Abstract

ISSN 1178-9905 (print edition)

ZOOSYMPOSIA ISSN 1178-9913 (online edition)

https://doi.org/10.11646/zoosymposia.22.1.173

Predation ability of Stratiolaelaps scimitus (Acari: Laelapidae) to Tyrophagus putrescentiae (Acari: Acaridae) on edible fungi*

HAN ZHANG^{1,2}, LINGYU HAO¹, SIJIA ZHAO³, ZHIQIANG LIU¹, YA SU¹, HUINA ZHENG¹, JINLIANG HAO⁴ & HUIMIN GAO^{1,5}

¹Institute of Cash Crops, Hebei Academy of Agriculture and Forestry Sciences, Shijiazhuang Hebei 050051, China ²Hebei University of Engineering, College of Landscape and Ecology Engineering, Handan Hebei 056000, China ³Modern Agricultural Industry Development Center of Taigu District, Taigu Shanxi 030800, China ⁴Agriculture and Rural Bureau of Yongnian District, Handan Hebei 056000, China

⁵corresponding author email: shyjzs@126.com

*In: Zhang, Z.-Q., Fan, Q.-H., Heath, A.C.G. & Minor, M.A. (Eds) (2022) Acarological Frontiers: Proceedings of the XVI International Congress of Acarology (1-5 Dec. 2022, Auckland, New Zealand). Magnolia Press, Auckland, 328 pp.

Tyrophagus putrescentiae is one of the major pests of many edible fungi, whereas Stratiolaelaps scimitus is one of its main natural predators, which can be used to control T. putrescentiae on edible fungi. In our study, the prey preference and predation ability of S. scimitus to T. putrescentiae were determined in the laboratory. The results showed that both female and male adults of S. scimitus preferred adults to larvae of T. putrescentiae. The daily consumption of female adults of S. scimitus was higher than that of male adult mites. The consumption and predation rates of female and male adult mites reached the maximum within the first hour, then gradually decreased. This research provided a theoretical basis for the mass breeding of S. scimitus and field control of T. putrescentiae for edible fungi.

Key words: Stratiolaelaps scimitus, Tyrophagus putrescentiae, edible fungi, prey preference, predation