

Oak Processionary Moth

(*Thaumetopoea processionea*)

Authors: Derek McFarland, Hugo James, Pherenice Worsey-Buck (2026)

Oak Processionary Moth is a pest associated with several species of oak trees, impacting foliage and humans as an irritant. Present in the UK since 2006, it is currently widespread throughout London and the South-east. Eggs are laid in late summer, within the crown and overwinter before hatching in April. The caterpillars feed on leaves and return to communal nests. Caterpillars moult five times, leaving their shed skin within these nests, before pupating for two weeks followed by emergence in July/August as adult moths.

Summary: Caterpillars of the Oak Processionary Moth (*Thaumetopoea processionea*) cause minor defoliation in Oak trees but a sensitising irritant reaction in humans, posing a public health risk.

Common Names: Oak Processionary Moth (OPM)

Host: *Quercus* spp.

Symptoms and Biology:

Localised areas defoliation on living, functional branches, on otherwise healthy looking trees may be an indication of the presence of OPM.

Whilst the adult moths, being nocturnal and indistinct from other species, are hard to identify, the caterpillars easily identifiable with grey/brown spiny hairs and a distinct black stripe running down their body. Further inspection reveals the white hairs growing from small orange/brown bumps. They can be seen individually but also in a nose-to-tail group processions travelling up and down the tree.

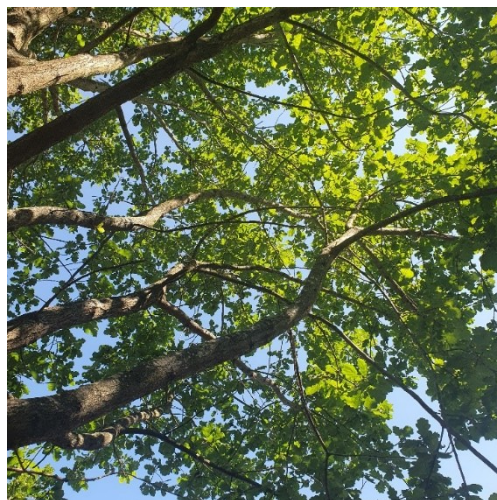


Figure 1 – Minor defoliation in lower crown
(Image credit: Hugo James)



Figure 2 – OPM caterpillar
(Image credit: Hugo James)

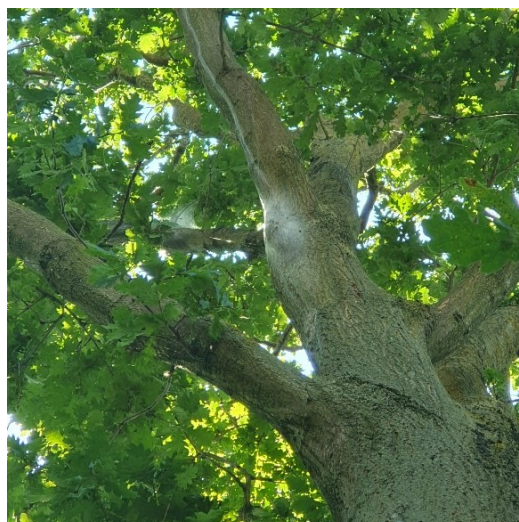


Figure 3 – Resupinate active OPM nests
(Image credit: Hugo James)

OPM nests (both active and defunct nests from previous years) can be seen, usually in crowns of affected trees. The nests are a tangled mass of grey caterpillar silk lying resupinate against the tree when small or hanging down as a bulbous mass, sometimes reaching the size of a grape-fruit, in bigger nests. Within the grey mass, black speckles (the black heads from moulted caterpillars) can be seen.



Figures 4 and 5 – Large active OPM nests (Image credit: Hugo James)

Impact on trees and humans:

OPM causes various degrees of defoliation, usually minor enough that the tree can tolerate them. Very rarely they can significantly defoliate a tree, usually one already under stress. More significant is the impact on people or animals. The caterpillars are covered in small brown hairs containing an irritant (Thaumetoxin) that brings on skin rashes and, if inhaled, breathing difficulties. The nests are repositories of these toxic hairs and handling or disturbance of them will bring on symptoms. The rash is irritating but not known to be dangerous and fades after several weeks. The effect of the toxin is cumulative meaning repeat exposure causes increased sensitivity. Since the nests are usually found high up in the canopy, the main risk of the effects of OPM are to Tree Workers. The risk to the wider public is very low, unless the nests are low enough to be disturbed from ground level.



Figures 6 and 7 – Rash caused by nest handling (Image credit: Hugo James)

Management Recommendations:

OPM is now well established in London and the Southeast and with a buffer-zone between here and unaffected areas. Forest Research regularly update this buffer zone.

- **Chemical spraying** - Chemical insecticides (Chiefly *Deltamethrin* and *BT* insecticide spray) have been used to treat OPM. These insecticides are effective in the early stages of the life cycle. *They are an indiscriminate treatment and will impact many other invertebrates.*
- **Vacuuming and burning** - Nests can be physically collected by arborists (who must wear appropriate PPE) manually or with the use of powerful vacuum devices. The nests must be disposed of safely as the *toxic hairs remain within*. Incineration is recommended.
- **Nature based solutions** - Several studies indicate that OPM can be regulated or even locally eradicated through natural control measures. This is primarily through the actions of the fly *Carcelia iliaca*, an obligate parasite of OPM. Where the population of *Carcelia iliaca* can be encouraged through the presence of common ground flora, reduction of OPM has occurred. Active management of *C. iliaca* is also possible using equipment allowing the fly to predate the nest, whilst preventing adult moths emerging. As well as *C. iliaca*, there are several other invertebrates parasites and birds, chiefly Great Tits, are known to predate, significantly, on OPM.
- **Non-intervention & information** - In conjunction with the Nature Based Solutions, a strategy of non-intervention can often be followed if the affected trees are in low human occupancy areas and are not significantly defoliated. Most nests are found high in the canopy and will have no impact on people in the vicinity. However the risk, if they come into contact with nests, is increased, therefore education, information and sign-posting is required in those instances where the public may come into contact with OPM nests.

Recording Information:

In the UK, suspected cases of OPM should be reported to Forest Research via the TreeAlert platform:
<https://www.forestresearch.gov.uk/tools-and-resources/tree-alert/>

Further Reading:

- DEFRA – OPM Resource Hub [OPM Resource Hub - Home](#)
- The Tree Council [Oak Processionary Moth - The Tree Council](#)
- Forestry Commission [Managing oak processionary moth in England - GOV.UK](#)
- [Oak Processionary Moth guidelines - City of London](#)
- [Tree Health Pilot case study: Haringey Council – GOV.UK](#)
- Forest Research [Oak processionary moth \(Thaumetopoea processionea\) – Forest Research](#)
- Forest Research Occupational Health <https://www.forestresearch.gov.uk/tools-and-resources/fthr/pest-and-disease-resources/oak-processionary-moth-thaumetopoea-processionea/opm-manual-8-occupational-health/>
- Public Health England - Health effects of exposure to setae of oak processionary moth larvae Systematic review
https://assets.publishing.service.gov.uk/media/5a7f7e06ed915d74e33f6c4d/Oak_Processionary_Moth_FINAL_2_.pdf