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Potential indirect impact of the invasive leaf-miner, *Cameraria ohridella*, on native leaf-miners

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Introduction: The horse-chestnut leaf-miner, *Cameraria ohridella*, is a moth of unknown origin that was first observed in Macedonia in 1984 and has now invaded most of Europe. It is attacked by several native leaf-miners' parasitoids. 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 could massively attack the first indigenous leaf-miners developing in spring. We tested the hypothesis that the presence of *C. ohridella* has a negative effect on populations of native leaf-miners through shared natural enemies (apparent competition).

Methods: Species richness and abundance of indigenous leaf-miners were assessed in presence and absence of *C. ohridella*, in Switzerland, France and Bulgaria.

Results: In spring, the species richness of indigenous leaf-miners was significantly lower in the presence of *C. ohridella* than in its absence. Some native leaf-miners, such as the beech and oak leaf-mining weevils, *Orchestes fagi* and *O. quercus*, sharing their parasitoid complex with *C. ohridella*, were significantly less abundant at sites with horse-chestnuts attacked by *C. ohridella* compared to control sites.

Conclusion: Parasitoids, and possibly predators, are the only link between *C. ohridella* and native leaf-miners feeding on other host-plants and are thus probably responsible for the decrease.