

## Host-Specificity and Biology of *Rhinacloa callicrates* (Hemiptera: Miridae) for the Biological Control of *Parkinsonia aculeata* (Caesalpinaceae) in Australia

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*Parkinsonia aculeata* is a spiny, woody weed in northern Australia particularly affecting water courses, dams and earth tanks. Thickets restrict cattle access to water and hinder mustering. The mirid *Rhinacloa callicrates* feeds on leaves and shoots of *P. aculeata* in parts of south-western United States and north-western Mexico, occasionally causing severe damage. Following preliminary host-specificity testing in the United States, *R. callicrates* was imported into the Sherwood quarantine facility in Australia for further testing and biology studies. Host-specificity studies showed that *P. aculeata* was the only suitable host for *R. callicrates*. Testing was conducted on 77 other plant species from 25 families with concentration on the legume families Caesalpinaceae, Fabaceae and Mimosaceae, including 24 Australian native species from these 3 families. Minor unsustained feeding in "no choice" testing was recorded on 15 species. Oviposition was recorded on 2 species in "no choice" testing but was not found on these when *R. callicrates* was given a choice. No evidence of facultative predation by *R. callicrates* was found in testing on eggs of *Helicoverpa armigera* and *H. punctigera*, on cochineal bugs, *Dactylopius opuntiae*, or on *harrisia* cactus mealybugs, *Hypogeococcus festerianus*. Under a daily insectary temperature range of 22-37°C, *R. callicrates*' life cycle took approximately 3 wks. Five nymphal instars were noted. Following approval to release *R. callicrates* from quarantine, shipments of *R. callicrates* were provided to the Western Australia Department of Agriculture and the Northern Territory Department of Primary Industry and Fisheries to establish rearing colonies. Releases have been made in Queensland and Northern Territory. Field establishment has been recorded from sites in Queensland.

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