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CHEMICAL RELEASERS OF SOCIAL BEHAVIOR. II. SOURCE AND SPECIFICITY OF THE ODOR TRAIL SUBSTANCES IN FOUR ATTINE GENERA. (HYMENOPTERA: FORMICIDAE).¹

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The higher members of the tribe Attini characteristically lay persistent and extensive odor trails especially in many neotropical areas. Thus, in *Acromyrmex* and *Atta*, long columns of foraging workers are frequently present on the odor trails but in the less specialized attine genera, workers may forage either in files or singly. Weber (1958) has indicated that the workers in monomorphic genera forage singly, a behavioral characteristic which he offers as evidence for the primitive position of these attine genera.

Species in the genus *Trachymyrmex* appear to be intermediate, since they forage either singly or in columns. This, Weber concludes, indicates a transition to the well developed odor trails of the higher attines.

Since the Attini constitute a tribe of closely related genera which exhibit varying degrees of development of trail laying behavior, they are admirably suited for studies of odor trail laying.

The rôle of odor trail laying in the social biology of ants has been demonstrated clearly by Wilson (1962) using an artificial trail technique. Previous investigations had demonstrated that the trail substances of the myrmicine *Solenopsis saevissima* (Fr. Smith) (Wilson, 1959) and several Dolichoderinae (Wilson and Pavan, 1959) originated as glandular secretions. Employing similar techniques, Moser and Blum (1963) demonstrated that the odor trail substance of one attine, *Atta texana* (Buckley), was a product of the poison glands.

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