GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Rosa bracteata***

Rosa bracteata 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Rosales	Rosaceae

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

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 inmpenetrable 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
Sexual. Perennial. Hips readily consumed and seeds germinate from animal and bird feces (TexasInvasives, 2004).

Nutrition
Macartney rose (*Rosa bracteata*) produces a net photosynthetic rate of 18.7 µ mol m-2 s-1 at saturation irrradiances. Prefers higher light intesities 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. Encroachement 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 yeilded 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 recomends: \"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 relectance 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)

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ALIEN RANGE

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

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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&lpg=PA193&dq=europe+rosa+bracteata&source=bl&ots=XwrFKKQJwa&sig=pOQzowvD1OjQpMlVfu0C7xdyjO0&hl=en&ei=pj4ITOzxB4HBccDL9cUO&sa=X&oi=book_result&ct=result&resnum=5&ved=0CCMQ6AEwBA#v=onepage&q=Rosa%20bracteata&f=false [Accessed 4 June, 2010]
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