

# *Rhodomyrtus tomentosa*

Downy rose myrtle

Myrtaceae

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## OVERVIEW

Downy rose myrtle (*Rhodomyrtus tomentosa*) is an attractive ornamental plant with edible fruit and pretty rose colored flowers. It readily escapes from gardens forming dense impenetrable thickets and crowding out desirable species. It is considered a serious pest in Hawai'i and Florida. In Hawai'i, *R. tomentosa* is naturalized on Kaua'i, O'ahu, and Hawai'i where it covers large acreage and often dominates areas it invades. On Maui, three locations have recently been located and controlled. No other known naturalized plants have been documented so far on Maui. Early detection and eradication of *Rhodomyrtus tomentosa* on Maui along with prevention of introduction could potentially prevent massive infestations and costly control measures in the future. Areas that seem most vulnerable on Maui, based on habitat where downy rose myrtle has invaded elsewhere in the world, include mesic to wet forests in both disturbed and native ecosystems from sea level upwards to about 2,440 m (8,000 ft) elevation. Areas where *R. tomentosa* has been found on Maui should be monitored and continually searched for new plants.

## TAXONOMY

**Family:** Myrtaceae (myrtle family) (Wagner et al. 1999).

**Latin name:** *Rhodomyrtus tomentosa* (Aiton) Hassk. (Wagner et al. 1999).

**Synonyms:** *Myrtus tomentosa* Aiton, *Rhodomyrtus parviflora* Alston (Wagner et al. 1999).

**Common names:** Downy rose myrtle, downy myrtle, rose myrtle, hill gooseberry, Ceylon hill cherry, hill guava (Wagner et al. 1999, PLANTS 2002, GRIN 2002).

**Taxonomic notes:** The genus *Rhodomyrtus* includes about 20 species from tropical Asia to New Caledonia and Australia (Wagner et al. 1999).

**Nomenclature:** The name is derived from the Greek *rhodon* meaning red and *myrtos* meaning myrtle, referring to rose colored flowers that are common in plants of this genus (Wagner et al. 1999).

**Related species in Hawai'i:** No other *Rhodomyrtus* are reported from Hawai'i.

## DESCRIPTION

"Small shrubs or trees to 2-3 m tall. Leaves coriaceous, elliptic to ovate-elliptic or obovate-elliptic, 5-8 cm long, 1.5-4 cm wide, 3(-5)-nerved, upper surface glossy and glabrate, lower surface densely tomentose, petioles 0.4-1 cm long. Flowers 1-5 in axillary cymes, each one subtended by 2 small bracts; sepals orbicular, 3-4 mm long, tomentose;

petals rose pink, ca. 10-13 mm long. Berries dark purple, ellipsoid, ca. 12 mm long." (Wagner et al. 1999).

## **BIOLOGY & ECOLOGY**

**Cultivation:** Downy rose myrtle is cultivated for its ornamental and edible attributes. This small evergreen shrub has attractive furry leaves, showy rose colored flowers, and purple berries that can be eaten raw or made into a jam. In Hawai'i, flowers are used to make lei.

**Invasiveness:** Several characteristics make downy rose myrtle an invasive pest plant. Downy rose myrtle is popular in landscaping and has quickly spread from gardens becoming a pest plant (APIRS 2001; Wagner et al. 1999). In Florida, it forms dense thickets that out-compete native vegetation and converts the understory to a monotypic thicket (Langeland and Burks 1998). The plant has aggressive growth rates and can spread from seeds by birds and mammals that eat the fruit (C.W. Smith 1998; APIRS 2001). Plants are able to tolerate a wide range of elevation and environmental conditions, including slight freezes and salt spray (APIRS 2001). Plants are able to stand temperatures to  $-7$  C (Daleys Fruit Tree Nursery 2001). Other invasive characteristics include numerous seed production as well as a high percentage of seed germination (J. Smith 1998). In addition, downy rose myrtle is fire adapted and can resprout prolifically after fires (APIRS 2001).

**Pollination:** Unknown.

**Propagation:** *R. tomentosa* can be propagated by seeds.

**Dispersal:** Downy rose myrtle is spread by humans who use the plant in landscaping. It readily escapes the garden and is further spread by fruit eating birds and mammals (C.W. Smith 1998; APIRS 2001).

**Pests and diseases:** Unknown.

## **DISTRIBUTION**

**Native range:** Native from India to southeastern Asia and the Philippines (Wagner et al. 1999).

**Global distribution:** Jackie Smith (1998) of the Florida Department of Environmental Protection (DEP) says of *Rhodomyrtus tomentosa* in Florida, "The plant was initially spread by the U.S. Department of Agriculture and taken from there by the plant nursery industry. It is also utilized by birds as a food source increasing the spread of the seeds throughout south and central Florida. The plant was first found in natural areas in the 1950's and was forming monocultures in the 1960's. At this time, it can be found in 17 counties and as far north as Volusia County and is still sold for ornamental use and a small number of people have tried to use the fruit in the food industry." Heavy infestations already occur in several central and southern counties of Florida where it is now considered to be potentially worse than Brazilian pepper tree (*Schinus*

*terebinthifolius*) (Langeland and Burks 1998). According to PIER (2000) it was reported as a serious problem on Raiatea, French Polynesia. Langeland and Burks (1998) report that it is widespread in the tropics and subtropics to 2,400 m (8,000 ft) elevations.

**State of Hawai'i distribution:** In Hawai'i, downy rose myrtle is cultivated and naturalized in disturbed mesic forest to wet forest, rarely bog margins, 200-640 m (656-2,100 ft) on at least Kaua'i, O'ahu, and Hawai'i, but cultivated on all of the main islands (Wagner et al. 1999). On Kaua'i, there is a major infestation, particularly in Kilohana Crater (C.W. Smith 1998). Infestations in some areas on Kaua'i are said to be displacing *Melastoma candidum* (C.W. Smith 1998). On the island of Hawai'i, dense stands can be observed near Hilo.

**Island of Maui distribution:** On Maui, downy rose myrtle was not previously known to be present until recently. To date, three locations have been found and controlled. The first location was from a single individual plant that was in cultivation in a botanical garden in Kula. This plant has since been controlled. Recently, another new location of less than a dozen of what appeared to be cultivated plants was found on Ha'iku Rd. on the east wall of Pauwela gulch at an elevation of about 150 m (500 ft). The plants are growing on a steep bank on the side of the road in association with other weedy naturalized and cultivated species such as Chinese banyan (*Ficus microcarpa*), java plum (*Syzygium jambos*), and napier grass (*Pennisetum purpureum*). Some plants were 2-3 m tall and a few smaller plants were also observed. A preliminary search of adjacent areas was conducted and no other plants were found. Both flowers and fruits were present and some ripe fruit appeared to have been nibbled on by something, possibly a bird. A third location has also been found at a residence in Ha'iku Hill where a hedge of *R. tomentosa* was planted along a driveway in a relatively new neighborhood. There was also a plant found in the neighbors yard that had apparently come on its own. These plants have all been controlled.

## **CONTROL METHODS**

**Physical control:** Small seedlings and plants can be pulled or dug out by hand. Fruit should be bagged and disposed of properly so it is not further dispersed by birds. Plants should not be dumped or spread to new areas.

**Chemical control:** Trials need to be done, but it seems possible to get effective control of *R. tomentosa* by using a foliar spray, cut stump, basal bark or frill methods.

**Biological control:** No information on biological control was found.

**Cultural control:** The public could be informed not to plant or spread harmful plants.

**Noxious weed acts:** Downy rose myrtle is a noxious weed in the states of Florida and Hawai'i (GRIN 2002). In Australia, this plant is prohibited from entry into Western Australia by the National Australian Quarantine Strategy. In 1998, a shipment of *Rhodomyrtus tomentosa* bound for Western Australia was seized because it was not on their permitted list (DOA-WA 1998).

## MANAGEMENT RECOMMENDATIONS

Though downy rose myrtle is known from most of the main islands of Hawai'i, Maui is relatively free of this pest plant. Several sites have already been controlled. Reintroduction of this species from neighbor islands or elsewhere is illegal, though likely to occur. Early detection of new plants will be important to control them before they spread. Better prevention strategies such as Western Australia's permitted and prohibited list would also help to reduce the risk of future introductions. The public could be educated to not plant or spread *Rhodomyrtus tomentosa* and to report any new sightings to MISC.

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