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Nota di contenuto	Frontmatter -- Contents -- Preface -- 1. Introduction -- 2. From Individual Behavior to Patterns of Space Use -- 3. A Simple Mechanistic Home Range Model -- 4. A Model Based on Conspecific Avoidance -- 5. Comparative Analysis of Home Range Patterns Predicted -- 6. Mathematical Analysis of the Conspecific Avoidance Model -- 7. The Influence of Landscape and Resource Heterogeneity -- 8. Home Range Formation in the Absence of a Den Site -- 9. Secondary Ecological Interactions -- 10. Displacement Distances: Theory and Applications -- 11. ESS Analysis of Movement Strategies: Analyzing the Functional Significance of Home Range Patterns -- 12. Future Directions and Synthesis -- Appendixes -- References -- Index
Sommario/riassunto	Spatial patterns of movement are fundamental to the ecology of animal populations, influencing their social organization, mating systems, demography, and the spatial distribution of prey and competitors. However, our ability to understand the causes and consequences of animal home range patterns has been limited by the descriptive nature of the statistical models used to analyze them. In Mechanistic Home

Range Analysis, Paul Moorcroft and Mark Lewis develop a radically new framework for studying animal home range patterns based on the analysis of correlated random walk models for individual movement behavior. They use this framework to develop a series of mechanistic home range models for carnivore populations. The authors' analysis illustrates how, in contrast to traditional statistical home range models that merely describe pattern, mechanistic home range models can be used to discover the underlying ecological determinants of home range patterns observed in populations, make accurate predictions about how spatial distributions of home ranges will change following environmental or demographic disturbance, and analyze the functional significance of the movement strategies of individuals that give rise to observed patterns of space use. By providing researchers and graduate students of ecology and wildlife biology with a more illuminating way to analyze animal movement, Mechanistic Home Range Analysis will be an indispensable reference for years to come.

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