# Biological Control for Management of Cane Tibouchina and Other Weedy Melastome Species in Hawaii

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## Abstract

*Syphraea uberabensis* Bechyné (Coleoptera: Chrysomelidae) is a South American flea beetle whose adults and larvae feed externally on foliage and soft stems of *Tibouchina* spp., causing enough damage to kill small plants. Under quarantine evaluation as a potential biological control agent for cane tibouchina, *Tibouchina herbacea* (DC.) Cogn. (Melastomataceae), *S. uberabensis* has been tested on a variety of native and non-native species within the order Myrtales to identify its expected host range in Hawaii. Multi-choice behavioral tests with adult beetles and no-choice tests with adults and larvae indicated a host range restricted to several species within the tribe Melastomeae, all of which are invasive weeds in Hawaii. Preferences were found for feeding and egg laying on cane tibouchina, longleaf glorytree (*Tibouchina longifolia* (Vahl) Baill. ex Cogn.), false meadowbeauty (*Pterolepis glomerata* (Rottb.) Miq.) and Asian melastome (*Melastoma septemnervium* Lour.), and all four of these species were suitable hosts for the complete life cycle of *S. uberabensis*. Beetles appeared unlikely to impact other seriously invasive melastomes including princess flower (*Tibouchina urvilleana* (DC.) Cogn.), miconia (*Miconia calvescens* DC.) and Koster's curse (*Clidemia hirta* (L.) D. Don). We consider the potential for using this biological control agent in management of multiple weedy melastomes.