with lightly pigmented (younger) workers spending more time at within-nest activities such as licking brood, and seldom leaving the nest.

Proatta butteli workers vary little in size (worker head widths range from 0.51 to 0.70 mm). Yet there is allometry between pronotal width and head width (slope = 0.48 on a double log plot, $r = 0.92$; $n = 25$), and workers of different sizes do show behavioral differences. Workers with a head width of 0.56 mm or less made up 38-90 % ($\bar{X} = 62$ %) of the workers standing on brood piles (based on 13 measurements taken at hourly intervals). These small ants were significantly more common on the brood than they were in the colony as a whole ($p < 0.01$, one sample sign test) (29 % of the captive ant population was small), and commonly groomed brood and fed larvae. Yet small workers did forage, and formed the same proportion of the forager population as they did for the worker population within the nest (in each case about 11 % of a sample of 150 individuals in the field).

Some of the most darkly pigmented individuals have an irregular, encrusting layer of very fine whitish material on their heads and trunks. This material comes free when the ants are placed in alcohol, and is composed of tiny, apparently siliceous grains. There is no evidence to suggest the material functions in camouflaging the ants from predators, as may be the case for the dense debris which accumulates on workers of certain basicerotine and stegomyrmicine ants (HÖLLDOBLER and WILSON, 1986).

QUEEN INTERACTIONS

Queens did not show overtly aggressive behavior. Queens tended to be dispersed within nests in the field, although I have taken two or three within a single chamber. Captive queens were often in physical contact with each other. They did occasionally stand partially on top of each other, but there was no clear pattern to this activity that would suggest a dominance function. There was also no evidence for differential treatment of queens by workers. For example, in one small colony sample, all three of the queens present received food frequently by regurgitation. Queen mortality was high in captivity, but most deaths occurred within two weeks after collection and were probably unrelated to social interactions. It is not known whether all queens are inseminated.

INTRASPECIFIC INTERACTIONS

Intraspecific aggression has not been observed. When ants from distant *Proatta* colonies were dropped near the nest entrances of the primary study colony, the intruders were ignored by workers. They walked into the nest