RESUMO SIMPLES - OUTRAS ÁREAS TEMÁTICAS

OCCURRENCE OF MICROHYMENOPTERA (HYMENOPTERA: CHALCIDOIDEA) IN DIPTERAN COLONIES OF SANITARY AND FORENSIC INTEREST

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The rearing of necrophagous dipterans (Calliphoridae and Sarcophagidae families) in insectaries is fundamental for research in forensic entomology, entomotoxicology, and public health, given their sanitary relevance, including their role as mechanical vectors of pathogens. The present study aimed to report the occurrence of these parasitoids, identify them at the most accurate possible taxonomic level, and quantify their impact on the colonies... This study was conducted at the Laboratory of Hemoparasites and Vectors of the Federal

Rural University of Rio de Janeiro, Brazil. Colonies of different species of sanitary importance are maintained in the laboratory, including flies from the family Sarcophagidae and the species Chrysomya albiceps, Cochliomyia macellaria, and Lucilia cuprina. During routine colony management, the emergence of microhymenopteran parasitoids was recorded, initially observed in Sarcophagidae pupae and subsequently inside the adult cages of Lucilia cuprina and Chrysomya albiceps, where the pupation containers were kept. Monitoring revealed significant contamination, with the highest incidence in the Sarcophagidae colony, where approximately 200 parasitoid individuals were recovered from the pupation containers, compared to a mean of 50 to 100 individuals in the L. cuprina and C. albiceps colonies, respectively. For threat identification, the specimens were examined under a stereomicroscope, and five individuals were selected for morphological analysis by Scanning Electron Microscopy (SEM) after anesthesia by freezing. Based on the obtained images and comparison with taxonomic keys, the specimens were identified as belonging to the superfamily Chalcidoidea. The higher incidence observed in Sarcophagidae colonies was corroborated by the frequent identification of multiple emergence holes in the same pupa, indicating successive parasitism events. The emergence of parasitoids resulted in a sharp reduction in adult emergence and the population density of the flies, compromising the supply of standardized biological material, without, however, causing perceptible behavioral changes in the remaining dipterans. As a containment measure, cages were equipped with micro-mesh lined with breathable fabric (crêpe georgette) and the use of adhesive tapes on the borders. Such measures showed efficacy, as parasitoids were found adhered externally, preventing their dispersal. The occurrence of these microhymenoptera severely compromises both forensic experiments and laboratory assays. The findings reinforce the urgent need for adequate physical barriers, continuous monitoring, and early identification of parasitoids as essential factors for biosafety and maintaining the quality of laboratory colonies.

Palavras-chave: necrophagous diptera; parasitoids; insectary; forensic entomology; biosecurity.