



although there is almost no information on natural infection rates of different cockroach species. The definitive host of *M. moniliformis* is the Norway rat, *Rattus norvegicus*.

**MATERIALS AND METHODS**  
**Life Cycle of *Moniliformis moniliformis***

*Moniliformis moniliformis* (C. G. Plummer, 1931) (Diplopoda: Scolopendromorpha)



squares on the floor of the arena. Each grid square was marked with a pair of Cartesian coordinates.

light) and 6 (movement 180° away from the light). Animals that climbed up the inside of the cup, or

Cartesian coordinates of its grid square every 15 s for 15 min. For animals on vertical surfaces, we recorded the coordinates of the closest horizontal grid square.

were retested on another day.

#### Statistical Analysis



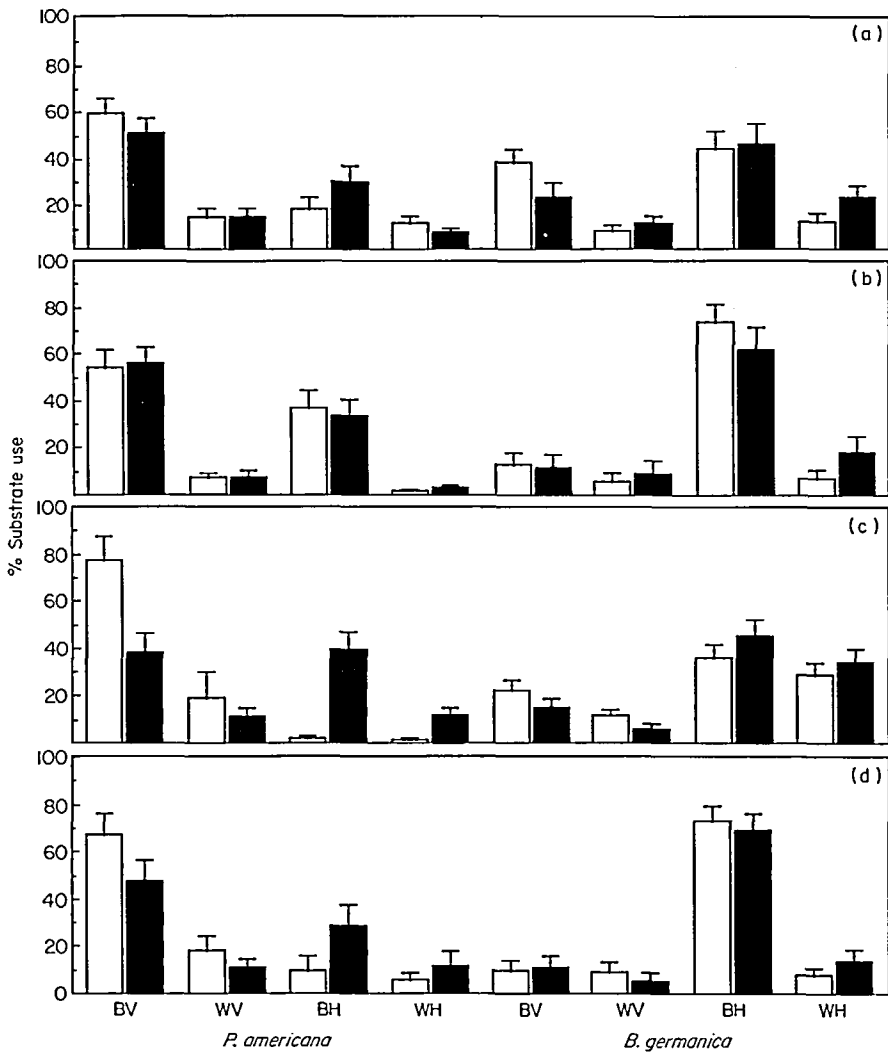
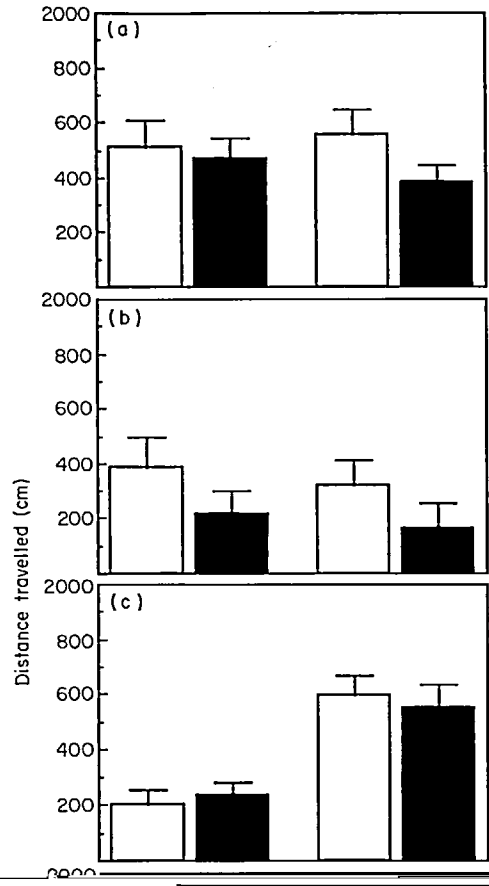
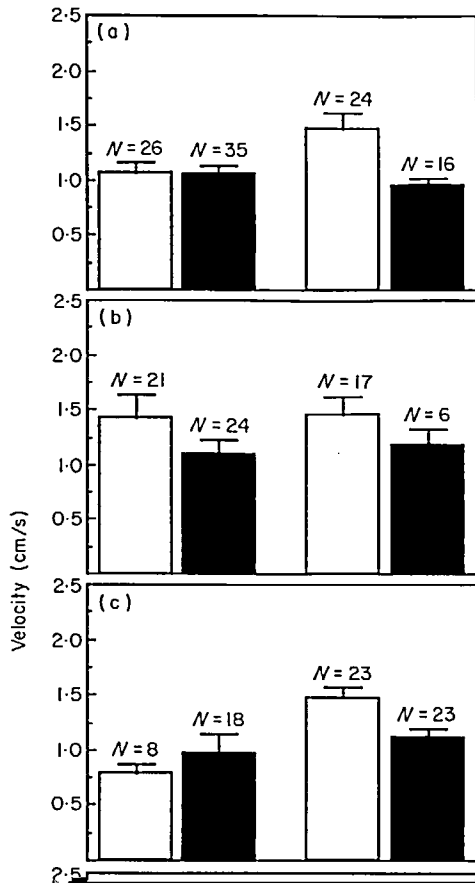


Figure 1. Mean (+se) per cent substrate use by *P. americana* and *B. germanica*. □: unparasitized; ■: parasitized. (a) Males, red light; (b) males, white light; (c) females, red light; (d) females, white light. BV, blackboard; WV, white









(1983b) showed that dark terrestrial isopods par-

provided some rats, and T. Blasdell provided

more time on light-coloured substrates than did uninfected isopods. Pigmentation dystrophy has also been reported in some crustacean hosts (see Moore 1984b for review). In such a situation, the host might be more conspicuous to a predator against its normally chosen substrate.

Despite numerous descriptions of altered behaviour associated with acanthocephalan infection, comparative studies are rare. Bethel & Holmes

(1973, 1977) observed on host *Camponotus lecontei*

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