



BOTTOMS-UP

Project title

Synthesis of saproxylic species' data from beech forests in Europe: Determining benchmarks for the diversity of beetles and fungi

Outline & Aim

One of the main functions of natural forest reserves is the conservation of organisms that depend on late forest development stages and on dead wood (saproxylic species). However, do these conservation measures really work? To answer this question, different projects have been running for several years to study saproxylic beetles and/or deadwood-inhabiting fungi in Europe. In this context, data have been collected from managed and unmanaged European beech forests for these two species groups (beetles and fungi) and many of these data are now available in the frame of the cost project Bottoms-Up.

The main goal of this project is to establish benchmarks for the diversity of saproxylic beetles and fungi to compare their communities from different sites at the national or regional level. For this, we will run comparative analyses for species richness, abundance, and community composition for different species groups such as all saproxylic species, threatened species, primeval forest relict species or old-growth specialists.

In a first phase, the diversity of saproxylic beetles and fungi from Swiss beech forests will be compared with benchmarks established at the continental level (mandate from the Federal Office for the Environment). In a second phase (if the results and methodological constraints allow it), we will launch a manuscript for a scientific publication highlighting benchmarks for these two species groups at the continental level.

First/lead author: Nicolas Roth/ Thibault Lachat

Core authors from BOTTOMS-UP: Thibault Lachat, to be defined.

Further opt-in authors: According to the BOTTOMS-UP Bylaws any member of the BOTTOMS-UP Consortium can declare his/her interest to become opt-in author. The first author is required to preliminarily accept one such offer from each dataset that represents at least 2% of the data in the analysis. It is upon the discretion of the first author whether to accept any opt-in offer beyond this requirement.

Persons interested in opt-in authorship can be nominated until 01.01.2022 with e-mail to the first author (and cc: to the BOTTOMS-UP Governing Board), explaining which dataset(s)

they represent and preferentially also how they could contribute. Note however that such a nomination only means the option to become co-author. In the end only those persons will be retained as actual co-authors who have made a significant intellectual contribution to the paper during the course of its preparation (in accordance with BOTTOMS-UP Bylaws and compliance to ethics in academy).

Data to be used:

Observation data from beech forest and beech dominated forests (> 50 % of the number of trees) for saproxylic beetles (sampling method: flight interception traps) and for deadwood-inhabiting fungi (sampling methods: inventory on logs and/or study plots). Basic structural variables (e.g., basal area, dead wood volume, management type, protection status, ...) and stand information for all plot locations corresponding to the observational data.

Time line:

Deadline for permission of data usage from custodians: ASAP, September/October 2021

Extraction of data from BOTTOMS-UP: ASAP: September/October 2021

Data preparation and analysis: ASAP: September/October 2021

Raw results to be sent to the wider author team: January 2022

Writing up of the paper (including preparation/optimization of figures): Spring/Summer 2022

Feedback round of co-authors to MS: Late summer 2022

Submission: Autumn 2022

Confirmation:

I confirm that I will adhere to the BOTTOMS-UP Bylaws.

Date

20/09/2021

Signature

Thibault Lachat