# GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Verbena rigida***

***Verbena rigida*** 简体中文 正體中文

**System:** Terrestrial

| Kingdom | Phylum | Class | Order | Family |
|---|---|---|---|---|
| Plantae | Magnoliophyta | Magnoliopsida | Lamiales | Verbenaceae |

**Common name**

urgebao (Spanish), slender vervain (English), jarvao (Spanish), slank jernurt (Danish), handy garden verbena (English), lila vasfu (Hungarian), verveine (French), large-veined verbena (English), sporýš tuhý (Czech)

**Synonym**

*Verbena bonariensis* , L. var. *rigida* (Spreng.) Kuntze
*Verbena venosa* , Gillies & Hook
*Verbena rigida* , Spreng. var. *lilacina* (Harrow) Moldenke
*Verbena rigida* , var. *obovata*
*Verbena rigida* , forma *obovata* Hayek
*Verbena bonariensis* , L. forma *venosa* (Gillies & Hook.) Voss
*Verbena bonariensis* , L. forma *venosa* (Gillies & Hook.) Chodat
*Verbena bonariensis* , L. forma *robustior* Chodot
*Verbena doniana* , Steud.
*Verbena rigida* , Spreng. var. *reineckii* (Briq.) Moldenke
*Verbena rigida* , Spreng. forma *paraguayensis* Moldenke
*Verbena rigida* , Spreng. var. *glandulosa* Moldenke
*Verbena rigida* , Spreng. var. *alba* Moldenke
*Verbena rugosa* , D.Don
*Verbena scaberrima* , Cham.

**Similar species**

**Summary**

*Verbena rigida* is a perennial herb native to South America. It is popular for garden cultivation due to its conspicuous bright purple flowers that have an extended blooming period. However it has escaped cultivation in a number of countries around the world and has invaded native grasslands, crop fields and roadside areas.

view this species on IUCN Red List

**Species Description**

*Verbena rigida* is a perennial herb that reaches 50-60cm in height. It has erect to spreading stems that ascend from creeping rhizomes. Leaves are simple with pinnate venation, dark green in colour, oblong in shape, stalkless and measure 5-10cm in length. They are coarsely serrated, pointed, rigid and covered in rough hairs. Leaf arrangement is opposite/subopposite.Stems end in cylindrical spikes of small fragrant bright purple flowers. Flowers bloom in October – December. Corolla tubes measure up to 9mm long, fruiting spikes measure 20-50mm long. Fruits are dry, separating at maturity into 4 one-seeded segments. Seeds are known as mericarps and measure 2mm long (Moore, 2006; Gilman, 1999; Botanic Gardens Trust, 2009; Sapia News, 2010; Shoot, Undated).\r\n\r\n
Please visit PlantSystematics.org and USDA Plants Profile for *Verbena rigida* for high quality images of *Verbena rigida*.

**Uses**
*Verbena rigida* has an extended blooming period which shows off its vibrant purple colour (Moore, 2006). It is often used for mass planting, ground cover and for flower arrangements (Gilman, 1999). It is heat and drought tolerant making it useful for xeriscaping (Canberra Institute of Technology, 2004). Like many plants, *V. rigida* can also be used for erosion control on banks and slopes (Moore, 2006). Its fragrant purple flowers are also used for attracting butterflies and bees (Gilman, 1999).

**Habitat Description**
*Verbena rigida* is capable of naturalizing in habitats that range from disturbed areas to natural forests. In Australia, *V. rigida* has invaded woodlands, riverbanks and grasslands (Hunter, 1999). In South Africa it is becoming a common roadside weed and has established in climax grasslands (B. van Wyk, pers. comm. in Sapia News, 2010). *V. rigida* is a popular ornamental species that can flourish in urban environments and is planted along roadsides and highway medians because of easy maintenance and colour (Diamond Jr., 1985).\r\n\r\n
It grows in full sunlight, is very heat tolerant and moderately tolerant to drought, preferring moist but well-drained soils. It can grow in acidic, alkaline and neutral soil pH and on most soil types including sand, loam and clay and chalk (Gilman, 1999; Shoot, Undated).

**Reproduction**
The spread of *Verbena rigida* is facilitated by long white rhizomes that help to form dense colonies of the species by spreading out like underground stems in all directions (Russ, 2007). Seeds also play a major role in propagation of *V. rigida* but their dispersal methods are unclear (Davison, 1999).

**Nutrition**
*Verbena rigida* needs full exposure to the sun, and can use reflected sunlight to fulfill this requirement. *V. rigida* is drought tolerant and requires low amounts of water for survival. It was found that the best landscape performance was with regular irrigation every few weeks (Moore, 2006). In order to see a positive growth rate for *V. rigida* the soil must be well-drained and the surrounding area must be free from competition and overcrowding to ensure air circulation (Russ, 2007).

**General Impacts**
Gilman (1999) describes *Verbena rigida* as an aggressive, spreading plant. *V. rigida* has invaded woodlands, riverbanks, grasslands (Hunter, 1999) and cotton fields in Australia (Johnson & Hazlewood, 2002). It is a common roadside weed in South Africa.\r\n\r\n
Pammel (1911 in Schmidt, 2010) and Mitchell & Rook (1979 in Avalos & Maibach, 1999) note that *V. rigida* can cause dermatitis on contact with human skin.

**Principal source:**

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

**Review:** Expert review underway.

**Pubblication date:** 2010-05-07

**ALIEN RANGE**

**[3]** AUSTRALIA
**[1]** BELGIUM
**[1]** BERMUDA
**[1]** CZECH REPUBLIC
**[1]** DENMARK
**[2]** EL SALVADOR
**[1]** FRANCE
**[1]** HUNGARY
**[1]** JAPAN
**[1]** MEXICO

**[4]** NEW CALEDONIA
**[2]** PORTUGAL
**[1]** REUNION
**[1]** SWAZILAND
**[1]** TANZANIA, UNITED REPUBLIC OF
**[15]** UNITED STATES
**[1]** NEW ZEALAND
**[1]** PUERTO RICO
**[1]** SOUTH AFRICA
**[1]** SWEDEN
**[3]** UNITED KINGDOM

## BIBLIOGRAPHY

**46** references found for **Verbena rigida**

**Managment information**

Barker, J. and Randall, R. and Grice, T. May, 2006. Weeds of the future? Threats to Australia's grazing industries by garden plants. Published by Meat & Livestock Australia Limited
**Summary:** A report that identifies introduced garden plants and other species that present a significant risk to Australia s grazing industry.

Environmental Weed Rating (EWR): APPENDIX 1:
**Summary:** This report documents and ranks various weeds in Australia based on set criteria.
Available from: http://www.naturebase.net/pdf/plants_animals/environmental_weed_strategy_appendices.pdf [Accessed 15 February 2008]

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**

African Flowering Plants Database., undated. *Verbena rigida* Spreng. South African National Biodiversity Institute (SANBI)
**Summary:** A database supported by South Africa that has facts on the distribution, status, and ecology of various plants within the continent of Africa.
Available from: http://www.ville-ge.ch/cjb/bd/africa/details.php?langue=an&id=123134 [Accessed 15 February 2008]

Atlas of Florida Vascular Plants.2008.Institute for Systmatic Botany.Online database. *Verbena rigida*.
**Summary:** Provides basic species information and distributions within the state of Florida.
Available from: http://www.plantatlas.usf.edu/main.asp?plantID=1335 [Accessed 20 Februrary 2008]

Avalos, J. & Maibach, H.I. 1999. Dermatologic Botany. Dermatology: Clinical and Basic Science Series.

Botanic Gardens Trust. 2009. *Verbena rigida*.
**Summary:** Available from: http://www.rbgsyd.nsw.gov.au/science/Evolutionary_Ecology_Research/Ecology_of_Cumberland_Plain_Woodland/woodland_plants/verbena_rigida [Accessed 7 June, 2010]

Calflora, 2008. Information on California plants for education, research and conservation. Berkeley, California: The Calflora Database. *Verbena rigida*.
**Summary:** Site that displays information regarding distribution and general information on *Verbena rigida*.
Available from: http://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=8756 [Accessed 26 February 2008]

Canberra Institute of Technology. 2004. Drought tolerant plants suitable for water saving & Xeriscape Gardens. CiT Dept of Hortiuculture Weston Campus.
**Summary:** Available from: http://www.actewagl.com.au/publications/Xeriscape_List.pdf [Accessed 7 June, 2010]

DAISIE (Delivering Alien Invasive Species Inventories for Europe) 2008. Species Factsheet: *Verbena rigida* Spreng.
**Summary:** Available from: http://www.europe-aliens.org/speciesFactsheet.do?speciesId=19178

Davison, E. 1999. Ground Covers for Arizona Landscapes. Department of Plant Sciences, University of Arizona.
**Summary:** Report that explores appropriate gound covers for different landscape types in Arizona.
Available from: http://ag.arizona.edu/pubs/garden/az1110.pdf [Accessed 21 February 2008]

Diamond Jr., A.R., M. Woods, J. A. Hall, B. H. Martin. 2002. The Vascular Flora of the Pike County Pocosin Natrue Preserve, Alabama. Southeastern Naturalist. 1(1):45-54.
**Summary:** Journal article that discusses the vascular plants of Pocosin Nature Preserve in Alabama, how they got there and which species are there now.

Digital Atlas of the Virginia Flora. 2008. Virginia Botanical Associates. *Verbena rigida*.
**Summary:** Website that displays a digital atlas of the flora of Virginia and their distribution.
Available from: http://www.biol.vt.edu/digital_atlas/index.php?do=plant&plant=3660 [Accessed 21 February 2008]

Esler, A.E., 1988. The naturalisation of plants in urban Auckland, New Zealand 6. Alien plants as weeds. New Zealand Journal of Botany, 1988, Vol. 26: 585-618
**Summary:** A continuation study of the first Esler source (Esler, 1987) that discusses the role of alien plants as weeds and defines characteristics of each as it pertains to the spefic region of New Zealand.

Esler, A. E. & Sandra J. Astridge., 1987. The naturalisation of plants in urban Auckland, New Zealand 2. Records of introduction and naturalisation* New Zealand Journal of Botany, 1987, Vol. 25: 523-537
**Summary:** Study done that records the introduction and naturalisation of plants in the urban areas of Auckland, New Zealand.

Evans, E. 2005. NC State University College of Agriculture and Life Sciences. Plant Fact Sheets. Online database. *Verbena rigida*.
**Summary:** Website that includes information on various plants.
Available from: http://www.ces.ncsu.edu/depts/hort/consumer/factsheets/groundcover/verbena_rigida.html [Accessed 21 February 2008]

Gilman, E.F. 1999. *Verbena rigida* Fact Sheet FPS-599. University of Florida, Cooperative Extension Service, Institute of Food and Agricultural Services.

Global Biodiversity Information Facility (GBIF), 2008. Species: *Verbena rigida* Spreng.
**Summary:** Available from: http://data.gbif.org/species/13746080 [Accessed 15 June 2010]
Global Compendium of Weeds (GCW)., 2007. *Verbena rigida* (Verbenaceae).
**Summary:** A summary of information about *Verbena rigida* from the Global Compendium of Weeds that also provides references.
Available from: http://www.hear.org/gcw/species/verbena_rigida/ [Accessed 15 February 2008]
Heginbotham, M and A.E. Esler., 1985. Wild vascular plants of the Opotiki  East Cape region North Island, New Zealand. New Zealand Journal of Botany, 1985, Vol. 23 : 379-406
**Summary:** This study documented information on the wild vascular plants that grow freely on the East Cape region of North Island, New Zealand.
Hunter, John T.; Jennifer Kingston and Peter Croft, 1999. Vegetation and floristics of Kwiambal National Park and surrounds, Ashford, New South Wales. Cunninghamia Vol. 6(2): 1999
**Summary:** This publication gives relevant information for the vegetation and floristics of Kwaimbal National Park in Ashford, New South Wales, Australia.
ITIS (Integrated Taxonomic Information System), 2008. Online Database *Verbena rigida* Spreng.
**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=32118 [Accessed 16 February 2008]
Johnson, S. & Hazlewood, S. 2002. A guide for integrated management of weeds in cotton. Section J3: Weed Species Lists.
Mito, Toshikazu and Tetsuro Uesugi., 2004. Invasive Alien Species in Japan: The Status Quo and the New Regulation for Prevention of their Adverse Effects. Global Environmental Research 2004 AIRIES 8(2)/2004: 171-191
**Summary:** This study shows the data of the invasion of alien species in Japan, new regulation, and the prevention of future effects.
Available from: http://www.airies.or.jp/publication/ger/pdf/08-02-08.pdf [Accessed 15 February 2008]
Mohr, Charles., 1878. Foreign Plants Introduced Into the Gulf States. Botanical Gazette, Vol. 3, No. 5. (May, 1878), pp. 42-46.
**Summary:** Summary of the introduced plants to the Gulf States.
Moldenke, H.N. 1944. The Known Geographic Distribution of the Members of the Verbenaceae and Avicenniaceae. Supplement 2. Botanical Gazette, Vol. 106, No. 2. (Dec., 1944), pp. 158-164.
**Summary:** A report covering the distributions of members of the families Verbenaceae and Avicenniaceae over a broad scope.
Moldenke, H.N. 1945. The known geographic distribution of the members of the Verbenaceae and Avicenniaceae. Castanea, 10(2): 35-46.
Moldenke, H.N. 1948. The known geographic distribution of the members of the Verbenaceae, Avicenniaceae, Stilbaceae, and Symphoremaceae. Castanea, 13(3): 110-121.
Moore, T. 2006. Pima County Home Horticulture. Master Gardener Program. University of Arizona. Master Gardener Arid Plant List. *Verbena rigida*.
**Summary:** Website that provides information on various garden plants.
Available from: http://ag.arizona.edu/pima/gardening/aridplants/Verbena_rigida.html [Accessed 26 February 2008]
New Zealand Plant Conservation Network (NZPCN). 2005. Online database. *Verbena rigida*.
**Summary:** Website that provides information on plants found in New Zealand, from threatened and native to exotics.
Available from: http://www.nzpcn.org.nz/exotic_plant_life_and_weeds/detail.asp?WeedID=208 [Accessed 7 June 2010]
NOBANIS (North European and Baltic Network on Invasive Alien Species) 2010. *Verbena rigida*.
**Summary:** Available from: http://www.nobanis.org/speciesInfo.asp?taxaID=8318
Pacific Island Ecosystems at Risk (PIER)., 2006. *Verbena rigida* Spreng., Verbenaceae
**Summary:** Resource that displays listings and descriptions of plant species that threaten ecosystems of the Pacific islands.
Available from: http://www.hear.org/pier/species/verbena_rigida.htm [Accessed 15 February 2008]
Pullen, T.M., Jones Jr., S.B. & Watson Jr., J.R. 1968. Additions to the Flora of Mississippi. Castanea, 33(4): 326-334.
Ruckstuhl, E. Undated. The invasive exotic dirty dozens. Bayou Preservation Association.
**Summary:** Available from: http://www.bayoupreservation.org/html/BPA_exotics.pdf [Accessed 7 June, 2010]
Russ, K. 2007. Clemson University Extension Home & Garden Information Center. Online database. *Verbena rigida*.
**Summary:** Site that provides information on many members of the family Verbenaceae.
Available from: http://www.clemson.edu/extension/hgic/plants/pdf/hgic1175.pdf
Sapia (Southern African Plant Invaders Atlas) News. 2010. Sapia News No. 15. ARC-Plant Protection Research Institute, No. 15.
**Summary:** Available from: http://www.gisp.org/publications/other/SAPIAnewsletterapr2010.pdf [Accessed 7 June, 2010]
Schmidt, R.J. 2010. Verbenacea (Verbena family). Botanical Dermatology Database (BoDD).
Shoot. Undated. *Verbena rigida* (Slender vervain)
**Summary:** Available from: http://www.shootgardening.co.uk/plant/verbena-rigida [Accessed 7 June, 2010]
Space, James C. and Clyde T. Imada., 2004. Report to the Republic of Kiribati on Invasive Plant Species on the Islands of Tarawa, Abemama, Butaritari and Maiana. Contribution No. 2003-006 to the Pacific Biological Survey
**Summary:** Similar survey to one conducted in Somoa that looked at plant species of concern to a select group of islands.
Available from: http://www.hear.org/Pier/pdf/kiribati_report.pdf [Accessed 8 June 2010]
Space, James C. and Tim Flynn., 2002. Report to the Government of Samoa on Invasive Plant Species of Environmental Concern. U.S.D.A. Forest Service Pacific Southwest Research Station Institute of Pacific Islands Forestry Honolulu, Hawai'i, USA
**Summary:** The results of a survey that included invasive species and other plants of concern in the Samoan Island area.
Available from: http://www.hear.org/Pier/pdf/samoa_report.pdf [Accessed 15 February 2008]
Swaziland s Alien Plants Database, undated. *Verbena rigida* Spreng.
**Summary:** A database of Swaziland s alien plant species.

Taylor, Constance E.S.; Lawrence K. Magrath, Patricia Folley, Paul Buck, and Sydney Carpenter., 1996. Oklahoma Vascular Plants: Additions and Distributional Comments. Proc. Okla. Acad. Sci. 76:31-34 (1996)
**Summary:** Report that documents the new vascular plants of Oklahoma and includes distribution.
Available from: http://digital.library.okstate.edu.ezproxy.auckland.ac.nz/OAS/oas_pdf/v76/p31_34.pdf [Accessed 15 February 2008]
Tennesse Vascular Plants Database.undated.University of Tennessee Herbarium (TENN). Online database.*Verbena rigida*.
**Summary:** Site that displays the distribution within the state of Tennessee, by county, of various plant species.
Available from:
http://tenn.bio.utk.edu/vascular/database/vascular-database.asp?CategoryID=Dicots&FamilyID=Verbenaceae&GenusID=Verbena&SpeciesID=rigida [Accessed 21 February 2008]
USDA, ARS, 2010. *Verbena rigida* Spreng. National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database].
**Summary:** Available from: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?41169 [Accessed 7 June, 2010]
USDA, NRCS. 2010. The PLANTS Database *Verbena rigida* Spreng. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
**Summary:** Online database that includes detailed information about various plants in the United States and its territories.
Available from: http://plants.usda.gov/java/profile?symbol=VERI2 [Accessed 8 June 2010]
Villase&#65533;or, Jose L. and Francisco J. Espinosa-Garcia., 2004.The alien flowering plants of Mexico. Diversity and Distributions, (Diversity Distrib.) (2004) 10, 113&#65533;123
**Summary:** This published study examines the number and diversity of invasive plants found in Mexico.