

and primitive characteristics. One of the most prominent primitive characteristics is the use of the well-developed exsertile sting to paralyze prey. When live termites were offered in the foraging areas of colonies, minor workers would without assistance grasp, sting, and retrieve them to the nest. The termite could be observed making "twitching" movements suggestive of paralysis as it lay within the nest. Workers and larvae consumed prey within a few days. Another primitive behavior related to brood care is the habit of provisioning larvae with prey fragments. Prey are dismembered by workers within the nest, and pieces of prey are placed close to larvae. Unlike the primitive genera *Myrmecia* and *Amblyopone*, *A. simoni* larvae are motile and are not able to move to the prey to feed (Haskins, 1928 ; Haskins and Haskins, 1950 ; Traniello, 1982). Nourishment of larvae also includes regurgitation of liquid food from workers, a social behavior absent in *Myrmecia* and *Amblyopone*, among other primitive species. As is also the case in *Amblyopone* and *Myrmecia*, mature *A. simoni* larvae are banked with soil prior to pupation. The soil particles appear to serve as anchoring points for silk ; following the completion of the pupal case, workers remove the debris. Eclosion from the pupal case only occurs with the assistance of workers, which cut the pupal case with their mandibles and pull the callow individuals within free of the exuvia. Given that this is a trait found in species of the advanced subfamilies, brood care acts, taken together, include ancestral and advanced social features.

The most unusual aspect of the social behavior of *A. simoni* is in the pattern of age and size based division of labor. On the average, only 2.4 % of the worker population of a colony is composed of majors, and the maximum number of majors present in any queenright colony ($N = 7$) or queenless colony ($N = 19$) was three. It seems unlikely that such a small number of majors could effectively serve as defensive specialists. Indeed, our observations do not suggest a protective function. Given their broad heads and relatively narrow entrances to their nests in twigs, they seem adapted to serve as nest guards, yet major worker guarding was not consistently observed and majors were also often observed at the far end of the nest. We observed that majors feed avidly on honey water and insect prey, at times resulting in a swelling of the gaster to the point of exposing the intersegmental membranes. Majors also show a high frequency of regurgitation with both mature and callow workers, and because trophic behaviors constitute 65 % of the frequency of acts in their repertory (exclusive of self grooming), they may play a role in food storage, as do the major workers of other ant species (Wilson, 1974 ; Calabi *et al.*, 1983). Also, because we did not observe any callow major workers in any colony, it is possible that, when young, they care for brood. It is difficult to interpret whether the lack