

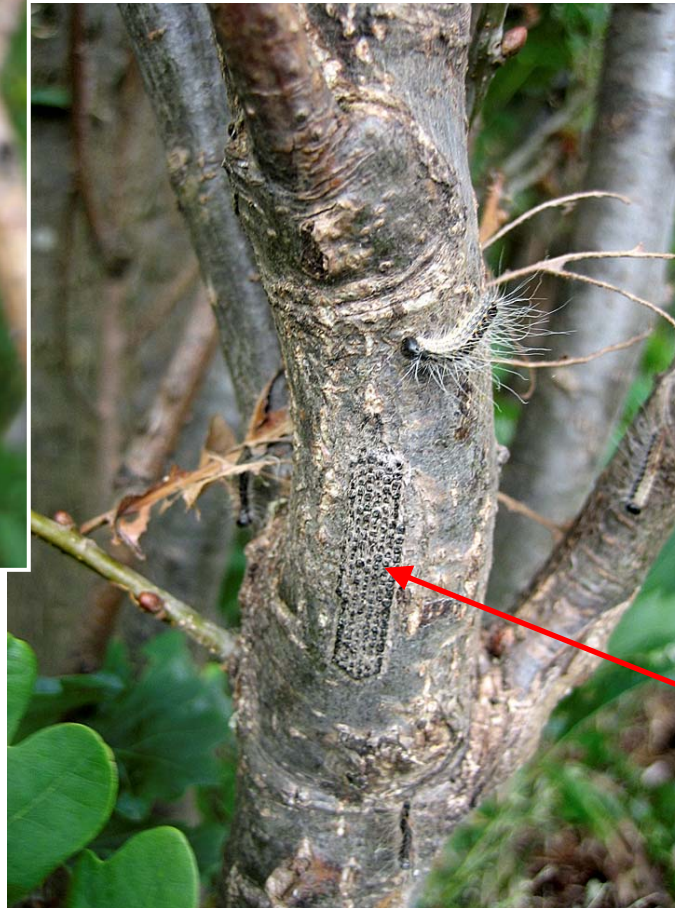
# Oak processionary moth (*Thaumetopoea processionea*) - life cycle & control



## Life cycle

- **eggs** - laid in August and remain dormant throughout the winter. Hatch in April or early May, at about the time that oak is flushing.
- **larvae** (caterpillars) - from April to mid July, feeding on the foliage. Six stages (instars)
- **pupae** - late June to mid August
- **adults** - from late July, through August to Sept. Lay eggs on twigs and stems.

Eggs are laid in characteristic plaques on the smaller diameter twigs and stems, especially in the upper canopy



30 - 200 eggs per plaque

**L1**



Eggs hatch in April at about the time that oak is flushing. First instar larvae (L1) feed on buds and young leaves.



**L2**



**L3**

Photos courtesy Tony Kirkham, RBGK

Older larvae (L4-L6) possess thousands of very small (0.1-0.3 mm) hairs on the dorsal surface, which are highly irritating to the skin, eyes & respiratory tract



# Larval nests



Photo: L. Moraal, Wageningen URC



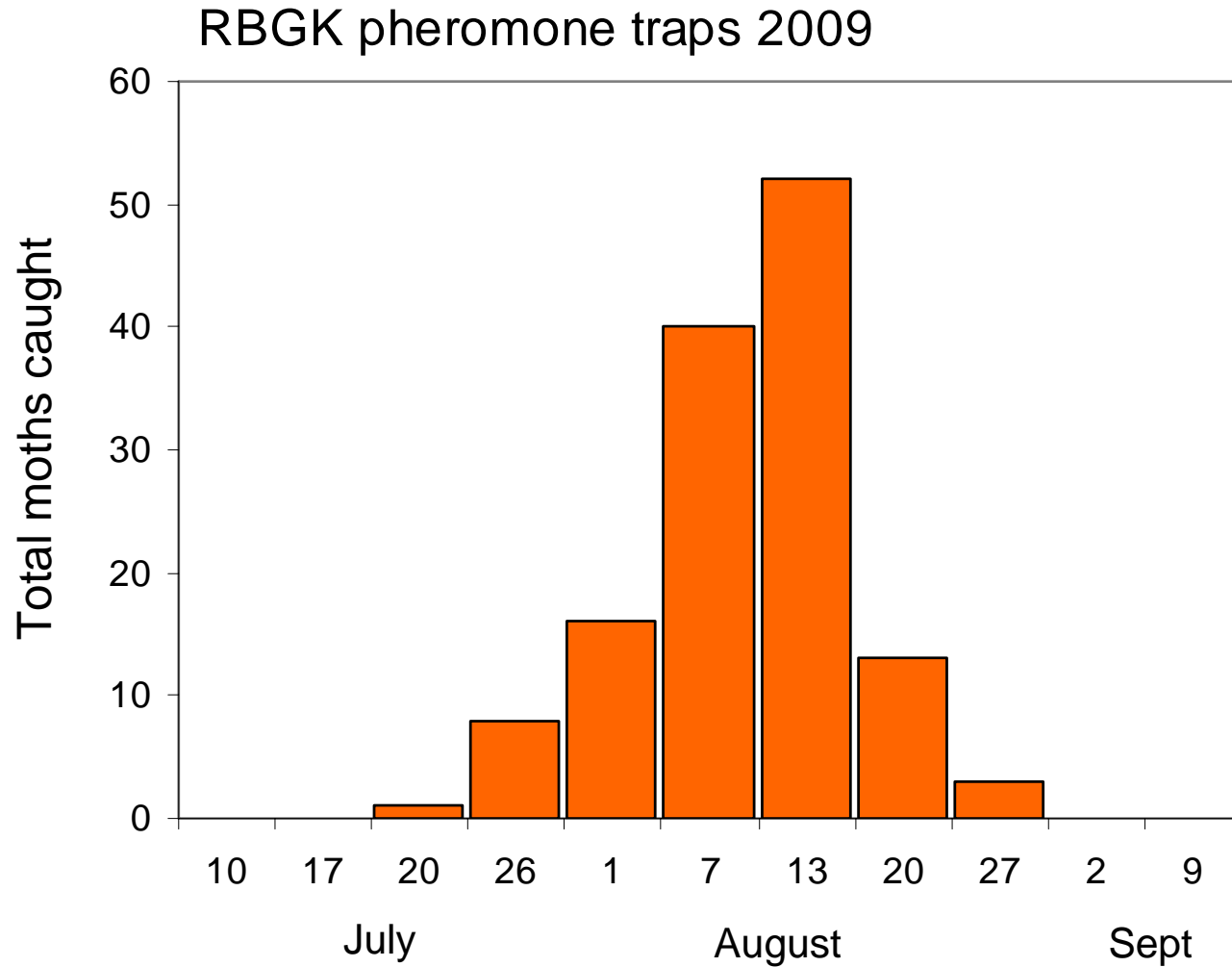
Photo: Andreas Wohne



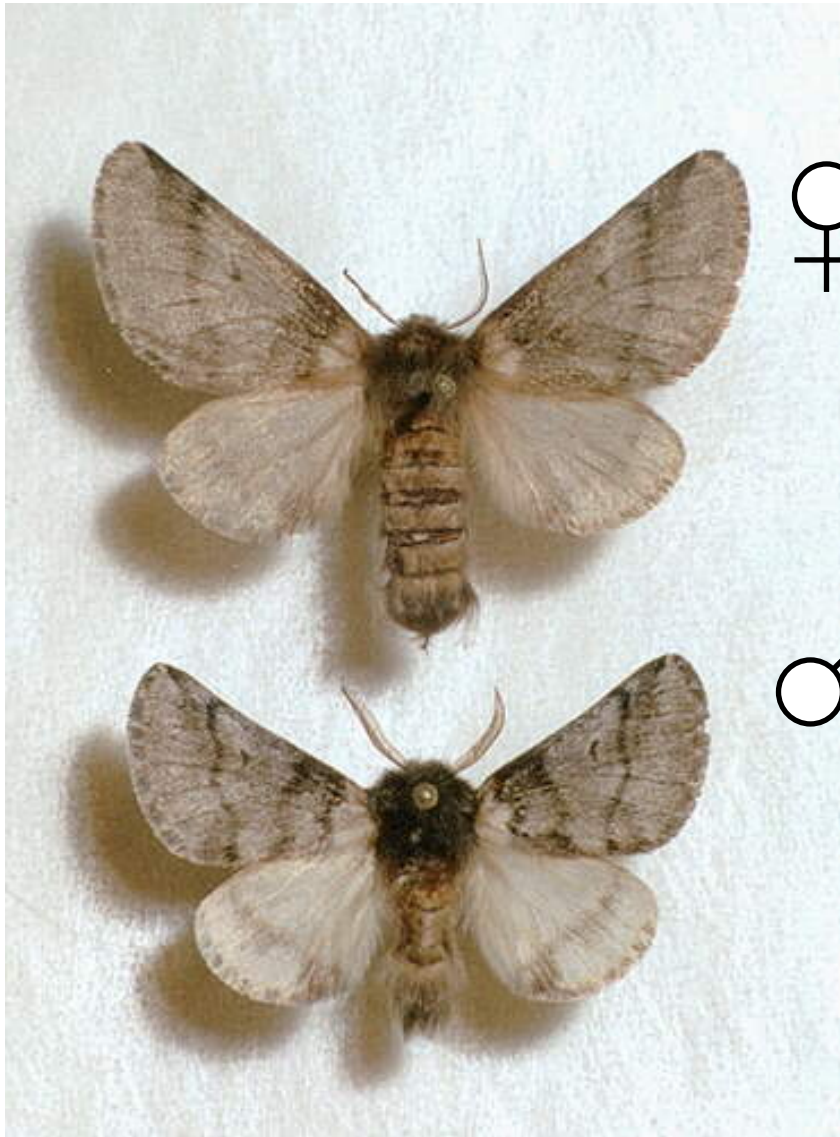
# Pupae - late June to mid August



# Flight period



## Adult moths



♀

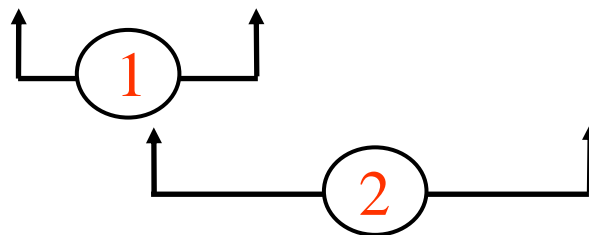
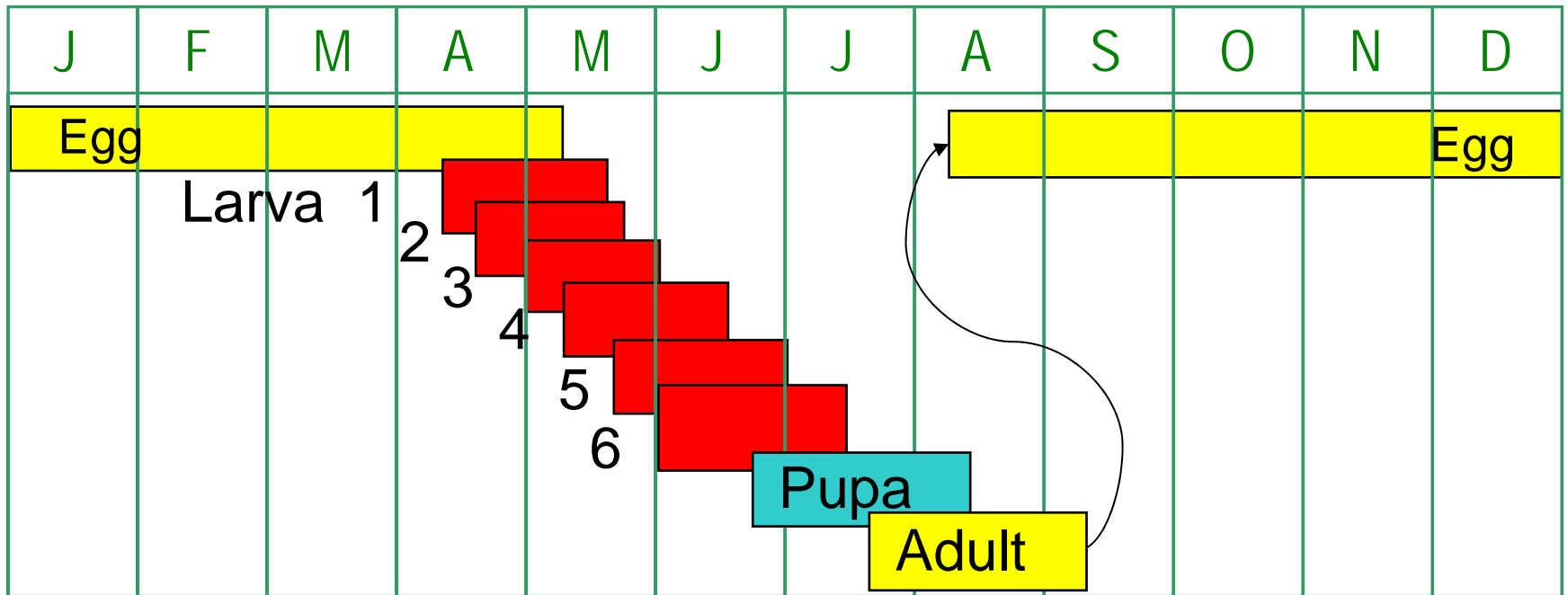
**adult female** - mate and lay first egg batch (100-200 eggs) on or close to the larval nest.

Tend not to disperse very far (1-2 km)

♂

**adult male** - disperse over longer distances. Readily caught in pheromone traps or light traps.

# Timing of controls



- 1 Insecticide application against L1-L3 (target larvae up to 1 cm long)
- 2 survey and nest removal (spot treatment of L3-L4)

# Insecticide control of young larvae (L1 - L3)

the following products are approved for professional use against caterpillars on amenity vegetation (*UK Pesticide Guide 2009*)

Active ingredient	Product	
<i>Bacillus thuringiensis</i> (BT)	DiPel DF	Biological agent. Requires follow up spray after 7-10 days.
Diflubenzuron *	Dimilin Flo	Growth regulator. Approved for amenity vegetation & hedges. Requires follow up spray after 2 weeks.
Deltamethrin *	Agriguard Bandu Decis Decis Protech Pearl Micro	Fast acting, but broad spectrum pyrethroid insecticide

\* highly toxic to bees and aquatic life

# Insecticide treatment of older larvae (L4 - L6)

- BT and dimilin are less effective against older larvae
- spot treatment with **deltamethrin** as long as larvae are outside the nests
- problem of dead larvae falling to ground

# Nest removal - targets older larvae and pupae

- **manual nest removal**: nests pulled or scraped off into a plastic bag; bag sealed and destroyed
- **vacuum system**: very effective in limiting operator exposure, but equipment is expensive
- disposal of hazardous waste
  - transport
  - incineration
  - burial below ground

- protective clothing (PPE)
- access to the canopy



Photos courtesy  
Tony Kirkham,  
RBG Kew