

Herbivores play important role in protecting habitats from invasive species

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Herbivores (species that eat plants; e.g. caterpillars) consume more non-native (introduced from other places) oak leaf material in areas with diverse native plant communities than in less diverse communities. Why diverse plant communities tend to resist invasion by non-native plants, remains uncertain. Researchers from the Illinois Natural History Survey and the Morton Arboretum have been examining the potential role of herbivores on the invasion of non-native plant species in diverse plant communities.

The researchers examined herbivore damage on leaves of non-native oak trees in arboreta across the United States. They found that non-native oaks in regions with high oak species diversity showed more leaf damage than those in regions with low diversity.

Ian S. Pearse, lead author on the study in the current issue of the Royal Society journal *Proceedings of the Royal Society B*, says that, "competition for resources has often been thought to limit invasions in diverse plant communities, but herbivory could also limit these invasions."

While native oaks still suffered more leaf damage than non-native oaks overall, in the absence of native oaks non-native oaks showed even less leaf damage. Pearse conjectures, "Diverse plant communities are more likely to contain herbivores that are able to consume a non-native species, which may help to explain why [diverse communities](#) are able to resist invaders while others are easily dominated."

As the introduction of non-native species increases, protection of intact [plant communities](#) and their associated herbivores may become critical to guarding against the non-native [species](#) invaders.

More information: Proc. R. Soc. B 7 November 2014 vol. 281 no. 1794 20141841. Published 17 September 2014. [DOI: 10.1098/rspb.2014.1841](#)

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