

EFFECTS OF QUEEN BODY PARTS ON THE PRODUCTION OF SEXUALS IN THE PHARAOH'S ANT, *MONOMORIUM PHARAONIS* (L.) (HYMENOPTERA: FORMICIDAE)

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Abstract The Pharaoh's ant is one of the utmost cosmopolitan pest species in the world. Its notoriety in bacterial transmission at hospitals through sterilized apparatus makes it an even more burdensome pest. Over the years, many studies on the control of this species had been conducted. This includes the usage of juvenile hormone integrated into baits. Though it may be successful, its mechanism was never fully understood. Hormones such as this play an important part in caste differentiation in social insects. Although studies were conducted in the 1960s and the 1970s, they provided minimal information needed to fully comprehend the caste determination phenomenon. Queens of social insects are known for its ability to suppress the makings of new reproductives. The objective of this study was to determine the effects of the presence of queen body parts on the production of sexuals. Whole live queens, whole dead queens and queen's thorax, head and gaster were used respectively in ant colonies consisting of 300-400 workers and 0.5 g of broods. Reproductives started emerging at day 57 after initiation of the experiment. Results showed that replicates with live queens were the slowest to produce sexuals. By day 64, only queenless replicates showed insignificant difference with the queenright colonies. At day 85, replicates with queen's gaster were not significantly different from the queenright and queenless colonies, causing the authors to hypothesize that suppression pheromones could be stored in the queen's gaster. Production of male alates, however, was irregular throughout the entire 15 weeks of experiment. We hypothesize that the male alate could inseminate more than one virgin queen in its life. Further experiments are required to solidify these hypotheses.