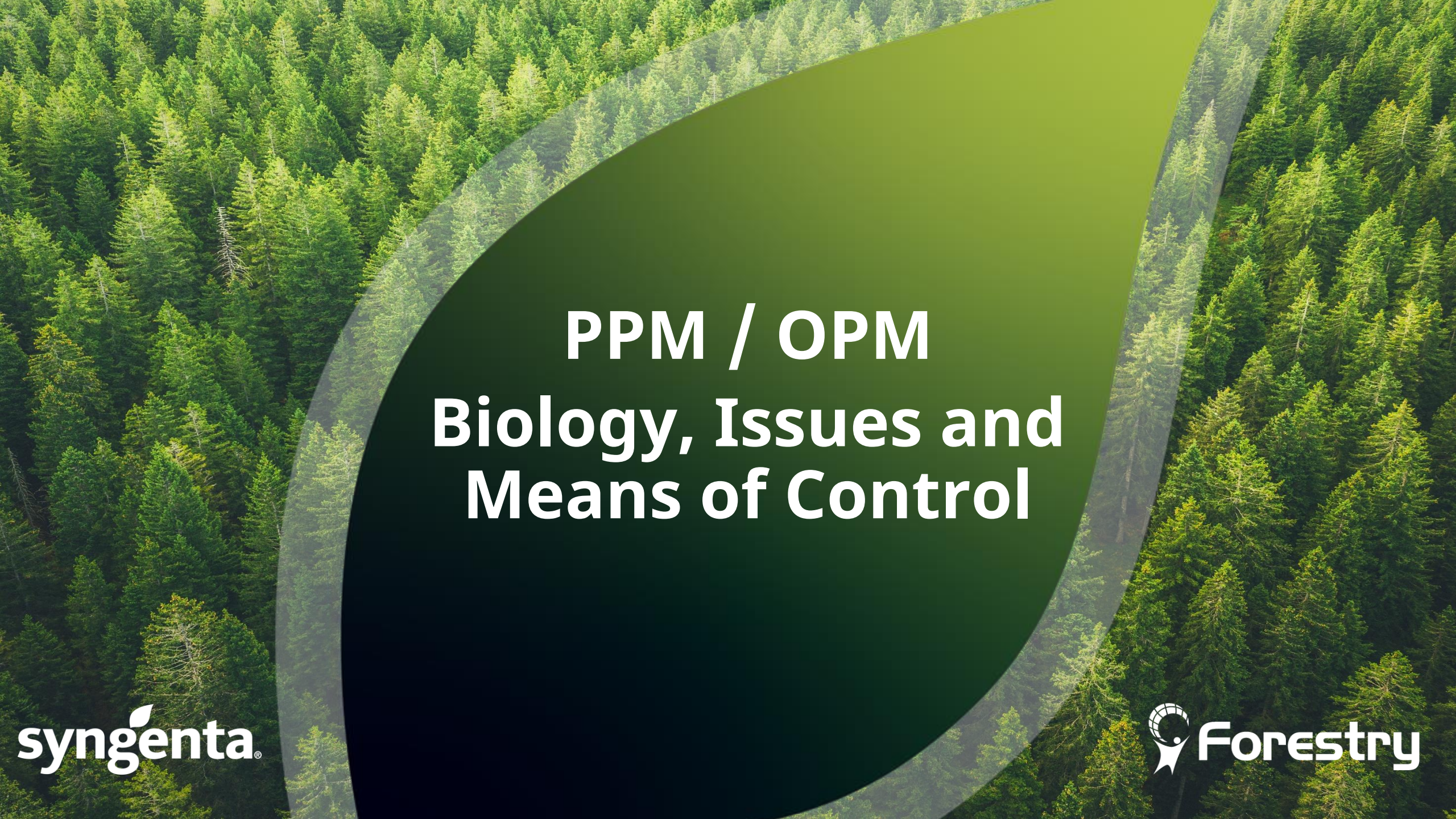




PPM / OPM

Biology, Issues and Means of Control

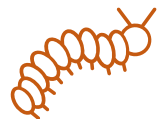
SPS Landscape markets

Landscape is comprised of 3 focus areas

TreeCare



Insect control in
ornamental
palms, trees and
date palms



Key pests

- Red Palm weevil
- Pine processionary
- Box moth



Vegetation Mgt



Weed control in
public, industrial
areas & railways



Key weeds

Dicots, monocots,
bramble, brush



Forest



Insect control for
nurseries, forest
sapling and log
treatments



Key pests

- Bark Beetle
- Pine weevils



Presentation Overview

1. Oak processionary moth
2. Pine processionary moth
3. Means of control

The background of the slide is a photograph of a forest floor with moss and pine branches. A large, semi-transparent green leaf graphic is overlaid on the right side of the image.

Oak processionary moth (OPM)

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 **Forestry**

Introduction & importance

Why is OPM important?

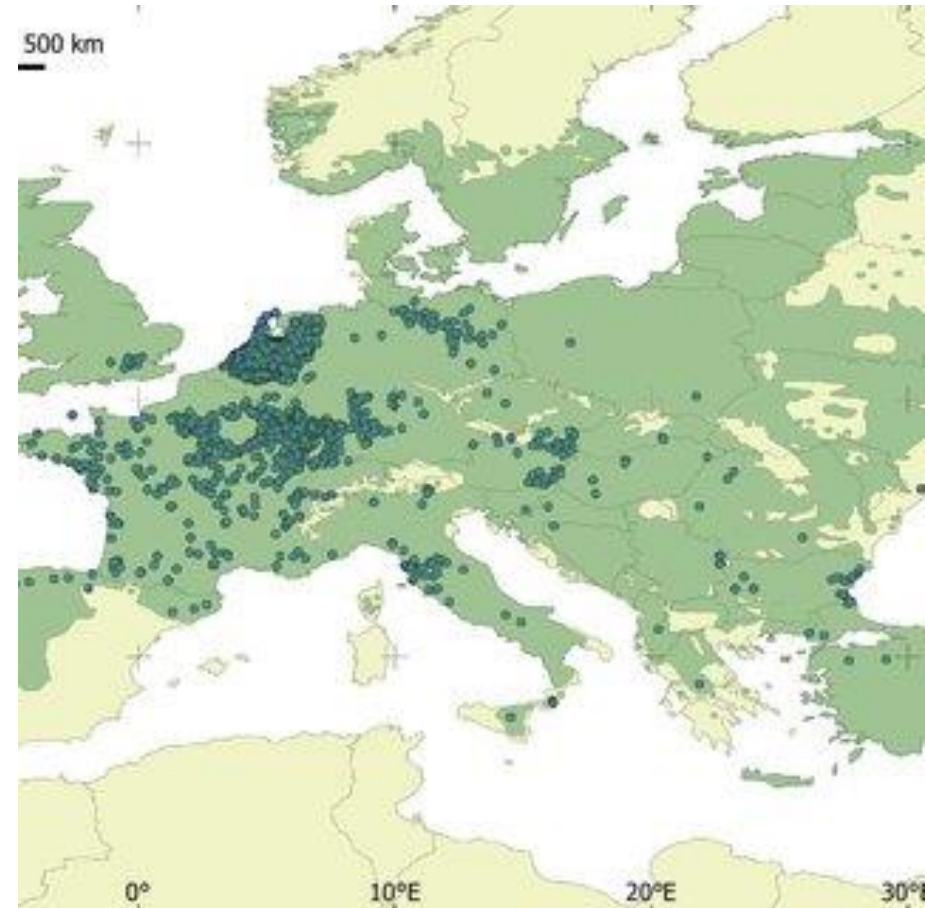
- Forestry impact
 - Defoliation – Weakens trees – lower yield
- Public health concern
 - Urticating hairs → dermatitis, conjunctivitis, allergic reactions...
- Economic impact
 - Control costs + healthcare/vet expenses

Oak processionary moth

- Order: *Lepidoptera* – Family: *Notodontidae* – *Thaumetopoea processionalae*
- Oak processionary moth (OPM) is present in several CEU and SEU countries
- Main hosts species are *Quercus* species, mainly affected ones are *Q. robur*, *Q. petraea* or *Q. pubescens*



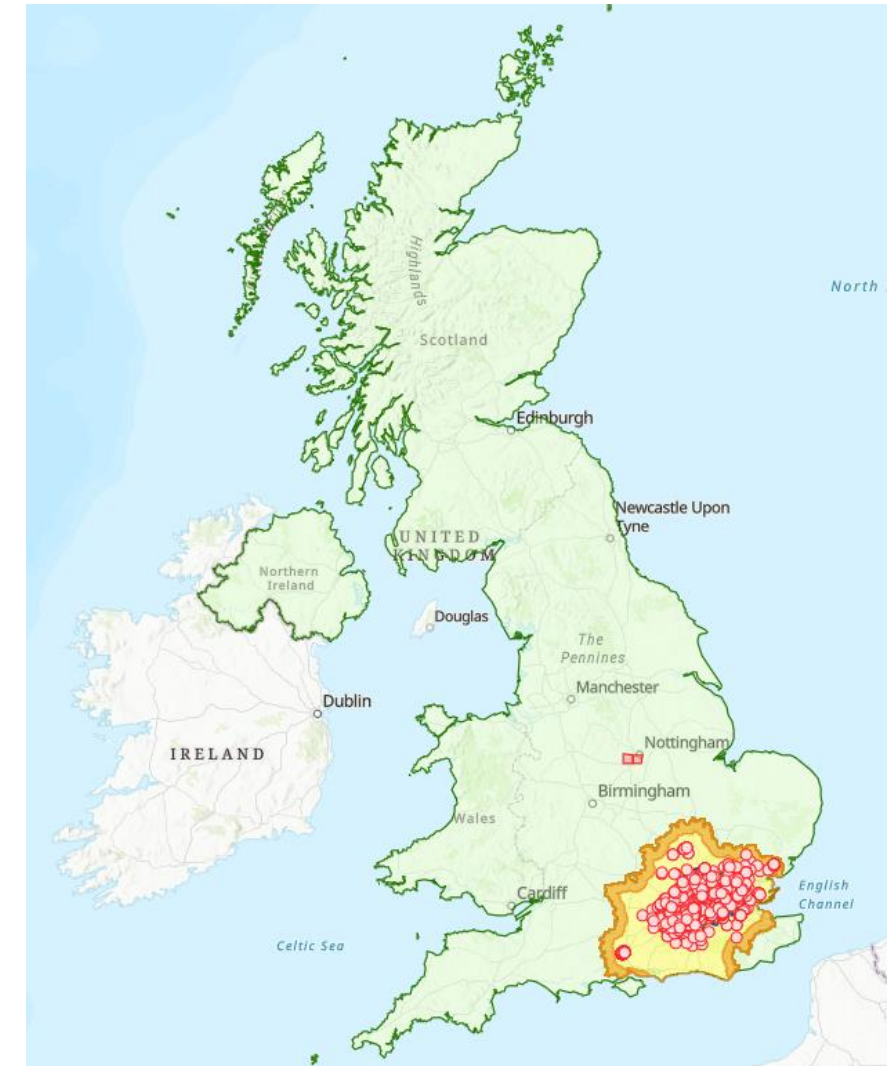
Pest discoveries across Europe since 2008



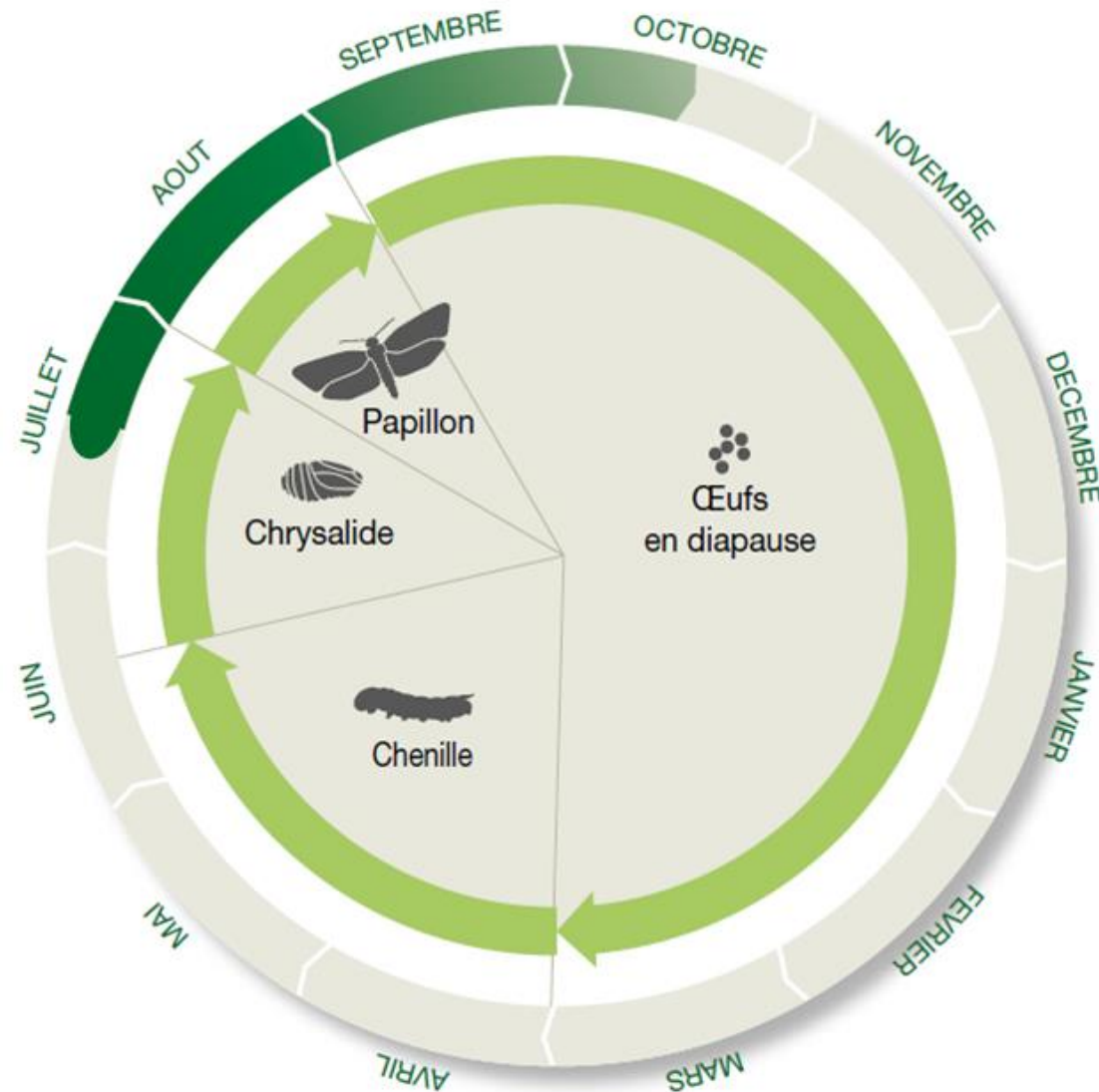
Source : Groenen and Meurisse, 2012; Godefroid et al., 2019;

Oak processionary moth

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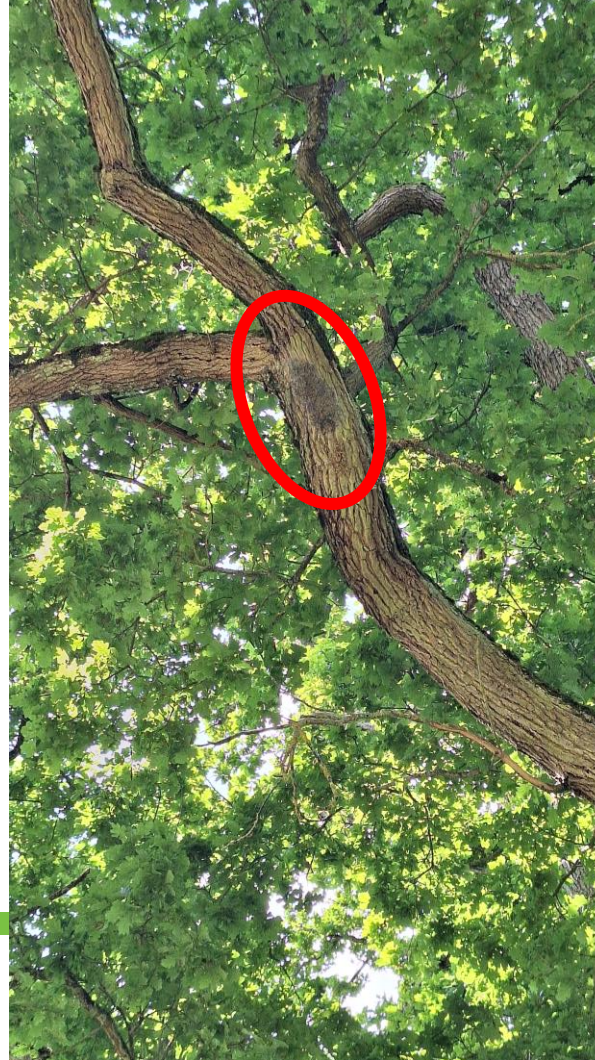


OPM lifecycle – 1 gen per year



Larval behaviour and nests

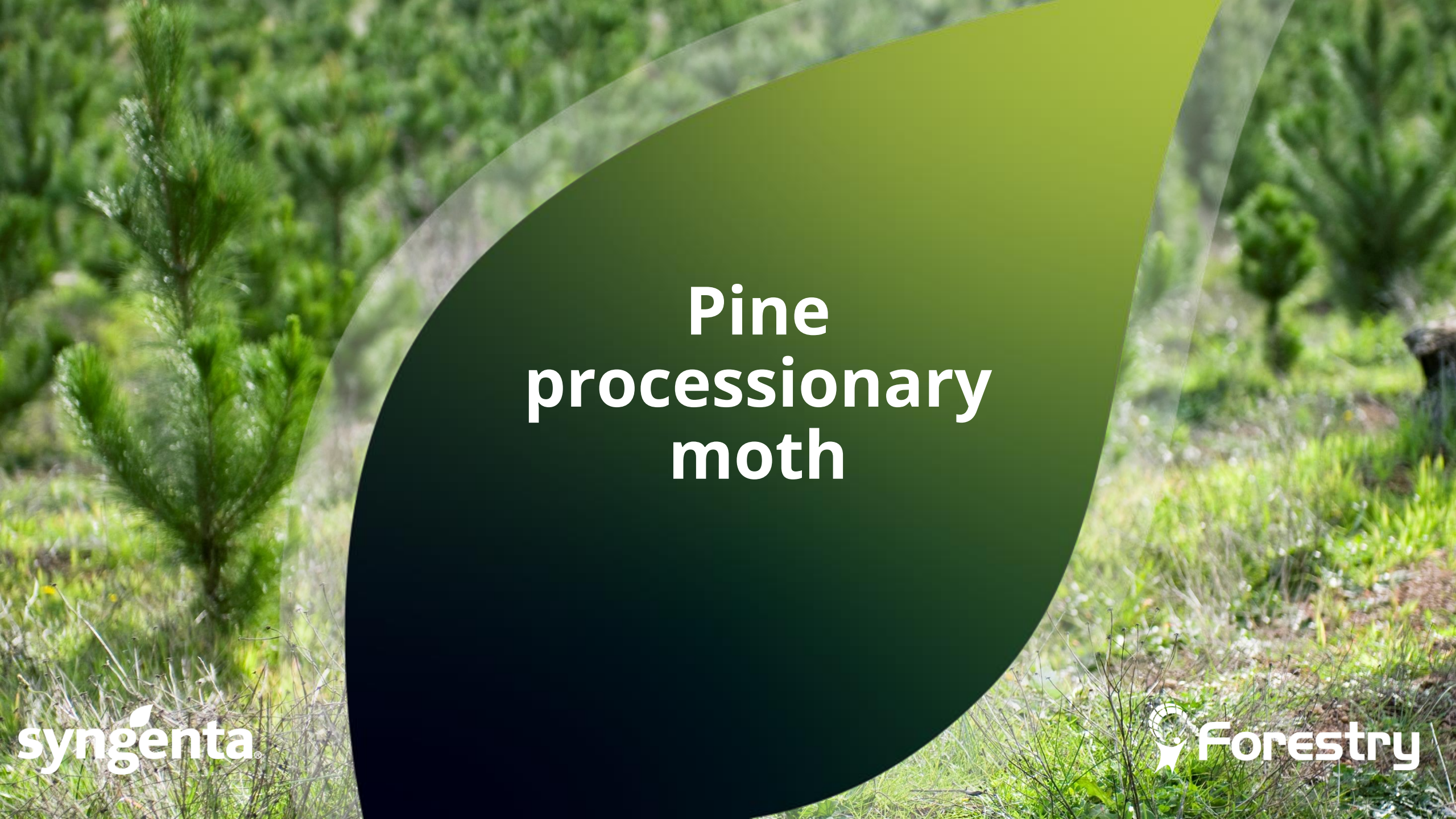
- OPM are gregarious – 100 to 300 individuals
- Silky nests – L3 +
 - Trunk and main branches
 - Diurnal shelter
- Processionary movement
- Urticant hairs





Consequences of urticant hairs - OPM

- L3 and onwards
- 600.000 + hairs per caterpillar up to 1 M according some studies
- Main effects in human health: skin, eyes, respiratory, systemic (allergies)
- At risk: forest workers, peopler near oaks stands, children and pets (dogs)



Pine processionary moth

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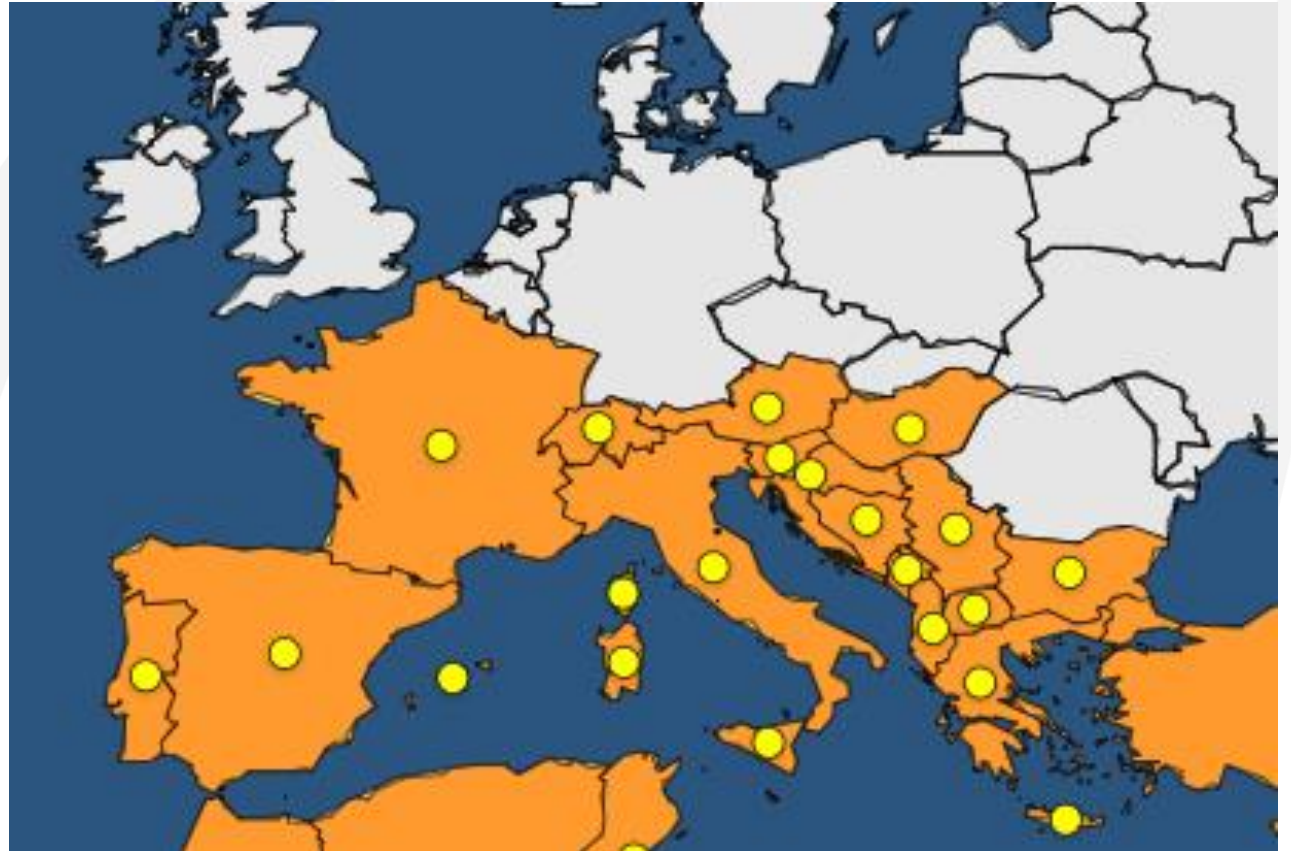
Introduction & importance

Why is PPM important?

- Forestry impact
 - Defoliation – Weakens trees – Reduced vitality → more pests
 - Timber production
- Public health concern
 - Urticating hairs → dermatitis, conjunctivitis, allergic reactions...
- Economic impact
 - Urban Forestry control costs
 - Healthcare/vet expenses
 - Tourism

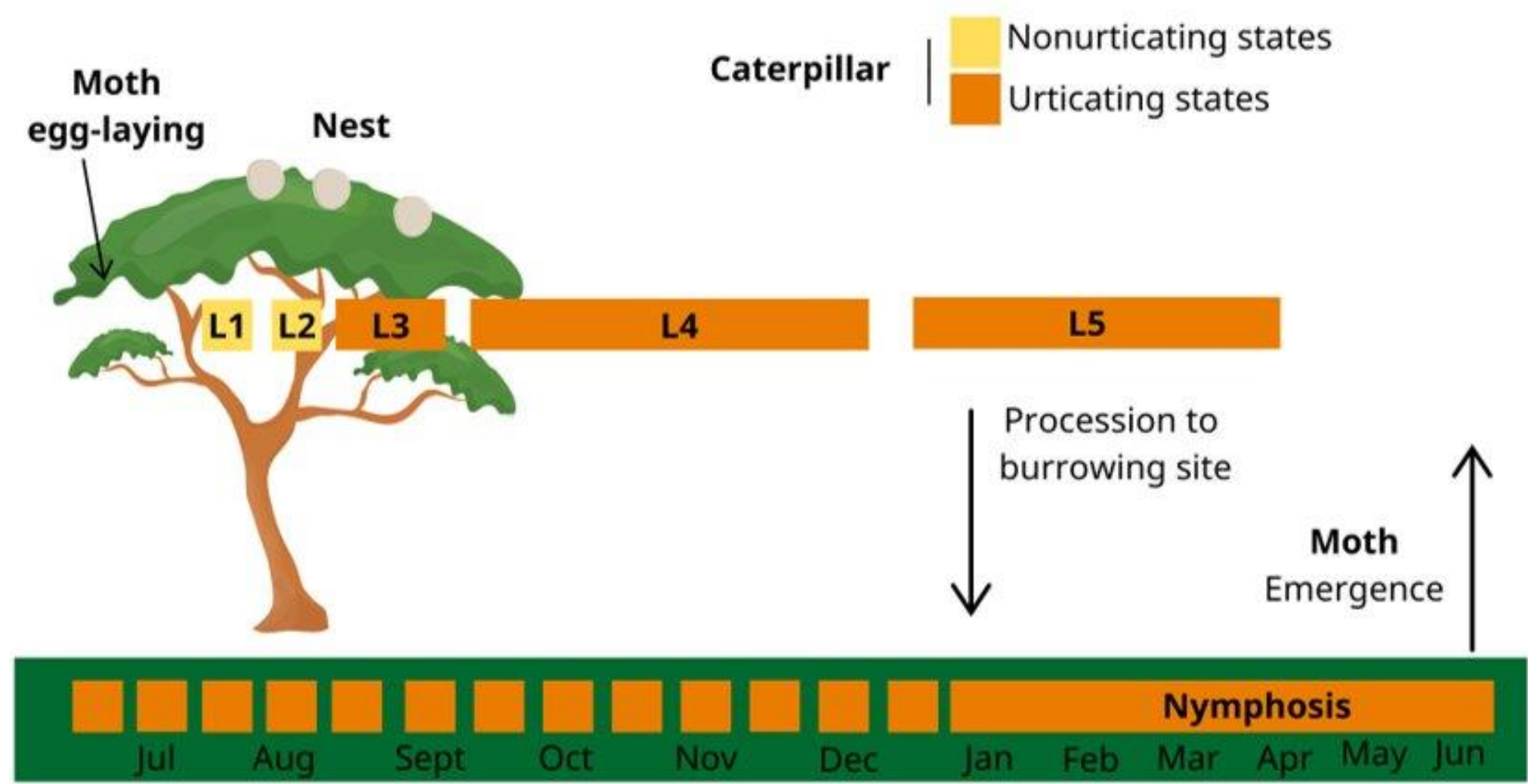
Pine processionary moth

- Order: Lepidoptera – Family: Notodontidae – *Thaumetopoea pityocampa*
- Pine processionary moth (PPM) is present in the Mediterranean basin and some CEU countries
- Main hosts species are *Pinus* species, most susceptible is *P. nigra* but all *Pinus* sp. are affected. *Cedrus* sp. are affected as well

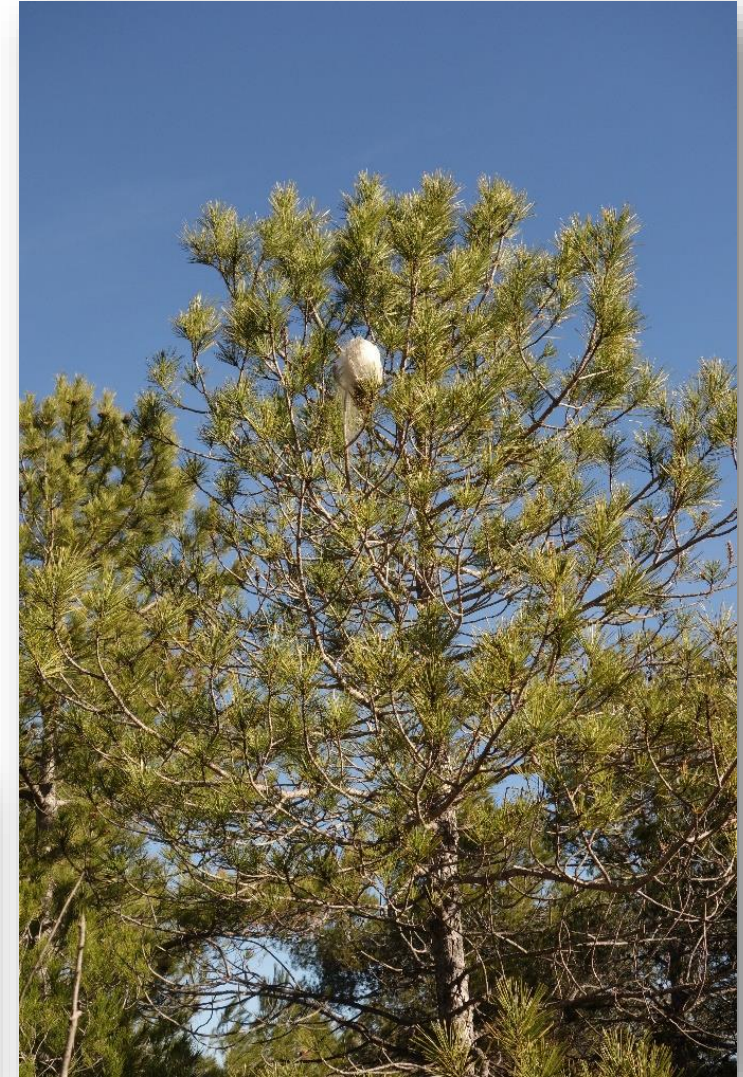


Source: EPPO website

PPM lifecycle – 1 gen per year



Different pest stages



Larval behaviour and nests

- PPM live in nests in the pines
- Silky nests – L3+
 - South facing - top of the canopy
 - Diurnal shelter
- Processionary movement to pupate
- Urticant hairs



Consequences of urticant hairs - PPM

- L3 and onwards
- 60.000 – 100.000 hairs per caterpillar
- Main effects in human health: skin, eyes, respiratory, systemic (allergies)
- At risk: forest workers, bystanders in urban pine forests, mainly children and pets (dogs)

PPM consequences

Weakened pines → Bark beetles

- PPM causes massive defoliations
- Drought is a constant in Med. climates
- These factors combined leads to bark beetle infestations
- *Ips sp.* and *Tomicus sp.* mainly





OPM and PPM control alternatives

Technique	Product type	Oak Processionary Moth	Pine Processionary Moth
Injection	Injection	-	X
Mating disruption	Sexual pheromone – high concentration	-	X
Monitoring traps	Sexual pheromone	X	X
	Aggregation pheromone	-	-
Spraying	Bacillus thuringiensis k.	X (L1-L2)	X (L1-L2)
	Pyrethroids	X	X



CONTACT US!



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A photograph of a forest scene with evergreen trees and moss-covered ground. A large, semi-transparent green leaf shape is overlaid on the right side of the image, containing white text.

**Thanks for your
attention!**

Any questions?

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 **Forestry**