



Опыт преподавания экологии мертвой древесины

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University of Helsinki

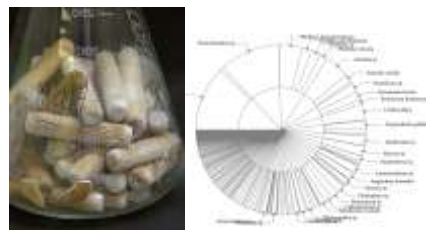
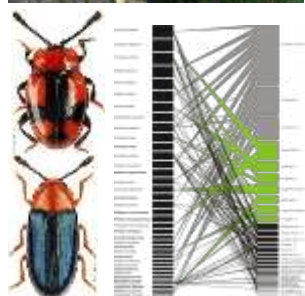
One-slide CV

<http://adlignum.com>

Scientific Officer
Adjunct Professor of Mycology
PhD, Plant Biology
MSc, Entomology

Global Biodiversity Information Facility, Secretariat
University of Helsinki, Finland
University of Helsinki, Finland
Moscow State University, Russia

- **Fungivory of Coleoptera**
- **Metacommunity dynamics and restoration of fungi in decaying wood**
- **Colonization and establishment of fungi in European spruce**
- **Biodiversity data**



Keywords: mycology, biodiversity informatics, dead wood, species interactions, entomology, molecular ecology and metagenomics, host selection, successions and adaptations, fungivory of Coleoptera, wood-decaying fungi, nature conservation, boreal and montane ecosystems

Insects

immense diversity

active, volatile driven dispersers

outsanding adaptations

Fungi

stationary heterotrophs

passive dispersers

outsanding destructors

Wood

patchy and finite repeatedly available resource and habitat

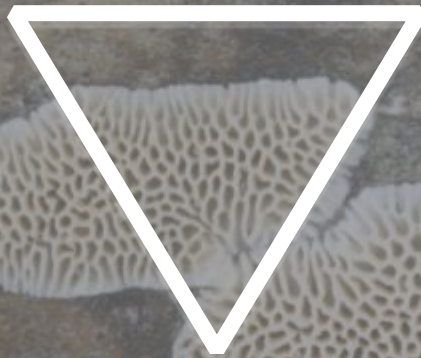
rich in carbohydrates chemically challenging

slow and complex successions

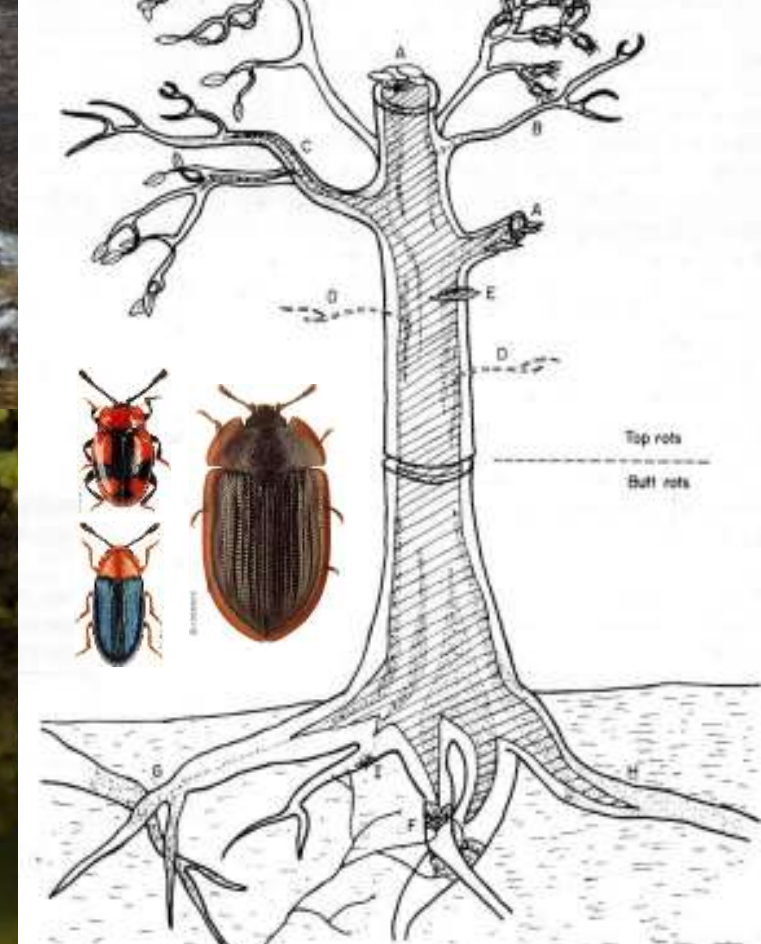
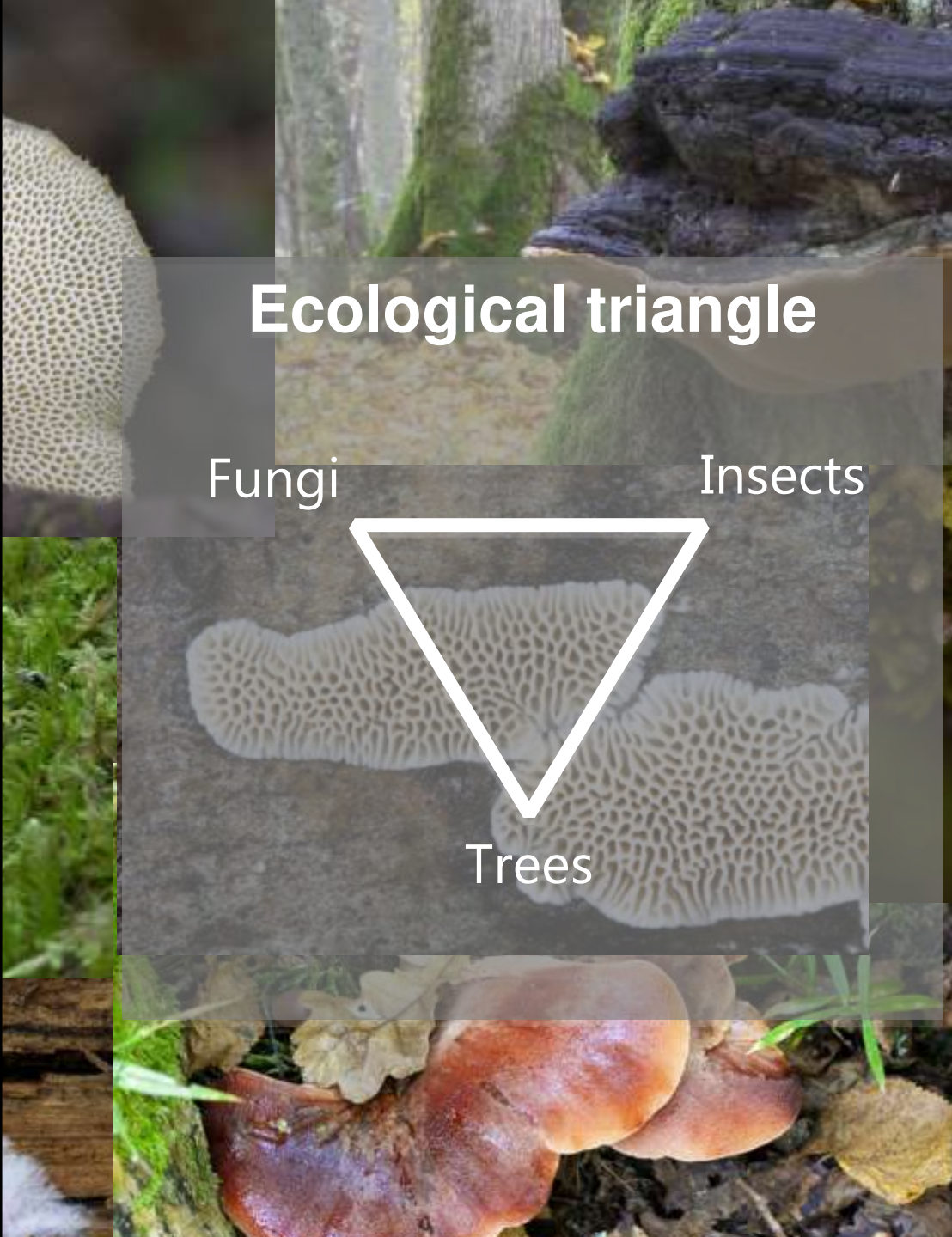
Ecological triangle

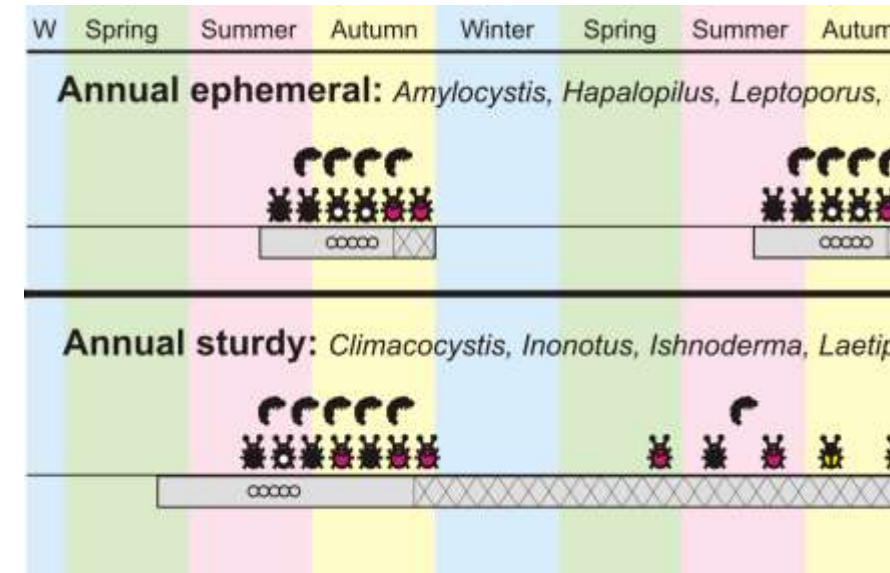
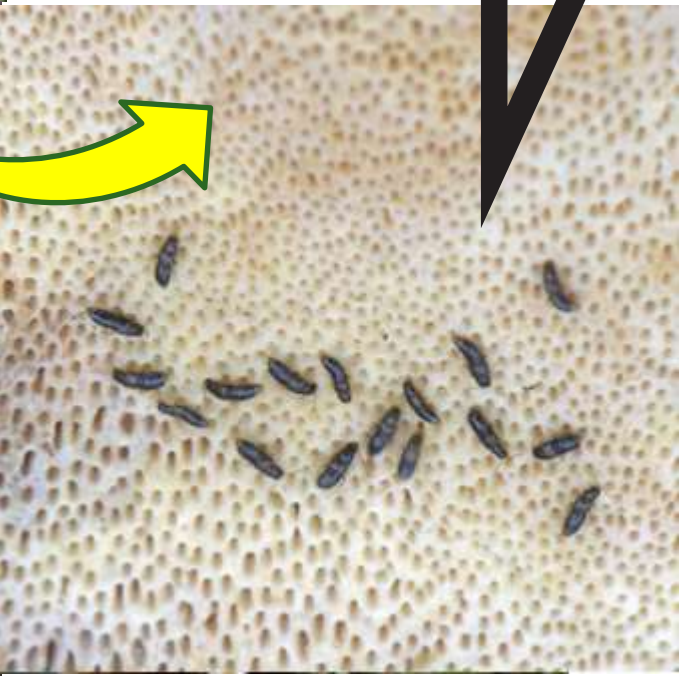
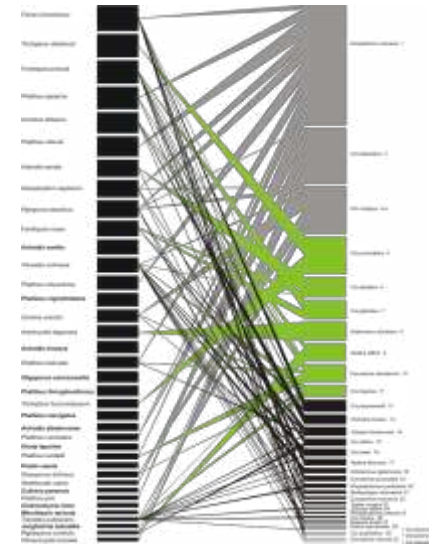
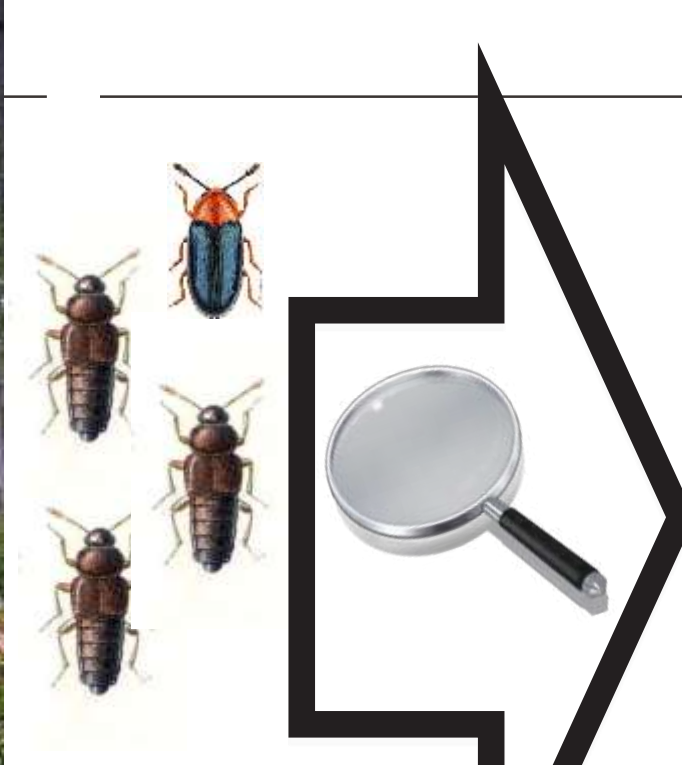
Fungi

Insects



Trees





Inoculation experiment

Autumn 2008: fruit bodies of the focal species collected from source populations in southern and central Finland

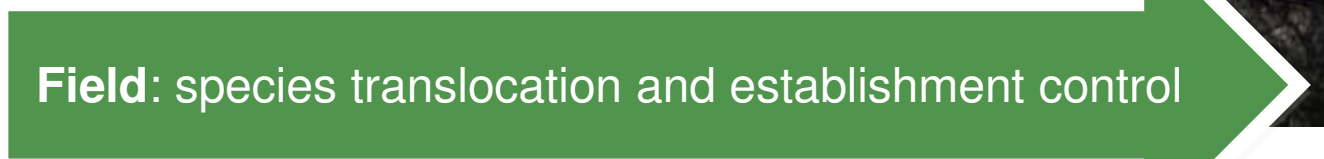
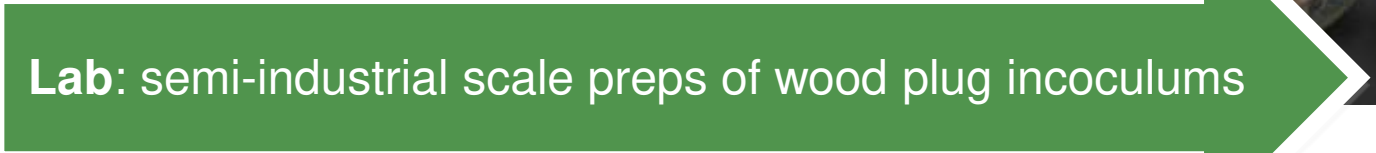
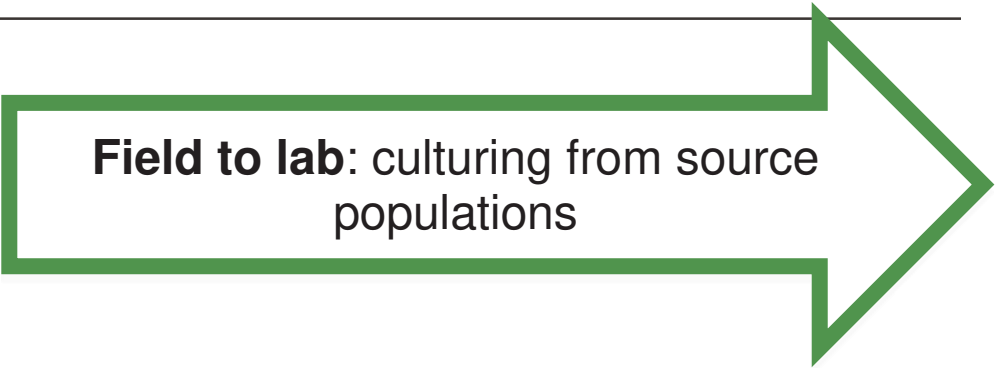
Autumn 2008: 100 randomly selected spruce logs surveyed for fruit bodies & DNA

Spring 2009: 10 wood plugs inoculated in each of the 100 logs

Autumn 2009: logs surveyed for fruit bodies & DNA

Autumn 2011: logs surveyed for fruit bodies & DNA

Autumn 2015: logs surveyed for fruit bodies



<https://doi.org/10.1016/j.biocon.2016.09.014>

Education and outreach

- Polypores of the Białowieża forest Oct 2013
- Biodiversity in dead wood, Helsinki Nov 2013
- Next-gen seq sample prep course, Uppsala Jun 2014
- Polypore course, Russia Aug 2014
- Polypore course, Finland Sep 2014
- Dead wood meeting, Finland May 2015
- Dead wood meeting & course, Finland May 2016
- Polypores as tools in forest conservation, FI Sep 2016
- Dead wood course, Russia June 2019
- Dead wood course, Norway 2021

<http://adlignum.com/teaching>





Approaches and outlook:

*e.g. Population Biology in Fragmented
Landscapes, Biodiversity in Dead Wood*

Skills: *Sample preps for NGS,
Microscopy, Bioinformatics, Databases*

Facts: *Species diversity &
identification, morphology*



“Forest cemetery”

Oil painting

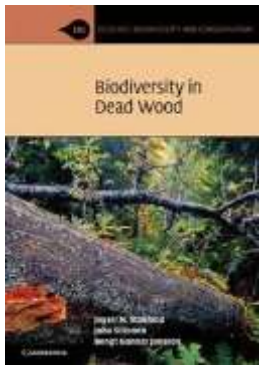
by Ivan Shishkin, 1893



Unprotected forest
near Väärä-Väihi, Finland
photo John Jordan, 2006



BDW course programme 2013



Programme of the course

18 November, Monday: Introduction and habitat day – Chapters 1-4, 9-11, 17

9-12 B2 1015 (46 seats)

- 9:00 Introduction to the course, practical information - *Dmitry Schigel*
- 9:15 Forest ecosystem services (climate impact, biodiversity, timber resources) - *Jogeir Stokland*
- 10:00 Evolution and species diversity, general overview, evolution, biogeography - *Jogeir Stokland*
- 11:00 Dead wood dynamics in natural and managed forests – *Juha Siitonen*
- 11:30 Functional and habitat specializations of saproxylic species – *Juha Siitonen & Jogeir Stokland*

13-14 B2 1041 (117 seats)]

- Journal club: 5 research publications for independent reading

19 November, Tuesday: Trees and wood decomposition day – Chapters 5-8

9-12 B2 1015 (46 seats)

- 9:00 Trees, coniferous and deciduous; global forests – *Leo Junikka*
- 9:40 Basics of wood anatomy - *Kurt Fagerstedt*
- 10:20 Biochemistry and physiology of wood decay – *Annele Hatakka, Taina Lundell*
- 11:20 Environmental and biotic determinants of wood decay - *Jogeir Stokland*

13-14 B2 1015 (46 seats)

- Journal club: 5 research publications for independent reading.

20 November, Wednesday: Fungal day – Chapters 3.1, 4.3

9-12 B3 2402 (46 seats)

- 9:00 Basidiomycete decomposers: polypores, corticioids, agarics – *Panu Halme*
- 10:00 Ascomycetes and their roles and diversity – *Jouko Rikkinen, Annina Launis*
- 11:00 Which fungus is where? Species sorting vs. dispersal limitation - *Veera Norros*

13-14 B3 2402 (46 seats)

- Journal club: 5 research publications for independent reading.

SPECIAL GUEST LECTURE – Strongly recommended!

15:00 B3 2402 (46 seats)

- From standing wood to complete decomposition on the forest floor: fungal wars, races and coping with hostile environments – *Lynne Boddy*, Cardiff University.

21 November, Thursday: Bryophytes, Invertebrates day – Chapters 4.2, 7

9-12 Infocenter 3 (69 seats)

- 9:00 Bryophytes - *Sanna-Laaka Lindberg*
- 10:00 Fungivory & Diptera – *Gunilla Ståhls-Mäkelä, Evgeniy Jakovlev*
- 11:00 The fundamental triangle: trees, fungi, insects - *Dmitry Schigel*

13-14 Infocenter 3 (69 seats)

- Journal club: 5 research publications for independent reading.

22 November, Friday: Ecology and conservation day – Chapters 12-16

9-12 B2 1015 (46 seats)

- 9:00 Threatened saproxylic species – *Juha Siitonen*
- 9:20 Dead wood and saproxylic species in agricultural and urban habitats – *Juha Siitonen*
- 9:40 Successions and communities – *Panu Halme*
- 10:20 How habitat loss and fragmentation influence dead-wood dependent organisms? – *Otso Ovaskainen*
- 11:00 Biodiversity and conservation of dead wood dependent organisms – *Ilkka Hanski*
- 11:40 Wrap-up and good-bye, MSc / BSc theses topics – *Dmitry Schigel*

13-14 B2 1015 (46 seats)

- Journal club: 5 research publications for independent reading

5 December, Thursday: Book exam 9:00-12:00, B3 5405

[15 November 2013]



LUOMUS
FINNISH MUSEUM OF NATURAL HISTORY

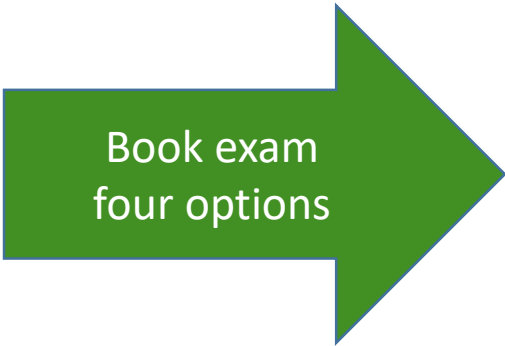
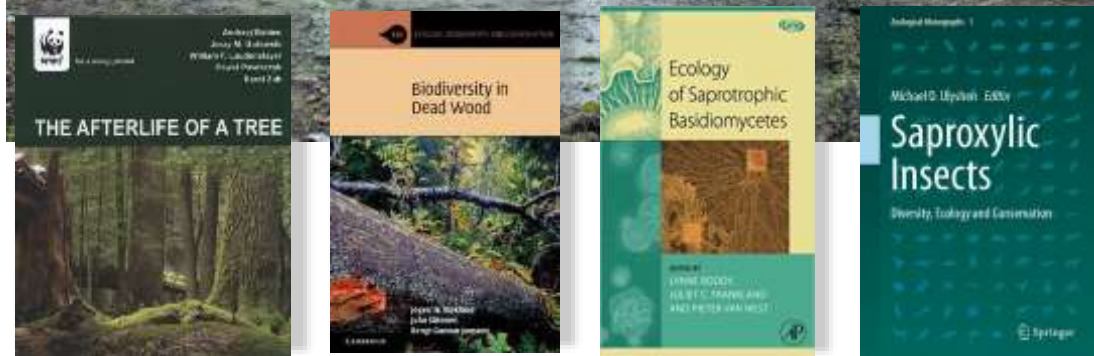




Dead wood course 2019 goes Russia: 24–28 June Voronezh Nature Reserve

- Lectures
- Workshops
- Field trips
- Fungi
- Insects
- Conservation

... and more



BIODIVERSITY IN DEAD WOOD

523148
Dmitry Schigel & guest lecturers

18-22 November 2013
daily 9-12 and 13-14, Viikki Campus

MEET THE GURUS:
Jogej Stokland, Jukka Siltönen, Erika Hanski, Tuomo Niemelä, Jyrki Muona, Olo Oveskainen, Kurt Fagerstedt, Annele Hatakka, Jukka Riihimäki, Taina Lammi, Gurilla Sillala, Mikko, Leo Junttila, Penn Hahné, Sanna-Leena Lindberg, Evgeny Jakovlev, Veera Norros, and Annina Lamm

7 credits/ects: 2 credits – 15 h lectures and learning diaries, 3 credits – 5 h journal club, and 3 credits – book exam

Student quota: 40, including 16 for Nordic students (travel and accommodation support)

3 copies of course book available in the HYY libraries: Stokland J.N., Siltönen J., and Jonsson R.G. 2012: Biodiversity in Dead Wood. Cambridge University Press, 324 pp. (ISBN 9780521710285)

Enrolment:
University of Helsinki – WebOodi 1-31 Oct 2013

All other applicants & info:
dmitry_schigel@helsinki.fi

<http://www.helsinki.fi/biodiversity/tba/courses/523148.htm>

DEAD WOOD MEETING 2015
Lammi Biological Station, Finland, 24 – 27. May 2015

DEAD WOOD MEETING & COURSE 2016
Lammi Biological Station, Finland, 6 – 11 August 2016

Dead Wood Course 2019

Dead Wood Course 2020

Day I: Habitat



Day 1 24 June 2019, Monday Habitat day

8:00 BREAKFAST

9:00 Welcome, setting the scene, announcements

10:00 COFFEE

10:30 Elena Starodubceva: Voronezh Biosphere Reserve: some results of 80 years protection of the territory and modern problems of the biological diversity conservation: [PDF](#)

11:30 Dmitry Schigel: Habitat and intro lectures

13:00 LUNCH

14:00 Excursion in the reserve, Cherepakhino trails

18:00 SOCIAL DINNER

21:00 Back to the venue



Фото: Анна Сапельникова

Day II: Fungi



Фото: Кристина Полянина

Day 2 25 June 2019, Tuesday Fungal day

8:00 BREAKFAST

9:00 Håvard Kauserud: Introduction to fungi in dead wood; life cycles, life-history strategies, succession and biotic interactions; DNA-based assessment of fungi in wood: [PDF](#)

10:30 COFFEE

11:00 Inger Skrede: Population biology, dispersal and conservation biology of wood-inhabiting fungi: [PDF](#). Evolution of wood decay mechanisms: [PDF](#).

13:00 LUNCH

14:30 Alexander Kurakov Carbon and nitrogen cycles in forest ecosystems and fungal participation: [PDF](#)

15:30 Elena Bilanenko, Tatyana Semenova, Alexander Kurakov: Microbial community (microscopic fungi and prokaryotes), their composition and activity in decaying wood: [PDF](#)

16:00 COFFEE

16:30 Ludmila Kalinina: Demonstration of identification of agaricoid fungi with light microscopy: [PDF](#)

18:00 DINNER

19:00 Optional programme: bonus presentations and discussions

Nina Fillipova: Fungal community in bog forest ecosystems of Western Siberia: [PDF](#)

Ilya Viner, Lyudmila Kokaeva, Viacheslav Spirin, Otto Miettinen: A puzzling case of incomplete lineage sorting in a common wood-decaying species *Basidiaradulum radula* (Hymenochaetales, Basidiomycota)

Maria Shumskaya: Dead wood education in the US and R exercise. Resources: [Teaching quantitative biology with Open Education Resources](#); [Teaching modules on environment](#); [DataCamp](#) (EN) and [Stepik](#) (RU) to learn R.

Day III: Invertebrates



- Day 3 26 June 2019, Wednesday** Invertebrates day
- 8:00 BREAKFAST
 - 09:00 Tone Birkemoe: Introduction to insects in dead wood: [slides available upon request](#)
 - 10:00 Rannveig Jacobsen: Insect-fungus interactions in dead wood [PDF](#)
 - 10:30 COFFEE
 - 11:00 Anne Sverdrup-Thygeson: The importance of late successional dead wood habitats – veteran trees, wood mould, continuity: [slides available upon request](#)
 - 11:30 Steffen Roth: Diversity and ecology of saproxylic Hemiptera [PDF](#)
 - 12:00 Alexander Ryss: Wood-inhabiting nematodes [PDF](#)
 - 13:00 LUNCH
 - 14:00 Entomology excursion and lab time
 - 18:00 DINNER
 - 19:00 Alexander Ryss: Nematodes workshop [PDF](#) + Elena Starodubceva: Fire museum



Day IV Excursion



Day 4 27 June 2019, Thursday Excursion day

8:00 BREAKFAST

9:00 8h / 250 km excursion by bus, a number of forest and cultural stops

+ Kostyonki museum of prehistoric man

+ PICNIC LUNCH

+ Forest stop I, Bairak forest

+ Forest stop II, forest fire site

17:00 Free time and book exam preps.

20:00 COURSE DINNER



Day V: Conservation, exam

Day 5 28 June 2019, Friday Conservation day

7:30 BREAKFAST

8:30 Anne Sverdrup-Thygeson: Dead wood and conservation: *slides available upon request*

9:00 Sylvie Barbalat: Dead wood in Central and Western Europe [PDF](#)

9:30 Dmitry Schigel: Dead wood as nature and dead wood as culture [PDF](#)

10:00 COFFEE

10:15 Book exam

11:45 Feedback form. End of course

12:00 Free time

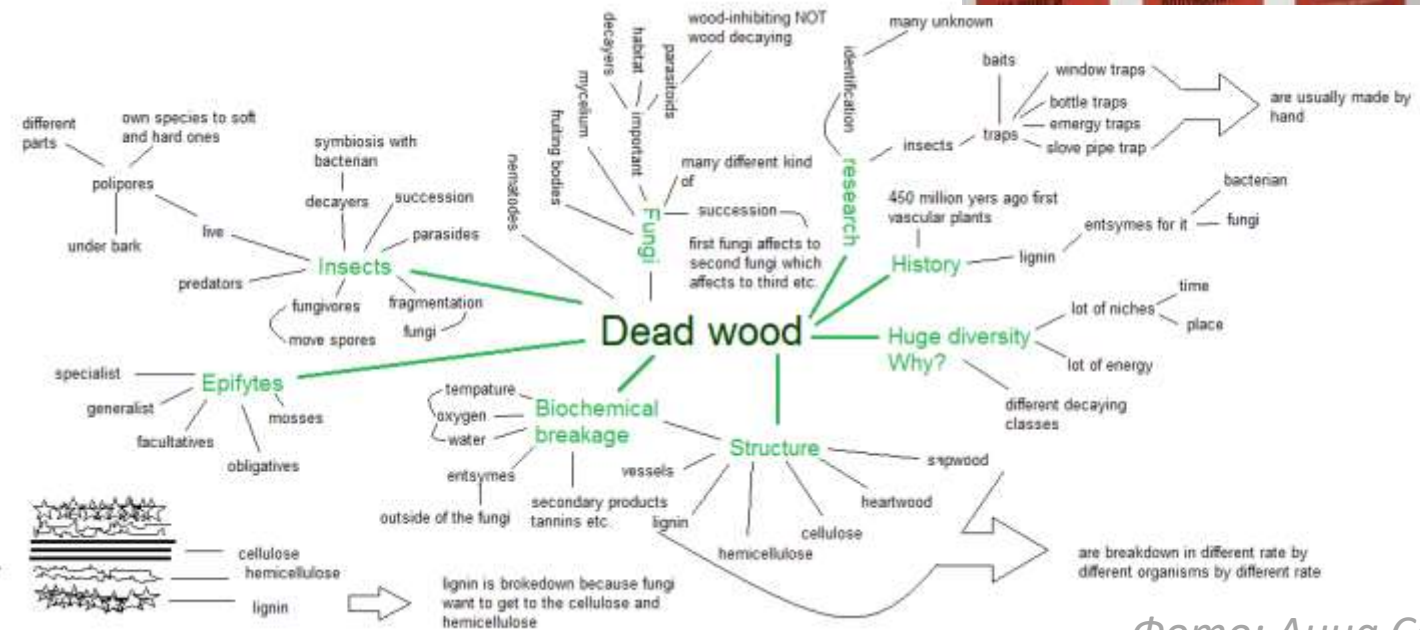


Фото: Анна Сапельникова

Stay connected & updated

Facebook: ξ group

ξ comes from Greek ξύλον, xylon, "wood"

- **Ksi group** – a free, open, taxonomically agnostic community
- Saproxylic biodiversity and wood ecology
- News, papers, job, conference, photos, debates
- 380+ members: join & invite colleagues
- Just search for "Ksi group" in Fb

www.facebook.com/groups/584347808434854

ξ group

Public group

About

Discussion

Members

Events

Videos

Photos

Files

Group insights

Manage Group

Joined Notifications Share More

Write Post Add Photo/Vid... Live Video More

Write something...

Photo/Video Watch party Feeling/Act... More

RECENT ACTIVITY

Dmitry Schigel is in Sankt Oswald, Bayern, Germany.

Jörg Müller opens the X European Saproxylic Beetle Conference: 80 participants from 24 countries! <http://www.nationalpark-bayerischer-wald.de/.../con.../index.htm>

MEMBERS 280 members

DESCRIPTION

ξ group, pronounced ksi group, is an interest group focused on... See more

TAGS

Koinofania · Saproxylique · Fungivore

LOCATION

Add locations

CREATE NEW GROUP

Groups make it easier than ever to share with friends, family and teammates. [Create Group](#)

RECENT GROUP PHOTO'S



СПАСИБО ЗА ВНИМАНИЕ!

Dmitry Schigel

@dschigel

adlignum.org