## Contents

	List of Drawings at Part Openings		
	Preface	xi	
PART I	Leks and Their Taxonomic Occurrence		
1	What Are Leks?	3	
	1.1 Introduction	3	
	1.2 Definition of the Lek	4	
	1.3 Level of Aggregation: Exploded Leks	7	
	1.4 Aggregation on Landmarks	11	
	1.5 Resource Availability: Resource-based Leks	13	
	1.6 Handling Time	18	
	1.7 Stability of Arenas and Territories	19	
	1.8 Sexual Selection and Mating System	20	
	1.9 Summary	21	
2	A Taxonomic Overview		
	2.1 Introduction	23	
	2.2 Basic Prerequisites for Lekking	24	
	2.3 Arthropods Other Than Insects	25	
	2.4 Insects	25	
	2.5 Fish	28	
	2.6 Amphibians	30	
	2.7 Salamanders and Newts	32	
	2.8 Reptiles	33	
	2.9 Birds	34	
	2.10 Ungulates and Other Mammals	39	
	2.11 Summary	40	
PART II	Sexual Selection	49	
3	Determinants of Male Mating Success	51	
	3.1 Introduction	51	

## vi - CONTENTS

		3.2	Mating Skew	52
		3.3	Traits Beneficial for Males	54
		3.4	Male-Male Competition or Female Choice?	78
		3.5	Costs of Sexually Selected Traits	82
		3.6	Lek Organization	84
		3.7	Summary	90
	4	Fema	le Mating Adaptations	92
		4.1	Introduction	92
		4.2	Reasons for Female Preference	94
		4.3	Costs of Female Choice	108
		4.4	Female Mating Strategies	110
		4.5	Summary	120
	5	Black	Grouse: A Case Study	122
		5.1	Introduction	122
		5.2	Methods of Observation	122
		5.3	Correlates of Mating Success	124
		5.4	Experiments	131
		5.5	Synthesis	135
	6	Comp	parative Studies	137
		6.1	Introduction	137
		6.2	Different Comparative Approaches	139
		6.3	Social Selection	146
		6.4	Summary	147
PART	111	Lek	Evolution	149
	7	A Rev	view of Hypotheses	151
		7.1	Introduction	151
		7.2	Predation Risk	151
		7.3	Information Sharing	156
		7.4	Passive Attraction	156
		7.5	Habitat Limitation	157
		7.6	The Hotspot Model	159
		7.7	Increased per Capita Mating Success on Larger Leks	163

## CONTENTS . vii

	7.8 The Black Hole Model	169
	7.9 The Hotshot Model	170
	7.10 Summary	173
8	Intraspecific Variation	175
	8.1 Introduction	175
	8.2 Intraspecific Variability	176
	8.3 Intra-Individual Variability and Alternative Reproductive Behaviors	178
	8.4 Summary	183
9	Game Theory Models of Leks	184
	9.1 Introduction	184
	9.2 Ideal Free Theory	184
	9.3 Summary	195
PART IV	Conclusions	199
10	Concluding Remarks and Prospects	
	for Future Studies	201
	10.1 General Conclusions	201
	10.2 Future Prospects	203
	10.3 A Final Word	207
	References	209
	Author Index	239
	Subject and Species Index	246