DOWNLOAD PDF SCALING BIODIVERSITY (ECOLOGICAL REVIEWS)

Chapter 1 : Scaling biodiversity (Book,) [calendrierdelascience.com]

Scaling rules offer one possible framework, and this book offers a synthesis of the ways in which scaling theory can be applied to the analysis of biodiversity. Scaling Biodiversity presents new views on quantitative patterns of the biological diversity on earth and the processes responsible for them.

Given that in practical terms it is impossible to expect to be able to document biodiversity with any degree of completeness other approaches must be used. Scaling rules offer one possible framework, and this book offers a synthesis of the ways in which scaling theory can be applied to the analysis of biodiversity. Scaling Biodiversity presents new views on quantitative patterns of the biological diversity on earth and the processes responsible for them. Written by a team of leading experts in ecology who present their most recent and innovative views, readers will be provided with what is the state of art in current ecology and biodiversity science. Overall, I recommend the book because of its breadth of coverage of a complex and sprawling literature. The better pieces in the volume are also motivational and provide good fuel for research projects. The topics challenge us all to think about how to be more holistic in thinking about spatial and temporal patterns of biodiversity. Brown; Foreword Lord Robert May; 1. Spatial Scaling of Species Richness and Distribution: Species-area curves and the geometry of nature Michael W. The distribution of species: Species distribution patterns, diversity scaling and testing for fractals in Southern African birds Jack J. Kunin, Stephen Hartley and Kevin J. Geometry of species distribution: Toward a mechanistic basis for a unified theory of spatial structure in ecological communities at multiple spatial scales John Harte; Part II. Alternative Measures of Biodiversity: Taxonomy, Phylogeny and Turnover: Spatial scaling of microbial biodiversity Jessica Green and Brendan J. The importance of phylogenetic structure in biodiversity studies Jerome Chave, Guillem Chust and Christophe Thebaud; 9. Hierarchical analysis of beta-diversity using wavelets Timothy H. The scaling of spatial turnover: Evans and Jack J. Regional- to global patterns of biodiversity, and what they have to say about mechanisms David J. The role of temperature in the origin and maintenance of biodiversity Andrew P. Brown and Jamie F. Scaling species richness and distribution: Processes, Perspectives and Syntheses: Spatiotemporal scaling of species richness: Scaling biodiversity under neutrality Luis Borda-de- gua, Stephen P. Hubbell and Fangliang He; General patterns in plant invasions: Extinction and population scaling William E. Survival of species in patchy landscapes: Biodiversity power laws Pablo A. Abades and Fabio A. He teaches courses on animal ecology, macroecology and community ecology. Bestsellers in this subject.

Chapter 2 : Scaling and Uncertainty Analysis in Ecology

Ecological Reviews: Scaling Biodiversity by David Storch, , available at Book Depository with free delivery worldwide.

Brown; Foreword Lord Robert May; 1. Spatial Scaling of Species Richness and Distribution: Species-area curves and the geometry of nature Michael W. The distribution of species: Species distribution patterns, diversity scaling and testing for fractals in Southern African birds Jack J. Kunin, Stephen Hartley and Kevin J. Geometry of species distribution: Toward a mechanistic basis for a unified theory of spatial structure in ecological communities at multiple spatial scales John Harte; Part II. Alternative Measures of Biodiversity: Taxonomy, Phylogeny and Turnover: Spatial scaling of microbial biodiversity Jessica Green and Brendan J. The importance of phylogenetic structure in biodiversity studies Jerome Chave, Guillem Chust and Christophe Thebaud; 9. Hierarchical analysis of beta-diversity using wavelets Timothy H. The scaling of spatial turnover: Evans and Jack J. Regional- to global patterns of biodiversity, and what they have to say about mechanisms David J. The role of temperature in the origin and maintenance of biodiversity Andrew P. Brown and Jamie F. Scaling species richness and distribution: Processes, Perspectives and Syntheses: Spatiotemporal scaling of species richness: Hubbell and Fangliang He; General patterns in plant invasions: Extinction and population scaling William E. Survival of species in patchy landscapes: Biodiversity power laws Pablo A. Abades and Fabio A. The better pieces in the volume are also motivational and provide good fuel for research projects. The topics challenge us all to think about how to be more holistic in thinking about spatial and temporal patterns of biodiversity. He teaches courses on animal ecology, macroecology and community ecology.

Chapter 3 : Scaling in Ecology and Biodiversity Conservation

Scaling Biodiversity presents new views on quantitative patterns of the biological diversity on earth and the processes responsible for them. Written by a team of leading experts in ecology who present their most recent and innovative views, readers will be provided with what is the state of art in current ecology and biodiversity science.

Advanced Search Abstract Cities represent considerable opportunities for forwarding global biodiversity and sustainability goals. We developed key attributes for conserving biodiversity and for ecosystem services that should be included in urban-planning documents and reviewed plans from 40 cities globally. The most common attributes in city plans were goals for habitat conservation, air and water quality, cultural ecosystem services, and ecological connectivity. Few plans included quantitative targets. This lack of measurable targets may render plans unsuccessful for an actionable approach to local biodiversity conservation. Although most cities include both biodiversity and ecosystem services, each city tends to focus on one or the other. Comprehensive planning for biodiversity should include the full range of attributes identified, but few cities do this, and the majority that do are mandated by local, regional, or federal governments to plan specifically for biodiversity conservation. This research provides planning recommendations for protecting urban biodiversity based on ecological knowledge. Globally, towns and cities are rapidly increasing in area and in population; urban area is projected to triple until Batty , Seto et al. Most urbanization is occurring in regions identified as biodiversity hotspots Seto et al. As a result, a the density of flora and fauna is substantially reduced in urban areas compared with that in nonurban habitats Aronson et al. Reductions in biodiversity decrease the capacity of ecosystems to capture essential resources, produce biomass, and maintain ecological processes such as nutrient cycling Cardinale et al. Reductions in urban biodiversity have consequences for human well-being, reducing the benefits people can obtain from nature at individual and community levels Brown and Grant , Fuller and Irvine , Luck However, recent research has shown that cities can still support significant levels of biodiversity, including endangered and threatened species, and therefore can play an important role in biodiversity conservation Aronson et al. People experience biodiversity primarily where they live. Urban planning and policy therefore have the potential to influence how people and communities experience and understand biodiversity, as well as to increase support for conservation in the city and beyond Dearborn and Kark , Karvonen and Yocom Daily interaction with nature engages people in nature conservation Fuller and Irvine and has positive effects on physical and psychological health, social cohesion, crime reduction, environmental awareness, economic gain, and sense of belonging Giles-Corti et al. Biodiversity conservation in cities works to preserve remnant natural habitats while further planning, designing, and implementing green-infrastructure networks. Green infrastructure across the city allows for a diversity of natural, restored, and constructed habitats that all serve to improve conditions for biodiversity in public and private lands Beninde et al. For example, private gardens constitute an important group of microhabitats that foster a large diversity of flora and fauna that residents can directly experience Smith et al. Efficient planning and management can increase biodiversity and improve conditions for urban areas within this green-infrastructure network Irvine et al. One way of representing the benefits of biodiversity for the environment and for humans is the concept of ecosystem services MEA , describing the benefits that humans derive from nature. The biophysical structure and function of ecosystems are linked to services, which are then linked to human well-being through benefits and economic value Hansen and Pauleit Conserving and fostering biodiversity also support the continuity of these ecosystem processes, including the maintenance and enhancement of human well-being Cardinale et al. Although there is large and increasing body research on ecosystem services in cities, the findings are not often used by city planners Ahern et al. Biodiversity conservation and managing for ecosystem services present conservation challenges for planning and policy Dearborn and Kark Although cities are centers of consumption and land-use change, they represent a considerable opportunity for forwarding global sustainability and environmental goals. For example, cities are at the forefront in planning for climate-change adaptation and mitigation Rosenzweig et al. City plans and biodiversity: Questions and approaches Researchers studying how cities address planning for biodiversity and

ecosystem services have focused on case studies of individual cities e. Here, we examine how multiple cities plan for and address issues of biodiversity conservation and ecosystem services. We are interested in understanding how such planning and implementation can simultaneously serve as drivers to enhance biodiversity conditions within cities as well as barriers. We examine city plans, policies, and strategies from the perspective of the ecological sciences by identifying important attributes for urban biodiversity and ecosystem services at a global scale. Our research represents a first step in understanding how the urban-planning process can be used to address biodiversity conservation and the provision of ecosystem services. We do not address important questions about plan implementation or about the success of the plans in conserving species or in the provision of ecosystem services. Instead, we ask three questions: More specifically, do biodiversity and ecosystem-services plan attributes differ between cities located in biodiversity hotspots Conservation International and those that are not located in biodiversity hotspots? And do the biodiversity and ecosystem-services plan attributes in cities participating in the City Biodiversity Index CBI; Chan and Djoghlaf differ from those in other cities? We sampled 40 cities from 25 countries. We wanted to understand how cities from a variety of ecological, political, and economic contexts incorporated biodiversity and ecosystem services into planning. Cities were initially identified from previous global studies of urban biodiversity and green infrastructure Aronson et al. To be included in the sample, the city had to have at least one official planning document that contained a goal that was specifically related to biodiversity or related ecosystem services. The sample of cities included all biogeographic realms excluding Antarctica and 34 ecoregions table 1. The population, biogeographic characteristics World Wildlife Fund Ecoregions , presence in biodiversity hotspots, ratification of the Convention on Biological Diversity, and number of plans for each city. See the supplemental material for plan references.

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brand NEW print ON demand., Scaling Biodiversity, David Storch, Pablo A. Marquet, James Brown, We know that there are tens of millions of plant and animal species, but we do not know enough to be able to describe the patterns and processes that characterise the distribution of species in space, time and taxonomic groups. Given that in.

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Biodiversity genomics integrates different data types such as biological indicators from traditional specimen collection, biomass estimates and biological activity assessments; environmental indicators that describe site characteristics; as well as DNAâ€•based indicators which are the focus of this review (Figure 1).