**Rosa bracteata**

**System:** Terrestrial

<table>
<thead>
<tr>
<th>Kingdom</th>
<th>Phylum</th>
<th>Class</th>
<th>Order</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantae</td>
<td>Magnoliophyta</td>
<td>Magnoliopsida</td>
<td>Rosales</td>
<td>Rosaceae</td>
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</tbody>
</table>

**Common name**

**Synonym**

**Similar species**

**Summary**

Rosa bracteata (Macartney rose) is an evergreen perennial shrub, native to Asia, that has been introduced to the United States as an ornamental and used for livestock containment, erosion control, enrichment and cross-breeding rose cultivars. Since its introduction, Rosa bracteata has become invasive throughout the southeastern United States, especially in Texas where it is estimated to inhabit more than 250,000ha. It forms dense thickets and dominates habitats resulting in the reduction of foraging capacity of pastures and grasslands it readily overtakes and the displacement of native species.

[view this species on IUCN Red List](http://www.iucngisd.org/gisd/species.php?sc=1390)

**Species Description**

Macartney rose (*Rosa bracteata*) is an evergreen, thorny shrub bearing alternate, pinnately compound obovate leaves with serrated margins. Leaflets are dark green, leathery, and 2.5-8cm long. Its flowers, white with five petals and many yellow anthers, occur in small clusters. The fruits are small hips about 1cm in diameter and may be green or yellow which ripen to red. It grows in climbing, arching, or trailing shrubs about that may merge into thickets 3.5 height and several meters in diameter. Stems are arching canes with frequent recurved or straight thorns. It commonly grows in large clumps that may form impenetrable mounds 6m high (Grace *et al.* 2001; Everitt *et al.* 2002; Amrine Jr., 2003; TexasInvasives, 2004)

**Lifecycle Stages**

Macartney rose (*Rosa bracteata*) is a perennial with flowers bloom spring, fruits develop late summer through winter (TexasInvasives, 2004).
Uses
Macartney rose (*Rosa bracteata*) is a popular ornamental, used as a hedge and livestock containment and erosion control. It also serves as a habitat and food source (hips) for wildlife (Everitt *et al.* 2002; Grace *et al.* 2001). *R. bracteata* is used in the hybridization of cultivars for its very dark, leathery, glossy, disease-resistant leaves and heat tolerant characteristics (Ueda, 2000).

Habitat Description
Macartney rose (*Rosa bracteata*) commonly occurs in shrublands, grasslands, and disturbed areas such as rangeland, right-of-ways, fence lines, drainage ditches, and river bottoms. It prefers clayey soil and warm climate (TexasInvasives, 2004; Ueda, 2000).

Reproduction

Nutrition
Macartney rose (*Rosa bracteata*) produces a net photosynthetic rate of 18.7 μ mol m\(^{-2}\) s\(^{-1}\) at saturation irradiances. Prefers higher light intensities and clayey soils (Ueda, 2000; TexasInvasive, 2004).

General Impacts
Macartney rose (*Rosa bracteata*) is aggressive invasive forming dense thickets that displace native plants. Macartney rose competes with the endangered white bladderpod (*Lesquerella pallida*) in Texas. Encroachment by non-native species especially Macartney rose and honeysuckle are cited as the current most serious threat to the diminishing populations of the white bladderpod (U.S. Fish and Wildlife Service. 1992). The Macartney rose also ruins grazing pastures. It has been introduced for livestock containment in many areas and its spread has become a problem. Vegetation unpalatable to grazing livestock, but hips are edible Since it exhibits rapid succession and recovery, it commonly dominates pastures which have been overgrazed or burned. Macartney rose is able to regenerate from shoot bases, root buds, or from decumbent shoots and is quick to recover and spread after burnings. Its low mortality, efficient regrowth, and beneficial adaptation to fire render it a highly invasive weed (TexasInvasives, 2004; Grace *et al.* 2001; Everitt *et al.*, 2002).
Management Info

Preventative measures: Macartney rose (*Rosa bracteata*) is difficult to manage since it is a very tolerant and resilient species. Precautionary practices like using native species in livestock containment and gardening and taking care not to release or spread Macartney rose when hiking or traveling are important to managing its spread (TNC, 2008).

Physical: Mowing, bulldozing, chaining, and burning are all ineffective means of controlling *R. bracteata*, since it is a resilient plant that regrows quickly and is well adapted to fire. Mechanical control methods provide brief canopy reduction, increased foraging production, and facilitate livestock and machinery movement, but they are only short term means of control (Meyer & Bovey, 1984).

Chemical: *R. bracteata* is resistant to many herbicides. Relatively high concentrations of picloram and tebuthiuron granules, 4.5 kg/ha, are the best means of longterm control for *R. bracteata*. One Texas study tested seven different herbicides by spray and granule application. Only subsurface application of picloram at a 4.5 kg/ha rate and tebuthiuron at 2.2 and 4.5 kg/ha rates were effective. These treatments yielded a canopy reduction of 74-79% (Meyer & Bovey, 1979). Subsequent studies have shown several successive sprays of 2,4-D, single applications of picloram, picloram and 2,4-D, or picloram and 2,4,5-T to reduce Macartney rose canopy by 95% 2 to 4 months following treatment, but populations recovered subsequently. Only picloram and tebuthiuron at 4.5 kg/ha maintained control through subsequent years (Meyer & Bovey, 1984). Herbicides chlorsulfuron and metsulfrom were only marginally effective (killing 15-43%) on Macartney rose (Meyer & Bovey, 1990). Another method of treatment recommends: "Apply Escort at 1 ounce per acre in water (0.2 dry ounces in 3-gal. sprayer) with a surfactant to wet foliage in April to June (at or near the time of flowering). Or, apply Arsenal AC as a 1% solution in water (4 ounces in a 3-gal. sprayer) and a surfactant to thoroughly wet all leaves in August to October. A less effective treatment with no soil activity to damage surrounding plants requires repeated applications of a glyphosate herbicide as a 2% solution in water (8 ounces in a 3-gal. sprayer) with a surfactant to thoroughly wet all leaves in May to October. With all herbicides, spray foliage of climbing stems as high as possible. Cut-treat with a 10%-20% solution of a glyphosate herbicide (1-2 quarts in 3-gal. sprayer) in water with a surfactant (Miller, 2002)."

Integrated management: The combination of herbicide application before prescribed burnings at 2-3 year intervals was shown to accomplish control previously requiring annual herbicide treatment. Similar long term results were obtained by the application of 5-10% picloram granules following a burning (Scifres, 1980).

Remote sensing using mean light reflectance of aerial photography was proved to be an effective way of indentifying and quantifying Macartney rose populations. Its high near infrared reflectance provided for 100% identification accuracy (Everitt et al. 2002).

Principal source:

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

**Review:** Dr. Walter Lewis, Professor Emeritus, Department of Biology, Washington University in St. Louis
FULL ACCOUNT FOR: *Rosa bracteata*

**Publication date:** 2010-06-04

**ALIEN RANGE**

[1] AUSTRALIA  
[1] EUROPE  
[1] LESSER ANTILLES  
[14] UNITED STATES  
[1] UNITED KINGDOM  
[1] WEST INDIES

**BIBLIOGRAPHY**

32 references found for *Rosa bracteata*

**Management information**


**Summary:** An informative article on the use of remote sensing to identify Macartney rose.


**Summary:** This study recommends combining herbicide treatment with burnings.


**Summary:** This article discusses the use of fire as a management tool for invasive grasslands species.


**Summary:** A test of herbicides on Macartney rose and other weeds.


**Summary:** This article tests several herbicide control methods on *Rosa bracteata* and finds soil applied herbicides work best.


**Summary:** A study of herbicides on controlling Macartney rose with long term observations.


**Summary:** This study tests herbicides on Macartney rose along with other weeds.


**Summary:** A study of herbicides on controlling Macartney rose and other invasives.


**Summary:** Burning as management technique


FULL ACCOUNT FOR: *Rosa bracteata*

**Summary:** This management project targeted invasives threatening the grassland birds via reduction of foraging resources.

**Summary:** This database compiles information on alien species from British Overseas Territories.
Available from: http://www.jncc.gov.uk/page-3680 [Accessed 10 November 2009]

**General information**
**Alabama Invasive Plant Council (ALIPC)., undated.** Alabama s 10 worst invasive weeds
**Summary:** Brief information concerning Macartney rose in Alabama

**Summary:** A profile on the Multiflora rose with a common name of Macartney rose

**Summary:** Biological invasions by alien (non-native) species are widely recognized as a significant component of human-caused global environmental change and the second most important cause of biodiversity decline. Alien species threaten many European ecosystems and have serious environmental, economic and health impacts. The DAISIE (Delivering Alien Invasive Species Inventories for Europe) project has now brought together all available information on alien species in Europe (terrestrial, aquatic and marine) and from all taxa (fungi, plants, animals). Thus for the first time, an overview and assessment of biological invasions in the Pan-European region is finally possible.
The Handbook of Alien Species in Europe summarises the major findings of this groundbreaking research and addresses the invasion trends, pathways, and both economic as well as ecological impact for eight major taxonomic groups. Approximately 11,000 alien species recorded in Europe are listed, and fact sheets for 100 of the most invasive alien species are included, each with a distribution map and colour illustration.
The book is complemented by a regularly updated internet database providing free additional information. With its highly interdisciplinary approach, DAISIE and its Handbook will be the basis for future scientific investigations as well as management and control of alien invasive species in Europe.
Preview available from:
http://books.google.co.nz/books?id=g-syyoXw2gC&pg=PA193&dq=Rosa%20bracteata&fp=false [Accessed 4 June, 2010]

**Dang, Bachlien; Jianxin Lin and Yuanjian Deng, 2003.** Chemical Analysis and Toxicity Study of Macartney Rose. Department of Chemistry, Texas Southern University, Houston, TX

**Summary:** Detailed US distribution information.

**Early Detection and Distribution Mapping System (EDDMapS)., 2008.** Species Information: Macartney rose.
**Summary:** Available from: http://www.eddmaps.org/species/subject.cfm?sub=4606 [Accessed 11 February 2008]

**ITIS (Integrated Taxonomic Information System), 2008.** Online Database *Rosa bracteata* J.C. Wendl.
**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.


**Plant Conservation Alliance (PCA) - Alien Plant Working Group s., 2007.** Alien Plant Invaders of Natural Areas: Macartney rose *Rosa bracteata*
**Summary:** Distribution information.

Global Invasive Species Database (GISD) 2015. Species profile *Rosa bracteata.*
GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Rosa bracteata*

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**Smithsonian Environmental Research Center, 2009.** Chinese Mitten Crab Update. [Accessed January 14, 2009]


**Smithsonian National Museum of Natural History, Undated.** Flora of the West Indies: Catalogue of the Seed Plants of the West Indies.

Summary: Available from: http://botany.si.edu/Antilles/WestIndies/results.cfm?formid=ja


**The Nature Conservancy (TNC)., 2008.** Invasive Plants.


**USDA, ARS, 2008.** National Genetic Resources Program. *Rosa bracteata* J. C. Wendl. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland.


Summary: The national list identifies 1036 naturalised garden plant species and taxa that are actual or potential environmental and agricultural weeds. Available from: http://wwf.org.au/publications/ListInvasivePlants/

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