DAFM Plant Pest Factsheet

Thaumetopoea processionea
Oak processionary moth

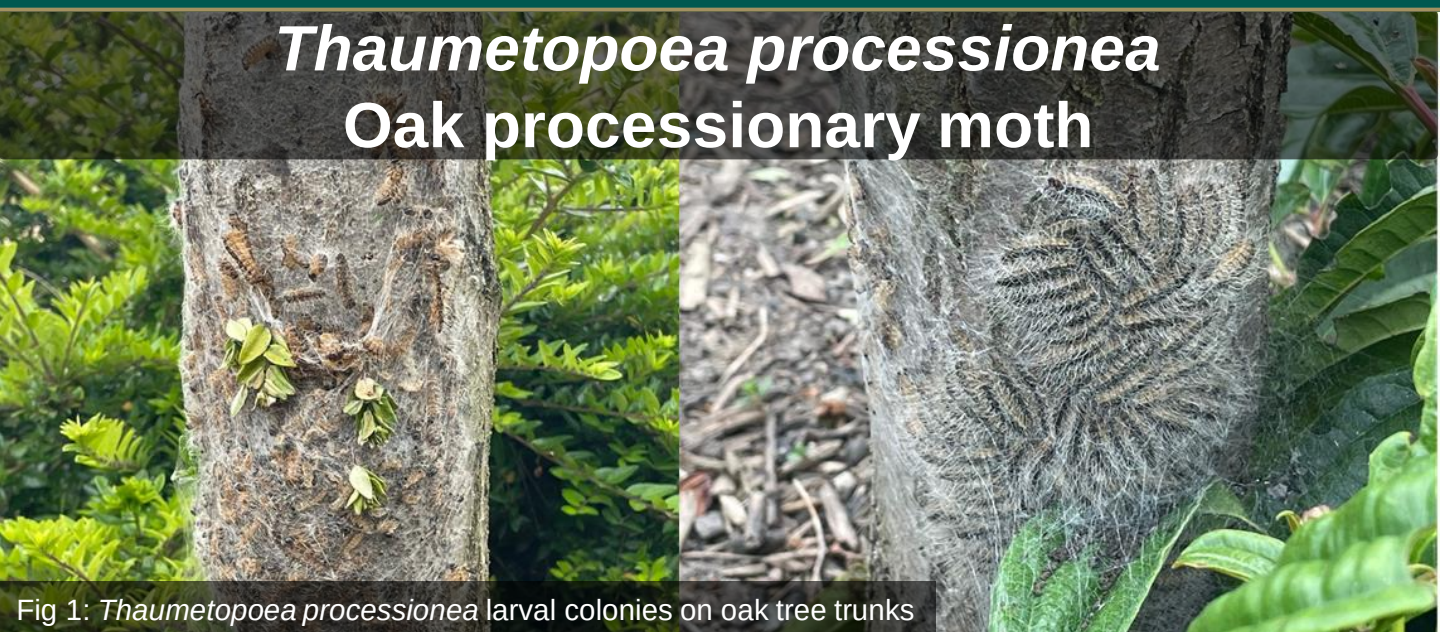

Fig 1: *Thaumetopoea processionea* larval colonies on oak tree trunks

Pest Characteristics

- **Pest:** *Thaumetopoea processionea*
- **Common name:** Oak Processionary Moth (OPM)
- **Hosts:** The larvae are mainly associated with feeding on Oak (*Quercus*) trees. However, when there are limited oak trees available, larvae have been observed to feed on other tree species (*Acacia,* Birch, Hornbeam, Hawthorn, Hazel and Beech) but it is uncertain whether they can survive on these species and complete their lifecycle development to adults.
- **Invasive risk:** In 2006 the first larval colony in England (London) was reported and despite eradication efforts by government agencies the species has become widely established in the south east of England. Oak trees are present throughout Ireland and early measures are necessary to prevent establishment of any introductions of the pest. In 2020 a colony of OPM larvae was found on a recently imported planted oak tree in a south Dublin public park. DAFM subsequently undertook swift eradication measures which prevented the spread and establishment of the colony.
- **Entry pathways:** The most likely entry route for this species into Ireland is on imports of oak plants for planting from areas where the pest is present.
- **Impact:** The species potentially poses a risk to human, animal and plant health. When disturbed, older caterpillar larvae (Fig 1) can release hairs that contain an irritating protein that can cause skin rashes, eye irritations and breathing difficulties in people and animals (pets or livestock). Larvae feed on leaves and can cause severe defoliation leaving trees weakened (Fig 2) and open to secondary infections from other pest and diseases.

Fig 2: OPM larvae instars and their nests can be seen on tree trunks (see Fig 1), branches (a) or at times on the ground if fallen from the tree. Larval feeding and oak tree defoliation (b & c).

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

DAFM Plant Pest Factsheet

Fig 3 *Thaumetopoea processionea* lifecycle

- **Symptoms:** Larval, nests and feeding can be observed visually on trees (Fig 1 & 2). However, on taller mature trees, observing infestation can be more difficult as larvae and nests can be at higher elevations and obscured from view. Traps and lures used for monitoring are best placed higher up in trees.
- **Lifecycle:** OPM overwinters as eggs with larvae emerging in spring, depending on temperatures and oak bud flushing (Fig 3). Larvae go through six instars L1 to L6. They develop urticating hairs containing an irritant toxin from L3. Larvae feed gregariously on leaves and form a communal silken nest on the tree from which they migrate in procession to feed. From late June to early August, larvae retreat into the nests and pupate until they are ready to emerge as adult moths which is typically from July to September.
- **Dispersal:** Males are considered strong flyers and can fly in ranges of 20km, 50 km & 100 km. Females do not appear to disperse as far generally tending to stay within the vicinity of the nest they emerged from if suitable host trees are present. However, some females can disperse over distances of ~20 km.
- **Distribution:** The species is present in almost all European countries with a presence in England since at least 2006 (Fig 4).
- **Climatic suitability:** The pest has established in climatically similar areas to Ireland such as an England. There is evidence that OPM outbreaks are increasing in frequency in Europe, in response to warmer temperatures.
- **If suspected:** Suspected sightings should be treated with extreme caution due to the potential human health risk and notified immediately to DAFM at: plantandpests@agriculture.gov.ie

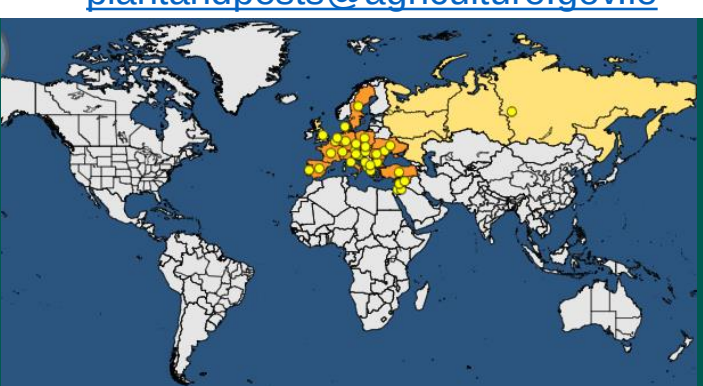

Fig 4: World map of *T. processionea* distribution taken from the EPPO database (Link)

Photo credits: Fig 1 and Fig 2(b), DAFM; Fig 2(a), EPPO; Fig 2(c), Fig 3 (b, c & e) CABI Digital Library - OPM. Fig 3 (a, d & f) UK Forestry Commission - OPM

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine