



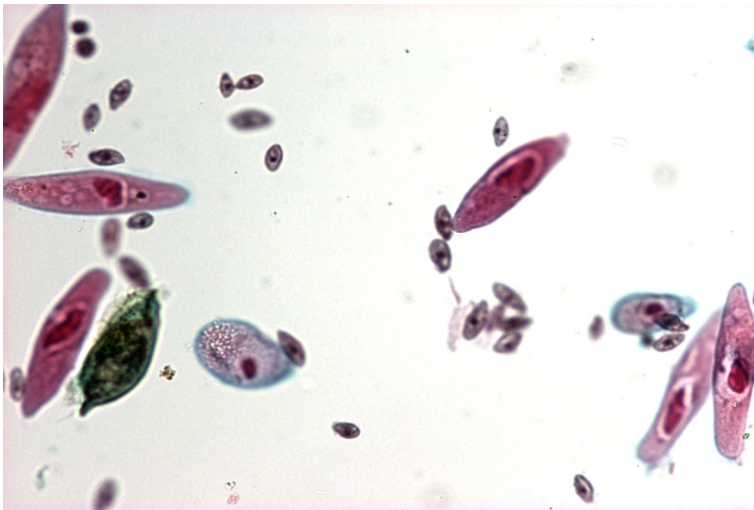
Ecologia de comunidades:

Uma breve introdução histórica



Floresta da Mata Atlântica

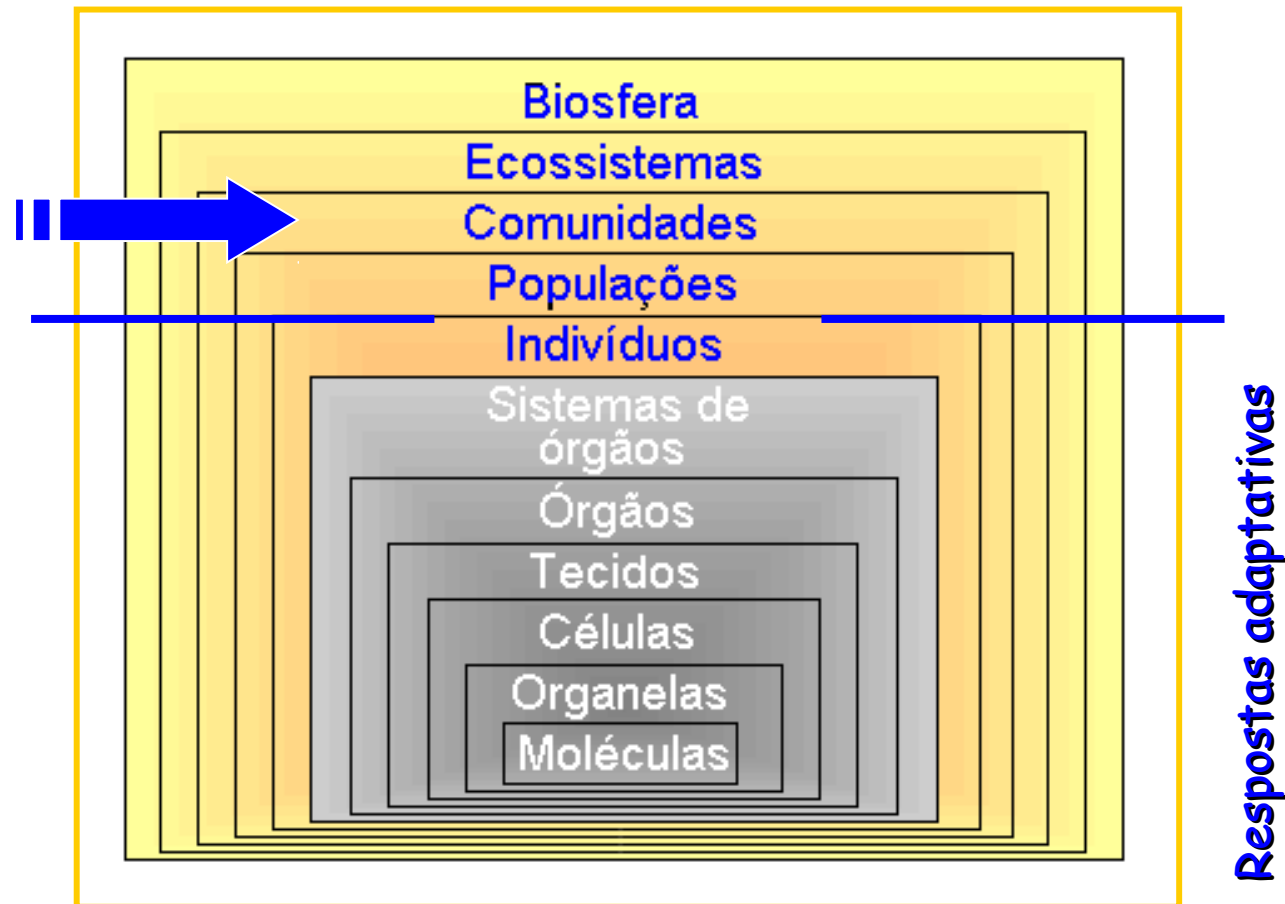
Conjunto de populações de diferentes espécies que ocorrem juntas no espaço e no tempo.



Ciliados em uma gota d'água



Canteiros experimentais



A perguntas essenciais

- Riqueza
 - Por que algumas comunidades têm mais espécies do que outras?
- Composição
 - Por que comunidades têm conjuntos diferentes de espécies?
- Abundância
 - Por que as espécies nas comunidades têm tamanhos populacionais diferentes?

THE AMERICAN NATURALIST

Vol. XCIII

May-June, 1959

No. 870

HOMAGE TO SANTA ROSALIA
or
WHY ARE THERE SO MANY KINDS OF ANIMALS?*

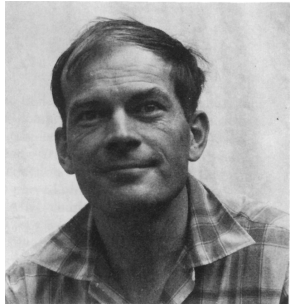
G. E. HUTCHINSON

Department of Zoology, Yale University, New Haven, Connecticut



George E. Hutchinson
1903-1991



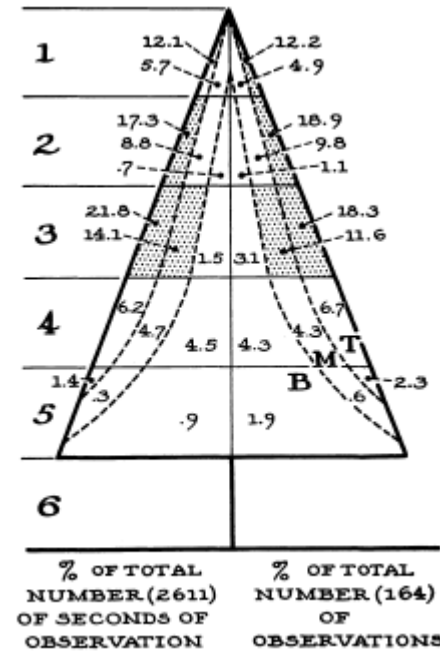
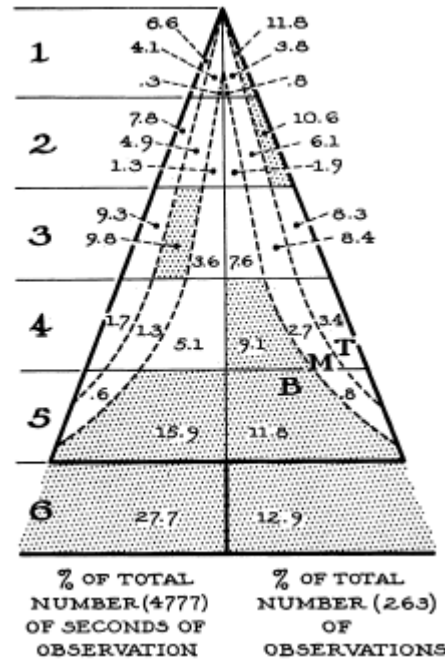


POPULATION ECOLOGY OF SOME WARBLERS OF NORTHEASTERN CONIFEROUS FORESTS¹

ROBERT H. MACARTHUR

Department of Zoology, University of Pennsylvania

Robert MacArthur
1903-1991



Ecology, Vol. 39, No. 4

October, 1958

Matemática de dinâmicas de populações interagentes

$$\frac{dN_1}{dt} = r N_1 \left(1 - \frac{N_1 + \alpha N_2}{K_1} \right)$$

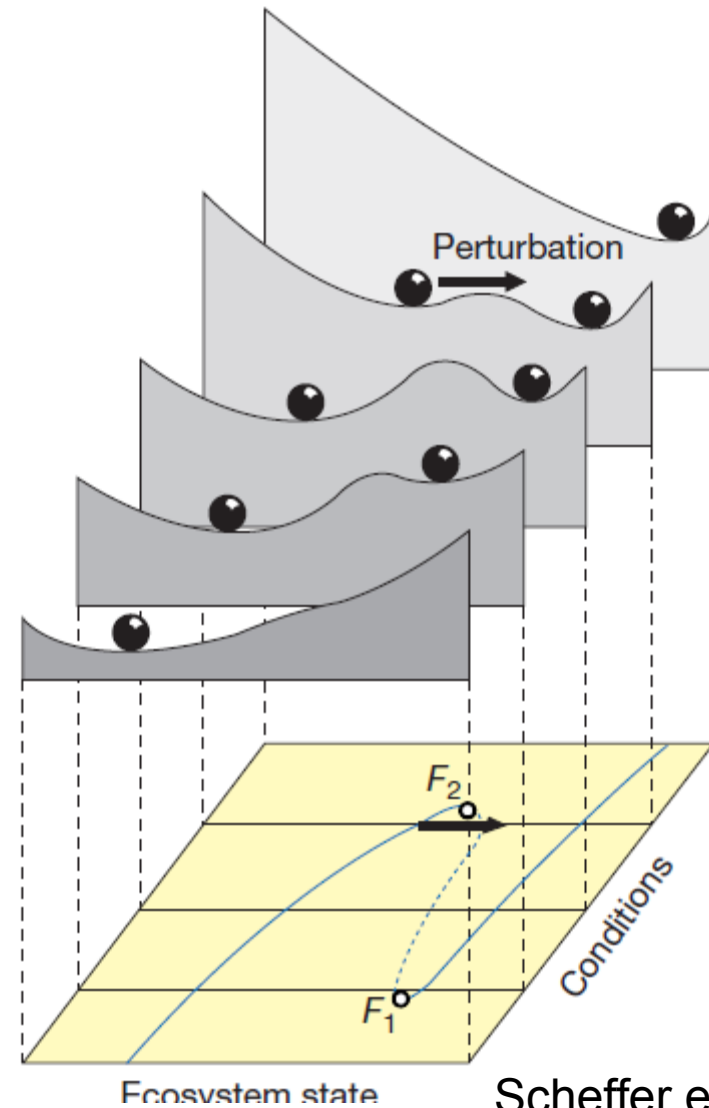
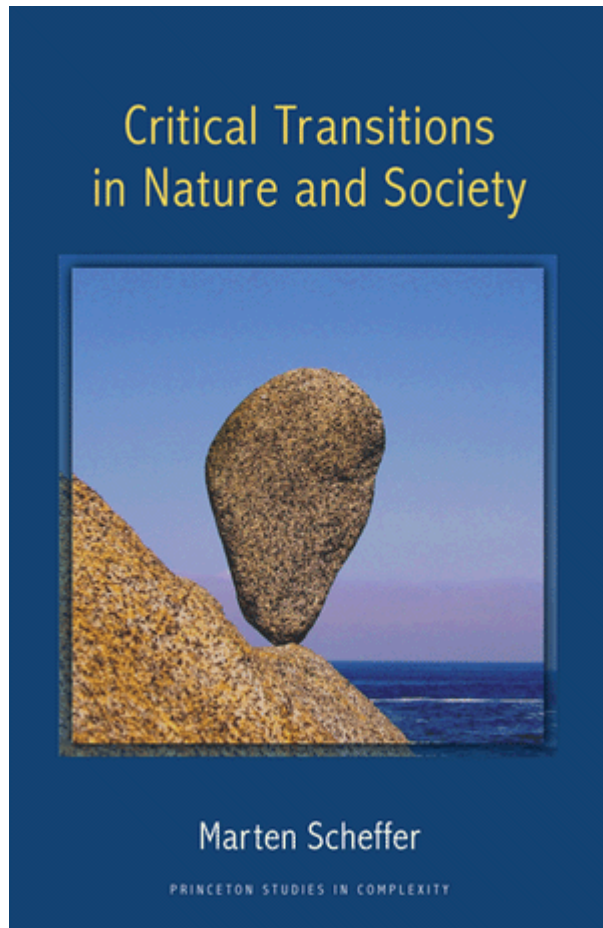


Lotka



Volterra

Grinell



Scheffer et al. 2001

Santa Rosalia Was a Goat

ROGER LEWIN

SCIENCE, VOL. 221

12 AUGUST 1983



“[T]he theory has caused
a generation of ecologists
to waste a monumental
amount of time.”

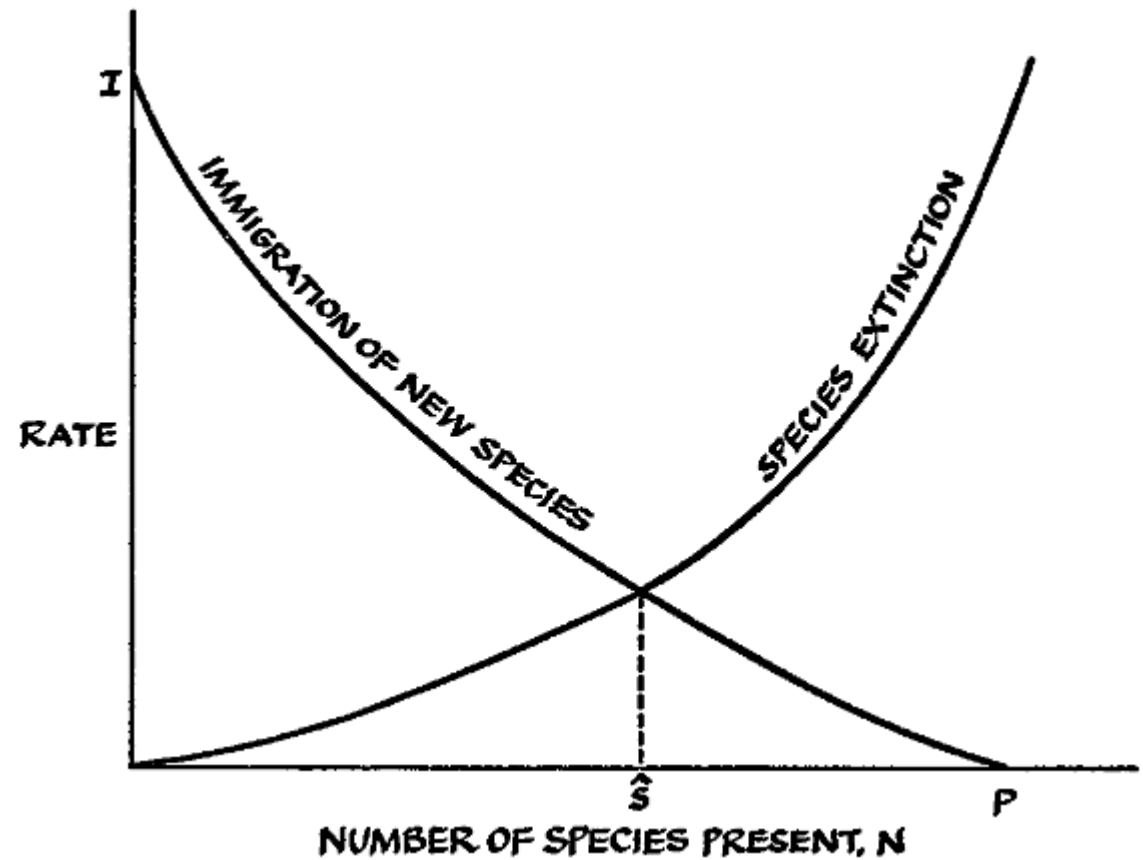
THE THEORY OF Island Biogeography

ROBERT H. MACARTHUR AND

EDWARD O. WILSON

PRINCETON, NEW JERSEY
PRINCETON UNIVERSITY PRESS

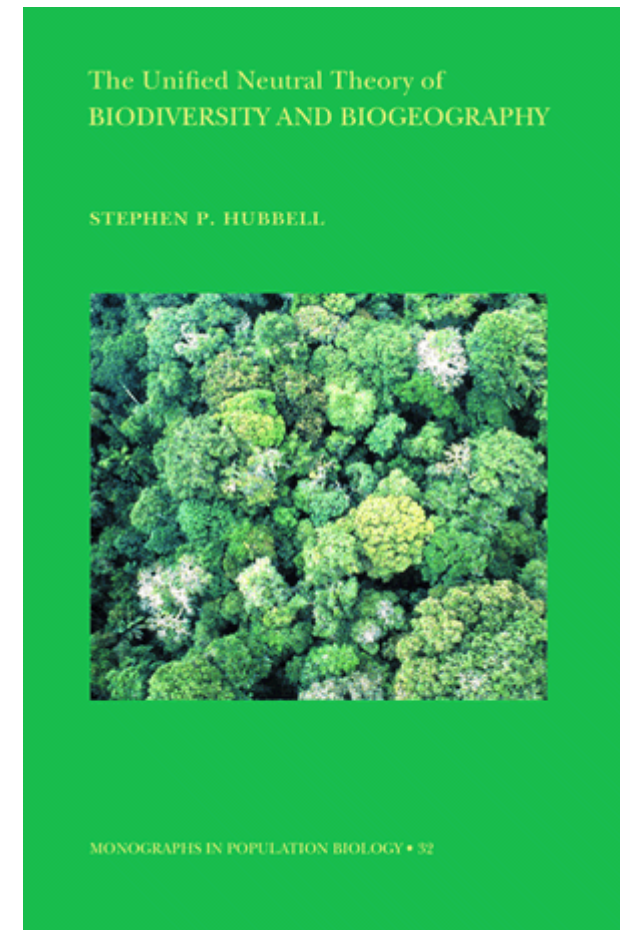
1967



CHAPTER ONE

MacArthur and Wilson's Radical Theory

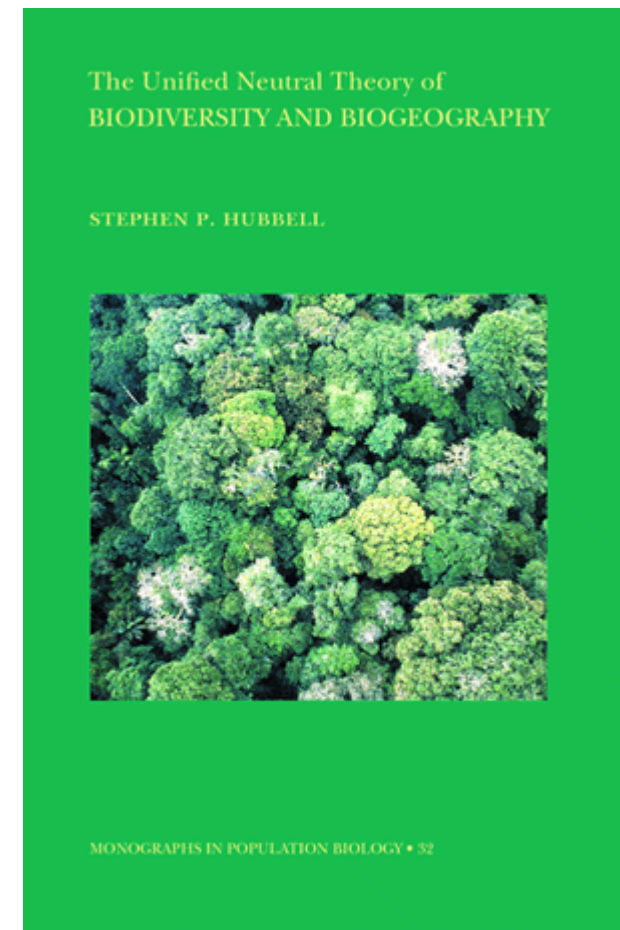
The theory of island biogeography was radical because it broke away from the conventional neo-Darwinian view of ecological communities as coadapted assemblages of niche differentiated species residing at or near adaptive and demographic equilibrium. In its place it erected a brave new world view in which ecological communities are seen as in turmoil, in perpetual taxonomic nonequilibrium, undergoing continual endogenous change and species turnover through repeated immigrations and local extinctions.



CHAPTER ONE

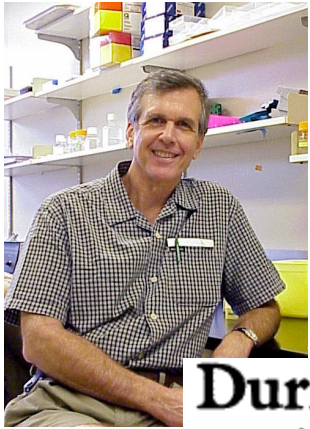
MacArthur and Wilson's Radical Theory

These turnovers need not be especially rapid, however, and species can coexist for long periods in slowly drifting mixtures and in shifting relative abundances. The theory was all the more remarkable because it was elaborated by MacArthur himself, the leading ecological theorist of his day and champion of the dominant, niche-based equilibrium view.



Community Diversity: Relative Roles of Local and Regional Processes

ROBERT E. RICKLEFS



During the past three decades, ecologists have sought to explain differences in local diversity by the influence of the physical environment on local interactions among species, interactions that are generally believed to limit the number of coexisting species. But diversity of the biological community often fails to converge under similar physical conditions, and local diversity bears a demonstrable dependence upon regional diversity. These observations suggest that regional and historical processes, as well as unique events and circumstances, profoundly influence local community structure. Ecologists must broaden their concepts of community processes and incorporate data from **systematics, biogeography, and paleontology** into analyses of ecological patterns and tests of community theory.

SCIENCE, VOL. 235

9 JANUARY 1987

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Department of Zoology, Yale University, New Haven, Connecticut



Before developing my ideas I should like to say that I subscribe to the view that the process of natural selection, coupled with isolation and later mutual invasion of ranges leads to the evolution of sympatric species, which at equilibrium occupy distinct niches, according to the Volterra-Gause principle.

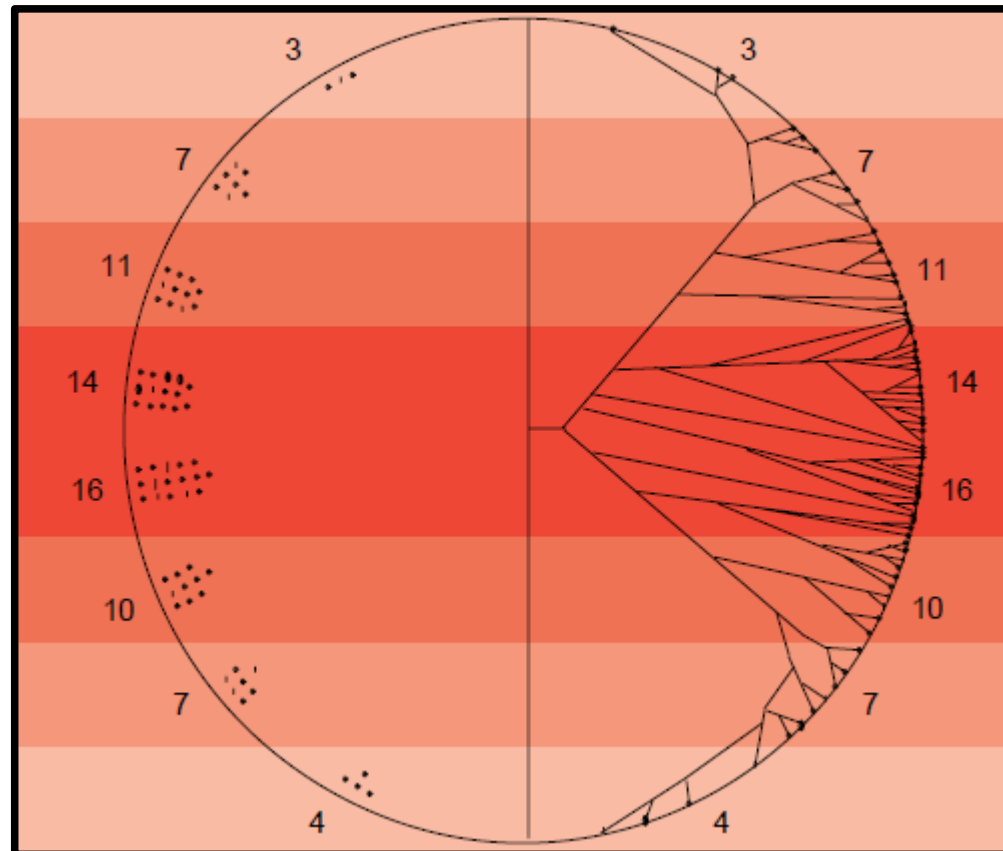


Distribuição geográfica das 12 espécies de árvores que ocorrem em associação no leste do Kentucky



Historical biogeography, ecology and species richness

John J. Wiens¹ and Michael J. Donoghue²

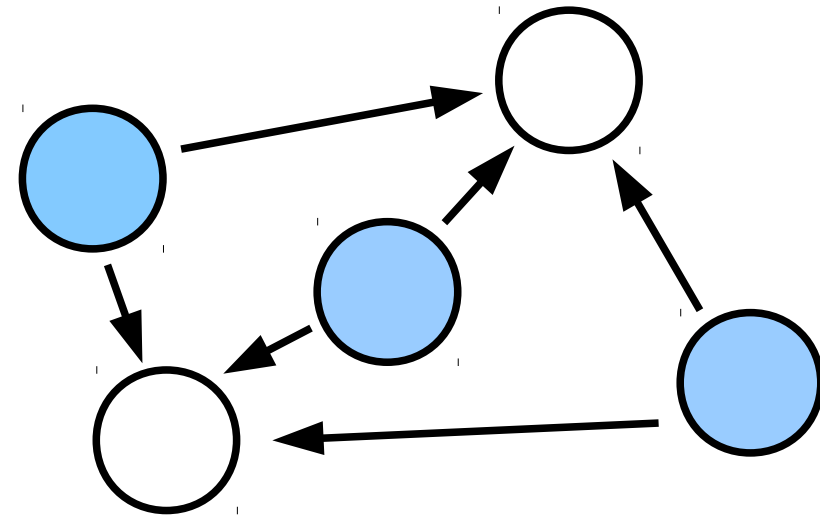




Metapopulações

$$\frac{df}{dt} = i f (1 - f) - p_e f$$

$$\hat{f} = 1 - \frac{p_e}{i}$$



Richard Levins, 1970

REVIEW**The metacommunity concept: a framework for multi-scale community ecology**

(...) much of formal community theory is focused on a single scale, assuming that local communities are closed and isolated. Within these local communities, populations are assumed to interact directly by affecting each other's birth and death rates, as modelled by population dynamic models such as the classic Lotka-Volterra equations and their extensions.

REVIEW**The metacommunity concept: a framework for multi-scale community ecology**

It has been recognized, however, that other ecological processes involving species interactions occur at other scales. For example, species interactions can occur in a network of local communities where they affect colonization probabilities and extinction patterns at a larger scale than those typically addressed by population dynamic equations.



CONCEPTUAL SYNTHESIS IN COMMUNITY ECOLOGY

MARK VELLEND

*Departments of Botany and Zoology, and Biodiversity Research Centre, University of British Columbia,
Vancouver, British Columbia, Canada, V6T 1Z4*

	Seleção (Nicho)	Deriva	Dispersão	Especiação
Teoria clássica	X			
Teoria Neutra		X	X	X
História e biogeografia	X		X	X
Metacomunidades	X	X	X	