

# Emperor Gum Moth

Number 9

Revised January 1993

By Charlma Phillips, Principal Forest Health Scientist



The Emperor Gum Moth, *Opodiphthera eucalypti* (previously *Antheraea eucalypti* [Scott]), is a very common insect. The spectacular caterpillar has been collected and reared by children for generations as part of nature study and school projects as well as just for the fun of having a very attractive "pet". It is a native Australian insect which feeds on a wide range of Eucalypts and

also on many introduced species such as peppercorn trees (*Schinus sp.*), silver birches (*Betula sp.*), Liquidambers (*Liquidamber sp.*) and apricot trees (*Prunus sp.*). The late caterpillar stages have also been recorded as feeding on *Pinus radiata*.

## Description

**Adults:** The adult Emperor Gum Moth (above) is a large moth with a wingspan of 120-150 mm. Females tend to be larger than males. Adults have furry wings and body, and range in colour from pale reddish-tan to deep pinky-brown with four distinct "eyespot" - one on each wing. The eyespots on the forewings are ringed in dark reddish-brown with a pinky-tan centre and a white dot in the middle. The eyespots on the hindwings are larger than those on the forewings and are ringed in black with blue and orange centres and a white dot in the middle. Both pairs of wings also have a pair of reddish-brown stripes behind and in front of the eyespots. the antennae of the male are large and feather-like, those of the female are thin and simple.



**Eggs:** Eggs are oval in shape and white to cream in colour. They are approximately 2mm in length and are laid either singly or with several together in a row.

**Caterpillars:** Newly hatched caterpillars are black. As they grow they develop yellow and white markings (1st and 2<sup>nd</sup> stages) with short hairs on raised tube-like structures called tubercles which project from the body. By the third stage, the caterpillars have turned bright green in colour with prominent red, yellow and blue tubercles. These tubercles have tufts of non-stinging hairs. By the final stage before pupation (5th stage), caterpillars are bright blue-green in colour with blue tubercles and a pale cream stripe down each side of

the body. At this stage the caterpillars are approximately 70-80mm in length and despite their large size and bright colouration, are quite difficult to see on the leaves



**2nd stage of Emperor Gum Moth caterpillar**



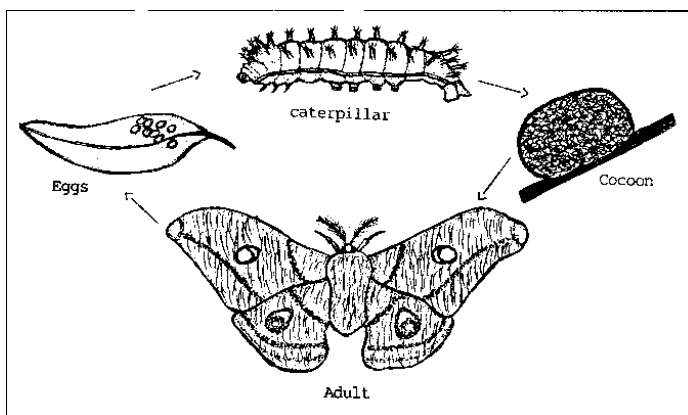
**4th stage of Emperor Gum Moth caterpillar**

**Pupae:** When caterpillars are fully fed they spin a dark brown silken cocoon firmly cemented to a branch or twig. The pupa inside this cocoon is short, fat and reddish-brown in colour.



## Life History

Emperor Gum Moths do not feed but simply mate, lay their eggs over several days and die. Eggs are laid singly or in small groups on both upper and lower leaf surfaces. They hatch after seven to ten days and the caterpillars begin to feed. Caterpillars pass



through five stages during which they change enormously in size and colour. They can usually be found from November until March. They are solitary and usually do not move far from where they hatched. The empty egg shell remains firmly attached to the leaf. The caterpillar stage may last for many weeks, depending on temperature.

There is usually only one generation per year. Most moths emerge from their

cocoons in the year following pupation but some may remain in the cocoon for two to five years. When the adult moth is ready to emerge (in spring or early summer) it regurgitates a fluid to soften the silk cocoon and then cuts a circular hole using sharp hooks on the base of each forewing. These cutters are then shed and the moth emerges and rests while its wings expand and dry.

## Damage

Widespread outbreaks of the Emperor Gum Moth have not been recorded though individual trees are often attacked.

Considerable damage can be done to small trees, particularly if there are several caterpillars on each tree but in general they are not major pests. The damage is done by the caterpillar stage eating the leaves, often leaving only the midrib.

## Control

The Emperor Gum Moth is not a major pest. It is usually well controlled by natural enemies and spraying is rarely necessary.

**Natural control:** Caterpillars are eaten by large birds such as currawongs and cuckoo-shrikes. Magpies have been known to break open cocoons and eat the contents. Caterpillars and eggs are parasitised by several species of flies and wasps. Caterpillars are also attacked by polyhedrosis virus disease which causes the body contents to liquify. This disease can cause very high mortality. Parasitic fungi also attack caterpillars.

**Chemical control:** Should spraying be necessary, the recommended chemical is malathion.

## Summary

**When to look:** Look in spring and summer, October to March.

**Where to look:** Look on young adult leaves.

**What to look for:** Look for relatively large, white, oval eggs.  
Look for small black and yellow caterpillars or large blue/green caterpillars with red, blue and yellow tubercles.  
Look for large, dark brown, oval shapes on the twigs and stems.

**Note:** adults fly at night and are not often seen in the daytime.

**For further information contact:**

**PIRSA Forestry**  
**PO Box 2124**  
**MOUNT GAMBIER SA 5290**

**Phone:** (08) 8735 1232  
**Fax:** (08) 8723 1941  
**E-mail:** [pirsaforestry@sa.gov.au](mailto:pirsaforestry@sa.gov.au)

**Website:** [www.pir.sa.gov.au/forestry](http://www.pir.sa.gov.au/forestry)

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