

Poster 36: Evolution and Potential Non-target Effect of the Introduced Biological Control Agent *Cryptolaemus montrouzieri*

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Cryptolaemus montrouzieri Mulsant (Coleoptera: Coccinellidae), the mealybug destroyer, is a predatory ladybird of Australian origin and has been introduced worldwide to control mealybugs. We first found different performances of this introduced ladybird from different areas. Then, we detected strong genetic differentiation and local adaptation among the worldwide distributed populations by analyses of mitochondrial genomes, microsatellite and reduced-representation genomes. These genetic markers also suggested a history of population admixture, which were further confirmed in a lab-simulated experiment. Finally, the test of diet ranges and analysis of adaptation to diet shifts suggested potential non-target effect of this introduced ladybird.