

Natural Predation

Natural predation of OPM as a management method refers to the use of naturally occurring predators or parasites to control levels of OPM. This can also be termed 'biological pest control'. This is an area of ongoing research with a number of research projects currently underway to improve understanding of the potential impact of natural predation and develop recommendations about how it can be implemented as a method of controlling OPM. In the Established Area and in situations where the risks to human and animal health are low, the recommendation is to leave OPM nests as they may contain OPM parasitoids, such as *Carcelia iliaca*, which can help to suppress OPM population levels. It is important to stress that natural predation will not offer a 'silver bullet' solution to OPM, but may be used alongside other methods as a way of helping to suppress OPM numbers.

Natural predation in the UK

Many of the insects species known to predate OPM in Europe have not yet been detected in the UK. At the time of writing, two species of parasitoid fly have been confirmed as larval parasitoids of OPM present in the UK: *Carcelia iliaca* and *Compsilura concinnata*.



Carcelia iliaca © Shutterstock - Jaco Visser

Hampstead Heath has had anecdotal reports of *Carcelia iliaca* from 2017. The site has recorded a year on year drop in OPM caterpillar and nest numbers from 2019 onwards. This may be a result of the natural levelling off of the local OPM population, and also the effect of spraying with Bt and nest removal. However, it is highly probable that the notable increase in observed natural predation of OPM will be augmenting the effect of these more direct forms of control.

PROS	CONS
A naturally occurring method to control OPM populations	Difficult to predict the control effect at a local level from one year to the next
Reduce reliance on chemical control and subsequent biodiversity impacts	Less immediate than chemical control or nest removal
Pests do not become resistant	Less spatially targeted
Less expensive (when naturally occurring)	Further research needed to understand effectiveness in the UK

Europe

Across Europe there are a range of insects that predate OPM, including chalcid wasps, tachinid flies (including *Carcelia iliaca* and *Pales processionea*) and ichneumon wasps (*Pimpla rufipes*, *Coccygomimus turionellae*, *Theronia atalantae*). There are also beetles (*Calosoma inquisitor* and *C. sycophanta*) and a silphid beetle (*Xylodrepa quadripunctata*) that have been known to eat the larvae.

Some birds including the blue and great tit have been seen predated caterpillars, with research from France suggesting a great tit with young can consume 500 OPM caterpillars per day.