Lepidopterans as Potential Agents for the Biological Control of *Miconia calvscens*

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Abstract

*Miconia* (*Miconia calvscens* DC.) (Melastomataceae) is a severe weed found in rainforest ecosystems on oceanic islands, including French Polynesia, Hawaii and New Caledonia, and Australia, where it was introduced as ornamental plant. This plant is native to Central and South America and is classified among the 100 worst invasive species around the world. To select agents for biological control of *M. calvscens*, surveys of the arthropods that attack this weed in Brazil have been carried out since 2001. Eight species of Lepidoptera were found attacking *M. calvscens*, including six defoliators: *Salbia lotanalis* Druce (Pyralidae), *Druentia inscita* Schaus (Mimallonidae), *Antiblemma leucocyma* Hampson (Noctuidae) and three unidentified Limacodidae species; a fruit borer: *Carposina cardinata* Meyrick (Carposinidae); and a flower feeder: *Pleuroprucha rudimentaria* Guenée (Geometridae). We evaluated the damage, host specificity and population dynamics of these Lepidoptera species and the field occurrences of their natural enemies. Based on host specificity and damage caused to plants, *S. lotanalis* and *D. inscita* are the most promising species for biological control of *M. calvscens*. If *C. cardinata* and *P. rudimentaria* prove host-specific in future tests, they may also be appropriate as biological control agents.