

Weeds Research Division (continued)

Biocontrol agents for *Tecoma stans* (cont)

Neser, Alan Wood and Fritz Heystek, and are now in culture in the quarantine facility of ARC-PPRI in Pretoria.

The first candidate is an orange and black, phytophagous ladybird beetle (Coccinellidae). The adults and spiky yellow larvae both feed on the leaves. The feeding marks form contiguous arcs, resulting in extensive areas of skeletonization. This coccinellid has a short lifecycle, which contributes to its promising potential as a biocontrol agent. It will be subjected to host-specificity testing, to determine whether or not it is a suitable candidate for release.

The second candidate is a brown flea-beetle (Chrysomelidae: Alticinae). The adults chew small shot-holes between the leaf veins, causing extensive damage to the foliage. They lay their eggs on the soil, in clusters around the base of the plant. The larva crawls down through the soil and feeds on the roots of the plant, making it potentially highly damaging to the target weed. Host-specificity tests will also determine whether or not this candidate is suitable for biocontrol of *T. stans*.

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Yellow bells, *Tecoma stans*



Adult flea-beetle feeding on leaf of *Tecoma stans*



The adult (left), larvae (centre) and feeding damage (right) of the coccinellid beetle

Problem cactus to be controlled biologically



Arne Witt, Dr Helmut Zimmermann and three members of the Working for Water Programme examining an infestation of *Opuntia fulgida* near Musina

The extremely spiny, invasive North American cactus, chain-fruit cholla (*Opuntia fulgida*), previously incorrectly referred to in South Africa as *Opuntia rosea*, is still lacking effective natural enemies in this country. Dr Helmut Zimmermann, working on contract for this institute, recently collected two different biotypes of the cochineal *Dactylopius tomentosus* in the Americas, the most effective of which will be selected as a biocontrol agent for the cactus. These cochineal insects are currently being cleared of contaminants in quarantine in Pretoria. Another biotype of *D. tomentosus* is already being used as a biocontrol agent for a related cactus, *O. imbricata*, in South Africa.

During July, Dr Zimmermann visited a large infestation of chain-fruit cholla near Musina in Limpopo Province, together with Arne Witt and Hildegard Klein from the Weeds Research Division, to assess the problem and to discuss future collaboration on the biological control of chain-fruit cholla with the Working for Water Programme. The extent of the infestation is alarming, and the easily detached cladodes constantly give rise to new plants.

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