Heteropsylla sp. (Psyllidae) Successfully Controls Pasture Infestations of Mimosa invisa Within Three Years of Release in Australia

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Mimosa invisa, native to tropical America, is a spiny, aggressive, rampant weed of Southeast Asia and many Pacific countries including the tropical east coast of northern Australia. The biological control agent Heteropsylla sp. was introduced into Australia from Brazil in 1987 by the Queensland Department of Lands. Within 2 yrs of commencing field releases, this tiny sap-sucking bug widely dispersed into all pasture infestations of M. invisa. Feeding damage resulted in dense clumps reduced to small masses of bare stems with stunted growing tips that allowed other plant species to re-establish. Severely affected plants produced very few seeds. Evaluations at 2 sites in 1989 and 1990 have shown a reduction in annual seed production ranging from 85-100%. In crop situations (e.g., cane, banana), biological control of M. invisa is variable due to intensive agricultural methods such as harvesting, slashing, fire and pesticide use. Extreme weather conditions reduced the abundance and effect of Heteropsylla.