

Genus **ECITON** LatreilleSubgenus **ECITON** Latreille

Borgeier, 1955, p. 163—Brief description of larva (after G. C. Wheeler, 1943 and Weber, 1943).

Emery (1901, p. 430) reported that the larvae have a cylindroid shape; he did not find antennal rudiments.

Emery (1911, p. 5) characterized the larvae as "à peu près cylindrique."

Marcus, 1954:—"Mi idea es, que las larvas nutridas con trozos de *Termitas* producen sexuales y que las larvas que no reciben esta substancia T resultan trabajadoras" (p. 6). Outline drawing of larva of *Eciton* sp. in side view (Fig. 6a on p. 11).

Wheeler, 1903, p. 207:—Larvae are carried by the neck, with the long slender body extending back between the legs of the worker. On p. 209 he compared the larvae with those of *Cerapachys*.

Eciton burchelli and **E. hamatum**

Dr. T. C. Schneirla has published 30 articles on the behavior of these two species. The following account is based on two of these articles (1954, 1957).

The worker brood is always a unitary population of great size (approximately 30,000 individuals in *E. hamatum* and 50,000 in *E. burchelli*) and all of its members are at essentially the same stage of development. There are, however, individual differences in size.

Eggs are laid only in the middle of the stately phase. By the beginning of the following nomadic phase (induced by the eclosion of the previous brood) the newly hatched larvae are concentrated in a single small mass near the center of the bivouac, where they are tended by minims; consequently their stimulative effect on the colony is negligible. By the fourth or fifth day of the nomadic phase the larvae have grown considerably and their stimulative effect has begun to accelerate. They occupy an expanding central portion of the bivouac, the larger larvae near the periphery, the smaller near the center. After the middle of the nomadic phase, an ever increasing number of intermediate and large workers take part in the care of the larvae—stroking, licking, holding, feeding and carrying them on migration. As the larvae mature there is a progressive increase in the intensity of nomadism, as evidenced by the enhanced vigor of raiding and by the greater distance of emigration.

With the approach of maturity the largest larvae (the potential major workers) are the first to cease feeding. The workers carry them out of the bivouac and lay them in near-by wood dust or other detritus, which soon covers them and in which they are able to spin cocoons. Smaller individuals spin later.

With the completion of spinning the stimulation of the workers by the larvae ceases abruptly and the colony enters upon the stately phase, which persists while this brood is in the pupal stage and terminates when the callows emerge; then the next nomadic phase begins. As mentioned above, the next brood has already been started by eggs laid in the middle of the stately phase.

After discussing (1957, p. 110-111) trophallaxis between larva and worker Schneirla extended the definition of that term "from the effects of exchange of nutrient as such to the many and varied ways in which specific stimulation independent of nutrient gains arouses or increases action or serves to facilitate physiological processes in the colony. . . . The brood-energizing factor is therefore held to be the