1. Record Nr. UNINA9910792397303321

Autore	Sumpter David <1973->
Titolo	Collective animal behavior [[electronic resource] /] / David J. T. Sumpter
Pubbl/distr/stampa	Princeton, : Princeton University Press, c2010
ISBN	1-4008-3710-3 1-282-82116-4 9786612821165 0-691-12963-0
Edizione	[Course Book]
Descrizione fisica	1 online resource (488 p.)
Collana	Public Square
Disciplina	591.56
Soggetti	Social behavior in animals Collective behavior
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Frontmatter -- Contents -- Acknowledgments -- Chapter 1. Introduction -- Chapter 2. Coming Together -- Chapter 3. Information Transfer -- Chapter 4. Making Decisions -- Chapter 5. Moving Together -- Chapter 6. Synchronization -- Chapter 7. Structures -- Chapter 8. Regulation -- Chapter 9. Complicated Interactions -- Chapter 10. The Evolution of Co-operation -- Chapter 11. Conclusions -- References -- Index
Sommario/riassunto	Fish travel in schools, birds migrate in flocks, honeybees swarm, and ants build trails. How and why do these collective behaviors occur? Exploring how coordinated group patterns emerge from individual interactions, Collective Animal Behavior reveals why animals produce group behaviors and examines their evolution across a range of species. Providing a synthesis of mathematical modeling, theoretical biology, and experimental work, David Sumpter investigates how animals move and arrive together, how they transfer information, how they make decisions and synchronize their activities, and how they build collective structures. Sumpter constructs a unified appreciation of how different group-living species coordinate their behaviors and why natural selection has produced these groups. For the first time, the book combines traditional approaches to behavioral ecology with ideas

about self-organization and complex systems from physics and mathematics. Sumpter offers a guide for working with key models in this area along with case studies of their application, and he shows how ideas about animal behavior can be applied to understanding human social behavior. Containing a wealth of accessible examples as well as qualitative and quantitative features, Collective Animal Behavior will interest behavioral ecologists and all scientists studying complex systems.