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Interaction type and intimacy structure networks between forest-dwelling organisms and their host trees

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Highlights

- Species interaction type may determine their network structure.
- We investigate whether trophically different organisms show also different networks.
- We found higher modularity for heterotrophs reflecting their trophism.
- We found stronger nestedness for autotrophs reflecting their commensalism.
- We conclude that the type of interaction defines the properties of each network.

Abstract

Species interact in many ways. Potentially, the type of interaction, i.e. mutualistic or antagonistic, determines the structure of interaction networks, but this remains poorly tested. Here we investigate whether epiphytes and wood decomposers, having different types of interaction with their host trees, show different network properties. We also test whether the traits of host trees affect network architecture. We recorded presence/absence of organisms colonizing trees, and traits of host trees, in 102 forest plots. Epiphytic bryophytes (64 species) and lichens (119 species) were recorded on c. 2300 trees.

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