

研究报告

淡色斧瓢虫对烟粉虱的捕食作用

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收稿日期 2005-10-17 修回日期 2006-7-28 网络版发布日期 接受日期

摘要 研究了淡色斧瓢虫对烟粉虱的捕食作用. 结果表明, 淡色斧瓢虫对烟粉虱的功能反应呈Holling II型. 随着猎物龄期的增加, 淡色斧瓢虫成虫的寻找效率(a)逐渐降低, 处置时间(T_h)依次延长; 随着淡色斧瓢虫幼虫龄期的增加, 其对烟粉虱卵的寻找效率逐渐提高, 处置时间依次缩短. 淡色斧瓢虫成虫对烟粉虱卵的捕食效应随捕食者间干扰作用的增加而下降, 捕食作用率(E)与淡色斧瓢虫数量(P)之间呈幂函数关系, 即 $E=0.5205P^{-0.6631}$. 温度对淡色斧瓢虫的捕食效应影响显著, 寻找效率和处置时间与温度间的函数关系为: $a=-0.0002T^3+0.0166T^2-0.3492T+3.2329$, $T_h=4\times 10^{-7}T^3-3\times 10^{-5}T^2+0.0006T-0.0009$.

关键词 [淡色斧瓢虫](#) [烟粉虱](#) [捕食作用](#) [功能反应](#)

分类号

Predation of *Axinoscymnus cardilobus* to *Bemisia tabaci*

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Abstract

The laboratory study on the predation of *Axinoscymnus cardilobus* to *Bemisia tabaci* showed that the functional response of *A. cardilobus* to *B. tabaci* was of Holling's type II. With the increasing age of *B. tabaci*, the searching rate of *A. cardilobus* adult decreased, and its handling time became longer. The searching rate of *A. cardilobus* larva was increased with its age, and the handling time became shorter. The mutual interference in individual predator could be described by Hassell and Varley equation, and the relationship between predation ratio (E) and natural enemies density (P) was $E=0.5205P^{-0.6631}$. The predation efficiency (E) of predator varied with environmental temperature, and the effects of the temperature on search rate (a) and handling time (T_h) could be described by $a=-0.0002T^3+0.0166T^2-0.3492T+3.2329$ and $T_h=4\times 10^{-7}T^3-3\times 10^{-5}T^2+0.0006T-0.0009$, respectively.

Key words [Axinoscymnus cardilobus](#) [Bemisia tabaci](#) [Predation](#) [Functional response](#)

DOI:

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扩展功能

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