Record Nr. UNINA9910876588203321 Metabolic ecology: a scaling approach / / edited by Richard M. Sibly, **Titolo** James H. Brown, and Astrid Kodric-Brown Pubbl/distr/stampa Chichester, West Sussex;; Hoboken, NJ,: Wiley-Blackwell, 2012 **ISBN** 1-119-96853-4 1-119-96851-8 1-280-67717-1 9786613654106 1-119-96850-X Descrizione fisica 1 online resource (393 p.) Classificazione SCI020000 Altri autori (Persone) BrownJames H. <1942 Sept. 25-> Kodric-BrownAstrid SiblyR. M 572/.4 Disciplina Soggetti Biotic communities **Ecology** Metabolism Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Machine generated contents note: Notes on contributorsPrefaceIntroduction: Metabolism as the basis for a theoretical unification of ecologyJames H. Brown, Richard M. Sibly, and Astrid Kodric-BrownPart I: Foundations1. Methodological toolsEthan P. White, Xiao Xiao, Nick J. B. Isaac, and Richard M. Sibly2. The metabolic theory of ecology and its central equationJames H. Brown and Richard M. Sibly3. StoichiometryMichael Kaspari4. Modeling metazoan growth and ontogenyAndrew J. Kerkhoff5. Life historyRichard M. Sibly6. BehaviorApril Hayward, James F. Gillooly, and Astrid Kodric-Brown7. Population and community ecologyNick J.B. Isaac, Chris Carbone, and Brian McGill8. Predator-prey relations and food websOwen L. Petchey and Jennifer A. Dunne9. EcosystemsKristina J. Anderson-Teixeira and Peter M. Vitousek10. Rates of metabolism and evolutionJohn L.

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Sommario/riassunto

"Most of ecology is about metabolism: the ways that organisms use energy and materials. The energy requirements of individuals - their metabolic rates - vary predictably with their body size and temperature. Ecological interactions are exchanges of energy and materials between organisms and their environments. So metabolic rate affects ecological processes at all levels: individuals, populations. communities and ecosystems. Each chapter focuses on a different process, level of organization, or kind of organism. It lays a conceptual foundation and presents empirical examples. Together, the chapters provide an integrated framework that holds the promise for a unified theory of ecology. The book is intended to be accessible to upper-level undergraduate, and graduate students, but also of interest to senior scientists. Its easy-to-read chapters and clear illustrations can be used in lecture and seminar courses. Together they make for an authoritative treatment that will inspire future generations to study metabolic ecoloav"--

"Explains the new metabolic theory of ecology, puts it into context, and shows how it can be used to answer contemporary problems"--