

# *Prunus laurocerasus* - A crop walkers guide to pests and diseases





# ***Prunus laurocerasus* - A crop walkers guide to pests and diseases**

***Teagasc, Horticulture Development Department in  
Collaboration with University College Dublin***



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Bia agus Mara  
Department of Agriculture,  
Food and the Marine



# Contents

	Page
<b>Introduction</b>	5
<b>Bacterial Pathogens</b>	6
<i>Pseudomonas syringae</i> pv. <i>syringae</i> (Pss)	7
Bacterial shothole – symptom variation (Pss)	8
Bacterial Tip Damage	10
<i>Micrococcus aloeverae</i>	11
<i>Xanthomonas arboricola</i> pv. <i>pruni</i> (Xap)	12
<b>Fungal Pathogens</b>	13
Downy mildew ( <i>Peronospora</i> sp.)	14
Powdery mildew ( <i>Podosphaera</i> spp.)	15
<i>Neofabraea actinidae</i>	16
<i>Eupropolella britannica</i>	17
<i>Stigmina carpophila</i>	18
<b>Pests</b>	19
Tortrix ( <i>Epiphyas postvittana</i> )	20
Thrips ( <i>Thrips flavus</i> )	21
Leaf Miner ( <i>Lyonetia clerkella</i> )	22
Common Green Capsid ( <i>Lygocorus pabulinus</i> )	23
Citrus Red Mite ( <i>Panonychus citri</i> )	24
Growth Stage & Pests	25
<b>Acknowledgements</b>	26

## Introduction

*Prunus laurocerasus* stems are used as ‘fillers’ in mixed flower bouquets, supplying an increasing export market to specialist bouquet companies in the UK and Holland, who in turn supply the major supermarkets and other retail outlets. While the common laurel *Prunus laurocerasus* ‘Rotundifolia’ is marketed, the main cultivars grown for foliage are *Prunus laurocerasus* ‘Etna’ and ‘Caucasica’.

The large glossy leaves of *Prunus laurocerasus* are affected by a variety of problems including pests, diseases and nutrition. The most common issue is commonly referred to as ‘shothole’ due to the nature of the disease symptoms and its’ resemblance to shotgun damage. The causal agents of ‘shothole disease’ vary considerably and this will affect how you approach your disease management strategy.

In some cases, the advice of a professional plant disease diagnostic clinic may be required to tell which disease causing organism is affecting your plants. It is important to conduct regular crop walks in order to spot a disease problem before it becomes a major issue, reducing leaf quality.

Contact Andy Whelton on [Andy.Whelton@teagasc.ie](mailto:Andy.Whelton@teagasc.ie) for further information on *Prunus laurocerasus* and other plants grown commercially for cut foliage.

# Bacterial Pathogens

## Bacterial shothole

*Pseudomonas syringae* pv. *syringae* (Pss)



*Prunus laurocerasus* 'etna'

- Appears as small brown to reddish spots on upper leaf surface (note difference to Xap infection).
- Spots are circular to irregular and surrounded by a light green to yellow 'halo'. Over a short period of time, the spots may enlarge with the centre portion of the spot excised, leaving a hole in the leaf. This is a plant defence mechanism to limit further spread of the bacteria within the leaf.
- The disease is associated with prolonged leaf-wetness with bacteria spread by rain and wind. Some varietal resistance has been observed.
- Regular application of biostimulant and copper-based products may control the disease.

## Bacterial shothole

### Symptom variation and progression (Pss)

- Reddish/brown spots appear. Approximately 1mm in size. Light green/yellow halo visible.



- Spots enlarge over 3-5 days. Colour may vary from reddish/brown to brown-ish/black.



- Some spots may have a distinctive yellow/green halo present, though not always.



- Spots are sometimes located on the leaf edge. Light green/yellow halo is present.





## Bacterial shothole

### *Symptom variation and progression (Pss)*

- At leaf edge, after approximately 12-14 days, necrotic areas are abscised, leaving a ragged appearance.



- Shothole symptom appears after approximately 12-14 days. Holes can remain small.



- Leaf holes can range in size and sometimes coalesce.



- Leaf holes can be quite large in size.



## Bacterial Tip Damage

*Pseudomonas syringae* pv. *syringae* (Pss)



- Affects all cultivars but very noticeable on *P.caucasica*.
- Tips become brown/necrotic.
- The leaf tip eventually falls off.
- May be associated with windy plantations.
- Associated with prolonged leaf wetness.
- Plant in sheltered areas.

## Bacterial shothole

*Micrococcus aloeverae*



- *Micrococcus aloeverae* is a newly identified bacterial pathogen.
- Spots are circular to irregular and surrounded by a reddish margin 'halo'. No pycnidia present.
- The disease is likely to be associated with prolonged leaf wetness with bacteria spread by rain and wind. Some varietal resistance has been observed.

## Bacterial shothole

*Xanthomonas arboricola* pv. *pruni*



- Primary infections occur through natural openings and wounds.
- Disease development favoured by warm, wet and humid weather.
- First symptoms are small water soaked spots on leaf underside.
- Spots develop into brown/black spots, often with a pale green/ yellow halo.
- Diseased areas usually darken before they drop out, leaving a shothole type appearance.
- The bacteria can be spread on contaminated pruning equipment.
- The bacteria can overwinter in twig cankers and leaf scars.
- Suspected outbreaks should be reported to the Department of Agriculture, Food and the Marine (DAFM).

# Fungal Pathogens

# Downy mildew

*Peronospora spp.*



- The disease is associated with wet, humid conditions, similar to those associated with potato blight.
- Downy mildew is one of the most common diseases of *P.laurocerasus*.
- Appears as large yellow/brown irregular shaped blotches on upper leaf surface.
- A whitish cottony growth can be seen on the leaf underside which corresponds to the upper leaf blotching.
- Spores are large and spread by rain and wind.
- In wet seasons, a preventative program should be implemented.



## Powdery mildew

*Podosphaera* spp.



- The disease is associated with dry conditions.
- Appears as large reddish irregular shaped blotches on leaf surfaces.
- A whitish powdery growth can be seen on the leaf.
- Spores are large and spread by rain and wind.
- A preventative program should be implemented.

# Fungal Shothole

*Neofabraea actinidae*



- Appears as greyish-white lesions.
- Affected areas become light grey green and necrotic.
- Spots are circular to irregular and surrounded by a brown margin.
- Pycnidia (small black spots) are present and numerous. Over a period of 12-14 days, the spots may enlarge with the centre portion of the leaf being eventually excised, leaving a hole or portion of the leaf missing.



## Fungal Shothole

*Eupropolella britannica*



- Appears as large dark brown patches on leaf surface.
- Can be confused with Downy mildew.
- Lesions are irregular and usually cover a significant portion of the leaf. Pycnidia are present on leaf underside.
- In a nationwide Irish survey, levels of *Eupropolella Britannica* were found to be extremely low and not of significant concern to cut foliage growers.

# Fungal shothole

## *Stigmina carpophila*



*S.carpophila* spore at x400

- In a nationwide survey, this disease was rarely found and is not a major concern.
- Appears as small reddish spots.
- Mainly on upper leaf surface.
- Spots eventually turn brown and the centres fall out giving a characteristic shothole effect. Holes may have a reddish margin.
- Symptoms are similar to bacterial shothole, so if possible confirmation by light microscope may be necessary. Spores are dark brown, large and distinctive (see inset photo above).

# Pests

## Tortrix

### *Epiphyas postvittana*

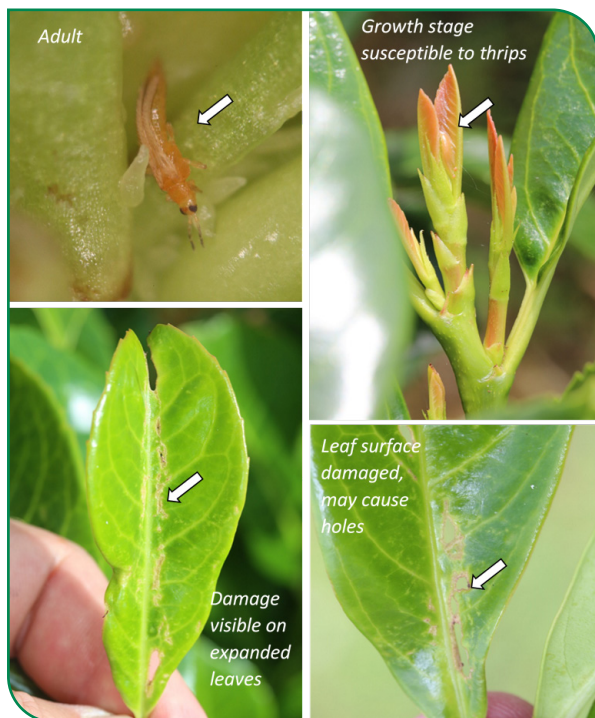


- Larva or caterpillars of the Light Brown Apple Moth (*Epiphyas postvittana*) feed on the new growth of laurel foliage starting on the shoot tips.
- The caterpillars move between shoots and bind leaves together with silk threads.
- Feeding can result in small to large holes and subsequent growth leads to deformed leaves which can render stems unmarketable.

- Adult moths and the resulting damaging caterpillars are usually active from late May-July and again from late August-October when both the adult and caterpillar are prey for many different predators.

# Yellow Flower Thrips

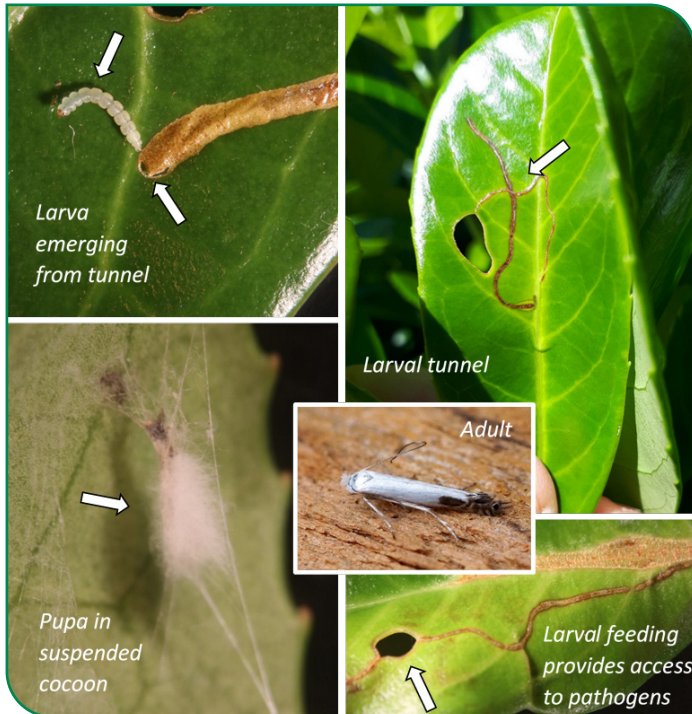
## *Thrips flavus*



- The young larval stages and adults tend to feed in the enclosed shoot tips when the leaves are still folded.
- Adults can be found on the stem and leaf surfaces later in the season but feeding seems only take place in new shoots.
- The resultant damage from feeding takes the form of a speckling where the epidermis is heavily scratched at either side of the mid rib of leaves as the young shoots unfold.
- The damage may provide an entry point for pathogens.

## Leaf Miner

### *Lyonetia clerkella*

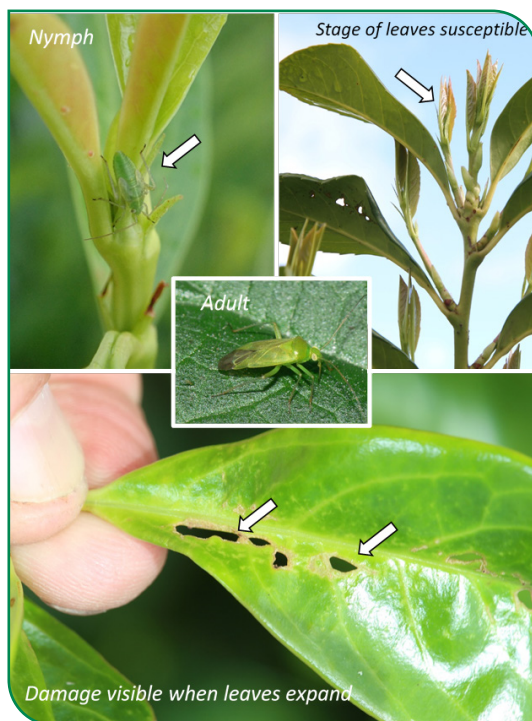


- Eggs are usually laid on the undersides of leaves and then the larva commences to mine towards the upper surface and eventually forms a long tunnel visible as a line.
- It is suggested that the damage may be an entry point for bacterial pathogens such as *Pseudomonas syringae*.
- In recent years this pest seems to be becoming more common.
- In severe cases some holes may result but it is thought to be rare.
- Common pest of trees and shrubs and damage is found most years on cherry laurel particularly in the late summer- early autumn period when adults occur.



# Common Green Capsid

## *Lygocorus pabulinus*



- Feeding causes ragged holes to appear when young leaves expand.
- An early emerging pest from hedgerows (Spring)
- All life stages feed on the buds and ex-panding leaves.
- Capsids are common but usually only cause minor damage. They are more problematic on other cut foliage species such as Viburnum.
- Only new shoots and unfolding leaves are susceptible.

## Citrus Red Mite

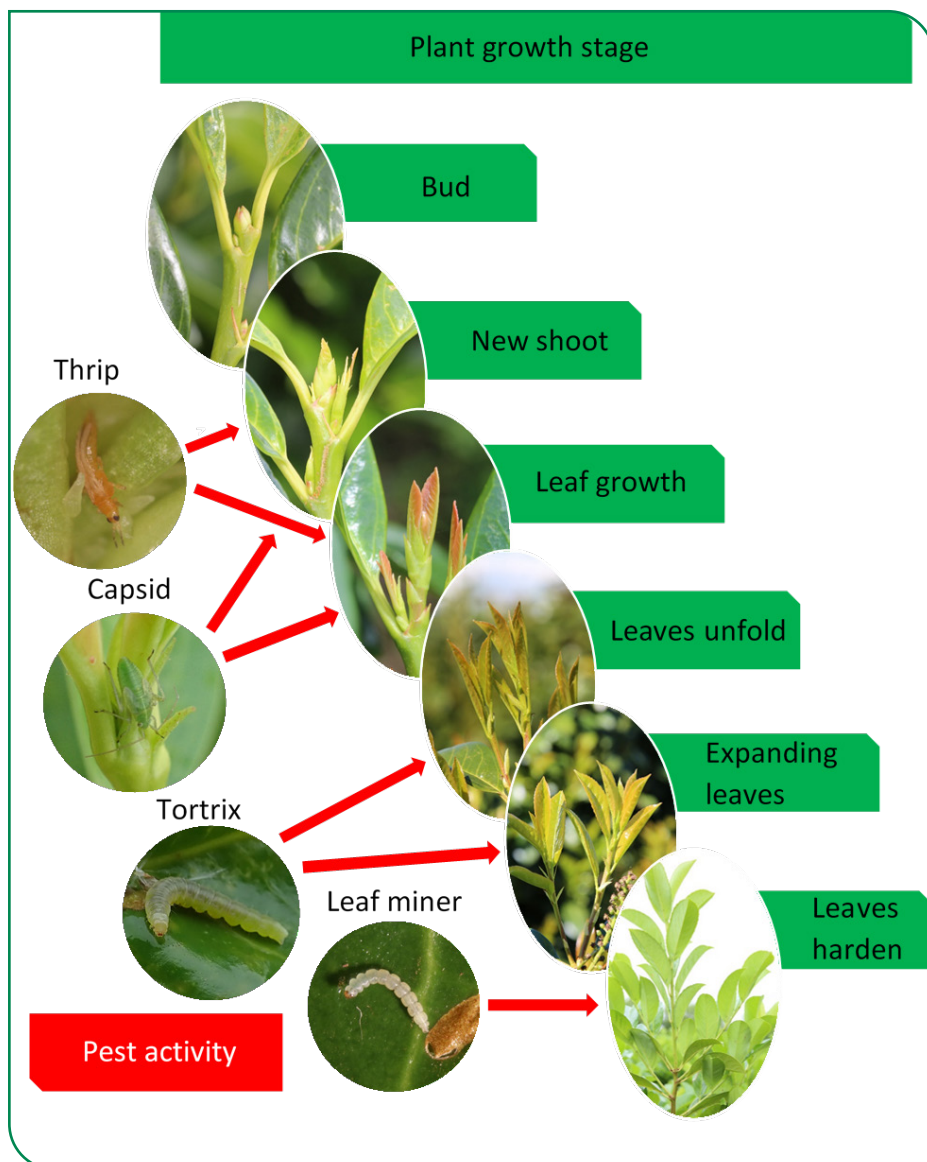
*Panonychus citri*



- The mites cause noticeable silverying, yellowing or speckling by feeding on the undersides of leaves.
- Found mainly on citrus but the pest also occurs on many other hosts including cherry laurel on occasions.
- Is recognised by red eggs rather than colourless ones as in the two-spotted spider mite.
- They can cause defoliation in severe infestations.
- This is usually regarded as a minor pest.



## Growth stage & Pests



# Acknowledgements

## Further information

A concise guide to *Prunus laurocerasus* in cut foliage can be found on <https://www.teagasc.ie/media/website/crops/horticulture/cut-foliage/420-Prunus-Laurel.pdf>

Visit [www.teagasc.ie/horticulture](http://www.teagasc.ie/horticulture) for additional information and cut foliage factsheets.

Detailed information regarding new pathogen *Micrococcus aloeverae* has been published by Smith, L., et al. (2020). 'First report of shot hole disease caused by *Micrococcus aloeverae* in Ireland'. Available from: <https://doi.org/10.1094/PDIS-03-200521-PDN>.

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## Notes

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**New Leaves – Alternative Crops  
for the cut foliage sector**

- 3 Year Research Project  
funded by DAFM

**Objectives**

- Identification of new elite species
- Identify superior varieties for propagation
- Develop production and marketing Protocols
- Build a sustainable business

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