

Setaria verticillata [简体中文](#) [正體中文](#)

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Cyperales	Poaceae

Common name Kransnaalbaar (English, Netherlands), bur bristle grass (English), pata de gallina (Spanish), bristly foxtail (English), pega-pega (Spanish), rough bristle grass (English), almorojo (Spanish), hooked bristlegrass (English), carreig (Spanish), bur grass (English), khishin (English, Lebanon), rabo de zorro (Spanish), capim-grama (Portuguese), zacate pegarropa (Spanish), alorejo (Spanish), lagartera (Spanish), almorojo 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, Lebanon), 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 viridis , (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 verticilliformis , (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.



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 rachis 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 Namibia, the Topnaar people harvest *S. verticillata* seeds and use them in making porridge (Biodiversityexplorer, 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	[5] CANADA
[1] CHILE	[1] CHINA
[3] FRENCH POLYNESIA	[1] GUAM
[1] GUATEMALA	[1] INDONESIA
[1] ISRAEL	[1] KENYA
[1] KIRIBATI	[3] MARSHALL ISLANDS
[1] MAURITIUS	[1] MEXICO
[1] MICRONESIA, FEDERATED STATES OF	[1] NAMIBIA
[1] NEW ZEALAND	[1] PERU
[2] PITCAIRN	[2] SAINT HELENA
[1] SOUTH AFRICA	[1] STATE OF PALESTINE
[1] TANZANIA, UNITED REPUBLIC OF	[1] THAILAND
[1] UGANDA	[42] UNITED STATES
[3] UNITED STATES MINOR OUTLYING ISLANDS	

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Summary: This database compiles information on alien species from British Overseas Territories.

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GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Setaria verticillata*

[Calflora, 2009. Taxon Report 7539 *Setaria verticillata* \(L.\) P. Beauv. Information on California plants for education, research and conservation. \[web application\]. 2008. Berkeley, California: The Calflora Database \[a non-profit organization\]. Available: <http://www.calflora.org/>. \(Accessed: Jun 19, 2008\)](#)

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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 informaci3n sobre especies invasoras de m3xico cuenta actualmente con informaci3n acerca de nombre cient3fico, familia, grupo y nombre com3n, as3 como h3bitat, estado de la invasi3n en M3xico, rutas de introducci3n y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la p3gina de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualizaci3n, por favor consulte la portada (<http://www.conabio.gob.mx/invasoras/index.php/Portada>), en la secci3n novedades, para conocer los cambios.

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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.

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