WING VENATION AND THE PHYLOGENY OF THE FORMICIDAE[1]

(HYMENOPTERA)

BY WILLIAM L. BROWN, JR. AND WILLIAM L. NUTTING

The Biological Laboratories, Harvard University

(Plates VIII and IX)

INTRODUCTION

The wing venation of ants is a valuable taxonomic tool, but its full potentialities are far from realized. Former myrmecologists have utilized the cells of the wing as a systematic aid, while the veins which bound and form the cells have received little attention. As should be made clear by the discussion below, the lack of attention to the veins themselves has warped and hindered the entire approach to the subject. The reason for the old approach probably can be found in the inconsistencies among former attempts at homologizing the wing veins of the entire order Hymenoptera. Without a guiding homology, myrmecologists have fallen back on an arbitrary system or systems of wing vein nomenclature which often differed in details from author to author and from genus to genus. Rohwer and Gahan (1916) have illustrated the confusion which has reigned in the past among various hymenopterous groups.

Attempts at founding a secure homology of the primitive hymenopterous wing have more recently met with what seems to be a high degree of success. The work of Ross (1936) is accepted here as the logical starting point for analysis of the formicid venational elements. Those wishing to follow this paper back to its logical origin should by all means see Ross' lucid explanation and

[1] We are greatly indebted to Dr. F. M. Carpenter, who originally inspired this investigation and who has aided greatly in ways too numerous to mention. We also wish to thank Dr. J. C. Bequaert and Dr. P. J. Darlington, who read the manuscript and suggested certain changes.