



The longhorn beetle, *Nealcidion cereicola* (Fisher) has been released as a biological control agent against harrisia or moonlight cactus (*Harrisia martinii*) infestations in South Africa. Unfortunately, the beetles do not fly readily, so have not dispersed as well as hoped, and have established at only a few sites. However, where the insect is present and its populations are high, it is extremely damaging to the plant.

DESCRIPTION

Male and female beetles are similar—approximately 14 mm long and about 5 mm wide, with antennae almost the length of the body (i). They are seldom seen since they are nocturnal and, with their mottled colouring, are well camouflaged. The larvae feed inside the plant tissue, so are also seldom seen and their presence may only be obvious by the lesions their feeding creates.



LIFE CYCLE

In summer, the female chews holes into the woody parts of the cactus, and lays a single egg in each one. In about a week, these hatch into yellowish, legless larvae with brown mandibles (ii). After about 6 weeks the larvae pupate. In summer, they emerge as adults within about 10 days but, in winter, remain in the pupae and only emerge in summer. Most adults emerge between October and December, and live for 2-6 months. Both larvae and adults are tolerant of fairly cold weather.



FEEDING DAMAGE

Once the larvae hatch, they feed in the plant tissue just below the epidermis, causing a ring of rotting tissue. After about two weeks, when the mandibles are stronger, the larvae tunnel deeper, feeding in the stem and blocking their tunnels with frass (plant fibres). This feeding destroys the xylem (the tissue that transports water and nutrients), and kills all plant tissue above ground. The plant is forced to obtain nutrients from its underground tubers, creating stress and depleting reserves. Although the adults are not as damaging as the larvae, they chew holes in the stem, and the females' oviposition sites puncture the surface (iii), making the plant vulnerable to other insects and pathogens.

IMPACT ON HARRISIA CACTUS

This agent is extremely damaging to harrisia cactus (iv). Unfortunately, since it does not disperse readily, it is only present at a few sites. The other biological control agent released on this plant, the mealybug *Hypogeococcus pungens*, has dispersed well. At sites where both agents are present, the cactus is considered to be under complete biological control, and no other control methods are necessary. Both insects are also effective agents on queen of the night cactus (*Cereus jamacaru*), and can be harvested from these plants.



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