

Abstract

Determinants of Diversity of Caterpillars, Leaf Miners and Gallers on Individual Oak Trees in a Forest [†]

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Abstract: The community of insect herbivores on individual host trees may depend on the history of the hosts—from ongoing ontogeny via recent microevolution to ancient phylogeny—but the relative importance of these scales remains unknown. We sampled spring caterpillars, leaf mines and leaf galls from sessile oaks (*Quercus petraea*) in a forest in western Poland. We assessed the effect of individual tree neighborhood, tree size, budburst phenology, as well as genetic traits on insect herbivore diversity and community composition. Overall, our results show that different scales of history act simultaneously, and do so differently in different functional groups. Grant No. 2018/29/B/NZ8/00112 National Science Centre (Poland).

Keywords: insect; local adaptation; phenology; population genetics; tree diversity

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