Variatetal resistance in lantana: fact or fiction?

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It is firmly established that lantana (Lantana camara) comprises a large complex of polyploid hybrids of widely diverse genetic composition. Variable performance of biocontrol agents at different sites is often ascribed to different levels of insect-resistance in the lantana varieties, but usually without experimental evidence. Here we report evidence of the high degree to which varietal resistance within lantana affects the performance of two biocontrol agents. In the first study, standard numbers of sexed, newly emerged, adult lantana mirids, Falconia intermedia, were isolated on three replicates of six Australian varieties of lantana. Reproductive performance, measured as the mean number of adult progeny per parent per unit time, varied significantly, from 1.4 to 20.6 i.e. by 15-fold. In the second study, two replicates of ten South African and six Australian lantana varieties were exposed to the Florida, USA, biotype of the lantana flower gall mite, Aceria lantanae. Suppression of lantana reproduction varied significantly between varieties, from 10 to 95% in the South African varieties, and 0 to 30% in the Australian varieties. To make the impact of biocontrol on the lantana complex more uniformly intense, it is therefore necessary to select candidate agents of many species and biotypes, from several Camara Group Lantana species, varieties and hybrids.

Biocontrol initiative against cat’s claw creeper, Macfadyena unguis-cati (Bignoniaceae), in South Africa

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A biocontrol program was initiated against cat’s claw creeper in 1996, and the first biocontrol agent, the golden-spotted tortoise-beetle Charidotis auroguttata, was released in 1999. Several releases were made at sites in different climatic regions of South Africa, including the warmer subtropical parts of Mpumalanga and Limpopo, the colder inland areas of KwaZulu-Natal, and the frosty highveld areas of Gauteng and the North West Province. Establishment was confirmed in some of these regions. It was clear from the start that the impact of the tortoise beetle alone would not be severe enough to curb the aggressiveness and spread of cat’s claw creeper. Therefore, several more insect species were collected on cat’s claw creeper during a survey in Argentina and Brazil in 2002. Among these are a leaf-tying moth, a leaf-mining buprestid and a leaf-sucking tingid, all causing severe damage to cat’s claw creeper plants under glasshouse conditions. Funding is being requested to enable biological and host-specificity studies to commence during 2003.