

Table 2. Numbers of workers responding to the poison gland secretion in the artificial test. Number of replications in parentheses.²

Source Species	Test Species				
	<i>Cyphomyrmex rimosus</i>	<i>Trachymyrmex septentrionalis</i>	<i>Acromyrmex octospinosus</i>	<i>Atta cephalotes</i>	<i>Atta texana</i>
<i>Cyphomyrmex rimosus</i>	74(8)	70(8)	—	—	56(8)
<i>Trachymyrmex septentrionalis</i>	52(6)	64(7)	30(4)	26(4)	66(8)
<i>Acromyrmex octospinosus</i>	—	48(6)	69(8)	31(4)	27(4)
<i>Atta cephalotes</i>	—	16(2)	77(10)	87(10)	50(6)
<i>Atta texana</i>	63(8)	54(6)	34(4)	—	33(4)

Acromyrmex sometimes produced a greater trail following response among all four genera than those obtained with *Trachymyrmex* and *Cyphomyrmex* extracts, no definite conclusions can be drawn from these results. The glands dissected out of *Atta* and *Acromyrmex* workers were generally larger than those obtained from the other two genera and conceivably they contained more odor trail substance. Even if all of the poison glands from all four genera were the same size, there would be no way of determining whether they all contained equal concentrations of the trail substances. Reliable quantitative experiments on the cross-generic activities of the attine odor trail substances must await isolation and identification of the pure pheromone(s).

The odor trail substances of the attines did not release trail following behavior in any non-attine species which were examined. Thus, no response was obtained with the odor trail laying ponerine *Termitopone lacvigata* (Fr. Smith)⁵, the dorylines *Eciton burchelli* (Westwood)⁷ and *E. hamatum* Forel.⁷, the myrmicines *Crematogaster lineolata* (Say)⁵, *Monomorium minimum* (Buckley)⁵, and *Solenopsis saevissima* (Fr. Smith)⁵ or the dolichoderines *Conomyrma pyramica* (Roger)⁵ and *Iridomyrmex pruinosus* (Roger)⁵.

DISCUSSION AND CONCLUSIONS

Based on external morphological features, the genera of the tribe Attini have the most easily recognized phylogenetic relationships of any of the myrmicine tribes (Creighton, 1950). Thus *Trachymyrmex* can be shown to grade into *Atta* and into the genus *Cyphomyrmex* through the transitional genus *Mycetosoritis*. The interrelationships of the attine genera are further supported by ethological evidence which largely parallels the morphological conclusions (Weber, 1958).