Assessing the ecological impact of alien leafminers through apparent competition. The example of *Cameraria ohridella*

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Apparent competition is defined as a negative effect between species at the same trophic level that do, or do not share resources, mediated through the action of shared natural enemies. Although it is thought to be one of the mechanisms through which invasive species affect populations of native species, very few examples are known, particularly in insects.

The horse-chestnut leaf miner, *Cameraria ohridella*, is an invasive moth that was first discovered in Macedonia in 1984, and has since invaded most of Europe. It is now attacked by several native parasitoids and predators. Despite the low parasitism rates observed in *C. ohridella*, populations are so high that an unusual amount of polyphagous parasitoids are produced in the vicinity of infested horse-chestnut trees, two or three times per year. In spring, the bulk of the parasitoids emerge at least six weeks before the first suitable *C. ohridella* larvae or pupae are available. These parasitoids can massively attack the first indigenous leaf miners developing in spring. Predators may also increase in numbers near *C. ohridella* outbreaks. In the present study, carried out in Switzerland, France and Bulgaria, we tested the hypothesis that the presence of *C. ohridella* has an influence on the populations of native leaf miners through shared natural enemies.

The species richness of native leaf miners' communities was lower in the presence of *C. ohridella*, particularly in spring. Population densities of some leaf miners sharing their parasitoid complex with *C. ohridella*, such as the beech and oak leaf mining weevils, *Orchestes fagi* and *O. quercus*, and several leaf mining moths, were significantly lower close to horse-chestnut trees infested by *C. ohridella*. Studies are currently carried out to investigate whether these decreases are due to parasitoids or predators associated with *C. ohridella*.