a number of conditions being resistant to several herbicides, mechanical damage, and drought. Its invasive nature has resulted in significant damage to corn crops and the displacement of native grasses (Dekker, 2003).

Management Info
Chemical: *Setaria verticillata* was found to develop resistance to Photosystem II inhibitors, or C 1/5 herbicides when it became resistant to field levels of atrazine treatment in one study (Gimenez-Espinosa *et al*, 1996; Heap, undated). Its rates of recovery of net CO2 mg per dm2 per h/h following a treatment of atrazine, cyanazine, and cyprazine at 1.16x10 -5 M leached through silica sand media were 1.5, 0.5, and 0.3 CO2 mg per dm2 respectively (Jensen *et al*, 1977)..

Principal source: Pacific Island Ecosystems at Risk (PIER)., 2008. *Setaria verticillata* (L.) P. Beauv., Poaceae
Aluka, 2008. Entry for *Setaria verticillata* (L.) P. Beauv. [family POACEAE]

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

Review: Christos A. Damalas, Department of Agricultural Development of Pieria.

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ALIEN RANGE

[5] AUSTRALIA
[1] CHILE
[3] FRENCH POLYNESIA
[1] GUATEMALA
[1] ISRAEL
[1] KIRIBATI
[1] MAURITIUS
[1] MICRONESIA, FEDERATED STATES OF
[1] NEW ZEALAND
[2] PITCAIRN
[1] SOUTH AFRICA
[1] TANZANIA, UNITED REPUBLIC OF
[1] UGANDA
[3] UNITED STATES MINOR OUTLYING ISLANDS
[5] CANADA
[1] CHINA
[1] GUAM
[1] INDONESIA
[1] KENYA
[3] MARSHALL ISLANDS
[1] MEXICO
[1] NAMIBIA
[1] PERU
[2] SAINT HELENA
[1] STATE OF PALESTINE
[1] THAILAND
[42] UNITED STATES

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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□n sobre especies invasoras de m□xico cuenta actualmente con informaci□n aceca de nombre cient□fico, familia, grupo y nombre com□n, as□ como h□bitat, estado de la invasi□n en M□xico, rutas de introducci□n y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la p□gina de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualizaci□n, por favor consulte la portada (http://www.conabio.gob.mx/invasoras/index.php/Portada), en la secci□n novedades, para conocer los cambios.
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