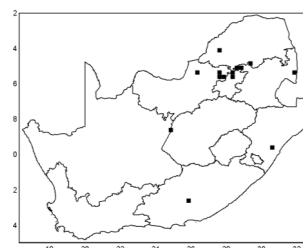


ARC-PPRI FACT SHEETS ON INVASIVE ALIEN PLANTS  
AND THEIR CONTROL IN SOUTH AFRICA

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The cactus mealybug, *Hypogeococcus pungens*, has been released as a biological control agent against harrisia cactus (*Harrisia martinii*) infestations in South Africa. The agent has established well at all release sites, and has proved to be extremely damaging. However, since only the male mealybugs can fly, the agents' dispersal is limited, and manual intervention is required in areas where they are not present.

#### DESCRIPTION

Mealybugs are covered in a mass of white, waxy threads, and live in colonies clustered on the distorted growth tips (i). Females are pinkish, the size of a pinhead, and never emerge from beneath the threads. Immature females are mobile only briefly, while males remain mobile, complete their life cycle on a more exposed part of the plant, and grow wings when they mature.



#### LIFE CYCLE

Females lay single eggs that hatch within minutes. The nymphs (ii) are called crawlers because they have functional legs which they use to crawl to the tips of plants. From here, they may be dispersed by wind to nearby plants where they congregate into new colonies. Females become sessile, continue producing wax, have 3 nymphal stages, and mature as adults after about a month. After their second moult, males pupate in a white, cotton cocoon, emerge with wings, and disperse in search of females.



#### FEEDING DAMAGE

Adult females and all nymphs have long, thready mouthparts that are used to suck sap from the plants. They only feed on the growth tips of the cactus, stunting growth and causing deformities. A heavily infested plant becomes a mass of twisted and distorted stems (iii). Females feed throughout their lives, whereas males only feed as nymphs. Adult males only live for a few days.



#### IMPACT ON HARRISIA CACTUS

The mealybug is extremely damaging. Although a large, infested cactus takes time to die, it produces fewer flowers and fruit which limits its reproduction. Surrounding seedling plants die fairly quickly. When the cactus infestation becomes sparse, the insects may not reach surrounding plants and will have to be transferred manually to prevent them from dying out. Preferably, this should be done in spring and summer, but not after rain because the insects may have been dislodged. The other biological control agent released on this plant, the longhorn beetle, *Nealcidion cereicola*, is not as widespread. At sites where either agent is present, the cactus is considered to be under complete biological control (iv), and no other control methods are necessary. Both insects are also effective agents on queen of the night (*Cereus jamacaru*), and can be harvested from these plants.



environmental affairs

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