Sericologia 58(1): 17-27, 2018
ISSN 0250-3980

Research Paper

IMPACT OF AGE AND SIZE OF HOST ON THE REPRODUCTIVE PERFORMANCE OF AN ECTO-PUPAL PARASITOID, *TRICHOMALOPSIS UZIAE* SURESHAN & NARENDRA KUMAR

J. B. Narendra Kumar[1*] and D. Manjunath[2]

[1]Central Sericultural Research and Training Institute,
Central Silk Board, Mysuru 570008, India.
[2]Department of Studies in Sericulture Science,
University of Mysore, Manasagangothri, Mysuru 570006, India.
[*]E-mail: jbnarendra@gmail.com

ABSTRACT

In the current investigation, a gregarious ecto-pupal parasitoid, *Trichomalopsis uziae* Sureshan & Narendra Kumar (Hymenoptera: Pteromalidae) has been investigated for its reproductive efficiency as influenced by age and size of its host, *Exorista bombycis* (Louis) (Diptera: Tachinidae), considering the following parameters: per cent parasitism, developmental duration, progeny production, progeny sex ratio, and progeny female longevity when 1, 3, 5, 7, 9, and 11 day-old host pupae were provided for parasitism. Attempts have also been directed to document the progeny morphometric characteristics, apart from recording the reproductive efficiency of F1 progenies. The results indicated that per cent parasitism was appreciably higher in the younger host pupae (up to 3 day-old) with no perceptible change in the parasitoid developmental duration. With regard to progeny production and progeny sex ratio, substantially more numbers of male and female progeny individuals emerged from younger host pupae with their sex ratio too being greater. However, the progeny female longevity remained comparable among the treatments. When bigger and smaller host pupae were provided for parasitism, no significant variation in per cent parasitism, developmental duration, male progeny production, and longevity of female progeny was observed. However, the female and total progenies as also sex ratio were significantly higher when bigger host pupae were parasitized. Insofar as the impact of host size on morphometric parameters of progeny were concerned, body length, head width, and wingspan of males and females as well as abdomen length of females were significantly superior in the progenies developed in bigger pupae, while those developed in smaller pupae showed comparable body length, head width, and wingspan of males as well as abdomen width of females. The results, therefore, clearly demonstrate that both host age and size have significant impact on the reproductive performance of *T. uziae*.

Key words: Ecto-pupal parasitoid, host age, host size, parasitism, reproductive performance.