

Biodiversity patterns in a natural forest reserve: Effect of habitat amount and distribution on saproxylic species

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Research questions



Figure 1: Flight interception trap (picture: Matthias Neukom).

- ▶ Which environmental factors are influencing the different species groups?
- ▶ How does habitat availability (e.g. dead wood) in terms of quantity and distribution influence biodiversity and at which spatial scale can we find effects?

Deadwood-map



Figure 2: Deadwood-map of the Zurich Wilderness Park Sihlwald, created with LiDAR and 3D aerial photographs. 70 plots were chosen along two gradients: 1. deadwood amount (blue = low to red = high) and 2. connectivity (triangles = high and circles = low) (aerial photograph: 14.3.2014, Osterwalder, Lehmann – Ingenieure und Geometer AG).

Biodiversity

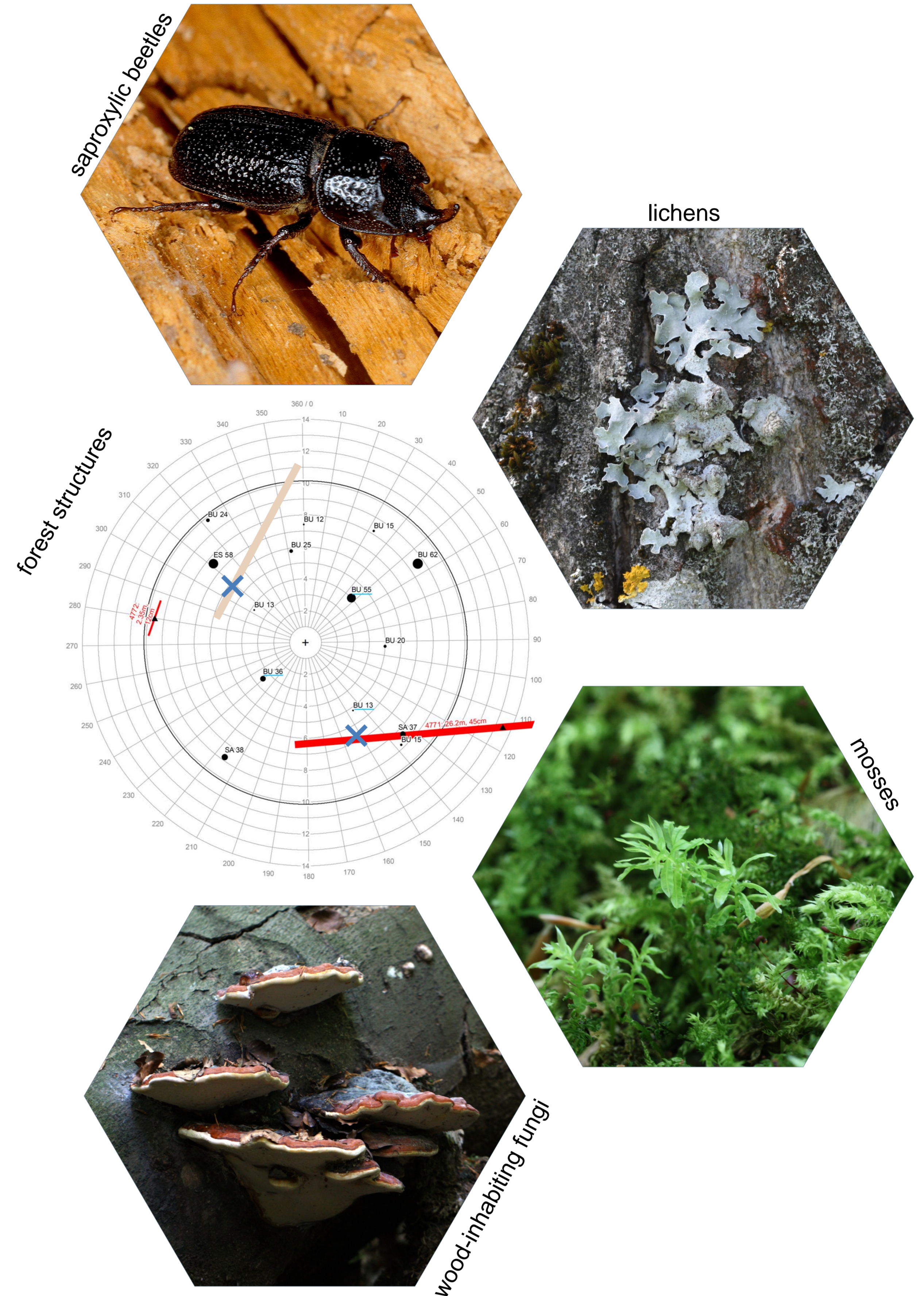


Figure 3: middle: map of a plot from the cantonal inventory (10 m diameter, 314 m²), showing all the trees (incl. species and DBH); red: 2 lying deadwood-pieces, that were searched for fungi, mosses and lichens; blue x: position of the two flight interception traps close to deadwood (map: GIS Wildnispark Zürich Ronald Schmidt, beetle (*Sinodendron cylindricum*): Beat Wermelinger).

Experimental approach



Figure 4: left: beech branch bundle consisting of 6 branches, attached to a tree at about 1.5 m above ground; right: example of an emergence trap for dead wood (picture of the trap: Simon Thorn).