

***Passiflora foetida*: prospects for biological control**

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Summary *Passiflora foetida* L. (stinking passionflower), native to Central and South America, is an invasive weed across the Asia-Pacific region, including Australia. Its impacts span environmental and agricultural contexts in Australia. As an invasive herbaceous vine, it is commonly found in riparian ecosystems, forest margins, coastal habitats and ruderal areas (e.g. road verges and disturbed habitats) across tropical and subtropical parts of northern Australia. In the Pilbara and Kimberley regions of Western Australia, it has significant impacts on native vegetation through the formation of dense mats that smother native vegetation, and by carrying fires into tree canopies. Its climbing/smothering habit similarly results in negative impacts on tree crops (e.g. sandalwood plantations) and post-mining restoration efforts. Currently, the management of this species is largely dependent on physical (e.g. hand-pulling) and chemical (e.g. herbicides) control tactics, but these methods are not cost-effective and sustainable

at the spatiotemporal scale of the weed's infestation. As a result, efforts are underway to investigate biological control options for this weed. To date surveys in the native range (Argentina, Brazil and Colombia), guided by ecophysiological and population genetics studies of *P. foetida* sensu lato, have identified a range of pathogens and insects that are being studied for their prospects as candidate biological control agents. These prospective agents are being screened in the native range, through a combination of field observations and laboratory host-specificity tests, for their ability to develop on commercial passionfruit cultivars. Those species that are unable to use commercial cultivars will subsequently be imported for further risk analyses that test their ability to use up to 50 other non-target species of increasing phylogenetic distance from *P. foetida*, in a quarantine laboratory in Australia. For candidate agents that pose negligible risk to non-target species, a release application will be prepared for review by Australian regulators.