



Department
for Environment
Food & Rural Affairs

Plant Pest Factsheet

Tasmanian Eucalyptus Beetle

Paropsisterna selmani



Figure 1. Adult Tasmanian Eucalyptus beetle, pre-hibernation, London © ZooTaxa, Paula French

Background

In 2007, an exotic leaf beetle was found damaging cultivated *Eucalyptus* species in County Kerry, Republic of Ireland. The same beetle had been previously found damaging *Eucalyptus* plantations in Tasmania, Australia, and in 2012 a single adult was photographed in a garden in London. The beetle was tentatively identified as *Paropsisterna gloriosa* (Blackburn) (Coleoptera: Chrysomelidae) but subsequently described in 2013 as a new species *P. selmani* Reid & de Little. In June 2015 larvae of *P. selmani* were found causing severe defoliation to *Eucalyptus* plants at a public garden in Surrey; and in August 2015 a single adult was found in West Sussex.

Geographical Distribution

Paropsisterna selmani appears to be native to Tasmania, Australia, and has been introduced to the Republic of Ireland where it occurs widely in the south. *Paropsisterna selmani* has been found in three localities in South East England and is likely to become established in the UK.

Host Plants

Paropsisterna selmani feeds exclusively on *Eucalyptus* species (Myrtaceae), preferentially on glaucous-foliaged eucalypt species of the subgenus *Symphyomyrtus*, particularly the plantation tree *E. nitens*. Other hosts include:

Eucalyptus brookeriana, *E. dalrympleana*, *E. rubida*, *E. glaucescens*, *E. globulus*, *E. gunnii*, *E. johnstonii*, *E. moorei*, *E. nicholii*, *E. parvula*, *E. pauciflora* ssp. *niphophila*, *E. perriniana*, *E. pulverulenta*, *E. vernicosa* and *E. viminalis*.

Description

Adult *P. selmani* are hemispherical (Figs. 1 and 4), oval (Figs. 2-3), and about 9 mm in length with the females being slightly larger than the males. In life, they may be recognised by the following suite of morphological characters: wing cases (elytra) with a distinct bright yellow marginal line (Figs. 1 and 4), and a dorsal diamond shape in the apical half of the combined wing cases (Figs. 2-3). Dead specimens become a uniform brown and are more difficult to identify.



Figure 2. *Paropsisterna selmani*, post-hibernation, Tasmania © ZooTaxa DWdL



Figure 3. *Paropsisterna selmani*, teneral, Ireland © Fera



Figure 4. *Paropsisterna selmani*, teneral, Ireland © Fera



Figure 5. Third instar larva of *Paropsisterna selmani* © Fera

Biology

The biology of *P. selmani* has been studied in the field and under laboratory conditions in Ireland. Adult beetles and larvae both feed on the foliage and cause typical broom-top apical damage to trees. Adult beetles over-winter in the soil, emerge in April, mate and lay egg batches of approximately seven eggs on the leaves. There are four larval instars (up to 12.5 mm long) which are pale yellowish-green with scattered dark brown markings (Fig. 5). Teneral (young) adults were most noticeable in late June and July. The life cycle took approximately 26 days to complete at 20°C when fed on *Eucalyptus parvula*. Each adult female laid an average of 1480 eggs over a period of 130 days at 20°C. This egg-laying rate is comparable to other leaf beetles attaining pest status in other *Eucalyptus*-growing regions.

Dispersal and Detection

The adult beetles are winged and capable of natural dispersal to eucalypts within their flight range. All stages may be accidentally transported over long distances with international trade in eucalypt plants and the adults may be carried as stowaways with non-host material. For example, live *Paropsisterna* beetles have been intercepted in the UK on several occasions with tree ferns (*Dicksonia* spp.) imported from Australia.

The adult beetles are colourful and relatively easy to detect. The adults and larvae (Fig. 5) cause conspicuous defoliation and damage to new growth.

Economic Impact

Paropsisterna selmani is an emerging pest of *Eucalyptus* plantations in Australia and the Republic of Ireland. Adults and larvae are capable of causing significant defoliation (40%), completely stripping the leaves from branches (Figs 6 and 7). Leaf consumption is highest in female larvae, with adult beetles being able to consume a leaf area of 100mm² per day. *Eucalyptus* species, native to the Australian biogeographic region, are planted world-wide as a fast-growing source of timber, pulpwood and other products. Therefore, *P. selmani* has the potential to have an economic impact in many parts of the world where suitable Eucalypt hosts are grown.



Figure 6. Minor feeding damage caused by *Paropsisterna selmani* larvae © Fera



Figure 7. Severe feeding damage by *Paropsisterna selmani* larva leaving only the mid veins of the apical foliage © Fera

Cool temperate species of eucalypts are widely grown in the UK as ornamental plants. They are also cultivated as a source of foliage for the floristry industry and there has been resurgence in the eucalypt industry in the UK for utilising the woody biomass, grown under short rotation forestry management systems, to produce electricity or heat.

Advisory Information

Paropsisterna selmani is an invasive species in Ireland where it severely defoliates the new flush foliage of several *Eucalyptus* species. It poses a potential threat to ornamental eucalypts in the UK and ornamental and forestry eucalypts in mainland Europe. Pathways of entry into the UK include cut foliage, plants for planting (and associated soil) and if the pest continues to spread in Ireland and South East England, natural spread. Industry should source material carefully and both commercial growers and gardeners may wish to monitor for its presence.

Suspected outbreaks of *Paropsisterna selmani* or any other non-native plant pest should be reported to the relevant local authority:

For **England and Wales**, contact your local **APHA Plant Health and Seeds Inspector** or the **PHSI Headquarters**, Sand Hutton, York. Tel: 01904 405138

Email: planthealth.info@apha.gsi.gov.uk

For **Scotland**, contact the **Scottish Government's Horticulture and Marketing Unit**:

Email: hort.marketing@gov.scot

For **Northern Ireland**, contact the **DARD Plant Health Inspection Branch**:

Tel: 0300 200 7847 Email: planthealth@dardni.gov.uk

For additional information on UK Plant Health please see:

<https://secure.fera.defra.gov.uk/phiw/riskRegister/>

<https://www.gov.uk/plant-health-controls>

<https://www.dardni.gov.uk/>

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