Predatory Heteroptera: An Important Yet Neglected Group of Natural Enemies

Moshe Coll
Department of Entomology, Faculty of Agricultural, Food and Environmental Quality Sciences, The Hebrew University of Jerusalem, P.O. Box 12, Rehovot 76100, Israel

John R. Ruberson
Department of Entomology, Coastal Plain Experiment Station, University of Georgia, Tifton, GA 31793

Growing concerns for human health and the environment and the rapid development of insecticide resistance in pests promise to make biological control a major component of crop protection programs in the future. Periodic mass releases of natural enemies will prove economical in more cropping systems as their production and delivery costs decline (through, for example, the development of artificial diets). Conservation of naturally occurring natural enemies also is likely to become an important practice accompanying the movement toward more sustainable cropping systems.

More attention has been paid to insect parasitoids than to predators, a disparity seen in classic and recent works (Waage and Greathead 1986, Godfray 1994). For example, Clausen (1940) devoted 365 pages to parasitoids but only 25 pages to the major predatory taxa Coccinellidae, Chrysopidae, Syrphidae, Carabidae, and predatory Heteroptera. The fascination with insect parasitoids, which no doubt stems from their unique life history and great taxonomic diversity, stimulated much theoretical and empirical work. Furthermore, the high level of host specificity attributed to parasitoids is considered advantageous in biological control (for example, see discussions in Huffaker et al. 1971, Coppel and Mertins 1977, DeBach and Rosen 1991), although the