

are carried open to about 180° in readiness for a snap. Often at first snaps fall short of actually touching the prey insect, and when they later strike home, the ant immediately recoils in retreat, even when to a human observer the prey appears to be tender and vulnerable, without appreciable structural defenses.

Developments during the past 20 years have taught us the importance of chemical defense systems in arthropods (reviewed by Eisner 1970). These systems often appear to be directed particularly against ants as effective, abundant and near-ubiquitous predators. Many observations of predatory ponerine ants (mostly unpublished) that I myself have made over the years convince me of the vital importance to the ants of counter-adaptations to the prey's chemical defenses. Body-wiping behavior, glassy integument, and long tongs-like mandibles are all examples of counter-adaptations to noxious liquid defense allomones exuded or sprayed by prey.

I take the sudden strike-and-recoil behavior of odontomachites to be an alternative means of handling «hot» prey. The mandibular strike can do sudden, severe damage to the prey, and the rapid retreat of the ant helps it to avoid the ensuing release of protective allomones, many of which are emitted only after sufficiently severe trauma to the victim.

Defensive substances on or around the prey are usually soon dissipated, diluted or absorbed by the environmental background, eventually leaving the ant free to move in for the kill and removal to the nest. Defensive substances, incidentally, may have provided the ultimate evolutionary stimulus for the commonly-observed, seemingly dilatory behavior of predatory ants in delaying the return of prey to the nest, and its presentation to the larvae. This behavior, often so maddening to the observer, may well function to rid the prey of concentrations of the allomones potentially harmful to the larvae.

[2] In 1959, Wilson revised the Melanesian component of the *O. cephalotes* complex and synonymized under *cephalotes* six varieties that had been attached either to it or to *O. ruficeps*. While he was making this study, he incidentally rough-sorted the considerable amount of material in this complex from continental Australia deposited in the MCZ. At that time it seemed to us that two species were represented among the Australian samples. One of these species, corresponding to *O. ruficeps*, has the first gastric segment shining, smooth or superficially aluta-