

Fitness trade-offs in parasitoid-host system: with special reference to *Acerophagus papayae* noyes on papaya mealybug, *Paracoccus marginatus* williams and granara de willink

■ R. NISHA* AND J.S. KENNEDY

Department of Agricultural Entomology, Tamil Nadu Agricultural University, COIMBATORE (T.N.) INDIA

ARTICLE INFO

Received : 25.03.2014

Revised : 15.07.2014

Accepted : 01.08.2014

KEY WORDS :

Fitness trade-offs, Parasitoid, *Acerophagus papayae*, Papaya mealybug, *Paracoccus marginatus*

ABSTRACT

Development and parasitic potential of *Acerophagus papayae* Noyes on the papaya mealybug, *Paracoccus marginatus* Williams and Granara de Willink from different host plants like papaya, cotton, mulberry, tapioca, brinjal and hibiscus were studied. The development time of parasitoid, *A. papayae* in the current study was shortest in mealybugs reared from papaya (10.9 days), followed by cotton (11.8 days), mulberry (12.4 days), brinjal (13.1 days), hibiscus (14.1 days) and recorded 16.3 days of development in tapioca reared papaya mealybug. The parasitisation rate was found to be highest in second instar than third instar and adult female mealybugs from host crop papaya viz., 87.5 per cent followed by cotton (84.2 %), mulberry (80.8 %), brinjal (80.0 %) and potato sprouts (75.8 %) and recorded lowest parasitisation rate in tapioca (67.5%). The parasitization level of parasitoid, *A. papayae* was maximum in papaya and minimum in tapioca due to the host plant induced changes in the mealybug. The development time was inversely correlated with the parasitic potential and so there was a trade-off between the development and parasitic potential of parasitoid.

How to view point the article : Nisha, R. and Kennedy, J.S. (2014). Fitness trade-offs in parasitoid-host system: with special reference to *Acerophagus papayae* noyes on papaya mealybug, *Paracoccus marginatus* williams and granara de willink. *Internat. J. Plant Protec.*, 7(2) : 275-280.

*Corresponding author:

Email: nisharengadoss@gmail.com