

forager between the bait and the nest site. Indeed, the forager often did not take the same path on successive trips.

### Nest defense

*Myrmoteras toro*. There were frequent encounters between *M. toro* workers and intruders at the nest site. When an invertebrate approached within 1-2 cm of the brood, one or more of the nearest workers pivoted towards it and opened their mandibles. The ants then advanced and struck the intruder. These blows were generally sufficient to send even a relatively large intruder, such as a centimeter-long cricket, into a hasty retreat. If the intruder moved only slightly, the workers advanced and struck it again. The queen never participated in expelling intruders unless directly disturbed by one. In fact she ran from the nest when an intruder caused a severe disturbance.

The defensive response of the workers was elicited by virtually any small invertebrate approaching the nest site (slow-moving isopods were usually ignored). Although many of the intruders, such as tiny beetles and cockroach nymphs, were most likely innocuous, others, such as ants of a variety of species, represented likely threats.

Most often the intruder was hard-bodied, in which case the ant's mandibles usually ricocheted off the cuticular surface. However, if the mandibles penetrated the integument, the intruder could be captured and eaten. This was observed for a tiny cricket and a termite worker.

Occasionally in escaping the ants, an invertebrate fled directly into the nest. Now larger numbers of workers (commonly up to about six) would immediately turn toward it and begin striking it repeatedly with their mandibles. As a result the invertebrate invariably made a rapid egress. The ants responded similarly to a forceps tip waved among them.

Intruders were usually ejecting from the nest site before they did any damage. However, in one case a *Solenopsis geminata* ant bit the leg of a *Myrmoteras* worker. The *Myrmoteras* swung its gaster under its body, possibly spraying its adversary with defensive secretions. Workers gripped by a leg with a forceps showed similar behavior, as did *M. barbouri* workers attacked by *Pheidologeton diversus* minors. This represents a typical formicine response to enemy attack. Apparently the prey of *Myrmoteras* are never sprayed in this way.

The defensive response of the workers was sometimes brought into play in reaction to prey that struggled after capture. Struggling prey were lifted from the ground and carried to the nest. There workers responded as if the prey was not being carried by a nestmate: the nearest workers converged on the prey and struck it with their mandibles. In the three cases where this was observed (involving two tiny crickets and a termite worker), the prey was literally beaten to death (or at least to quiescence) within 20 seconds.