THE TEMPORAL-SPATIAL ADAPTATION THEORY CLARIFIES UNDERSTANDING FOR CORRECT ACTIONS

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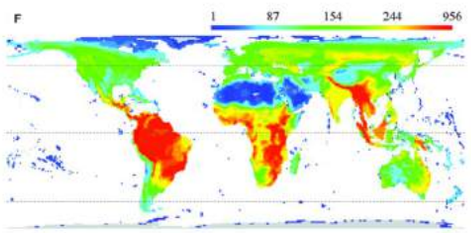
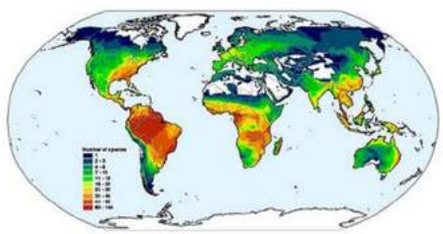


Species Richness for the Global Avifauna.
Total species richness. (Orme et al., 2006)
Parallels are shown at 45° S, the Equator, and 45° N.

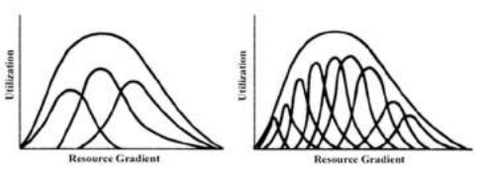


Map extracted the Global Amphibian Assessment http://www.globalamphibians.org

Global amphibian species richness gradient.

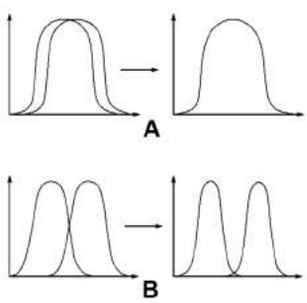
Species richness regularities:

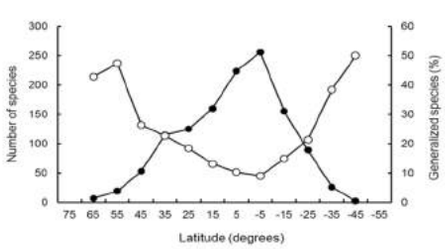
the latitudinal cline in species diversity, the asymmetry in species richness between the northern and southern hemispheres, various patterns of species richness along mountain and continental slopes, the higher fidelity of tropical organisms to spatial and temporal habitats etc.



Species Packing

Relatively stable environment allows species to move more and more towards specialization with a simultaneous narrowing of their ecological niches that in turn leads to a reduction of niche overlap and **greater species packing in communities** (**B**). In contrast, a **wide range of regular environmental changes in time** will cause various species to have not only very large, but also **widely overlapping ecological niches** (**A**). The competitive extinction of much of species and a general impoverishment of biota is a predicted outcome of interspecific competition under such conditions.

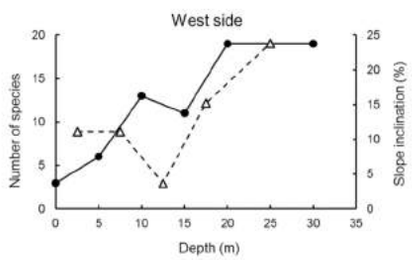


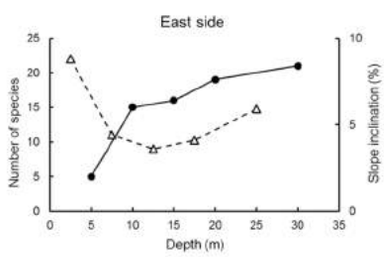


Latitudinal gradients in species richness

(solid circles) and **feeding specialization** (open circles) of the butterflies of family Papilionidae. The data are pooled by bins of 10°; the value for each latitudinal segment is plotted at the middle of that segment.
Negative latitudes are in the southern hemisphere.

Modified from Scriber (1973)

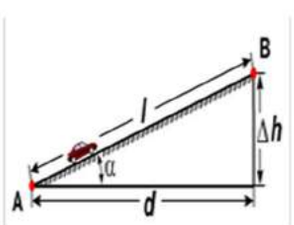


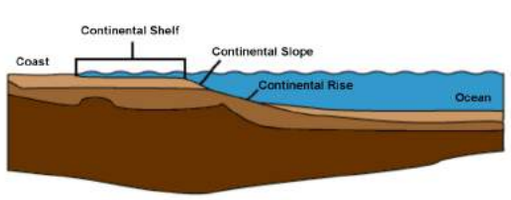


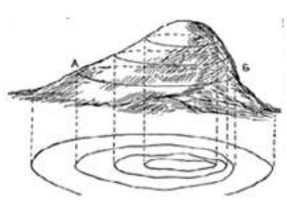
The relationship between the species richness

of all sessile organisms (solid line with circles) on the forereef at Discovery Bay, Jamaica, and the **steepness of the reef slopes** (dashed line with triangles). Graphs at the top are for the relatively gentle slope of the eastern side of the forereef. Graphs below are for the steeper slope of the western side of the forereef.

Modified from Huston (1985b)







We argue that during adaptation to a wide range of one and the same environmental factors in time, the high latitude species also become adapted to a wide range of those factors in space. As a result, they form not only very wide, but also widely overlapping ecological niches. This eventually leads to the competitive extinction of much of species and a general impoverishment of biota. In contrast, relatively stable environments allows species to move more and more towards specialization with a simultaneous narrowing their ecological niches that in turn leads to a reduction of niche overlap and greater species packing in communities.

In **tropical mountains** and on **the continental slope**, where the environment is stable enough, **the degree of its differentiation** depends mainly on **the steepness of slope**. And since the the steepest slopes are tend to be located at intermediate elevations and intermediate bathyal depths, it is there that there are conditions for **the highest specialization and closest possible packing of species.**

Such a **unified theory of species diversity** may be refered to as the **'temporal-spatial adaptation theory'**. It will allow us to expand **our understanding of the main underlying mechanisms responsible for species richness patterns**, and provides a framework for new approaches to biodiversity conservation of both different regions and the planet as a whole.

Nikolay P. Kolomiytsev studied the summer avifauna of Central Kyzylkum, the biology and ecology of *Mergus squamatus* (Gould, 1864) and *Charadrius placidus* (G. R. Gray & J. E. Gray, 1863), found the moment of transition of inanimate matter into living matter and what was the first dolculus organism, established a new evolutionary factor.

Kolomiytsev N.P., Poddubnaya N.Ya. The Origin of Life as a Result of Changing the Evolutionary Mechanism (2007).
The Diffuse Organism as the First Biological System" (2010),
The delay in materialization of genetic information as a factor of adaptive evolution (2009).

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