**Paspalum vaginatum**

**Common name**
Seashore paspalum (English), Biscuit grass (English)

**Synonym**
- *Paspalum gayanum*, E. Desv.
- *Digitaria vaginata*, (Sw.) Magnier
- *Panicum vaginatum*, (Sw.) Gren. & Godr.
- *Paspalum boryanum*, C. Presl
- *Paspalum distichum*, L. var. nanum(Döll) Stapf
- *Rottboellia uniflora*, A. Cunn.
- *Paspalum distichum*, L. var. tristachyum(Leconte) A.W.Wood
- *Paspalum distichum*, L. subsp. vaginatum (Sw.) Maire
- *Paspalum distichum*, L. var. littorale(R.Br.) F.M.Bailey
- *Paspalum foliosum*, (Lag.) Kunth
- *Paspalum gayanum*, E. Desv.
- *Paspalum jaguaense*, León
- *Paspalum kleinianum*, J. Presl
- *Paspalum littorale*, R. Br.
- *Paspalum reimarioides*, Chapm.
- *Paspalum squamatum*, Steud.
- *Paspalum tristachyum*, Leconte
- *Paspalum vaginatum*, Sw. var. littorale(R. Br.) Trin. ex Büse
- *Paspalum vaginatum*, Sw. var. nanumDöll
- *Paspalum vaginatum*, Sw. subsp. nanum (Döll) Loxton
- *Sanguinaria vaginata*, (Sw.) Bubani
- *Digitaria foliosa*, Lag.
- *Digitaria tristachya*, (Leconte) Schult.
- *Panicum littorale*, (R. Br.) Kuntze
- *Paspalum distichum*, L. var. vaginatum(Sw.) Griseb.

**Similar species**

**Summary**
Paspalum vaginatum (seashore paspalum) is a North American grass which now has a pantropical distribution. It has been widely used for landscaping and revegetation and is a common turf grass on golf courses. Paspalum vaginatum has naturalised in coastal salt marshes where it changes the composition of vegetation and in some cases dominates, impacting on fauna communities and estuarine hydrology.

[view this species on IUCN Red List](http://www.iucngisd.org/gisd/species.php?sc=1351)
Species Description
Seashore paspalum (*Paspalum vaginatum*) is a perennial stoloniferous grass. Its stolons range from slender and wiry to stout and somewhat fleshy. Its culms are slightly compressed, between 2.5 and 5 (-10) dm long. The sheaths of *P. vaginatum* are often keeled, and have small auricles. Wagner *et al.* (1999; in PIER, 2007) describes the grass as follows: "Sheaths often keeled, with small auricles; ligule membranous, ca. 0.5 mm long, with a ring of soft white hairs behind it, the hairs sometimes up to 5 mm long; blades usually stiff, ascending at an uniform angle, 2.5-15cm long, 3-8 mm wide at base, narrower than summit of sheath, apex attenuate, involute, base abruptly contracted. Racemes 2 (-5), opposite or closely approximate, at first erect and appressed together, usually spreading or reflexed at maturity, often subfalcate, 1.5-7.5cm long, rachis naked at base, 1-2 (-2.5) mm wide, triangular, flexuous, margins minutely scabrous; spikelets pale, solitary, imbricate, oblong, 3-4.5 mm long, 1.2-1.5 mm wide; first glume rarely developed, second glume and first lemma equal, thin, 3-7-nerved, the midnerve of both usually obscure, glabrous; first lemma usually transversely undulate, sometimes conspicuously so; second lemma convex, usually 3-5-nerved, apex with a few short, stiff cilia, otherwise glabrous; palea flat, 0-2-nerved, similar to lemma. Caryopsis narrowly obovate, slightly concavo-convex, 2.5-3 mm long, subacute."

Uses
Haynes *et al.* undated state that seashore paspalum (*Paspalum vaginatum*) makes a high-quality turfgrass because of its minimal fertility and pesticide requirements. Furthermore, its tolerance of a wide range of conditions such as drought, saline or recycled water, varying soil pH, extended periods of low light intensity, flooding or extended wet periods as well as its resistance to insects, disease and wear mean it can be planted and grow where other species would not survive. It is frequently used in landscaping and as a turf grass in golf courses.

*P. vaginatum* has historically been used for erosion control, as forage food for cattle and horses, by wild geese for feed. It is also used for wetland restoration and site reclamation on oil and gas well sites (Gates, 2003). Loch *et al.* 2003 suggest that *P. vaginatum* is suitable for use as a part of the management of salt-affected lands in Australia. Again, its saline-tolerant and overall survivability traits make it stand out from other turfgrasses.

Habitat Description
Seashore paspalum (*Paspalum vaginatum*) can be found in the coastal salt marshes of the tropics and sub-tropics (USDA-GRIN 2007). In various islands in the Pacific region, *P. vaginatum* is found in coastal sunny areas, near beaches and sometimes on the beach, in brackish marshy areas and mangrove swamps (PIER, 2007). It is best suited to compacted inorganic marsh soils of moderate salinity (USDA-NRCS, 2007), and is tolerant of drought, salt, a wide range of soil pH, extended periods of low light intensity, and flooding or extended wet periods (Haynes *et al.* undated).

Reproduction
seashore paspalum (*Paspalum vaginatum*) propagates asexually using its stolons and rhizomes. It more often propagates through sprigs, plugs and sod than through seeds. (USDA-NRCS, 2007)
General Impacts
Seashore paspalum (*Paspalum vaginatum*) can alter ecosystems in a number of ways. It can form dense monospecific groundcover in brackish marshes and estuaries, and alter the composition of native species. This can lead to changes in invertebrate communities - in the Galapagos it is associated with a move from aquatic to more terrestrial communities (Siemens, 2005), and this in turn can impact on foraging habitat and food resources for waterbirds. In addition, invasion of *P. vaginatum* is associated with an increase in sediment accumulation, changing hydrology in New Zealand estuaries (Shaw and Allen, 2003; Graeme, 2005a, b).

Management Info
Preventative measures: A Risk Assessment of *Paspalum vaginatum* for Hawaii 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 7 and a recommendation of: "Likely to cause significant ecological or economic harm in Hawaii and on other Pacific Islands as determined by a high WRA score, which is based on published sources describing species biology and behavior in Hawaii and/or other parts of the world."

Mechanical control and grazing is not an option, as plants will resprout from fragments. Shaw and Allen (2003) recommend that vegetation development be monitored with permanent plots before control is considered. The information available for control of cord grass (*Spartina* spp.) in New Zealand is probably also applicable to *P. vaginatum*. Please follow these links to view complete profiles of *Spartina alterniflora* and *Spartina anglica*, including management information.

Principal source:

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Review:

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ALIEN RANGE

[1] ARGENTINA
[3] AUSTRALIA
[1] BERMUDA
[1] BRITISH INDIAN OCEAN TERRITORY
[1] CHILE
[1] CHINA
[4] COOK ISLANDS
[1] ECUADOR
[1] FIJI
[1] GUAM
[1] INDIA
[1] INDONESIA
[1] MALAYSIA
[4] MARSHALL ISLANDS
[1] MAURITIUS
[1] MEXICO
[13] NEW ZEALAND
[1] NIUE
[1] PHILIPPINES
[1] PORTUGAL
[1] SENEGAL
[1] SOUTH AFRICA

Red List assessed species 1: VU = 1;
Sterna nereis VU

BIBLIOGRAPHY
48 references found for Paspalum vaginatum

Management information
Summary: This book includes a synthesis of results of the CE- LIFE Program Spreading of the tropical seaweed Caulerpa taxifolia in the Mediterranean and the 46 lectures presented on the First International Workshop on Caulerpa taxifolia.
Summary: This publication contains the bibliographic references of 358 documents and scientific papers about Caulerpa taxifolia invasion in the Mediterranean Sea.


Summary: Seasonal light requirements and temperature tolerance of the Mediterranean C. taxifolia were examined by means of photosynthetic assays. These results indicate that this species is well adapted to light abd temperature typical of the infra-littoral and upper circalittoral zone in the Mediterranean. Its annual productivity pattern seems less affected by seasonal fluctuations than has been reported for endemic seaweeds; this response may explain its potentially high invasive capacity.

Summary: This paper discusses invasive plant species on Isabela Island (Galapagos) and makes recommendations for control and eradication.

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. Meinesz A., Cottalorda J. M., Chiaverni D., Cassar N and De Vaugelas J. (1998) Suivi de l invasion de l algue tropicale Caulerpa taxifolia en Mediterraneen: situation au 31 d?cembre 1997. Lab. Environnement Marin Litoral, Universit? de Nice-Sophia Antipolis publications: 1-238.
Summary: Report on the expansion of Caulerpa taxifolia in the Mediterranean coasts at end of 1997: 5 countries affected, 99 stations cited, 4630 ha concerned, 81 km of coast affected. The report included the cartography of the C. taxifolia populations in each station.

Summary: This book includes a synthesis of results of the CE- LIFE Program Spreading of the tropical seaweed Caulerpa taxifolia in the Mediterranean and the 54 lectures presented on the Second International Workshop on Caulerpa taxifolia.
Summary: This report describes the ecological impact of P. vaginatum and makes control recommendations.
Summary: Available from: http://ecommons.library.cornell.edu/handle/1813/2556 [Accessed 20 March 2008]

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

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

Summary: This information sheet provides information about restoration of wetlands in Western Australia.

Summary: This paper discusses the invasive plant species that occur in Malaysian agro-ecosystems.

Summary: This paper provides an assessment of the biodiversity of the Muthurajawela Wetland Sanctuary.


Summary: This is a synthesis of the knowledge on the ecology, biology, toxicity, impacts and management of the Mediterranean populations of Caulerpa taxifolia. And it concludes that if Caulerpa taxifolia continues to spread at present rates we will witness a major ecological event, with a strong decrease of eco-diversity, in the Mediterranean coastal waters.


Summary: This document outlines the vascular plants found at Biscayne National Park in Florida, USA. Available from: http://science.nature.nps.gov/im/units/sfcn/docs/BISC_Vascular_Plan_Final_Report.pdf [Accessed 23 April 2008]


Summary: This paper provides basic information about invasive plants in central-northern Spain.
Department of Environmental Protection. 1999. Honeymoon Island State Recreation Area, Unit Management Plan. Division of Recreation and Parks, Florida.

Summary: Available from: http://www.dep.state.fl.us/parks/planning/parkplans/LoversKeyStatePark.pdf [Accessed 23 April 2008]


Summary: This paper lists the alien plants present in Portugal.


Summary: This report presents the results of a detailed biological survey of the Waipio Valley on Hawaii Is.


Summary: This information sheet provides basic ecological and distribution information about P. vaginatum.


Summary: This paper discusses the ecological problems facing Chilika Lagoon in India’s Orissa state.


Summary: This report describes the vegetation at Kawhia Harbour, Waikato, New Zealand.


Summary: This report describes the vegetation at Port Waikato, New Zealand.


Summary: This paper talks about the ecological changes taking place in Australian coastal saltmarsh habitat.


Summary: This reports on a biological inventory of the proposed Jozani-Chwaka Bay National Park.


Pacific Island Ecosystems at Risk. 2007. Paspalum vaginatum

Summary: The PIER website provides an overview of invasive weeds such as P. vaginatum in the Pacific region.


Summary: This paper discusses the ecology of Australian floodplain rivers, including the vegetation composition.


Summary: This paper lists the invasive and potentially invasive plant species present in Spain.


Summary: This paper presents a list of the alien vascular plants of the Canary Islands.


Summary: This thesis examined the impacts of P. vaginatum on Galapagos ecosystems.


Summary: This paper presents the results of a botanical survey of the offshore Oahu islets.

Global Invasive Species Database (GISD) 2015. Species profile Paspalum vaginatum.


Summary: This paper provides information on Ramsar sites in the UK Overseas Territories. Available from: http://www.jncc.gov.uk/PDF/ramsar_ukOT_Crowndep_reportfinal_0205.pdf [Accessed 23 April 2008]


USDA, ARS, 2007. Paspalum vaginatum National Genetic Resources Program. Germplasm Resources Information Network. (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland

