UNIVERSITÄT BAYREUTH

BayCEER
Bayreuther Zentrum für
Ökologie und Umweltforschung

Wintersemester / *Winter Term 2015/2016*

BayCEER Kolloquium

Vortragsreihe Ökologie und Umweltforschung
Lecture series in Ecology and Environmental Research

Mittwoch 28.10.2015, 15:15 Uhr, H36, NW III

Do. /*Thu.* 12 st
Gebäude/*Building*
GEO
Hörsaal/*Lecture hall*
H6

Dr. Lars Markesteijn

Community Ecology Research, University of Oxford, UK /
Smithsonian Tropical Research Institute, Panama

What determines biological diversity?

Tropical forests are extremely divers. Over 300 tree species can coexist in a single hectare and as many as 16,000 tree species are thought to exist in the Amazon basin alone. Why are tropical forests so remarkably diverse? This is a key, yet unresolved question facing Ecology. Showcasing some of my and collaborators work from Bolivia and Panama, I will demonstrate how two of the most persisting theories explaining tropical species coexistence, the Niche Theory and the Janzen-Connell Hypothesis, are mutually compatible and I will use these examples to introduce a novel avenue of future research.

Niche Theory postulates that differences among species govern their specialization for distinct resource niches – so-called niche partitioning. I will show how this is true for coexisting tropical tree species and how species' functional traits influence their competitive success and performance along combined water and light gradients. As Niche Theory is not particularly good at explaining why 'stronger' competitors do not always outcompete 'weaker' ones and become locally dominant, alternative mechanisms are needed. This is where the Janzen-Connell Hypothesis becomes important, as it postulates that density-dependent mortality mediated by plant natural enemies -fungal pathogens and insect herbivores-, puts locally rare species at an advantage, preventing any one species from dominating. I will illustrate this by showing how natural enemies drive changes in negative-density dependence and diversity across a tropical rainfall gradient using novel findings from a large field-based study in Central Panama.

Die Vortragsreihe ist eine interdisziplinäre Plattform zur Information und Diskussion für Studierende, Forschende und Lehrende

Gäste sind herzlich willkommen

The lecture series serves as an inter-disciplinary platform for students, junior and senior scientists.

Guests are cordially invited!

Kurzfassungen und weitere Infos / *Abstracts and further information*:
www.bayceer.uni-bayreuth.de/kolloquium/

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