

Relative importance of enemy pressure, leaf or tree growth, genetic traits and phylogenetic neighbourhood in determining caterpillar communities on individual trees

Freerk **Molleman**, Urszula **Walczak**, Iwona A. **Melosik**, Łukasz **Piosik**, Edward **Baraniak**, Andreas **Prinzing***
* (University of Rennes)

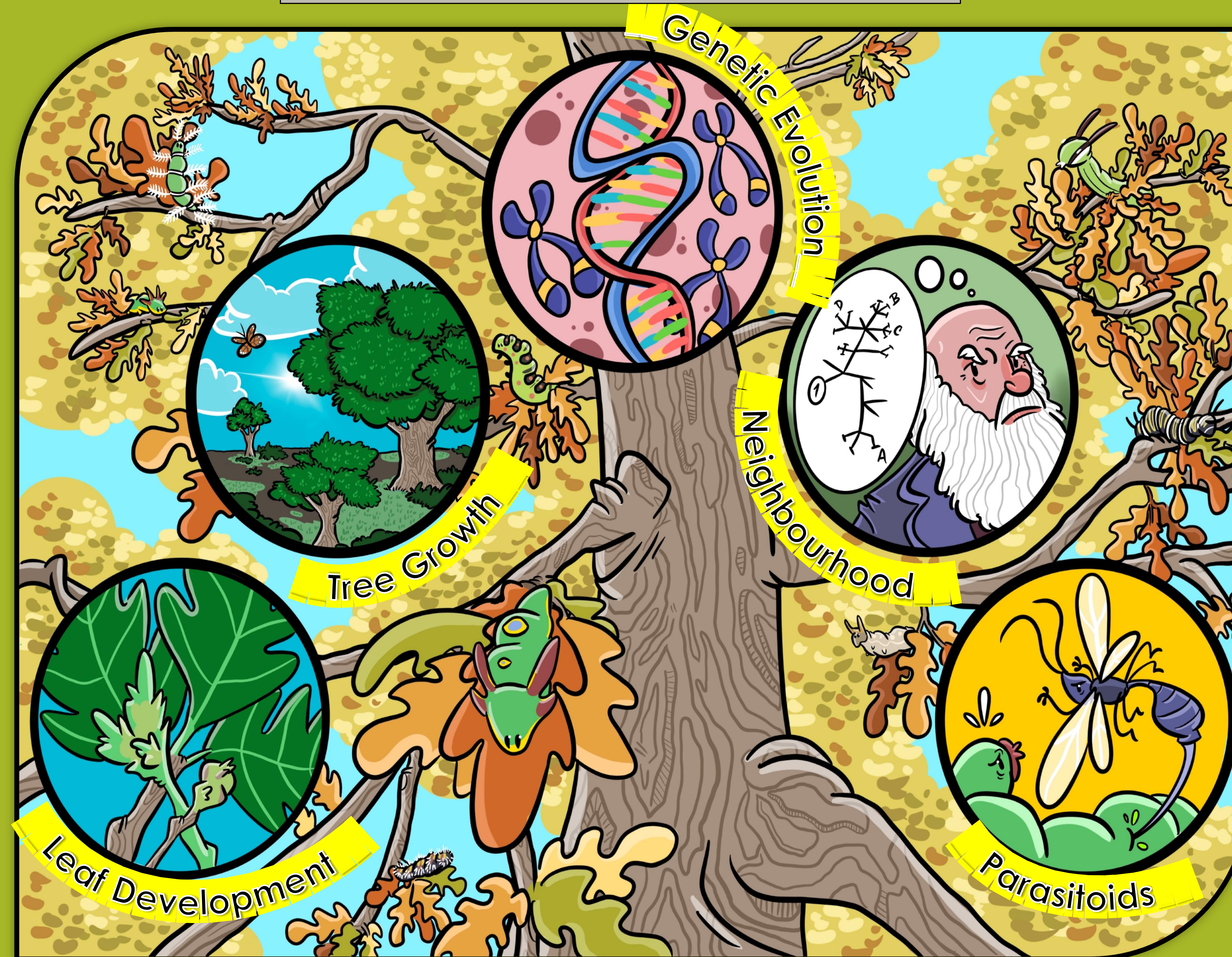
Processes at different time scales can affect insect communities on individual trees.

Methods: Mixed Forest in Western Poland, 25 *Quercus petraea* trees, 1-4 samples per tree

Development	Genetic traits	Neighbourhood	Caterpillars
Budburst Trunk diameter	12 – 17 SSR Loci Genome Size	Phylogenetic distance to neighbouring trees	Casebearer, semi-concealed, free-living Reared moths identified + parasitism

**3) Millenia: Heterozygosity
↓ casebearer abundance**

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Illustrated by Jorge **Granados-Tello** (@barbasdegrafito)

**2) Years: Tree growth
↑ parasitism**

**1) Days: Leaf development
↓ free-living caterpillar abundance**

**4) Millions of years: Distantly related neighbours
↑ caterpillar abundance,
↓ diversity, and
↓ parasitism**

**5) Years: Parasitism
↓ abundance of dominant caterpillar species**

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Trees are not always better off in diverse forests, as large trees surrounded by distantly related species can suffer more insect damage.