

Volatile emissions in spruce could act as cues for bark beetle host selection

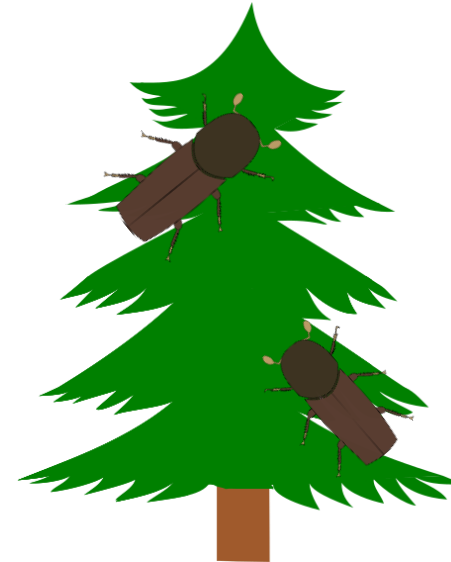


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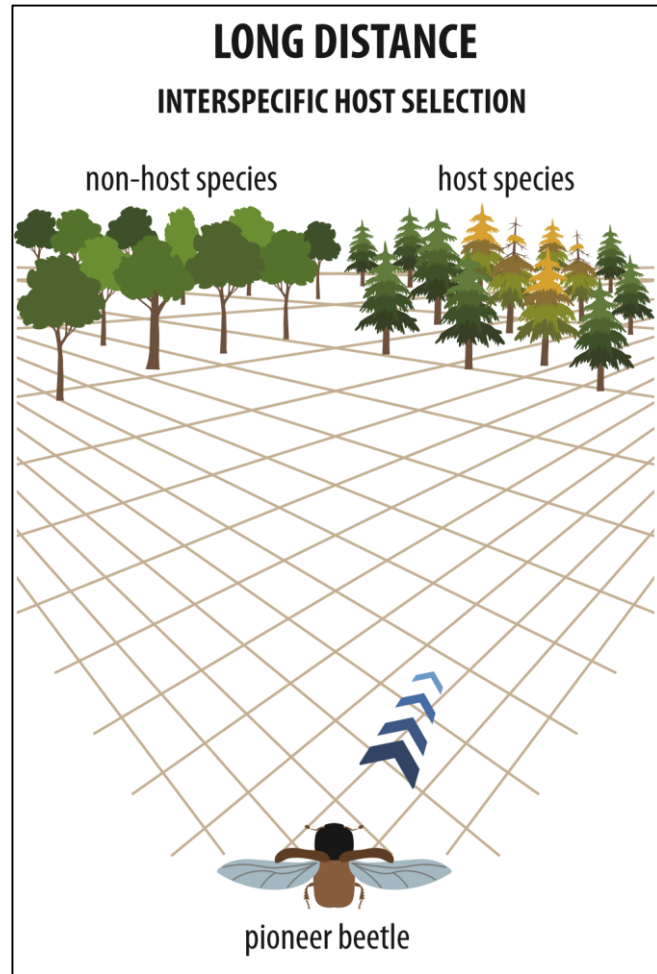
llehmannski@bgc-jena.mpg.de



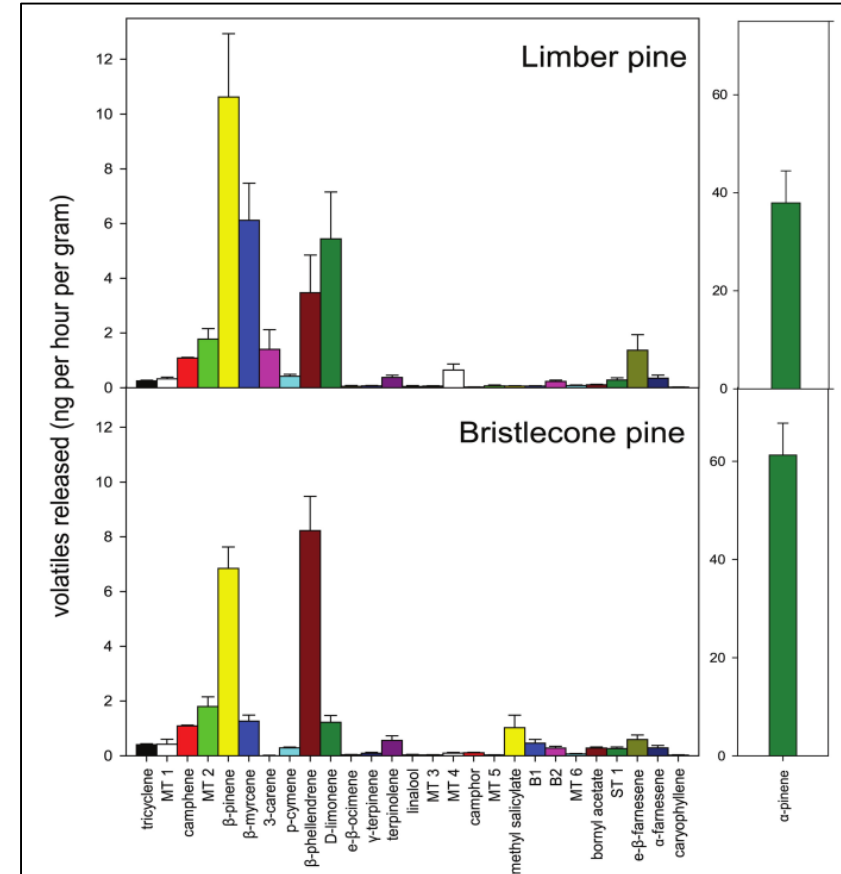
Climate change increases the susceptibility of trees towards bark beetles



Sniffing the right forest

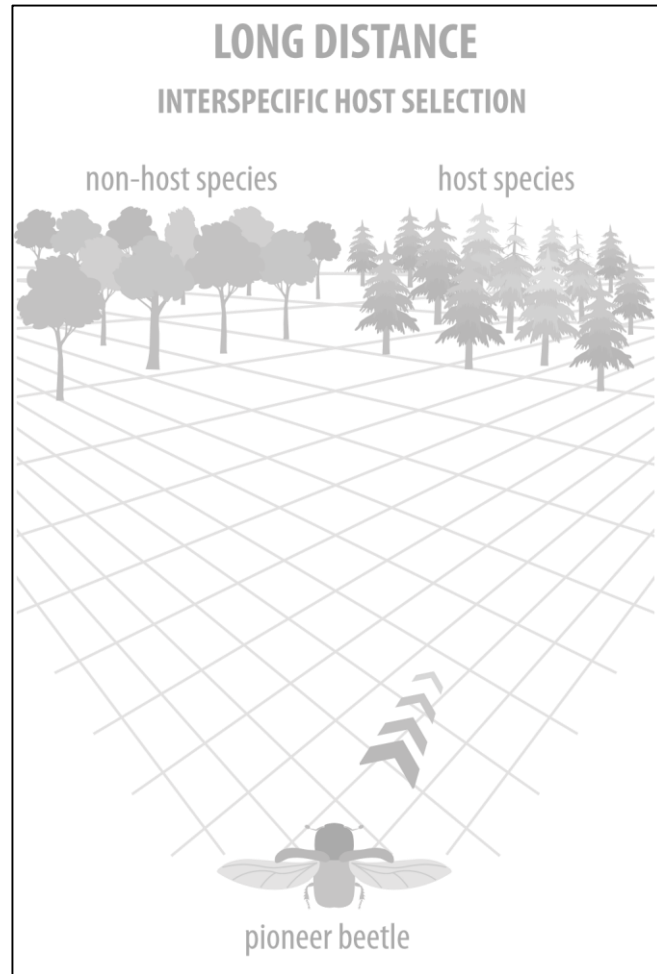


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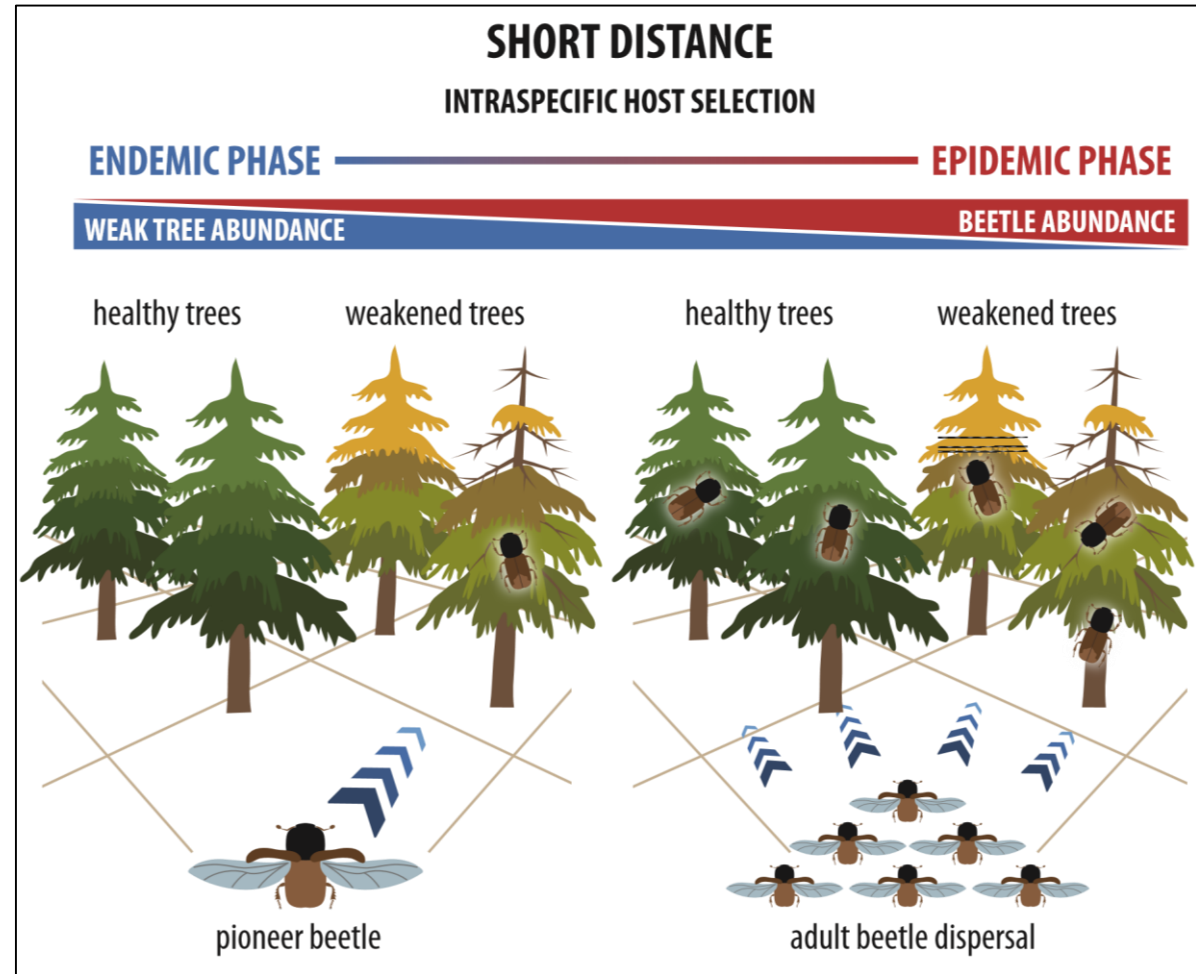


Gray et al. 2015

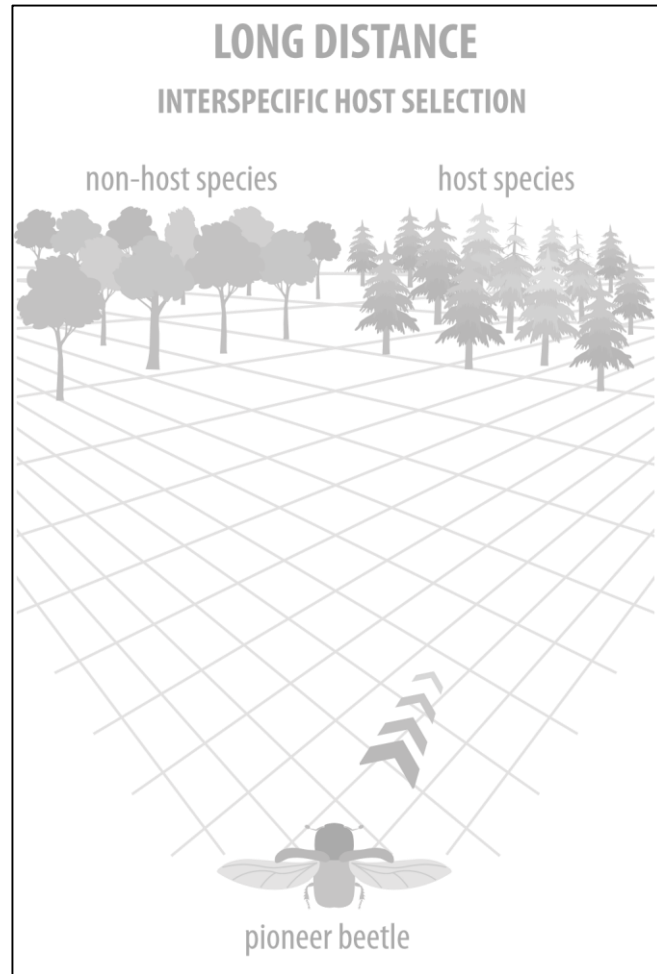
Attraction depends on beetle abundance



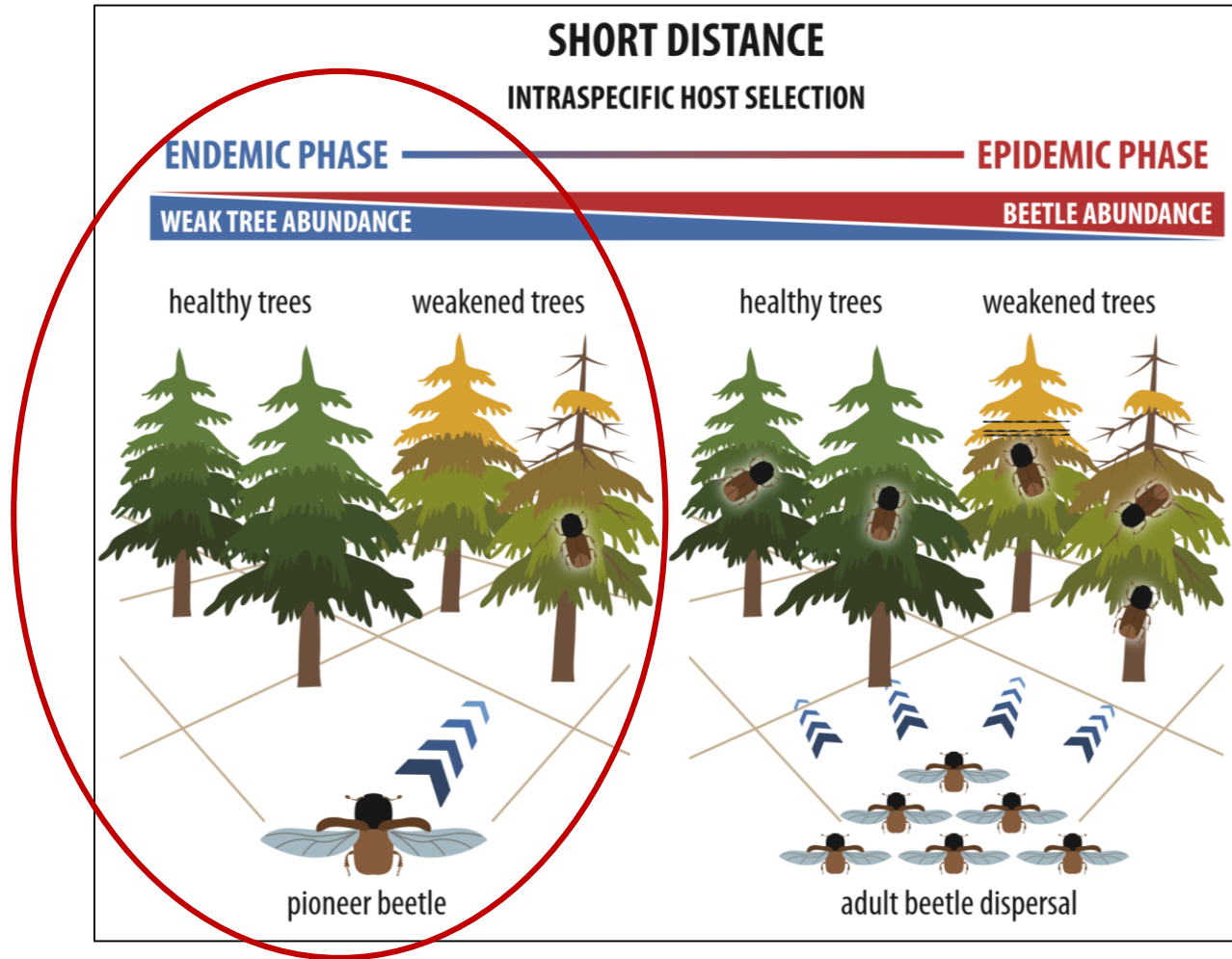
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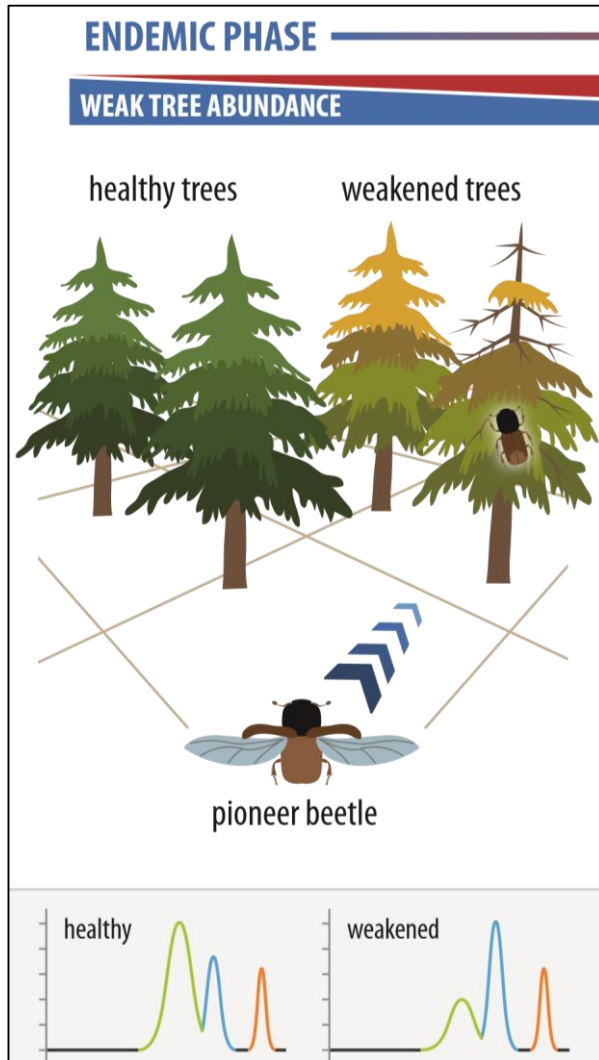
Weak beetles need weak trees



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Weak beetles need weak trees



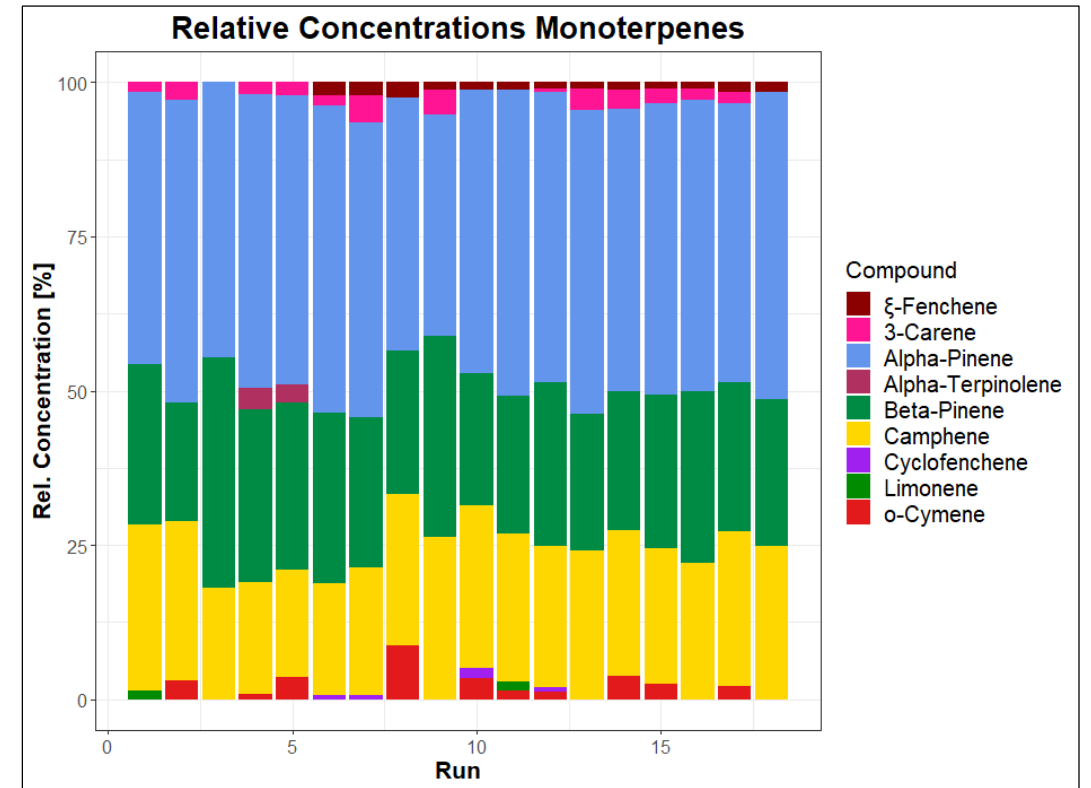
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Hypothesis:

Bark beetles can differentiate between stressed and unstressed trees based on volatile emission profiles



Volatile measurements with mobile GC/MS

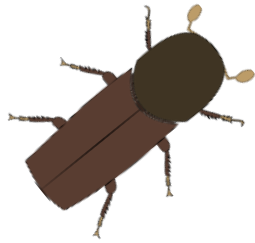


Volatile emissions of windthrown trees



References

- Gray CA et al. (2015) Mountain Pine Beetles Use Volatile Cues to Locate Host Limber Pine and Avoid Non-Host Great Basin Bristlecone Pine. PLoS ONE 10(9):e0135752. doi:10.1371/journal.pone.0135752
- Lehmannski LMA et al. Addressing a century old hypothesis – do pioneer beetles of *Ips typographus* use volatile cues to find suitable host trees? Submitted to New Phytologist.
- https://www.pflanzenforschung.de/application/files/thumbnails/detail_md_2x/8316/0528/3900/Wald_iStock-L-1272140086_Achim_Schneider_reisezielinfo.de.jpg
- https://www.uni-wuerzburg.de/fileadmin/_processed_/4/1/csm_0702biedermann-borkenkaefer1-www_8f64987185.jpg



Thank you for your attendance!

Questions?

