

# Tropical ecology – an introduction



# Lectures:

## 1. What is special about the tropics

abiotic and biotic characteristics of tropical ecosystems in comparison with Europe

## 2. Biodiversity par excellence

where it comes from and how is it maintained

## 3. Ecological succession in tropical ecosystems

(one of the few ecological processes we sort of understand)

## 4. Ecosystems in tropical landscapes

field guide for travellers in exotic countries

## 5. Up to the steep mountains

a stroll along altitudinal gradients, the mother of all tropical gradients

## 6. Panta rhei

temporal change in tropical ecosystems

## 7. Wooden violets & co.

on the nature of tropical vegetation

## **8. Animals in the forest**

moving through the upper strata of the forest food web

## **9. History of the forest**

or what is new since the Cretaceous times

## **10. What happened and what is happening on tropical islands**

evolution and ecology in "natural laboratories"

## **11. Fig wasps and other curiosities**

tropical specialities in inter-specific relationships

## **12. Freshwater ecosystems**

great tropical lakes and rivers

## **13. Coral reefs**

the hotspots of marine biodiversity

## **14. Will they survive the year 3000?**

march of civilisation in the tropics and nature conservation

## LITERATURE; core selection

☉ **Osborne, P. J. 2012. Tropical Ecosystems and Ecological Concepts. Cambridge University Press, 2<sup>nd</sup> Edition.**

☉ **Kricher, J. 2011. Tropical Ecology. Princeton University Press.**

☉ **Ghazoul, J. & Sheil, D. J. 2010. Tropical Rain Forest Ecology, Diversity, and Conservation. Oxford University Press.**

☉ **Corlett, R. & Primack, R. 2011. Tropical Rain Forests: An Ecological and Biogeographical Comparison, Second Edition. Wiley-Blackwell Publishing.**

☉ **Chazdon, R. 2014. Second Growth. The Promise of Tropical Forest Regeneration in an Age of Deforestation. Chicago University Press.**

☉ **Ashton, P. 2014. On the Forests of Tropical Asia. Lest the memory fade. Kew Publishing**

☉ **Corlett, R 2014. The Ecology of Tropical East Asia. 2<sup>nd</sup> Ed. Oxford University Press.**

☉ **Whitmore, T. M. (1998): An Introduction to Tropical Rain Forests. 2nd edition, Oxford Univ. Press.**

☉ **Richards, P.W. 1998. The Tropical Rainforest. Cambridge University Press**

☉ **Leigh, E. G. 1999. Tropical Forest Ecology. A View from Barro Colorado Island. Oxford University Press.**

☉ **Morley, R. J. 2000. Origin and evolution of tropical rain forests. Wiley, New York**



## Literature: miscellaneous

☺ Chazdon, R. L. & Whitmore, T. C. 2002. Foundations of Tropical Forest Biology. University of Chicago Press, Chicago.

☺ Gentry, A. H. 1990. Four Neotropical Rainforests. Yale University Press, New Haven.

☺ Hubbell, S. P. 2001. The Unified Neutral Theory of Biodiversity and Biogeography. Princeton University Press, Princeton.

☺ Turner, I. M. 2001. The Ecology of Trees in the Tropical Rain Forest. Cambridge Univ. Press.

☺ Wallace, A. R. 1869. The Malay Archipelago. Macmillan, London.

☺ Bates, H. W. 1863. Naturalist on the River Amazons. Murray, London.

☺ Carson, W. and Schnitzer, S. 2008. Tropical Forest Community Ecology. Wiley-Blackwell.

☺ Novotny, V. 2009. Notebooks from New Guinea. Oxford University Press.





**Current** and **past** ecological research:  
source of inspiration (and bias!)



# New Guinea Binatang Research Center









photo M. Leponce





Why study ecology  
of the tropics?  
There are many  
mysterious  
phenomena out  
there...

