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flights; ENERGY NEEDS AND BODY COMPOSITION; MIGRATION MODE; MECHANISMS OF FUEL DEPOSITION; DAILY RATES OF WEIGHT GAIN EXAMPLES OF CHANGES IN BODY COMPOSITION FAT CHICKS; CONCLUDING REMARKS; SUMMARY; APPENDIX 5.1 CALCULATION OF FLIGHT RANGES; Chapter 6 Incredible journeys; SEA-CROSSINGS; DESERT CROSSINGS; HIGH MOUNTAINS; OTHER BARRIERS; CONCLUDING REMARKS; SUMMARY; POSTSCRIPT; Chapter 7 Raptors and other soaring birds; USE OF THERMALS AND OTHER UPDRAFTS; EXTENSION OF MIGRATION AS A CONSEQUENCE OF SOARING; SOCIAL FACTORS; COUNTS IN ISRAEL; NUMBERS ENTERING AFRICA; MIGRATION AT OTHER SITES; ENERGY RESERVES; SUMMARY; Chapter 8 Speed and duration of journeys; THEORETICAL BASIS; EMPIRICAL ESTIMATES PROPORTION OF MIGRATION SPENT IN FLIGHT APPARENT NON-STOP SEA-CROSSINGS; PENGUINS; MIGRATION WITHIN THE ANNUAL CYCLE; CONCLUDING REMARKS; SUMMARY; Chapter 9 Finding the way; COMPASS ORIENTATION AND BI-COORDINATE NAVIGATION; CUES USED IN DIRECTION FINDING; SOCIAL FACTORS; LOXODROMES AND ORTHODROMES; CONCLUDING REMARKS; SUMMARY; Chapter 10 Vagrancy; PROBABILITY OF ARRIVAL; LONG-DISTANCE DISPERSAL; EFFECT OF POPULATION SIZE; DRIFT BY WIND; OVERSHOOTING; DEVIANT DIRECTIONAL TENDENCIES; MIRROR-IMAGE MIGRATION; REVERSED-DIRECTION MIGRATION; NEW ROUTES AND RANGE EXPANSION; HUMAN-ASSISTED VAGRANCY EVIDENCE FROM RINGING CONCLUDING REMARKS; SUMMARY; PART TWO: THE TIMING AND CONTROL OF MIGRATION; Chapter 11 Annual cycles; VARIATIONS IN ANNUAL CYCLES; INTERNAL TIME KEEPING; FLEXIBLE CYCLES; CONCLUDING REMARKS; SUMMARY; Chapter 12 Control mechanisms; OBLIGATE AND FACULTATIVE MODES; MIGRATION TIMING, DISTANCES AND DIRECTIONS; AUTUMN MIGRATION; SPRING MIGRATION; RELATIONSHIP BETWEEN SPRING ARRIVAL, BREEDING AND AUTUMN DEPARTURE; DEFERRED RETURN TO BREEDING AREAS; HORMONAL ISSUES; CONCLUDING REMARKS; SUMMARY; PART THREE: LARGE-SCALE MOVEMENT PATTERNS; Chapter 13 Geographical patterns LATITUDINAL TRENDS

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#### Sommario/riassunto

This book presents an up-to-date, detailed and thorough review of the most fascinating ecological findings of bird migration. It deals with all aspects of this absorbing subject, including the problems of navigation and vagrancy, the timing and physiological control of migration, the factors that limit their populations, and more. Author, Ian Newton, reveals the extraordinary adaptability of birds to the variable and changing conditions across the globe, including current climate change. This adventurous book places emphasis on ecological aspects, which have received only scant attention in pr

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