

IMPACT OF HONEY ON THE REPRODUCTIVE PERFORMANCE OF *Telenomus podisi* (HYMENOPTERA: SCELIONIDAE): IMPLICATIONS FOR BIOLOGICAL CONTROL

FRANCESCO, Leonardo Semencato^{1*}; SVACINA, Thiago²; MARTINS, Rosceli Pereira¹; OJEDA, Camilo Adrés Mogrovejo¹; FERNANDES, Nathália Grazielle Falcão¹; GONTIJO, Lessando Moreira¹

¹ Escola Superior de Agricultura Luiz de Queiroz, Universidade de São Paulo (ESALQ/USP), Piracicaba, SP, Brasil;

² Centro de Energia Nuclear na Agricultura, Universidade de São Paulo (CENA/USP), Piracicaba, SP, Brasil.

*Autor correspondente: leonardo.francesco@usp.br

Stink bugs (Pentatomidae) are among the main agricultural pests in Brazil, causing serious damage to several crops. Chemical control remains the most common management practice, but the intensive use of insecticides has favored the selection of resistant populations. In this context, biological control has gained importance, especially through the use of egg parasitoids such as *Telenomus podisi* Ashmead (Hymenoptera: Scelionidae), which is widely applied in integrated pest management programs. This study evaluated the effect of honey feeding on the reproductive parameters of *T. podisi*, based on the hypothesis that food supply could enhance its performance. Newly emerged females (48 h) were isolated in vials and subjected to two treatments: T1 (with honey) and T2 (without honey). Each female received 40 stink bug eggs for 24 h of parasitism. After exposure, eggs were maintained in a BOD (25 °C, 60 ± 10% relative humidity, 12:12 h light/dark) for 30 days, being observed daily under a stereomicroscope to record the number of parasitized eggs, emerged parasitoids, and sex ratio. No significant differences were observed between T1 and T2 in fecundity (31.2 ± 2.3 vs. 35.6 ± 1.8 eggs/female; t-test, p = 0.167; Mann–Whitney, p = 0.144) or fertility (25.0% ± 3.1 vs. 28.4% ± 1.9; t-test, p = 0.383; Mann–Whitney, p = 0.750). Parasitism rates were 78% (T1) and 89% (T2); while the binomial GLM indicated a difference (p = 0.0036), the quasibinomial model, which corrects for overdispersion, showed no significant effect (p = 0.178). In contrast, sex ratio differed significantly, with a female predominance in T1 (≈84%) compared to T2 (≈57%; binomial GLM, p < 0.001). These findings indicate that honey feeding did not affect fecundity, fertility, or parasitism percentage, but significantly increased female production. In practical terms, rearing strategies that promote higher female proportions can improve parasitoid efficiency in the field, thereby enhancing the success of stink bug management programs.

Key-words: Nutritional factors; Egg parasitoid; Insects biology.