

Sesbania punicea

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

Common name sesbania (English), rattle bush (English), scarlett wisteria (English), Brazilian rattlebox (English), rooi sesbania (English), rattlepod (English), red sesbania (English), Chinese wisteria (English), Brazilian glory-pea (English), rattelbox (English), rattlebox (English), coffee weed (English)

Synonym *Daubentonia punicea* , (Cav.) DC
Sesbania tripetii , (Poit.) hort. ex Hubb.
Daubentonia tripetii , Poit.
Piscidia punicea , Cav.
Sesbania tripetii

Similar species

Summary Commonly known as Brazilian rattlebox, *Sesbania punicea* is a deciduous, leguminous shrub that has been widely distributed from its native South American range as an attractive ornamental species. Escapes from cultivation have led to naturalisation in some areas where *S. punicea* rapidly forms dense impenetrable stands in riparian areas, preventing river access, excluding native species and altering habitats. Hydrology of the rivers in these riparian areas can be affected especially during flood events, raising water levels and increasing the rate of erosion. Biological control of *S. punicea* has been achieved in South Africa using three different weevil species and trials from the United States and South Africa have shown its vulnerability to a range of herbicides.



[view this species on IUCN Red List](#)

Species Description

Sesbania punicea is a deciduous, leguminous shrub that grows up to 4m tall, it may live for up to 15 years (Hoffmann & Moran, 1998). It has compound leaves 10 - 20cm long comprised of 10 - 40 small, oblong, dark green leaflets in opposite pairs each ending in a tiny pointed tip (Rice, 1998). In spring or early summer, it produces a profusion of attractive red, coral or orange flowers in dense sprays which may be up to 25cm long that droop or project outwards (Csurhes & Edwards, 1998; Rice, 1998). These flowers are typically 2 - 3cm long and are shaped like pea flowers (Rice, 1998). The seed pods of *S. punicea* are characteristic and are oblong, 6 - 8cm long and 1cm wide; they are longitudinally four-winged and borne on short 1.5 cm stalks (Rice, 1998). These seed pods are pointed at the ends and contain 4 - 10 large (>5 mm) seeds separated by partitions (Rice, 1998; Hunter & Platenkamp, 2003). The mesocarp or inner tissues of these seed pods are spongy and allow floatation for up to ten days even if split open (Hunter, unpub. data; in Hunter & Platenkamp, 1998).

Lifecycle Stages

Following germination, *Sesbania punicea* seeds give rise to large seedlings 5 - 10cm long. These elongate and produce leaves, growing as a single unbranched shoot for 1 - 2 years followed by production of widely diverging lateral shoots and the development of a broad crown that may reach up to 4 - 5m in height (Hunter & Platenkamp, 2003).



GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Sesbania punicea*

Uses

Sesbania punicea was introduced into the United States, South Africa and Australia as an ornamental garden species (Csurhes & Edwards, 1998).

Habitat Description

Sesbania punicea is adapted for coastal, wetland and riparian zones, possessing buoyant seed pods capable of being dispersed long distances on water currents (Hunter & Platenkamp, 2003) and requiring sufficient level of moisture for the survival of seedlings (Hoffmann & Moran, 1991a).

Reproduction

In typical conditions, *Sesbania punicea* begins producing seed in its second year producing between 100 and 1000 seed pods containing 5 - 10 large (> 5mm) seeds per pod (Hunter & Platenkamp, 2003). The mesocarp of these seed pods are spongy, allowing them to float for up to 10 days even if cracked (Hunter & Platenkamp, 2003). The large seeds are able to establish in a wider range of habitats than some native species. They germinate through abrasion and are capable of remaining in the seed bank for up to three years if no such abrasion occurs (Hunter & Platenkamp, 2003). At the Lower American River in California, Hunter & Platenkamp (2003) found seeds from previous years in the top 3 cm of soil with an average of about 1000 seeds per m² and with 16 % of these capable of germination following abrasion. In dense thickets, *S. punicea* can produce over 500 seeds per m² every year (Hunter & Platenkamp, 2003).

General Impacts

Sesbania punicea is capable of forming dense impenetrable thickets which can prevent river access, exclude native species and alter habitats (Hoffmann & Moran, 1988; in Hoffmann & Moran, 1991a; Hunter & Platenkamp, 2003). *S. punicea* can increase hydraulic roughness, thus raising the stage during flood events (Hunter & Platenkamp, 2003) and potentially causing water bodies to burst their banks as well as increase the rates of lateral erosion (Hoffmann & Moran, 1988; in Hoffmann & Moran, 1991a).

S. punicea is also known to contain saponine which is toxic to humans and other vertebrate species (Natali & Jeanmonod, 1996; in Brunel *et al.*, 2010).

Management Info

Preventative measures: A [Risk Assessment of *Sesbania punicea*](#) 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 high score of 9.5 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 behaviour in Hawai'i and/or other parts of the world."

S. punicea is listed as a 'P1 potential weed' and prohibited from sale in Queensland Australia (Csurhes & Edwards, 1998). *S. punicea* is listed in the Auckland Regional Pest Strategy (2007-2012) in the Research Programme section; as a species requiring further research to determine any possible negative effects on biodiversity in the future (ARPS 2007-2012).

Physical: Smaller plants can easily be hand-pulled and larger ones weed wrenched where there are individual plants or sparse infestations (Hunter & Platenkamp, 2003; Sacramento Area Flood Control Agency [SAFCA], 2007).

Chemical: Herbicide use is recommended for heavier infestations with more developed seed banks (SAFCA, 2007). While many different herbicides can be used by spraying or cut and paint techniques (Erasmus *et al.*, 1996; Working for Water, 2002) the tendency of *S. punicea* to grow in riparian areas or close to waterways should require the use of herbicides approved for use near aquatic environments.

Follow Up Treatments: Follow up treatments are necessary as seedlings sprouting during seed bank flushes are almost certain to appear following physical and/or chemical control (SAFCA, 2007; Buck *et al.*, undated). The use of herbicides have been found to be effective along with a technique called "flaming" or "blanching" in effectively controlling these seedlings (SAFCA, 2007; Buck *et al.*, undated).

Biological: The biological control of *S. punicea* in South Africa is considered to be a success. Three different weevil species have been used as biocontrol agents: the flower and leaf eating apionid *Trichapion lativentre*, the seed eating curculionid *Rhysomatus marginatus* and the stem and trunk boring curculionid *Neodiplogrammus quadrivittatus* (Moran *et al.*, 2003).

Please follow this link for [detailed information on the management of *Sesbania punicea*](#)

Pathway

Sesbania punicea is an attractive plant especially when in flower, and as such has been translocated from its native range as an ornamental species (Hoffmann & Moran, 1991a).

Principal source:

Compiler: IUCN SSC Invasive Species Specialist Group (ISSG) with support from the Auckland Regional Council (ARC)

Review: John Hoffmann, Zoology Department, University of Cape Town

Publication date: 2010-11-02

ALIEN RANGE

[1] AUSTRALIA

[2] ITALY

[1] SOUTH AFRICA

[1] FRANCE

[1] MAURITIUS

[1] UNITED STATES

BIBLIOGRAPHY

30 references found for *Sesbania punicea*

Management information

Brunel, S., Schrader, G., Brundu, G., & Fried, G. 2010. Emerging invasive alien plants for the Mediterranean Basin. Bulletin OEPP/EPPO Bulletin, 40, 219-238.

Global Invasive Species Database (GISD) 2025. Species profile *Sesbania punicea*. Available from: <https://iucngisd.org/gisd/species.php?sc=1673> [Accessed 31 March 2025]



GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Sesbania punicea*

[Buck, Peter; Loran May; Shannon Lucas and Eric Evans, n.d. Dry Creek Watershed Red Sesbania Control Project.](#)

Summary: Available from: <http://www.cal-ipc.org/symposia/archive/pdf/May%20sesbania.pdf> [Accessed 19 July 2010]

[California Invasive Plant Council \(Cal-IPC\), 2003. Sesbania punicea plant assessment form.](#)

Summary: Available from: <http://www.cal-ipc.org/ip/inventory/PAF/Sesbania%20punicea.pdf> [Accessed July 22 2010]

[California Invasive Plant Council \(Cal-IPC\), 2010. Sesbania punicea \(red sesbania, scarlet wisteria\)](#)

Summary: Available from: http://www.cal-ipc.org/ip/management/plant_profiles/Sesbania_punicea.php#news [Accessed 19 July 2010]

Csurhes, S., & Edwards, R. 1998. Potential environmental weeds in Australia: candidate species for preventative control. Environment Australia: National Weeds Program.

Erasmus, D. J.; Viljoen, B. D.; Coetzer, R. L. J., 1996. Efficacy of selected herbicides applied to *Sesbania punicea* stumps. Applied Plant Science. 10(1). 1996. 12-15.

Graaff, J. L & Van Staden, J., 1983. Seed coat structure of *Sesbania* species. Zeitschrift fuer Pflanzenphysiologie. 111(4). 1983. 293-300.

Graaff, J. L. & Van Staden, J., 1987. The relationship between storage conditions and seed germination in two species of *Sesbania*. South African Journal of Botany. 53(2). 1987. 143-146.

Hoffmann, J. H., 1988. An early assessment of *Trichapion lativentre* Coleoptera Apionidae for biological control of the weed *Sesbania punicea* Fabaceae in South Africa. Journal of the Entomological Society of Southern Africa. 51(2). 1988. 265-274.

Hoffmann, J. H., 1990. Interactions between three weevil species in the biocontrol of *Sesbania puniceae* Fabaceae, the role of simulation models in evaluation. Agriculture Ecosystems & Environment. 32(1-2). 1990. 77-88.

Hoffmann J. H and Moran V. C., 1991b. Biocontrol of a perennial legume, *Sesbania punicea*, using a florivorous weevil, *Trichapion lativentre*: weed population dynamics with a scarcity of seeds. Oecologia 88: 574-576

Hoffmann, J.H., & Moran, V.C. 1991a. Biological control of *Sesbania punicea* (Fabaceae) in South Africa. Agriculture, Ecosystems and Environment, 37, 157-173.

Hoffmann, J. H.; Moran, V. C., 1992. Oviposition patterns and the supplementary role of a seed-feeding weevil, *Rhyssomatus marginatus* (Coleoptera: Curculionidae), in the biological control of a perennial leguminous weed, *Sesbania punicea*. Bulletin of Entomological Research. 82(3). 1992. 343-347.

Hoffmann, J. H.; Moran, V. C., 1995. Localized failure of a weed biological control agent attributed to insecticide drift. Agriculture Ecosystems & Environment. 52(2-3). 1995. 197-203.

Hoffmann, J. H. & Moran, V. C., 1998. The population dynamics of an introduced tree, *Sesbania punicea*, in South Africa, in response to long-term damage caused by different combinations of three species of biological control agents. Oecologia 114: 343-348.

Hoffmann, J. H.; Moran, V. C. and Underhill, G., 1990. Relationships between the history of colonization and abundance of *Trichapion lativentre* Coleoptera Apionidae in the suppression of growth and reproduction of a weed *Sesbania punicea* Fabaceae. Environmental Entomology. 19(6). 1990. 1866-1872.

[Hunter, C. John & Gerrit A. J. Platenkamp, 2003. The Hunt for Red Sesbania: Biology, Spread, and Prospects for Control In California Exotic Pest Plant Council \(Cal-EPPC\) News, Protecting California's Natural Areas from Wildland Weeds. Vol. 11, No. 2, Summer 2003 Quarterly newsletter of the California Exotic Pest Plant Council](#)

Summary: Available from: http://www.cal-ipc.org/resources/news/pdf/cal-ipc_news5109.pdf [Accessed 19 July 2010]

Moran, J.H. Hoffmann and T. Olckers, 2003. Politics and ecology in the management of alien invasive woody trees: the pivotal role of biological control agents that diminish seed production. In Proceedings of the XI International Symposium on Biological Control of Weeds Canberra, Australia, 27 April-2 May 2003 Edited by J.M. Cullen, D.T. Briese, D.J. Kriticos, W.M. Lonsdale, L. Morin and J.K. Scott

Moran, V. C. & Hoffmann, J. H., 1989. The effects of herbivory by a weevil species acting alone and unrestrained by natural enemies on growth and phenology of the weed *Sesbania puniceae*. Journal of Applied Ecology. 26(3). 1989. 967-978.

[Olckers, T., 2004. Targeting emerging weeds for biological control in South Africa: the benefits of halting the spread of alien plants at an early stage of their invasion. Working for Water South African Journal of Science 100, January/February 2004](#)

Summary: Available from: <http://www.dwaf.gov.za/WFW/Docs/Papers/SAJSFeb2004olckers.pdf> [Accessed 19 July 2010]

[Pacific Island Ecosystems at Risk \(PIER\), 2005. Risk Assessment Sesbania punicea](#)

Summary: Available from: http://www.hear.org/pier/wra/pacific/sesbania_punicea_htmlwra.htm [Accessed 19 July 2010]

[Pacific Island Ecosystems at Risk \(PIER\), 2008. Species info Sesbania punicea](#)

Summary: Available from: http://www.hear.org/pier/species/sesbania_punicea.htm [Accessed 19 July 2010]

[Rice, B. 1998. Red alert! Sesbania punicea. Global Invasive Species Team. The Nature Conservancy](#)

Summary: Available from: <http://www.invasive.org/gist/alert/alrtsesb.html> [Accessed 22. 2010]

Strathie, L. W.; Hoffmann, J. H., 1993. Pre-winter settling by prepupae of a seed-feeding weevil *Rhyssomatus marginatus* Fahraeus (Coleoptera: Curculionidae), a biocontrol agent of *Sesbania punicea* (Cav.) Benth, (Fabaceae) in South Africa. African Entomology. 1(2). 1993. 141-144.

[Working For Water, 2002. Policy on the Use of Herbicides for the Control of Alien Vegetation.](#)

Summary: Available from: <http://www.dwaf.gov.za/wfw/Legal/Docs/doc/Herb%20Policy%2015January%202002%20.pdf> [Accessed 19 July 2010]

General information

Cromarty, P. & Scott, D.A. (eds). 1995. A Directory of Wetlands in New Zealand. Department of Conservation, Wellington, New Zealand

[Integrated Taxonomic Information System \(ITIS\), 2010. Sesbania punicea \(Cav.\) Benth.](#)

Summary: Available from: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=26954 [Accessed 19 July 2010]

[Ministry for the Environment \(MAF\), 1998. State of New Zealand's Environment. Chapter 7: key points.](#)

Summary: Available from: <http://www.mfe.govt.nz/publications/ser/ser1997/html/chapter7.3.html> [Accessed July 21 2010]

[USDA-ARS, 2010. Taxon: Sesbania punicea \(Cav.\) Benth. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - \(GRIN\) \[Online Database\]. National Germplasm Resources Laboratory, Beltsville, Maryland.](#)

Summary: Available from: <http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?33776> [Accessed 19 July 2010]



GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Sesbania punicea*

[USDA-NRCS, 2010. *Sesbania punicea* \(Cav.\) Benth. Rattlebox. The PLANTS Database. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.](#)

Summary: Available from: <http://plants.usda.gov/java/profile?symbol=SEPU7> [Accessed 19 July 2010]