

Pine processionary moth

Pine processionary moth is a serious pest of pine trees in southern Europe. The moth larvae (caterpillars) feed on pine needles and defoliate trees, which reduces tree growth and timber production. Large numbers of larvae can cause severe damage – weakening the trees sufficiently to make them vulnerable to other pests and diseases and, in some cases, leading to tree death. Since the 1990s the moth has been expanding its distribution in Europe and it can now be found breeding as far north as Paris in France. Although not present in the UK, the favourable climate and presence of suitable host trees in the south of Britain suggests that the pine processionary moth might be able to establish breeding populations in southern parts of England.



Distribution

Pine processionary moth (*Thaumetopoea pityocampa*) is found in much of southern Europe (Albania, Austria, Bulgaria, Croatia, Cyprus, France, Greece, Hungary, Italy, Macedonia, Montenegro, Portugal, Serbia, Slovenia, Spain and Switzerland), parts of Africa (Algeria, Libya, Morocco, Tunisia) and Asia (Israel, Lebanon, Syria, Turkey). The moth larvae feed on a wide range of pine species and both our native Scots pine (*Pinus sylvestris*) and the widely planted Corsican pine (*Pinus nigra* ssp *laricio*) are at risk of damage. Other susceptible pine species include Monterey pine (*Pinus radiata*), maritime pine (*Pinus pinaster*), stone pine (*Pinus pinea*), Aleppo pine (*Pinus halepensis*), lodgepole pine (*Pinus contorta*) and Canary pine (*Pinus canariensis*). Atlas cedar (*Cedrus atlantica*) and European larch (*Larix decidua*) have also been recorded as hosts.

How the pest spreads

Pine processionary moth is currently not present in Britain but it has the potential to be a serious pest of pine trees in the south of England. The most likely pathway for the moth to be introduced into the UK is as eggs or larvae attached to imported pine planting stock, or for pupae to be transported in the soil associated with imported trees.

What to look out for

Moths

Adult moths ① are most likely to be seen between June and August. They have a wingspan of 31–45 mm and are grey with white markings. Females lay batches of 70–300 eggs in a cylindrical 4–5 cm long 'sleeve' wrapped around a pair of pine needles ②. Eggs hatch after 30–45 days.

Larvae

Larvae are hairy orange-brown with blue bands, and most likely to be seen in winter and early spring. Fully grown larvae are about 40 mm long with a black head ③. They aggregate in colonies and make communal silken nests which they occupy during the day ④. They emerge to feed at night, returning to the nest at dawn. In late winter or early spring (sometimes as late as June) the fully grown larvae leave the tree and disperse to pupation sites in the soil. They travel in processions, nose to tail in single file, a behaviour that gives the moth its name.

Pupae

The distance the larvae travel to a suitable pupation site varies with temperature. In hot weather the larvae move quickly into shade and bury themselves into soil, usually close to the original tree; in cooler conditions they may travel further.



Andrea Battisti, Universita di Padova, Bugwood.org



Image D.D. Cadahia, Subdirección General de Sanidad Vegetal, Bugwood.org



Beat Forster, Swiss Federal Institute for Forest, Snow and Landscape Research, Bugwood.org

Pupae are around 20 mm long and (initially) a pale brown-yellow colour that later changes to dark reddish brown. The pupae emerge as adults in summer. However, some individuals can remain in the pupal state for up to three years before emerging.

How you can help

You can help us protect the health of our trees, woodlands and forests by reporting signs of tree pests and diseases. Further information on identifying the pine processionary moth, and distinguishing it from other moth species such as the oak processionary moth (which is currently present in the south of England), is available from the websites and contacts listed in the box below.

You can also find and follow the general advice on sensible biosecurity measures from: www.forestry.gov.uk/biosecurity.



John H. Ghent, USDA Forest Service, Bugwood.org



William M Ciesla, Bugwood.org

Reporting the pest

Report any sightings (including nests ⑤) or suspected infestations to the Forestry Commission via the Tree Alert page at: www.forestry.gov.uk/treealert. Please supply photos, full details of the location, contact details and details about the age of the pine tree (e.g. mature or recent planting).

Human health risk

If found, you should not disturb the larvae (caterpillars) or their nests. Older larvae are covered in hairs that contain a toxin. These hairs are easily detached and they can cause severe skin rashes in humans and other mammals. If inhaled the hairs can also cause breathing difficulties similar to asthma. Hairs that come into contact with the eyes will cause irritation and inflammation. Nests can retain these hairs long after the larvae themselves have disappeared.

For more information

To find out more about tree pests and diseases in the UK: www.forestry.gov.uk/pestsanddiseases

For help with pest and disease diagnosis and other tree health issues, contact the Forest Research Tree Health Diagnostic and Advisory Service: www.forestry.gov.uk/fr/ddas

Contacts and plant health authorities

- Forestry Commission (Plant Health)
www.forestry.gov.uk/planhealth
- APHA (Animal and Plant Health Agency)
www.gov.uk/government/organisations/animal-and-plant-health-agency
- Scottish Government (Plant Health)
www.scotland.gov.uk/planhealth