



Host specificity of *Aceropghagus papayae* Noyes (Hymenoptera: Encyrtidae), introduced parasitoid of *Paracoccus marginatus* Williams & Granara de Willink (Hemiptera: Pseudococcidae) into West Africa

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Abstract:

Accidentally introduced into West Africa in the late 2009, *Paracoccus marginatus* is found to damage a wide range of agricultural crops. Ever since, it has spread throughout the continent. Amongst different control measures available, classical biological control appears to be the best strategy to reduce *P. marginatus* population. *Aceropghagus papaya* was successfully used in *P. marginatus* suppression in the US, the Caribbean, and the Pacific islands. However, *P. marginatus* shares host plants with other important economic mealybugs. This suggested a test for the potential non-target effects to ensure that the introduction of *A. papayae* will minimally disrupt local mealybug biodiversity. The host stage susceptibility, preference of *A. papayae* to three mealybug species namely, *Phenacoccus manihoti*, *P. solenopsis* and *Ferrisia virgata* compared to the target host, *P. marginatus*. They are found to share at least one host plant with *P. marginatus*. The suitability of the mealybug was evaluated under choice, with *P. marginatus* paired with one of the non-target mealybug, and no-choice test conditions. Foraging behavior of the parasitoid recorded in one-minute time segments over a full hour show that *A. papayae* parasitized all stages of *P. marginatus* except for the ovisacs. First and female + ovi-



sacs being the less parasitized. However, *A. papayae* preferred the third and the pre-reproductive female. Overall, the presence of non-target does not affect the behavior of *A. papayae* in host selection for oviposition. Our findings confirmed that release of this parasitoid as a biological control agent in West Africa will pose minimal non-target risk.

Biography:

Hintenou V is currently associated with University of Ibadan, Nigeria

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1. DOI: 10.30853/filnauki.2020.2.3..