GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Melastoma candidum***

Melastoma candidum 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Myrtales	Melastomataceae

Common name Malabar melastome (English, Hawaii), Indian rhododendron (English, Hawaii), Asian melastome (English)

Synonym *Melastoma septemnervium*

Similar species *Melastoma malabathricum, Melastoma sanguineum, Tibouchina urvilleana*

Summary Melastoma candidum (Asian melastome) is an invasive shrub that can spread rapidly and may form dense monotypic thickets in a variety of habitats such as: open land, grassland, shrubland and native forest. It originates from southeast Asia and was introduced to Hawaii as an ornamental shrub. All species of the genus Melastoma have a notoriously weedy history and noxious weed status but are still cultivated in Hawaii and elsewhere.

view this species on IUCN Red List

Species Description
Melastoma candidum are \"Erect shrubs or small trees 1.5-5m tall, branches and petioles are densely covered with a mixture of short, appressed, laciniate scales 0.5-1mm long and longer lanceolate scales 1.5-5mm long. Leaves elliptic to elliptic-ovate, 4-11cm long, 1.3-4cm wide, 5(-7) nerved, upper surface strigose to scabrous, lower surface sericeous but with a mixture of scales on the nerves like those of the young branches, margins entire, apex acute, base obtuse to rounded, petioles 5-12mm long. Inflorescenses 2-7 flowered, pedicels 10-12mm long in fruit, bracts and bracteoles elliptic, lanceolate, or ovate, 1-2.2cm long, 0.5-1.3cm wide, early deciduous; hypanthium densely covered with imbricate, lanceolate, ciliolate scales; calyx 5-lobed, triangular-lanceolate, 0.7-2cm long; petals usually 5, pink, 2.5-3.2cm long, 1.5-2.3cm wide; anthers of larger stamens 10-11mm long, anthers of smaller stamens 8.5-10mm long. Berries 5-celled, 10-15mm long.\" (Wagner *et al.*, 1999 in Starr *et al.* 2003)

Notes
Some *Tibouchina* species may be confused as *Melastoma* species (Starr *et al.* 2003).

Lifecycle Stages
Perennial (USDA-NRCS 2006)

Uses
Melastoma spp. are introduced through the horticulture trade and are still cultivated as ornamental shrubs in Hawaii and elsewhere (Starr *et al.* 2003). *Melastoma candidum* is also a Chinese medicinal herb of Hong Kong (USDA-GRIN 2006).

Habitat Description
Melastoma candidum grows in light forests, clearings, and grass lands, or on rocky slopes from sea level to 1,500m elevation (Starr *et al.* 2003). It favours mesic to wet areas and bog margin habitats in Hawaii (Wagner *et al.* 1999 in PIER 2006).

Reproduction
Melastoma candidum produce berry-like fruits that are dispersed by frugivorous birds (Smith 1985 in PIER 2006). \"Many plants in the family Melastomataceae are pollinated by bees. *Melastoma* spp. can be propagated from seeds.\" (Meyer 2000 in Starr *et al.* 2003)

General Impacts
Melastoma candidum can spread rapidly and smother to death vegetation that stand in its way (Degener 1973 in Starr *et al.*). Both *M. candidum* and the related similar species *M. sanguineum* form dense monotypic thickets up to 2m tall (Starr *et al.* 2003).

Management Info
Preventative measures: A Risk Assessment of *Melastoma candidum* 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 13 and a recommendation of: \"Reject the plant for import (Australia) or species likely to be of high risk (Pacific).\"
Chemical: Asian melastome is \"sensitive to hormone type herbicides 2,4-D, dicamba and triclopyr at 1 lb/acre, and to metsulfuron at 0.45 oz/acre. It is sensitive to basal bark and stump bark applications of 2,4-D and triclopyr at 4% in diesel.\" (Motooka *et al.*, 2002).
Cut at the base of the plant and treat with a herbicide. Cut material should be disposed off properly.
Ester formulations of triclopyr may be mixed in oil at 20% concentration or more and applied as in horizontal or vertical streaks on the basal bark to kill stumps (Motooka *et al.*, 2002). These methods will cause less effects on native species that coexist with the target (Starr *et al.* 2003).
Soluble herbicide triclopyr can be drizzled over weeds at the appropriate concentration. However it is uncertain whether foliar spray applications would work, and this would have the most non-target effects and may be unsitely in a garden situation (Starr *et al.* 2003).
Biological: Several moth species (Lepidoptera) have been introduced as biological control agents for *M. candidum* in Hawaii (Teramoto and Heu 2000 in Starr *et al.* 2003).
Physical: Small, cultivated specimens can be pulled up by hand (Starr *et al.* 2003).
Preventative measures: All species in the genus *Melastoma* are listed as Hawaii state noxious weeds, making it illegal to possess, sell, and propagate them in Hawaii. The public could be discouraged from using any plants in the family Melastomataceae. The public could also be discouraged from planting *hapu'u* ferns (*Cibotium* spp.) or use *hapu'u* mulch that is harvested from the wild forests of Hawaii as they often harbor noxious weed species such as *Melastoma* spp. (Starr *et al.* 2003).

Pathway
Melastoma spp. are spread long distance by humans in the horticulture trade and are still cultivated as an ornamental shrub in Hawaii and elsewhere (Starr *et al.* 2003).Asian melastome can disperse accidentally as contaminants on hapu'u ferns or hapu'u mulch that is harvested from the wild forests of Hawai'i Island (Starr *et al.* 2003).

Principal source: Starr *et al.*. 2003. *Melastoma candidum*. United States Geological Survey.
PIER 2006 *Melastoma candidum*

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

Review: Forest Starr and Kim Starr, Botanical Research Associates United States Geological Survey Biological Resources Division Makawao, Maui, Hawaii USA

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ALIEN RANGE

[5] UNITED STATES

BIBLIOGRAPHY

7 references found for **Melastoma candidum**

Managment information

Forest Starr, Kim Starr, and Lloyd Loope. 2003. *Melastoma candidum*. United States Geological Survey--Biological Resources Division Haleakala Field Station, Maui, Hawaii, USA.
Summary: This paper provides detailed biological, distribution and management information for *Melastoma* spp. control in Hawaii.
Available from: http://www.hear.org/starr/hiplants/reports/pdf/melastoma_candidum.pdf [Accessed 22 November 2006]

Motooka, P., L. Castro, D. Nelson, G. Nagai and L. Ching . 2002. Weeds of pastures and natural areas of Hawaii and their management. In press.

PIER (Pacific Island Ecosystems at Risk) 2006. *Melastoma candidum* D. Don, Melastomataceae.
Summary: PIER provides detailed biological, distribution and management information about invasive plant species occurs around the Pacific region, This page details *Melastoma candidum*.
Available from: http://www.hear.org/pier/species/melastoma_candidum.htm [Accessed 22 November 2006]

General information

ITIS (Integrated Taxonomic Information System), 2006. Online Database *Melastoma candidum* D. Don.
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=503736 [Accessed 20 July 2007]

James D. Jacobi and Fredrick R. Warshauer. 1992. Distribution of six alien plant species in upland habitats on the island of Hawaii.
Summary: This paper discusses the distribution pattern and effects of alien species on the Hawaii Island.
Available from: http://www.botany.hawaii.edu/faculty/duffy/book/1992_chap/08.pdf [Accessed 30 November 2006]

USDA-GRIN (United States Department of Agriculture - Germplasm Resources Information Network). 2006. *Melastoma candidum* D. Don. National Genetic Resources Program. [Online Database] National Germplasm Resources Laboratory, Beltsville, Maryland, USA.
Summary: The Germplasm Resources Information Network s (GRIN) mission is to support four projects, the National Plant Germplasm System (NPGS), the National Animal Germplasm System (NAGP), the National Microbial Germplasm Program (NMGP), the National Invertebrate Germplasm Program (NIGRP).
GRIN provides National Genetic Resources Program (NGRP) personnel and germplasm users continuous access to databases for the maintenance of passport, characterization, evaluation, inventory, and distribution data important for the effective management and utilization of national germplasm collections. This page details *Melastoma candidum*.
Available from: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?423471 [Accessed 30 November 2006].

USDA-NRCS (United States Department of Agriculture - Natural Resource Conservation Service). 2006. *Melastoma candidum* D. Don Asian melastome. [The PlANTS Database] National Plant Data Center, Baton Rouge, LA, USA.
Summary: The PLANTS Database provides standardized information about the vascular plants, mosses, liverworts, hornworts, and lichens of the U.S. and its territories. This page details *Melastoma candidum*.
Available from: http://plants.usda.gov/java/nameSearch [Accessed 30 November 2006].