Semiochemists and Allelochemists: A Wondrous Diversity of Relationships with Insects

Murray S. Blum

Laboratory of Chemical Ecology, Department of Entomology, University of Georgia, Athens, Georgia 30602

IN A WORLD in which natural products are virtually ubiquitous, it is inevitable that arthropods will encounter these compounds with considerable frequency. Furthermore, it is now evident that these invertebrates have established diverse relationships--often idiosyncratic--with the producers of the vast number of allelochemicals and semiochemicals with which they share their fragile world. While the nature of these interrelations is often obscure or for that matter, unrecognized, it has nevertheless become patent that these natural products have become driving forces in the lives of many arthropod species. Among insects, which produce many of these compounds themselves, the multiplicity of roles that these biologically active metabolites have already been demonstrated to possess is impressively large, and often so extraordinary as to appear to have a science-fiction quality when analyzed by human observers. Indeed, it is not improbable that the incredible success that insects enjoy is in no small way correlated with their virtuosity in exploiting natural products as key elements with which they can manipulate the world around them.