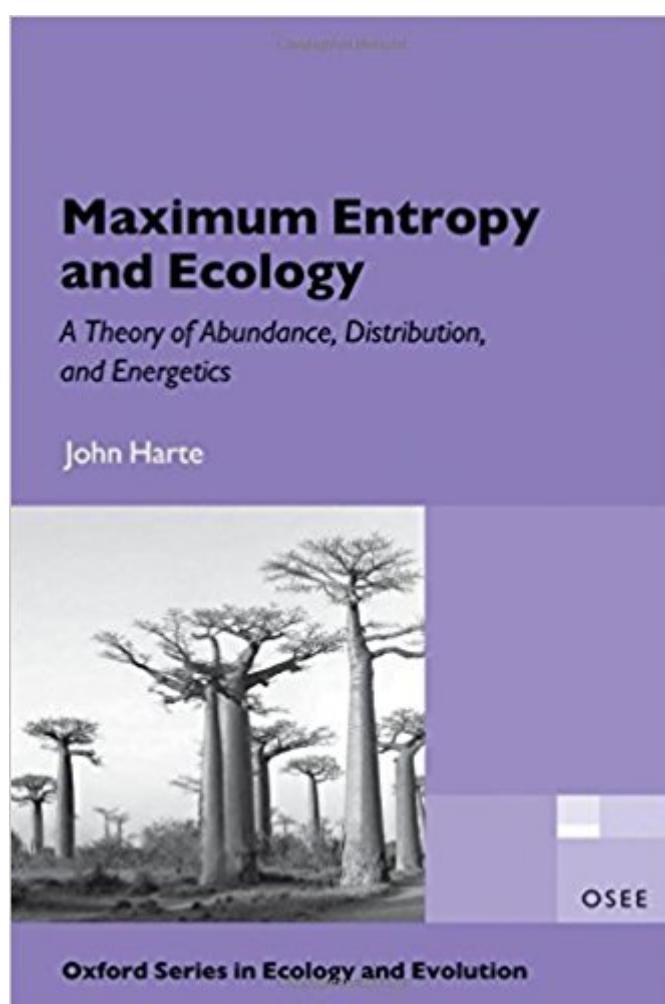


The book was found

Maximum Entropy And Ecology: A Theory Of Abundance, Distribution, And Energetics (Oxford Series In Ecology And Evolution)



Synopsis

This pioneering graduate textbook provides readers with the concepts and practical tools required to understand the maximum entropy principle, and apply it to an understanding of ecological patterns. Rather than building and combining mechanistic models of ecosystems, the approach is grounded in information theory and the logic of inference. Paralleling the derivation of thermodynamics from the maximum entropy principle, the state variable theory of ecology developed in this book predicts realistic forms for all metrics of ecology that describe patterns in the distribution, abundance, and energetics of species over multiple spatial scales, a wide range of habitats, and diverse taxonomic groups. The first part of the book is foundational, discussing the nature of theory, the relationship of ecology to other sciences, and the concept of the logic of inference. Subsequent sections present the fundamentals of macroecology and of maximum information entropy, starting from first principles. The core of the book integrates these fundamental principles, leading to the derivation and testing of the predictions of the maximum entropy theory of ecology (METE). A final section broadens the book's perspective by showing how METE can help clarify several major issues in conservation biology, placing it in context with other theories and highlighting avenues for future research.

Book Information

Series: Oxford Series in Ecology and Evolution

Paperback: 264 pages

Publisher: Oxford University Press; 1 edition (September 1, 2011)

Language: English

ISBN-10: 0199593426

ISBN-13: 978-0199593422

Product Dimensions: 9.1 x 0.7 x 6.1 inches

Shipping Weight: 1.1 pounds (View shipping rates and policies)

Average Customer Review: 3.0 out of 5 stars See all reviews (2 customer reviews)

Best Sellers Rank: #551,388 in Books (See Top 100 in Books) #13 in Books > Science & Math > Physics > Entropy #336 in Books > Textbooks > Science & Mathematics > Biology & Life Sciences > Ecology #1425 in Books > Science & Math > Biological Sciences > Ecology

Customer Reviews

I thought this would be something like thermodynamics... But it turns out, it is about information theory, with an application of the methods used in statistical thermodynamics. It's still a very good

book though, and I met the author too and he is a very intelligent and sensible man. It does make me wish I understood math better.

This review only pertains to the Kindle version. The equations are much too small. This book is unreadable without equations, and in the Kindle version, on tablets, equations are too tiny to be readable. On a phone, equations are almost readable.

[Download to continue reading...](#)

Maximum Entropy and Ecology: A Theory of Abundance, Distribution, and Energetics (Oxford Series in Ecology and Evolution) Exploiting Continuity: Maximum Entropy Estimation of Continuous Distribution (Series on Econometrics and Management Sciences) Entropy - God's Dice Game: The book describes the historical evolution of the understanding of entropy, alongside biographies of the scientists who ... communication theory, economy, and sociology Infectious Diseases in Primates: Behavior, Ecology and Evolution (Oxford Series in Ecology and Evolution) Ecology: The Experimental Analysis of Distribution and Abundance (6th Edition) Entropy, Information, and Evolution: New Perspective on Physical and Biological Evolution (Bradford Books) The Maximum Entropy Method (Springer Series in Information Sciences) Biological Invasions: Theory and Practice (Oxford Series in Ecology and Evolution) Quantum Transport in Mesoscopic Systems: Complexity and Statistical Fluctuations. A Maximum Entropy Viewpoint (Mesoscopic Physics and Nanotechnology) Maximum Entropy Formalism Entropy and the Time Evolution of Macroscopic Systems (International Series of Monographs on Physics) Parasites and the Behavior of Animals (Oxford Series in Ecology and Evolution) Inotropic Stimulation and Myocardial Energetics MATRIX ENERGETICS (Spanish Edition) Statistical Mechanics: Entropy, Order Parameters and Complexity (Oxford Master Series in Physics) Entropy Theory and its Application in Environmental and Water Engineering Law and Ecology: The Rise of the Ecosystem Regime (Ecology and Law in Modern Society) The Ecology of Phytoplankton (Ecology, Biodiversity and Conservation) Ecology and Classification of North American Freshwater Invertebrates, Third Edition (Aquatic Ecology (Academic Press)) Wetland Ecology (Cambridge Studies in Ecology)

[Dmca](#)