Wildlife Movements and Tracking Systems

Bibliography

THE GEORGE WASHINGTON UNIVERSITY
Medical Center
Department of Medical and Public Affairs
Biological Sciences Communication Project
Washington, D.C.

A Bibliography of Wildlife Movements and Tracking Systems

by

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INTRODUCTION

The present bibliography consists of 1,005 references concerned with animal orientation, homing, navigation, migration, and home range movements, and the various methods of tracking and monitoring such behavior through biotelemetry, radar, and various banding and tagging techniques. A majority of the publications appeared between 1950 and 1970, although the most intensive search was made of the 1965-1970 period. A small number of older articles and books were included because they appeared to have some special or unusual value.

The references have been organized in two ways. First, they are grouped in primary categories on the basis of the behavior involved such as orientation, homing, etc., and the methods of tracking it. Second, within each of the resulting major areas, the items are arranged in terms of the species of animal. This sequence is maintained throughout the bibliography and in many cases represents a rank order according to the number of publications found.

In order to facilitate the assignment of references to the major groups, however, it was necessary to establish working definitions of many of the terms used. Thus, orientation refers to some type of directional behavior in which an animal selects a specific compass setting to follow prior to homing or migration. Some authors make a distinction between directional orientation as a general concept and goal orientation, the latter meaning a direction an animal must take after displacement in order to reach a goal or homesite. Homing involves a return to a loft, nest, or home range over either familiar or unfamiliar terrain ranging from very short distances to thousands of miles. The ability of an animal to set and hold a specific course during its movements by utilizing celestial and/or terrestrial cues constitutes a problem of navigation. Theoretically, the mechanism postulated for such behavior may involve sun navigation, star navigation, inertial navigation, a concept of "map and compass," or a sun compass. Migration is generally regarded as a cyclic movement, although it may be noncyclical, usually consisting of a series of annual or periodic round trips between a breeding site and a home area. It is sometimes described as an "external homeostasis" having certain evolutionary and genetic benefits.

Several publications in the bibliography are considered exceptionally useful in that they provide comprehensive and detailed reviews of certain areas of research and their theoretical implications and, in addition, most have fairly extensive bibliographies. They are as follows:

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