The European gypsy moth over-winters in egg masses attached to the bark of trees. Egg masses can also be found on garden furniture, car hubcaps or bumpers, sides of houses, or in almost any sheltered area. The egg masses, can be scraped away and destroyed by dropping them into a bucket of hot water containing a small amount of bleach. The egg masses are about size of a dollar coin. The egg mass is buff to tan in colour and may contain from 100 to 1,000 eggs. The eggs hatch into caterpillars (larval stage) when tree buds begin to open. This stage lasts up to seven weeks and is when the caterpillar feeds. It is important to control European gypsy moth infestations in early spring. The caterpillar is charcoal grey with a double row of five blue and six red dots on its back. The European Gypsy Moth usually stops feeding by early to mid July.

The pupae stage occurs after feeding and lasts 9-17 days. The Pupa cases can be found in the same places as the egg masses. The adult moths appear in late July or August. The adult female is approximately 30 mm long, white, with zigzag markings on its wings. The female is incapable of flight and dies about one day after laying her eggs. The male is a brownish colour, much smaller, and lives for about one week. The male continues mating with several different females throughout the week.

When the European gypsy moth caterpillars are small they remain in the top branches of host trees. At first they chew small holes in the leaves and later, as the caterpillars grow, they feed from the outer edge of the leaf toward the centre. As they get increasingly larger, the caterpillars will feed at night, when temperatures are cooler, and descend to shady areas during the heat of the day.