Abstract

Herein we describe the mature oocyte and last larval instar of Stelis (Stelis) murina Pèrez, a cleptoparasite associated with Osmia (Pyrosmia) submicans Morawitz near Ismailia, Egypt. The mature oocyte is compared with that of Stelis (Stelis) elongativentris Parker and found to be approximately equal in size. The mature oocyte of S. murina is also very close in size to that of its host, an unusual phenomenon in host-Cleptoparasite relationships in bees. A review and analysis based on literature accounts of what is known about the mode of cleptoparasitism of Stelis is offered. Added are observations on biology of Stelis murina resulting from our fieldwork.

The mature larva of stelis murina is described and found similar but not identical to those of other known stelis larvae. We also include a preliminary key to genera of cleptoparasitic megachilids based on known mature larvae and also summary describing the modes of cleptoparasitism by these taxa.

JEROME G. ROZEN, JR, AND SOLIMAN M. KAMEL

Abstract

This study describes the nesting biology of the Egyptian cleptoparasitic wasp Sapyga luteomaculata Pic, which attacks the nests of two species of bees, Osmia submicans Morawitz and Megachile minutissima Radoszkowski, both belonging to the Megachilidae. We include descriptions of the egg/mature oocyte and of the first and last larval instars. We also identify the anatomical changes in the larva that take place as it transforms through intermediate instars from a host-killing first instar to a form adapted to feeding on the stored provisions supplied by the host. Biological subjects treated are egg deposition, ovariole statistics, eclosion, larval behavior including cocoon construction and defecation, and competition with other cleptoparasites. Comparisons are made throughout with accounts of the other Sapyginae. Many biological and larval anatomical similarities between Sapyga and cleptoparasitic bees are recognized, and only a few possible cleptoparasitic novelties are identified.
Hospicidal Behavior of the Cleptoparasitic Bee Coelioxys (Allocoelioxys) couturnix, Including Descriptions of Its Larval Instars (Hymenoptera: Megachilidae).

JEROME G. ROZEN, JR, AND SOLIMAN M. KAMEL

Abstract

In the attempt to determine whether coelioxys and Radoszkowskiana, both cleptoparasitic member of the Megachilini, had a common cleptoparasitic ancestor, an investigation of the nesting biology and immature stages of C. (Allocoelioxys) couturnix Pérez was undertaken in Egypt. The purpose was to compare these aspects of this species with the results of recent study of R. rufiventris (Spinola) and certain other species of Coelioxys (Rozen and Kamel, 2002). The egg of C. couturnix is deposited on the egg of Megachile minutissima Radoszkowski after the host female departs to collect cell-closure material. On hatching, the first instar, still surrounded by egg chorion, bites the developing host egg and consumes the entire egg content before feeding upon the host provisions. This behavior contrasts with certain other species of Coelioxys, whose eggs are hidden in the host cell while it is being provisioned and third instars normally kill the young host larvae. Because the behavior of C. couturnix closely mirrors that of R. rufivenrris, the authors conclude that two modes of cleptoparasitism have developed in Coelioxys and that Celioxys and Radoszowskiana possibly had a common cleptoparasitic ancestor. The five larval instars of C. couturnix are described and compared with those of other Celioxys species, and its first instar is compared with that of R. rufiventris.