Abstract

Entomopathogenic fungi have a great potential as control agents, as they constitute a group with over 750 species that, when dispersed in the environment, provoke fungal infections in insect populations. These fungi begin their infective process when spores are retained on the integument surface, where the formation of the germinative tube initiates, the fungi starting to excrete enzymes such as proteases, chitinases, quitobiases, lipases and lipoxygenases. These enzymes degrade the insects cuticle and help in the process of penetration by mechanical pressure that is initiated by the apresorium, a specialized structure formed in the germinative tube. Once inside the insect, the fungi develop as hyphal bodies that disseminate through the haemocele and invade diverse muscle tissues, fatty bodies, Malpighian tubes, mitochondria and haemocytes, leading to death of the insect 3 to 14 days after infection. Once the insect dies and many of the nutrients are exhausted, fungi start micelar growth and invade all the organs of the host. Finally, hyphae penetrate the cuticle from the interior of the insect and emerge at the surface, where they initiate spore formation under appropriate environmental conditions.