March 2007

Gypsy Moth

Lymantria dispar (Lepidoptera: Lymantridae)

Gypsy moth, Lymantria dispar, is an important defoliator of a very wide range of trees and shrubs in mainland Europe, where it periodically reaches outbreak numbers. A small colony has persisted in northeast London since 1995 and a second breeding colony was found in Aylesbury, Buckinghamshire in the summer of 2005. It is not known how it came to be in either location but it is very likely that eggs were carried into the country on a vehicle, wooden packaging or imported timber. The British form of this moth, reportedly larger in size and to feed on bog myrtle and creeping willow in preference to forest trees, became extinct in the early 1900's.

When fully grown, gypsy moth larvae (caterpillars) can be up to 70 mm long. They will feed on the leaves of many different species of broadleaf trees and shrubs. If food is short they will also feed on conifers. With voracious appetites, if present in large numbers, they can cause extensive damage to foliage and repeated defoliation can result in tree death (single defoliation of conifers). The caterpillars also possess irritating hairs and allergic reactions to the hairs, such as rashes and asthma, can be a problem for some people.

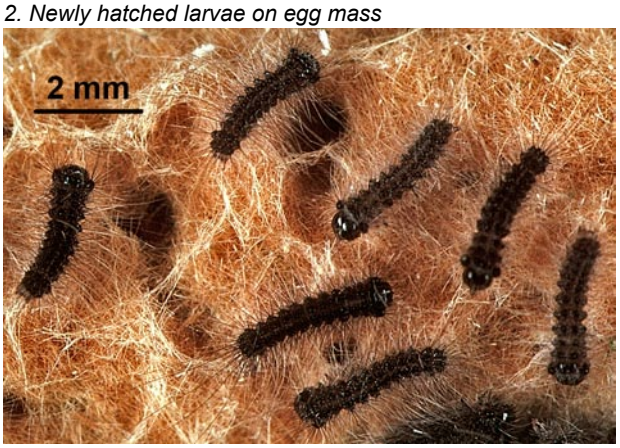
Life Cycle

Larvae: April- August

Gypsy moth larvae hatch from the eggs in spring, usually in April. When first hatched they are uniformly dark in colour, very hairy and at just 2 mm long they are easily dispersed in the wind on silk threads, a process known as 'ballooning'. They feed on foliage through the spring and summer and reach full size (60–70 mm long) by August, having shed their skin a number of times to accommodate their growing bodies.

1. Fully grown larva feeding on oak

2. Newly hatched larvae on egg mass



As the gypsy moth caterpillars grow and mature their body colour lightens. Although it can be rather variable, most are brownish-yellow marked with black. All develop a series of distinctly coloured 'warty spots' along their backs: 5 pairs of blue spots behind the head and 6 pairs of red spots to the rear. This arrangement of spots distinguishes them from other similar caterpillars.

Pupae: June-September

When fully grown the caterpillars find a suitable place to pupate. They anchor themselves with a few silk threads to leaves or bark or onto any other suitable surface such as a brick wall, wooden fence or shed and surround themselves in a silk case that quickly hardens. This is the transformation stage when, within the pupal case, the caterpillar tissues are broken down and the adult structures are formed. It takes about 2 weeks.

3. Gypsy moth pupae, female top, male below

Adult moths: July-September

Male and female adult gypsy moths are quite different from one another in appearance (sexual dimorphism). Females have a wingspan of 4.5–6 cm and are larger than males. They are white marked with a few transverse lines on the forewing, have threadlike antennae, and tend not to fly.

4. Adult gypsy moths, note the smaller, darker male.

The smaller male moths, wingspan 3.5–4 cm, are greyish brown in colour with darker brown transverse lines. Males can fly long distances and are strongly attracted to the females by a chemical scent (pheromone) and to pheromone traps baited with a synthetic lure.

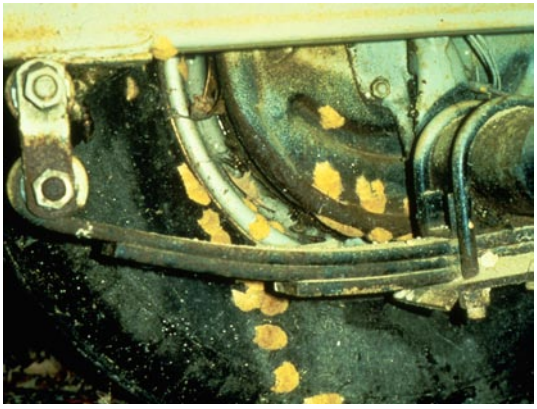
Egg masses: may be found at any time, on almost any substrate

Adult gypsy moth females lay eggs in batches of between 50–800. Individual clusters of eggs measure about 3–4 cm x 1.5–2.0 cm and are covered with yellowish-brown hairs deposited by the female. In urban areas they may be laid on any sheltered, slightly rough surface.

5. Egg masses on tree trunk

Newly laid egg masses can be distinguished by both their brighter yellow colour and the fact that they are firm to the touch when compared with hatched masses which are soft and spongy.

6. Egg masses laid on the underside of a lorry



Images 2-5 from www.forestryimages.org

2: L-M Nageleisen, Dépt. Santé des Forêts, France
3: M. Zubrick, Forest Research Institute,Slovakia
4: USDA APHIS PPQ Archives
5: D. Lupastean, Fac. Forestry, Univ Suceava, Romania
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