

Contents

1. Crustaceans and Spiders	1
A. Field Performance in Orientation	1
B. Experimental and Theoretical Analysis	3
2. Locusts	13
A. Field Performance in Orientation	13
B. Experimental and Theoretical Analysis	13
3. Bees	17
A. Field Performance in Orientation	17
B. Experimental and Theoretical Analysis	17
4. Butterflies	27
A. Field Performance in Orientation	27
B. Experimental and Theoretical Analysis	28
5. Fishes	31
A. Field Performance in Orientation	31
B. Experimental and Theoretical Analysis	37
6. Amphibians	45
A. Field Performance in Orientation	45
B. Experimental and Theoretical Analysis	45
7. Reptiles	47
A. Field Performance in Orientation	47
B. Experimental and Theoretical Analysis	47
	XI

8. Birds	51
A. Field Performance in Orientation	51
B. Experimental and Theoretical Analysis	55
9. Mammals	67
I. Bats	67
A. Field Performance in Orientation	67
B. Experimental and Theoretical Analysis	69
II. Whales	70
A. Field Performance in Orientation	70
B. Experimental and Theoretical Analysis	72
III. Terrestrial Mammals	73
A. Field Performance in Orientation	73
B. Experimental and Theoretical Analysis	73
Conclusion	77
Appendix: Some Statistical Methods for the Analysis of Animal Orientation Data	79
I. A One-Sample Test in Unimodal Distributions	79
II. A One-Sample Test in Bimodal or Multimodal Distributions	84
III. Two-Sample Tests	86
IV. Multisample Tests	87
References	89
Subject Index	97