



Perspectives for integrative biodiversity management in temperate forests

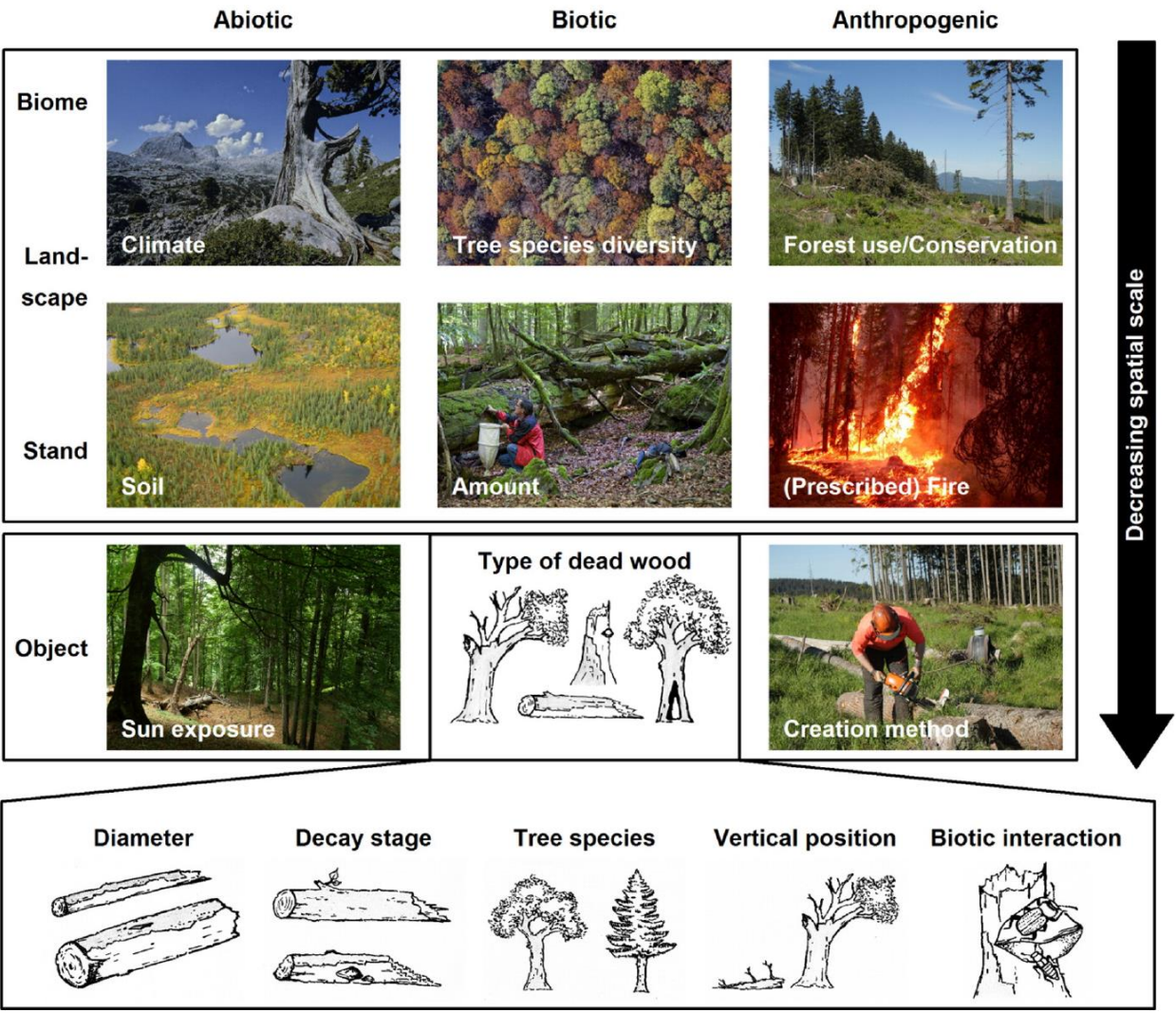
J. Müller



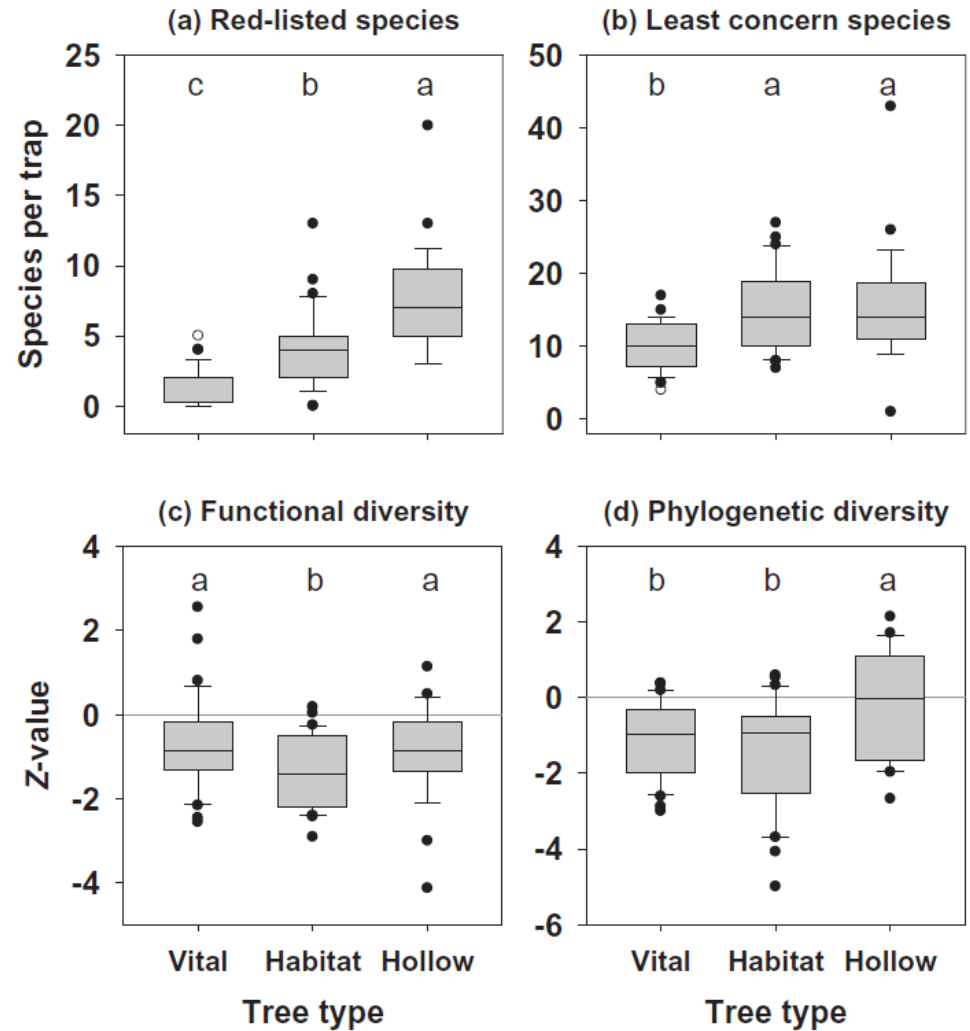
Nationalpark
Bayerischer Wald



Lesson 1: dead wood is a key element for biodiversity



Lesson 2: veteran trees are powerful for biodiversity conservation

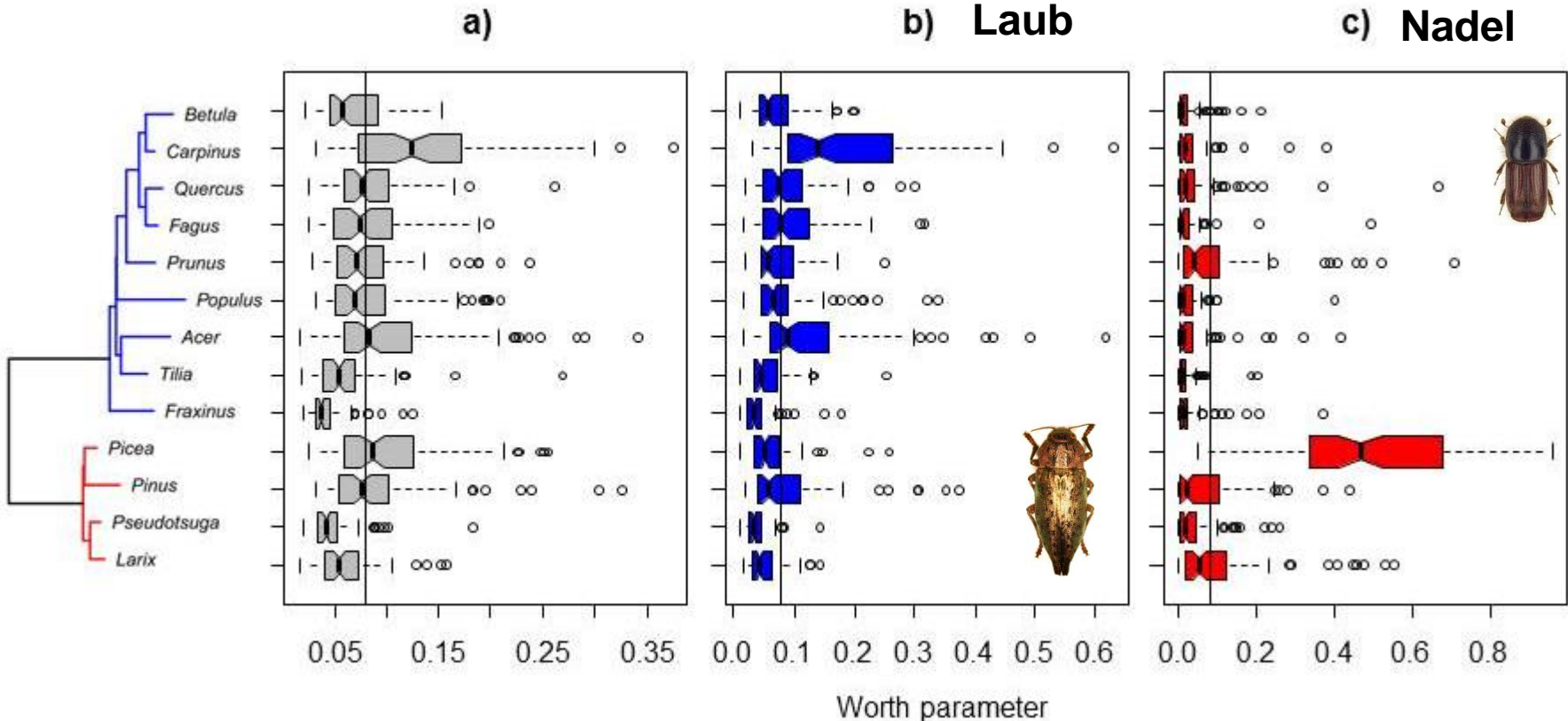


Lesson 3: host species drive communities of arthropods

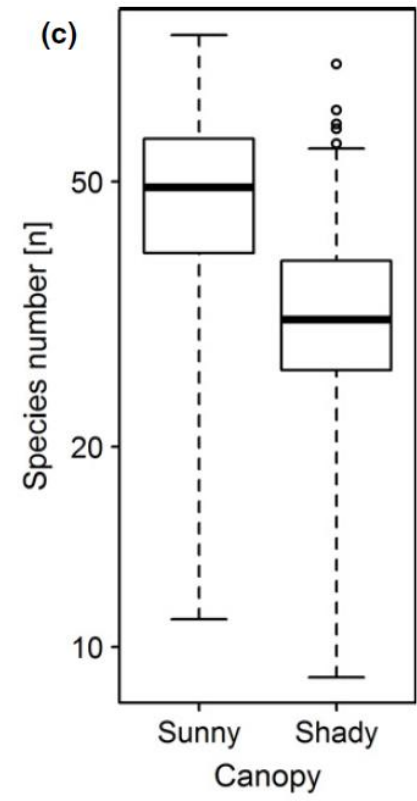
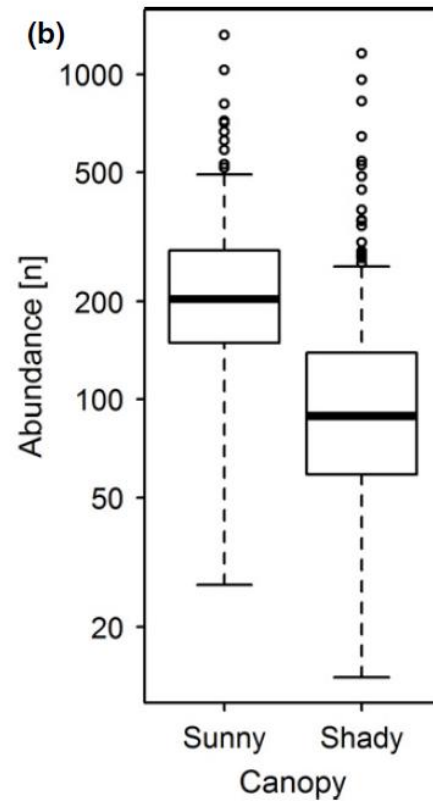
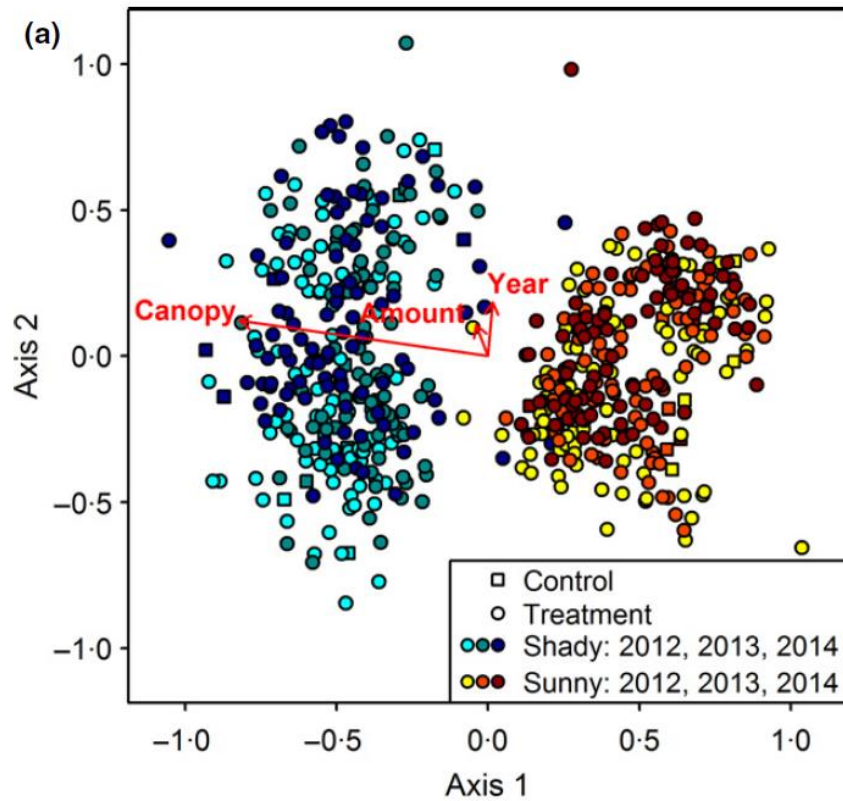


Müller et al (2015) Journal of Applied Ecology

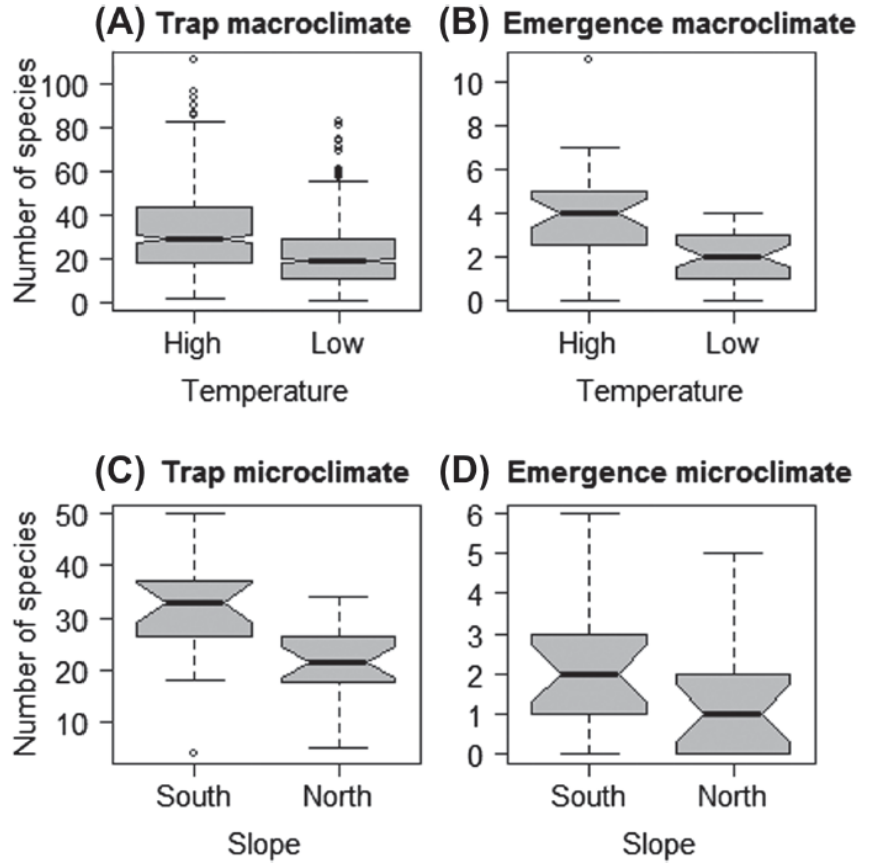
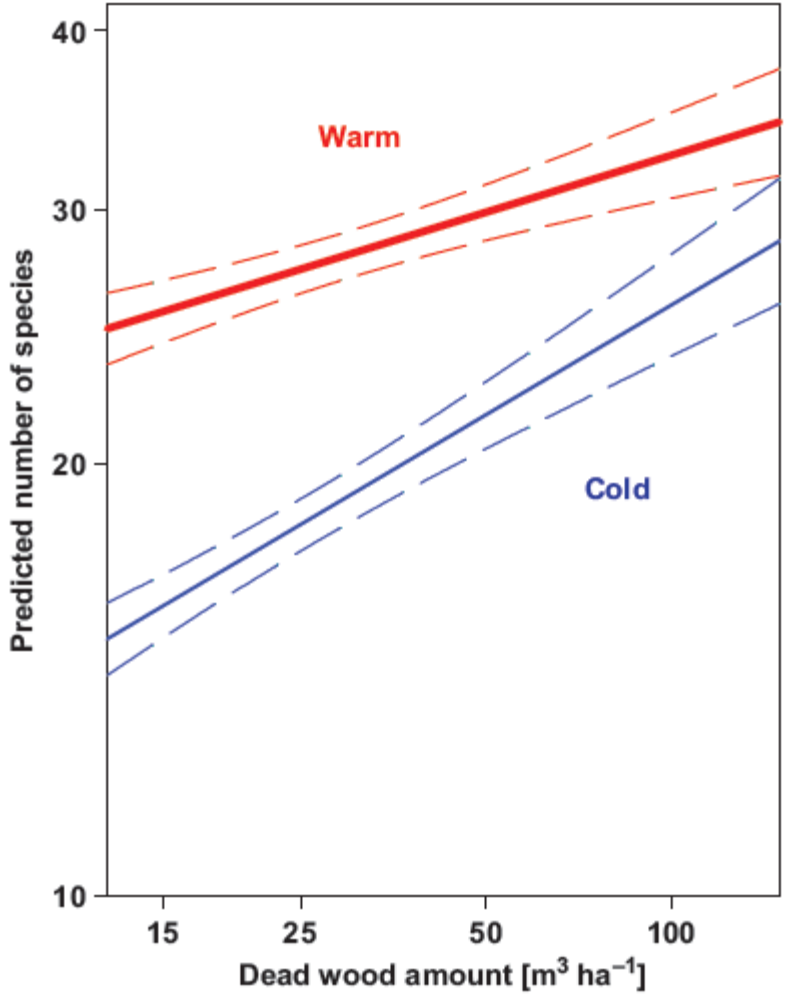
Lesson 3: host species drive communities of arthropods



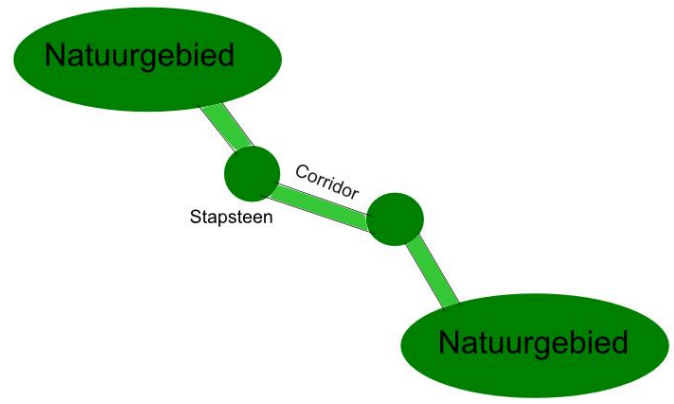
Lesson 4: horizontal diversity a major driver of biodiversity (beta diversity)



Lesson 5: interaction of dead wood and climate



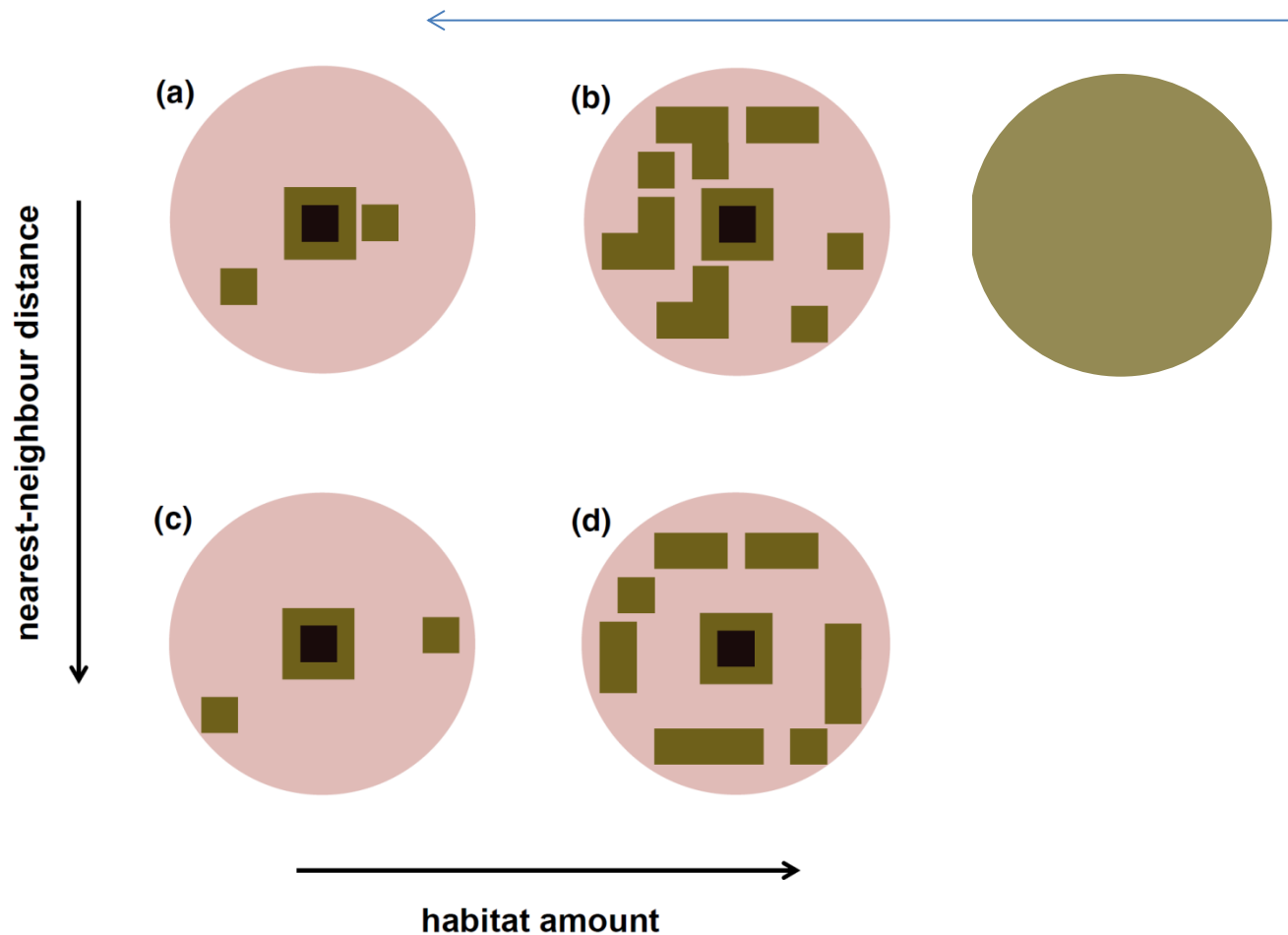
On the landscape scale



Lesson 6: Landscape scale: habitat amount or connectivity

Habitat Amount Hypothesis oder Patch-Size Hypothese (Fahrig 2013 J Biogeography)?

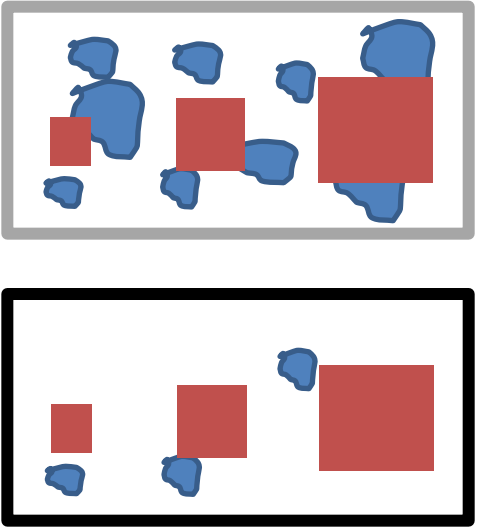
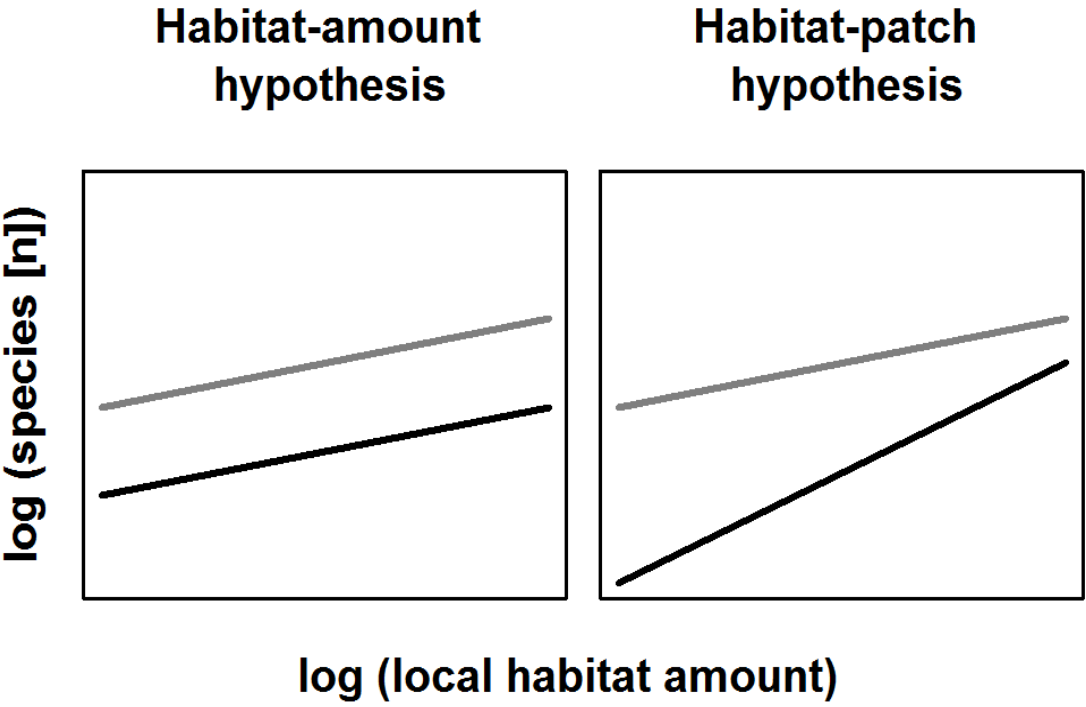
Fragmentation of habitats



Lenore Fahrig,
Carleton University,
Ottawa

Fragmentation of deadwood

Habitat Amount Hypothese oder Patch-Size Hypothese (Fahrig 2013 J Biogeography)?

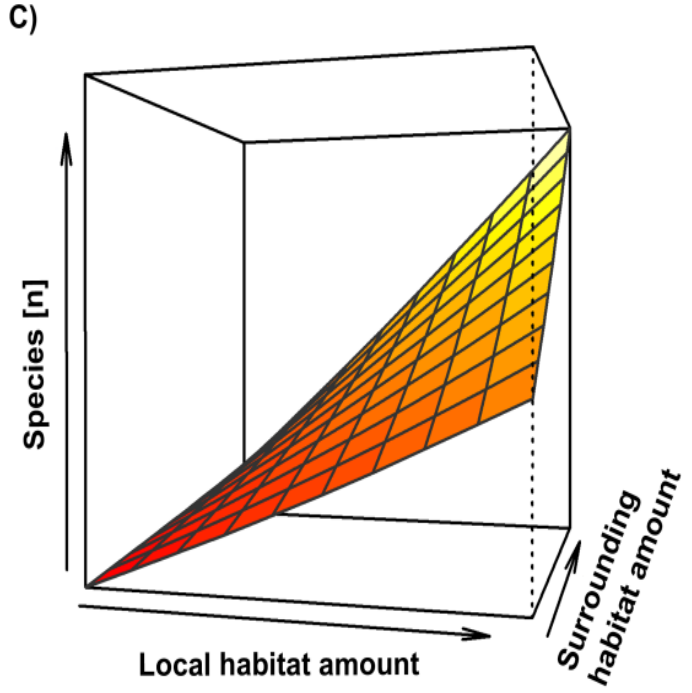
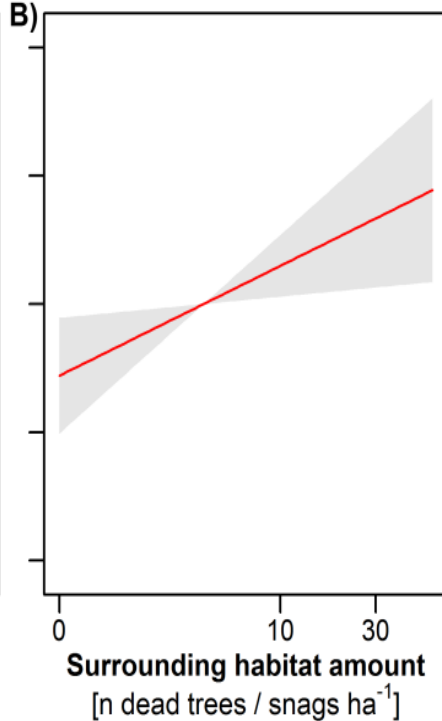
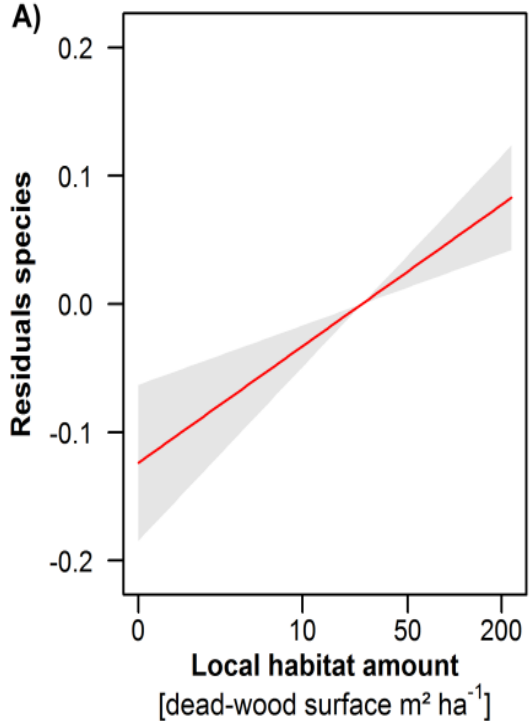


Landscape habitat amount: Low - High

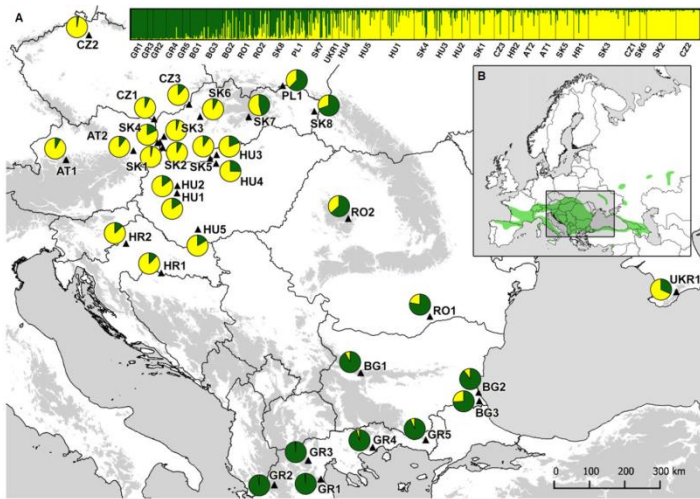


Fragmentation of deadwood

Habitat Amount Hypothese oder Patch-Size Hypothese (Fahrig 2013 J Biogeography)?



An example from a threatened cerambycid



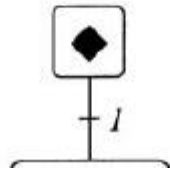
Genetic differentiation of populations of the threatened saproxylic beetle *Rosalia longicorn*, *Rosalia alpina* (Coleoptera: Cerambycidae) in Central and South-east Europe

LUKAS DRAG^{1,2*}, DAVID HAUCK², SÁNDOR BÉRCES³, JAKUB MICHALCEWICZ⁴, LUCIJA ŠERIĆ JELASKA⁵, SANDRA AURENHAMMER⁶ and LUKAS CIZEK^{1,2}

An example from a threatened fungi



(B)



Mycol. Res. 107 (2): 155–163 (February 2003). © The British Mycological Society
DOI: 10.1017/S0953756203007214 Printed in the United Kingdom.

Genetic structure of Fennoscandian populations of the threatened wood-decay fungus *Fomitopsis rosea* (Basidiomycota)

Håvard KAUSERUD* and Trond SCHUMACHER

Department of Biology, Division of Botany and Plant Physiology, University of Oslo, P.O. Box 1045, Blindern, N-0316 Oslo, Norway.

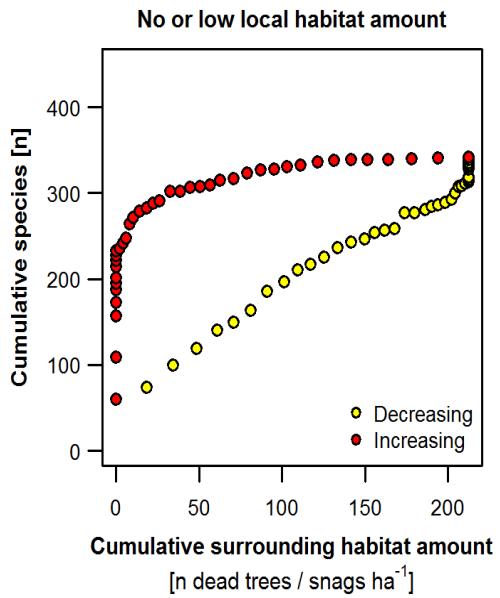
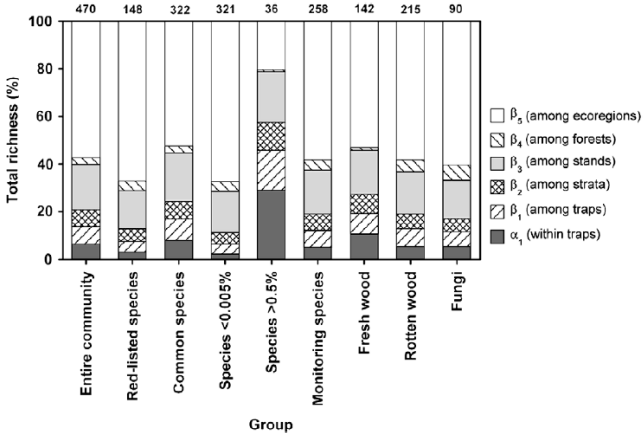
E-mail: haavarka@bio.uio.no

Received 20 September 2002; accepted 20 December 2002.

Lesson 7: SLOSS Debate

How to distribute conservation effort?

SLOSS (Single Large or Several Small) Debate

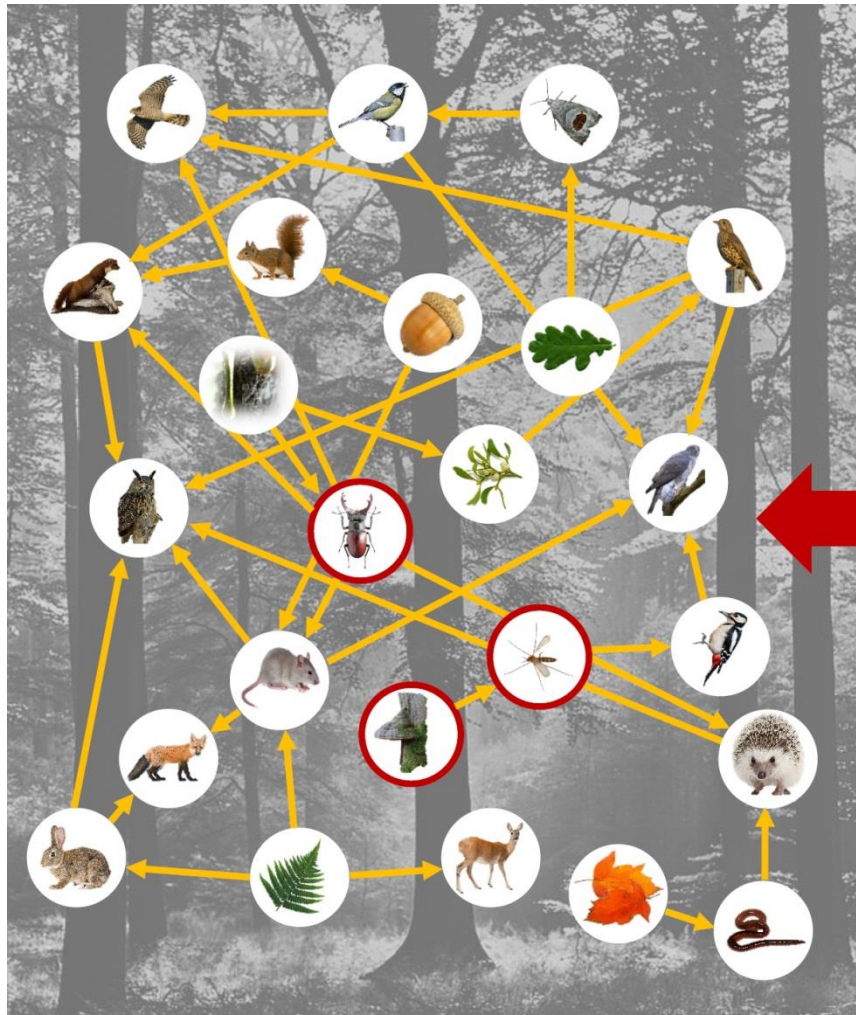


Seibold et al submitted Ecology

Müller & Gossner 2011
Biological Conservation

Future directions: The economy of conservation management

Efficiency = Amount of product / Amount of resources consumed



Future directions: tree species & microclimate



Eiche

(*Quercus* sp.)

Kiefer

(*Pinus sylvestris*)

Aspe

(*Populus tremula*)

Tanne

(*Abies alba*)

Rotbuche

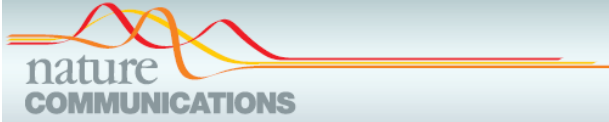
(*Fagus sylvatica*)

Hainbuche

(*Carpinus betulus*)



Future perspectives: on a stand scale



ARTICLE

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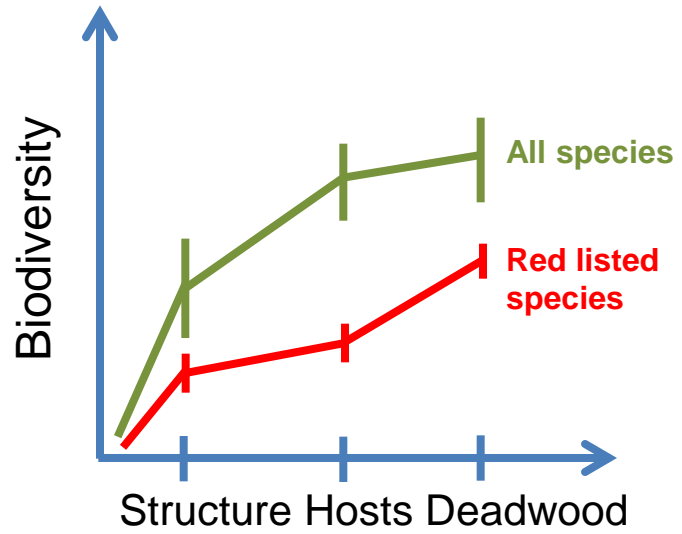
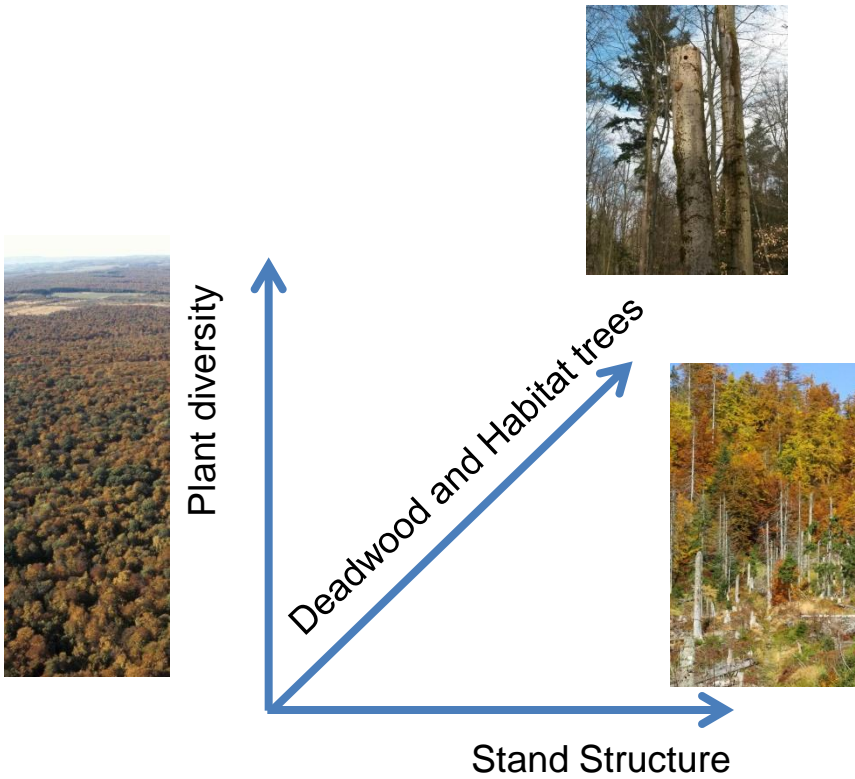
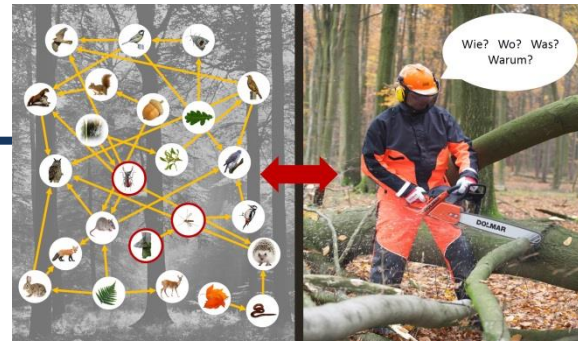
DOI: [10.1038/ncomms5967](https://doi.org/10.1038/ncomms5967)

OPEN

Forest stand growth dynamics in Central Europe have accelerated since 1870

Hans Pretzsch¹, Peter Biber¹, Gerhard Schütze¹, Enno Uhl^{1,2} & Thomas Rötzer¹

Future perspectives: on a stand scale



Additive optimization of the 3 tools

Future directions on the landscape scale

- More population genetics to understand the distribution of endangered species
- More dispersal experiments
- More habitat – connectivity experiments



Colonization experiment of fungivorous beetles (Ciidae) in a lake-island system

ATTE KOMONEN

Komonen, A.: Colonization experiment of fungivorous beetles (Ciidae) in a lake-island system. [Koloniseringsexperiment med trädsvampborrare (Ciidae) på öar i en sjö.] – Entomologisk Tidskrift 129 (3): 141-145. Uppsala, Sweden 2008. ISSN 0013-886x.

In forest management, we need...

a monitoring if implementation is successful,

a monitoring of species recovery,

an adaptive strategy using new evidence from science

because

in good we trust ...

all others need data!



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doi: 10.1111/1365-2664.12267

Near-to-nature logging influences fungal community assembly processes in a temperate forest

Claus Bässler^{1*}, Raffael Ernst², Marc Cadotte³, Christoph Heibl⁴ and Jörg Müller^{1,5}

Conservation Biology

Contributed Paper

Current Near-to-Nature Forest Management Effects on Functional Trait Composition of Saproxyllic Beetles in Beech Forests

MARTIN M. GOSSNER,^{*} THIBAUT LACHAT,[†] JÖRG BRUNET,[‡] GUNNAR ISACSSON,[§] CHRISTOPHE BOUGET,^{**} HERVÉ BRUSTEL,^{††} ROLAND BRANDL,^{‡‡} WOLFGANG W. WEISSER,^{*} AND JÖRG MÜLLER^{*§§}

