# Handbook of Ethological Methods

**Philip N. Lehner**
Garland STPM Press, New York, 1979, $14.50, 403 pages

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This handbook covers such topics as: definition of ethology, observational techniques, description and classification of behavior, sampling methods, research design, manipulative experimental techniques, data collecting equipment, statistical analysis, and the presentation and interpretation of results. With minor exceptions, the author treats these topics competently. His treatment of the premises of this behavioral science explains the logic of the science but also conveys the spririt and intent of ethology.

Approximately a quarter of the book is devoted to principles of probability and statistics. These topics have been treated many times elsewhere and probably in more adequate detail. The main value of Lehner's treatment is the application of statistical tests to ethological data, such as the analysis of behavioral sequences. His explanation of these various statistical tests is uneven. Some are fully explained and their underlying assumptions are explicitly stated. Others are treated inadequately, and in several cases a reference that further explains the use of the statistical technique is not included. In addition, greater variety in the types of ethological data used to illustrate these statistical tests would have made this section more interesting.

My main criticism of this handbook is the absence of a section concerning the principles of the natural selection of behavior. Recently ethologists and sociobiologists have applied the principles of population genetics in order to analyze the selection and spread of adaptive or evolutionary stable behaviors within a population. The point could be argued whether this type of theory belongs in a handbook of ethological methods. Yet the "selfish gene" theory and its concomitant analytical paradigms are some of the most powerful techniques in contemporary ethology. They receive no mention in this handbook. Researchers wishing exposure to these techniques would be well advised to read R. Dawkin's *The Selfish Gene* (1976, Oxford University Press) and J.R. Krebs and N.B. Davies' *Behavioral Ecology* (1978, Blackwell Scientific

Publications).

Despite my criticisms, Lehner's *Handbook* is of real value. The topics that the author discusses in detail are explained clearly. His treatment of the delineation of behavioral units, classification of behaviors and ethological sampling techniques is particularly good. One gets the impression that this volume was composed and edited with considerable care, and the small number of typographical errors and minor omissions found throughout is evidence of that carefulness. Lehner's writing is highly readable and cogent although it lacks terseness. Despite its shortcomings, this book will be useful for someone initiating ethological research and as a review for someone familiar with the field. The volume certainly helps to fill a vacant niche in the literature of ethology.