

## **Sexual response of *Maladera matrida* males toward female chemicals released at dusk**

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The *Maladera matrida* Argaman beetle was first detected in Israel in 1983. This species belongs to a family of scarabs whose means of chemical communication have not been studied until recently. In investigations of the life cycle of the beetle it was found that the adults emerge from the soil at sunset and aggregate to feed and mate. This behavior lead us to seek components of the beetles' pheromone that could be responsible for a short-distance chemical communication. In laboratory studies, it was demonstrated that the females attract the males and that the chemicals involved are probably located on the cuticula of mature females: Behavioral studies of males in the presence of either live or frozen females showed that chemicals washed from the cuticula of mature females with organic solvents (hexane, dichloromethane and methanol) have a sex pheromone-like activity. Preliminary studies showed that females washed with organic solvents lost their attractiveness to males. Application of the washings back to the washed females restored their attractiveness. Females examined in the morning were not as attractive as females examined at dusk. In keeping with these results, characterization of the extracted compounds by GC/MS revealed differences between those extracted in the morning and those extracted in the evening. The compounds found in the evening extract but not in the morning extract were tested in an olfactometer in an attempt to pinpoint the active component(s).