

Oak processionary moth (OPM) – Time to learn to live with it!

The oak processionary moth, which defoliates oak trees and sheds toxic hairs, is well established in northern Europe, including London. The current Defra/Forestry Commission Programme slows down the spread, but cannot forever prevent it. The financial and environmental costs of the twice-yearly spraying are out of proportion to the effects of the pest. Patrick Mannix, who has owned, managed and worked Sandhurst Copse and Sheepwalk since acquiring the woodland in 2000, prepares to live with the OPM in ancient woodland in the Surrey Hills AONB.

THE OPM is a native species of central and southern Europe. Its range has been expanding northwards through Europe and it is now well established in Germany, northern France, Belgium and the Netherlands. In 2006 colonies of larvae were discovered in parts of London.¹

The larvae (caterpillars) of OPM feed on the foliage of many species of oaks. As well as being a defoliator of oak trees, OPM can also pose a risk to human and animal health. The larvae are covered in hairs that contain a toxin. Contact with this toxin can result in irritation of the skin and respiratory tract. Where OPM is found on urban trees, along forest edges and in amenity woodlands, there is a risk of public exposure.¹

Efforts to control OPM in the UK began after its discovery in 2006. Between 2006 and 2011, UK government policy was to eradicate all OPM outbreaks. In 2011, the policy objective for south-west London was changed from eradication to containment.¹

Defra/Forestry Commission have published their OPM Operational Programme for 2017/18. The map shows a core zone in which the pest is established and and no control of the pest is being carried out, except by individual land owners. The surrounding area is designated as the Control Zone, in which the objective is to slow the rate of spread of OPM and reduce the impact, the costs paid for by Defra. Within the control zone there are a large number of distributed infected sites to the east of the core zone and dense clusters to the south and south west, in particular to the north of Croydon and Bromley and to the north of Guildford. The latter are designated as protected zones in which there is more vigorous action, to avoid the establishment of such epicentres for spread of the pest, paid for by Defra.

I own and work Sandhurst Copse and Sheepwalk², partly ancient, mixed broadleaf, woodland in the Surrey Hills AONB. The woodland is about five miles from Ockham, which is in the infected cluster to the north of Guildford, in the protected zone. With open country and many oak trees between the two, without control the OPM could arrive within two years.

The current aim is to attempt eradication in the protected zones. However, the scale of infestation, the limited windows for effective action by spraying (mid April to mid May) and nest removal (mid June to mid August) caused by the life cycle of the moth, and practical problems on site mean that it is not possible to achieve eradication. Practical problems include access to sites, the significant variation in budburst dates between individual oaks, which affects the spraying window, and difficulty in



Above: Cluster of oak processionary moth (*Thaumetopoea processionea*) larvae feeding on oak leaves

Left: The very small hairs, setae, are toxic and can cause skin irritation to people and animals. These are not the same as the easily visible hairs seen here. Photos: Forestry Commission

finding some of the nests. The Defra programme has been successful in greatly restricting the spread of the OPM; the question is whether it is sustainable, and are the costs and the environmental damage commensurate with the damage that might otherwise be caused by the OPM?

OPM has been well established since the 1980s in northern France, Germany, Belgium and the Netherlands. In the UK the inexorable expansion of the infected area around the original location in south-west London suggests that there is a high probability of infection reaching Sandhurst Copse and Sheepwalk. I believe that the appropriate strategy is to prepare to live with the moth.

The first step is to improve understanding of the actual risks, which may turn out not to be as great as feared.

- The OPM caterpillars defoliate oak trees in the spring; but so do other species. About ten years ago I reported complete defoliation of oak by winter moth caterpillars; but failed to raise any interest from the Forestry Commission Research at Alice Holt. Oaks have a second growth spurt to compensate for such attacks. Repeated annual defoliation may weaken a tree, making it more susceptible to attack by other pests, pathogens or diseases; but OPM on its own typically does not kill trees. Physical nest removal can be undertaken to protect an important vulnerable tree where the costs are justified.
- OPM caterpillars, after their third stage, bear very small hairs, setae, which are toxic and can cause skin irritation to people and animals. These are not the same as the easily visible hairs. If under threat it is reported that the caterpillar can eject these setae.

There is a May 2015 report from Public Health England, 'Health effects of exposure to setae of Oak Processionary Moth larvae – Systematic review,' which reviews peer-reviewed papers for references to OPM impact on health in Europe where the moth has been established for some time. This concludes that only about 5% of people are sensitive to these hairs. There are no confirmed reports of hospitalisation, anaphylaxia or death from OPM³

In discussion with parties involved in the current operations, I have concluded that if OPM does arrive in Sandhurst Copse and Sheepwalk the only effective programme to eradicate the pest in relatively dense natural mixed broadleaf woodland would be aerial spraying. However, this would kill all caterpillars on all vegetation at the time of spraying, with significant consequences for other dependent species. The disruption and pollution of ancient woodland would not be acceptable and out of proportion to the actual risks and harm from the pest.

Walkers are permitted in the woodland on specified footpaths. They apply for and are given written permission. I refer to this as 'managed access'. There is a mailing list for walkers to receive an annual newsletter and information/advice on topics such as OPM. There are also regular school visits, currently in particular with severely autistic children. If OPM is detected in the vicinity then we must assume it will move into the woodland. All parties would be advised.

We need good factual information and advice distributed to landowners, schools, GP surgeries, medical centres, etc, and calm advice disseminated through local media.

Individual caterpillars and nests can fall from trees. The risk when they are on the ground is particularly for young children or dogs who might be tempted to investigate. The caterpillars are active only from April to July. Children should be advised 'Do not touch hairy caterpillars'; dogs should be on a lead when in the vicinity of oaks during

this period. Caterpillars seen on paths would be reported by walkers for removal. The rule regarding hairy caterpillars was standard practice when I was growing up in Lancashire in the 1940s, although not the same species! For removal of individual caterpillars I would suggest using latex gloves on both hands, then turn the one holding the collected caterpillars inside out to contain them in a bag, for disposal in accordance with Defra guidelines regarding such affected material.

If the occurrences of fallen caterpillars are frequent, consideration would be given to re-routing paths, as necessary, away from oak tree canopies. Vigorous bramble growth as the result of milder winters, previously regarded as a potential problem, becomes an ally by providing a barrier between young children, and dogs, and oak trees away from footpaths.

Toxic setae of OPM are known to exist in the environment for at least a year.³ If an old nest is damaged, the hairs can be blown by wind. There is already in place advice that walking in Sandhurst Copse and Sheepwalk should not take place when winds are forecast at 20mph or higher, which may result in gusts, which in turn can dislodge hanging boughs. People who are sensitive to the hairs should also avoid walking on windy days near oak trees, or at least wear long sleeves, trousers and a hood.

Setae in an old nest, undisturbed in a protected space, eg a timber stack, have been shown to remain toxic for some years. Anyone working in the wood in an area in which old nests may be encountered should wear appropriate protective clothing and the area should be taped off to avoid walkers coming into the area or downwind of the same.

We must get used to living with natural events, and not assume we have to respond with an arrogant assumption that we can control nature, in particular where the impact of such control is out of proportion to the impact of the event. In the absence of spraying, it is possible that some of our native predators, such as tits, may develop a taste for the caterpillars in the stages before they develop the toxic hairs. Nature continually evolves over time and does so without our clumsy interjections!

¹ 'Evaluation of the Oak Processionary Moth Control Programme', Report by ICF International in association with the Centre for Ecology and Hydrology, 19 February 2016.

² The woodland was featured in an article in the October 2016 *QJF*.

³ 'Health effects of exposure to setae of Oak Processionary Moth larvae – Systematic review', Public Health England, May 2015.

Ted Green, Founder President of the Ancient Tree Forum, Conservation Advisor to the Windsor Estate and recipient of a number of awards for related work, including the recent award of the Royal Forestry Society's Gold Medal for Distinguished Services to Forestry, is not known for withholding his forthright views.

Ted offered the following comments: "OPM is here to stay! In recent discussions a French forester, a top ornithologist, said 'Just put up nest boxes!' In separate discussions with tree workers in France/Belgium/the Netherlands, the retort was 'Well you have stinging nettles don't you?'. There are many examples of our attempts to control or eradicate organisms without considering the long-term effects on broader communities, which often left to their own natural devices reach an equilibrium. Knee-jerk responses to politicians who demand 'something must be done' and workers not allowed to follow sound scientific solutions usually mean vast amounts of public money just wasted. TB and badgers and the Somerset Levels are glaring examples."