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## Wanted dead or alive: scavenging versus predation by three insect predators

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### Abstract

Many generalist insect predators engage in facultative scavenging. If an apparent predator frequently consumes dead prey instead of live prey then the biological control services provided by that predator may be overestimated. The use of unique protein markers on live and dead prey of the same species followed by gut content analysis of the predators is an effective method to distinguish between scavenging and predation events. The frequency of predation and scavenging on third instar *Lygus hesperus* (Hemiptera: Miridae) prey by *Collops vittatus* (Coleoptera: Melyridae), *Hippodamia convergens* (Coleoptera: Coccinellidae) and *Chrysoperla carnea* (Neuroptera: Chrysopidae) was measured using rabbit IgG and chicken IgG markers. Predators and rabbit IgG-marked dead (cadaver) and chicken IgG-marked live *L. hesperus* were placed on or adjacent to cotton plants enclosed in small cages for 6 hours. The plants were then searched for all predators and uneaten prey and examined for the presence of the two proteins by IgG-specific enzyme linked immunosorbent

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