

The gall rust fungus *Prospodium transformans*, a potential agent for use against *Tecoma stans*, fails to establish in South Africa

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Tecoma stans var. *stans* (Bignoniaceae) is emerging as an important invasive alien tree in South Africa. Host-specificity testing of the gall rust fungus, *Prospodium transformans* (Pucciniales) demonstrated that this potential agent was highly host-specific, and safe for release. Following permission being granted by the relevant authorities for release of this rust fungus, attempts to establish it in the field were initiated in November 2010, using a mix of three different isolates originating from Mexico. Field inoculations were carried out in the Durban area, KwaZulu-Natal (3 sites, twice), the Nelspruit area, Mpumalanga (5 sites, thrice), and Pretoria, Gauteng (1 site, once), during the summer rainy seasons of 2010/11 and 2011/12. On two occasions, air temperature was much higher than the optimal temperature for teliospore germination, and no infection occurred. However on all other occasions galls developed on leaves and occasionally stems, but none sporulated except for a few galls at only one site on one occasion at Nelspruit. Despite *P. transformans* readily developing sporulating galls in glasshouses under quarantine conditions it is likely that the isolates used are not fully compatible with the biotype of *T. stans* in South Africa. Thus this biotype can be considered as falling within the fundamental, but not the realized, host range of *P. transformans*.

Establishment, dispersal and impact of three species of *Diorhabda* leaf beetles released for the biological control of saltcedars, *Tamarix* species, in Texas

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Three of the four species of *Diorhabda* leaf beetles (Coleoptera: Chrysomelidae) introduced into the USA for biological control of saltcedars (*Tamarix* species) (Tamaricaceae) have established in Texas. Since 2006, about 1.2 million leaf beetles have been collected and released at new sites throughout west Texas. Currently, *Diorhabda sublineata* is well established in the Chihuahuan Desert ecoregion and has widely dispersed. *Diorhabda carinata* is well established in the High Plains ecoregion, while *Diorhabda elongata* is restricted to a small area of the Central Great Plains ecoregion. All three species have defoliated large areas of saltcedar for 2-4 consecutive years. Defoliated trees produce few blooms and exhibit extensive dieback and canopy reduction. Some tree mortality has occurred. Leaf beetles are established on about 40% of the saltcedar-infested riparian areas in Texas. Predation on beetle pupae, and possibly other life stages, by the red imported fire ant, *Solenopsis invicta* (Hymenoptera: Formicidae), is implicated as a major constraint to further expansion of leaf beetles into central and south Texas where higher rainfall and warm winters favor survival of *S. invicta*.

Invasive traits of *Dioscorea bulbifera* life stages in Florida, USA and targeted release of the biological control agent *Lilioceris cheni*

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Air potato, *Dioscorea bulbifera* (Dioscoreaceae), a weedy vine of exotic origin, has become an important invader of natural and manmade ecosystems in the south-eastern USA. It has smothered native plant communities and caused ecological degradation of invaded sites. Published research data on its invasive traits in the Florida environment are rare. We conducted a common garden study by propagating both brown and tan bulbils (vegetative propagules) producing morphotypes of *D. bulbifera* and identified two major biological traits related to its resource allocation priorities towards: (i) faster growth; and (ii) increased