

Bird and flying-fox damage to orchard fruit: an identification guide

Background

Victoria is home to many frugivores (fruit eating animals). Some of these eat stone fruit, such as peaches, apricots or plums whilst others favour pome fruits, which includes apples, pears and quinces, whilst many will feed on both, depending on season and availability of other food sources.

Native frugivorous wildlife includes several kinds of parrots, lorikeets, honeyeaters and other birds, the Grey-headed flying-fox and possums. Rats, Common Starlings and Common (Indian) Mynahs are some non-native frugivores living in Victoria.

Whilst these species may all cause damage to developing or ripening fruit, each will usually attack fruit in a particular way. This means it is often possible to identify what has caused the damage if you know what signs to look for. This is important so that you can select the management method appropriate to the species causing the impact.

This guide will help you to identify what native wildlife is damaging your fruit. It also provides a brief overview of the legal status of wildlife in Victoria, tips on how to minimise impacts from wildlife and links to access further information.

Legal status of wildlife in Victoria

All wildlife is protected in Victoria under the *Wildlife Act 1975*.

It is illegal to wilfully disturb or destroy protected wildlife without approval from the Department of Environment, Land, Water and Planning (DELWP).

The most common approval to disturb or destroy wildlife is an Authority to Control Wildlife (ATCW). Orchardists which are experiencing damage and want to disturb or destroy wildlife must apply for an ATCW.

It is DELWP policy that an ATCW applicant must try non-lethal control options, if available, before being able to apply for an ATCW for lethal control.

Given their threatened status, DELWP will not issue authorisations for the take or destruction of Grey-headed Flying Foxes.

How much damage

The first step before starting to control wildlife in your orchard, is to quantify the amount, location and cause of damage. This is to determine whether you need to take

any action. Sometimes, damage is restricted to one or two rows of trees and it may be better to accept losses in that part to protect the rest of the orchard.

Scaring animals from the rows already damaged may cause them to land elsewhere in the orchard and spread the damage, perhaps to more valuable fruit varieties.

How to use the guide

Images of typical kinds of damage caused by parrots, other birds and Flying-foxes provide the basis for identification of the cause of damage. Simply compare your damaged fruit and other indicators with the images in this guide. This should allow you to identify what species is causing the damage. It is also useful to note the birds in and near your orchard so that you are aware of potential crop feeders in the locality. The presence of these birds does not necessarily mean that damage will occur, as the birds may be using other food in the area.

How to minimise damage

Methods that may assist with minimising damage caused by wildlife to your crops range from non-lethal scaring and exclusion netting to destruction of wildlife under an ATCW.

Many kinds of birds may be discouraged from feeding in your orchard through a persistent scaring program, which may include strategic use of scare guns (gas guns) and scarecrows that are frequently moved around, patrolling, and playing recorded alarm or distress calls. This scare campaign may need to be enforced with some lethal shooting (with an ATCW), to emphasise that there is real danger associated with the scaring activities.

Species such as lorikeets and Flying-foxes appear to be undeterred by these techniques and effective damage control may require the installation of exclusion netting.

To prevent wildlife from entanglement, all netting should be wildlife-safe.

Further information

Further information on wildlife management methods, wildlife-safe netting, flying-foxes, birds and other wildlife is available on the DELWP website at wildlife.vic.gov.au

Alternatively, you can contact the DELWP Customer Contact Centre on **136 186** or your local DELWP regional office for further information.

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Damage by Lorikeets and Rosellas

Look for horseshoe shaped marks made by the lower part of the beak.

Apple damaged by Musk Lorikeet.



Look for triangular marks made by the upper part of the beak.

Nashi with typical triangular beak marks made by Musk Lorikeet.



Lorikeets often damage numerous fruit on a tree.



Musk Lorikeet.



Rainbow Lorikeet.



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Peach damaged by Eastern Rosellas, showing typical lower beak marks.



Plum fragments on the ground after a rosella feeding on fruit.

Note size of fragments. Similar or smaller fragments are also common beneath lorikeet feeding sites.



Sulphur-crested Cockatoos, Galahs and Long-billed Corellas may also attack some fruit crops, often going for the seeds or kernels in pome and stone fruits.

Non-parrot bird damage

Many non-parrot birds tend to partially hollow out fruits. Often, their beak marks are seen.

Some honeyeaters may leave numerous fibres protruding from the fruit, as they are more interested in the juice. Other birds take pieces of flesh. Species include: (however not limited to) Common Blackbird, Common (Indian) Myna, Noisy Miner, Red Wattlebird, Satin Bowerbird, Common Starling, Silvereye and Yellow-faced Honeyeater. The species of birds involved will vary from year to year, depending upon bird movements and availability of other food sources in your area.

Some of these birds may make single or multiple punctures in the skin of the fruit, perhaps testing for taste. This may falsely appear to look like Flying-fox damage (see below).

Peach partly hollowed by non-parrot birds, most likely a Noisy Miner in this case.

Note absence of parrot beak marks.



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Damage by Flying-foxes

Look for large, compressed pieces of skin and flesh on the ground under the tree. These are formed when Flying-foxes bite off a piece of a fruit, compress the fruit between tongue and hard palate to extract the juice, then spit out the remains. These fragments, known as “spats”, are about the size of a ten-cent piece and are a clear sign of Flying-fox feeding. With some fruits, the whole fruit may be consumed, therefore the only evidence may be spats under trees where the upper branches should have fruit present.

Look for broken leaders (new season’s shoots) at the top of the tree. Also, look for tooth marks on fruit or under the tree.

Look under tall trees within approximately 100 metres of your fruit trees particularly for spats. Also, stones from peaches, nectarines and plums and partially-eaten fruit may be present on the ground directly below trees.

Flying-foxes may knock fruit to the ground when moving about the tree. This fruit will not necessarily have any sign of damage.

Note: If you cannot find spats under your fruit trees or under nearby shelter or ornamental trees, then it is unlikely that Flying-foxes are feeding on your fruit.

Peach tree with several leaders broken by Flying-foxes, reducing next year’s crop.



Grey-headed Flying-fox (bat), these are large animals with a wing span up to 1 metre.



Flying-fox bites on plum. Two separate bites are indicated by the white lines.



Spats (some circled) and plum stones (some arrowed).

Note size of spats.



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Peach stones dropped below Flying-fox feeding perches.

Usually, many spats and sometimes nearly whole fruit are found below perches. This fruit will usually show tooth marks, as Flying-foxes carry them in their mouths.

Trees used as feeding roosts by Flying-foxes.

Arrow shows where peach stones found.



Peach stones dropped below Flying-fox feeding perches. Usually, many spats and sometimes nearly whole fruits are found below such perches.



Typical fresh spat made by a Flying-fox feeding on apple.

Note the fragments of skin and fruit pulp compressed together. This is characteristic of spats and distinguishes them from remnants of fruit that may have been dropped by birds. The size is generally consistent. Fresh spats are obvious under feeding sites. Older, dried spats may be brown and slightly shriveled, however may still be identified as spats. These should not be confused with fallen fruit or fragments left by birds.

Part-eaten apples and spats left below feeding roost by Flying-foxes.



Typical fresh spat made by Flying-fox feeding on apple. Note the fragments of skin and fruit pulp compressed together.



Credit for all photos: Ian Temby

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