

THE EVOLUTION OF SOCIAL WASPS.

By James H Hunt. Oxford and New York: Oxford University Press. \$99.50 (hardcover); \$44.50 (paper). xxi + 259 p; ill.; author and subject indexes. ISBN: 978-0-19-530785-6 (hc); 978-0-19-530797-9 (pb). 2007.

In social insects, one or more females reproduce while the rest are sterile workers. How worker sterility could have evolved is a puzzle. W D Hamilton made the brilliant suggestion that in the haplodiploid Hymenoptera (ants, bees, and wasps), kin selection increases a worker's fitness when she helps rear sisters who are more closely related than her daughters would be. However, the data on the role of kin selection in the evolution of eusociality are equivocal. Hunt's book is based on an alternative hypothesis, that sociality is the result of modifications of ancestral biology that lead to differences in the behavior of queens and workers in modern eusocial species. In a careful, thorough, and compelling account, he traces the development, physiology, and life history through the entire phylogeny of the wasps, from solitary to truly social. The strength of the book is the author's command of the details of taxonomy, foraging behavior, and life history, which enables him to weave a coherent narrative of the evolution of this huge and diverse group. Building on the reproductive ground plan hypothesis introduced by West-Eberhard, Hunt emphasizes the importance of evolutionary modification in how larvae are fed and in the timing in the life cycle of diapause. A lifetime of research, hard thinking, and devotion to detail shine through Hunt's conversational style. The book is clear about many questions that remain unanswered, and will inspire both controversy and new synthetic research on the evolution of social behavior.

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