of individuals can be removed at any time without impairing the raid. The host nests are apparently discovered and learned individually by a relatively large number of "activator" workers who induce others to attack in a given direction. Arnoldi (1) has recorded unusual raiding behavior in the little-known Russian slave-maker *Rossomyrmex proformicarium* Arnoldi. The workers run in pairs, one individual carrying another over its head, and proceed to the raiding area in a loose file. The details of dulotic behavior of the myrmicine slave-maker *Harpegoxenus americanus* (Emery) were reported by Wesson (182). Compared with the formicines, the colonies are quite small and the raids loosely organized, in some cases being conducted by only a single individual. Unlike the formicines, the raiding parties are guided by odor trails. In many cases the workers settle in the raided nests and commence satellite colonies. The morphologically less specialized slave-raider *Leptothorax duloticus* Wesson, also a myrmicine, behaves in an essentially similar manner (183).

LITERATURE CITED

1. Arnoldi, K. V. Biologische Beobachtungen an der neuen Paläarktischen Slavenhalterameise *Rossomyrmex proformicarium* K. Arnoldi. *Z. Morphol. Ökol, Tiere,* **24,** 319–26 (1932)
2. Autrum, H. Das Stridulieren und das Hören der Ameisen. *Sitzber. Ges. naturforsch. Freunde, Berlin,* 210–19 (1936)
3. Autuori, M. La fondation des societés chez les fourmis champignonnistes du genre "Atta" (Hym. Formicidae). In *L'instinct dans le comportement des animaux et de l'homme* (Masson et Cie., 1956)
4. Bazire-Benazet, M. Sur la formation de l'oeuf alimentaire chez *Atta sexdens rubropilosa* Forel, 1908. *Compt. rend.,* **244,** 1277–80 (1957)
5. Beck, H. Vergleichende Untersuchungen über einige Verhaltensweisen von *Polyergus rufescens* Latr. und *Raftiformica sanguinea* Latr. *Insectes Sociaux,* **8,** 1–11 (1961)
6. Bethe, A. Dürfen wir den Ameisen und Bienen psychische Qualitäten zuschreiben? *Arch. ges. Physiol.,* **70,** 15–100 (1898)
7. Bier, K. Arbeiterinnenfertilität und Aufzucht von Geschlechtstieren als Regulationsleistung des Ameisenstaates. *Insectes Sociaux,* **3,** 177–84 (1956)
8. Bier, K. Die Regulation der Sexualität in der Insektenstaaten. *Ergeb. Biol.,* **20,** 97–126 (1958)
9. Blum, M. S. (Personal communication)
10. Bodenheimer, F. S. Population problems of social insects. *Biol. Rev. Cambridge Phil. Soc.,* **12,** 393–430 (1937)
11. Bossert, W. H., and Wilson, E. O. The analysis of olfactory communication. (In press)
12. Brian, M. V. The stable winter population structure in species of *Myrmica. J. Animal Ecol.,* **19,** 119–23 (1950)
13. Brian, M. V. Summer population changes in colonies of the ant Myrmica. *Physiol. Comparata et Oecol.,* **2,** 248–62 (1951)
14. Brian, M. V. Brood-rearing in relation to worker number in the ant *Myrmica. Physiol. Zoöl.,* **26,** 355–66 (1953)
15. Brian, M. V. Oviposition by workers of the ant *Myrmica. Physiol. Comparata et Oecol.,* **3,** 25–36 (1953)
16. Brian, M. V. Group form and the causes of working inefficiency in the ant *Myrmica rubra* L. *Physiol. Zoöl.,* **29,** 173–94 (1956)
17. Brian, M. V. Food distribution and larval size in cultures of the ant *Myrmica rubra* L. *Physiol. Comparata et Oecol.,* **4,** 330–45 (1957)
18. Brian, M. V. Serial organization of brood in *Myrmica. Insectes Sociaux,* **4,** 191–210 (1957)
19. Brian, M. V. Caste determination in social insects. *Ann. Rev. Entomol.,* **2,** 107–20 (1957)
20. Brian, M. V. The evolution of queen control in the social Hymenoptera.