



**Who did that?**



# Who did that?



Here's your chance to be a 'Nature Detective'!

Have a good look at the picture below – who do you think is responsible?

Choose a suspect from the list on the left.



Insect



Caterpillar



Spider



Moth



Disease



Animal



This mystery object has been found on a mānuka bush.

What is it?

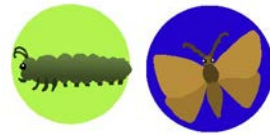
Who did it?

Why?

Can you find one?



## Answer - Case Moth (*Oeceticus omnivorous*)



If you chose Caterpillar or Moth as your suspects, both are correct – read more below to find out why.

- The caterpillar of the case moth makes its 'case' (or home) from silk and bits from the host plant.
- The caterpillar then develops into a moth inside the case.
- If the moth is a male, it will grow wings and fly away.
- However, if the moth is a female, she does not grow wings. She remains inside the case.
- If you find a case, it could have either a developing caterpillar or female moth inside.



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This flax leaf has mysterious triangle-shaped notches (holes) along its edges.

Who did it?

Why?

Can you find one?



## Answer – Flax Notch Caterpillar (*Tmetolophota steropastis*)



The triangle-shaped notches found along some flax leaves are caused by the flax notch caterpillar. Find out more about them below:

- The brown-yellow caterpillars feed on young flax leaves.
- As they chew the leaves they leave a distinctive triangle-shaped notch or hole.
- The caterpillar is nocturnal – only coming out at night.
- The flax notch caterpillar turns into a brown moth with a wingspan of about 4 cm.
- This species is native and does not kill the flax.





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Moth



Disease



Animal



This flax leaf has mysterious light brown patches on it. They are oblong in shape.

Who did it?

Why?

Can you find one?



## Answer – Flax Looper Caterpillar (*Orthoclydon praefactata*)



The light brown patches found on some flax leaves are caused by the flax looper caterpillar. Find out more about them below:

- Flax looper caterpillars feed on the undersurface of young flax leaves.
- They don't chew right through the leaf, but leave a thin 'window'.
- In older leaves the window often breaks leaving a hole.
- The caterpillar is nocturnal – only coming out at night.
- Caterpillars are green at first, but change later to pale yellow with red stripes.
- The flax notch caterpillar turns into a brown moth with a wingspan of about 3.5 - 4 cm.
- This species is native and does not kill the flax.



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Moth



Disease



Animal



A mysterious black substance has been found on this mānuka trunk.

What is it?

Who did it?

Why?

Can you find any?





**Answer –**      **Black Fungus** (*Capnodium walteri*)  
**Scale Insect** (*Eriococcus manukae*)



This mystery has two suspects - the black substance that grows on mānuka is a fungus (disease) that is spread by a scale insect. Find out more below:

- The black fungus on mānuka is a relatively new disease in NZ.
- It will eventually kill the tree.
- The fungus is spread by a scale insect that feeds on the tree.
- The scale insect exudes a 'honey dew' that is sweet and sugary.
- Honey dew is the perfect food source for the black fungus to grow.



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Caterpillar



Spider



Moth



Disease



Animal



This mysterious object was found on a mānuka bush.

What is it?

Who did it?

Why?

Can you find one?



## Answer – Nursery Web Spider (*Dolomedes minor*)



This mystery object is of course a spider web, however it's got a different purpose to most webs. Find out more below:

- These messy looking webs are often found on the outer branches of shrubs.
- They are not used for catching insects.
- Female nursery web spiders will carry a large white egg sac (with up to 200 eggs) around with her until the eggs are nearly ready to hatch.
- She will then spin a protective web around them.
- The young spiders will spend about a week in their 'nursery' before leaving.
- If you find a nursery web with spiderlings, the mother spider will be hiding somewhere nearby ready to protect her young.



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Insect



Caterpillar



Spider



Moth



Disease



Animal



This mysterious object was found on the trunk of a cabbage tree.

What is it?

Who did it?

Why?

Can you find one?

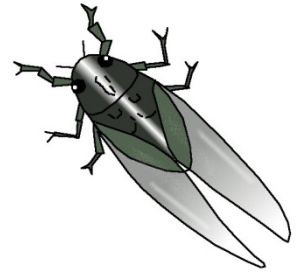


## Answer – Cicada



This mystery object is the discarded outer skeleton (exoskeleton) of a cicada. Find out more below:

- There are about 40 different kinds (species) of cicada in New Zealand.
- They spend the first 3-5 years of their life underground feeding on plant roots.
- They come above ground in the summer to transform into flying adults.
- They discard their old 'skins' (exoskeletons), which are often found attached to tree trunks.
- Adult cicadas only live for a few months.
- Male cicadas make the most noise – calling for females.



Listen for the harsh rasping ZZZZ ZZZZ sound of the chorus cicada – the most common cicada in NZ





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Animal



This cabbage tree leaf has mysterious triangle-shaped notches (holes) along its edges.

Who did it?

Why?

Can you find one?



## Answer – Cabbage tree moth caterpillar (*Epiphryne verriculata*)



The triangle-shaped notches found along some cabbage tree leaves are caused by the caterpillar of the cabbage tree moth. Find out more below:

- Caterpillars feed on the young unopened leaves of cabbage tree.
- As they chew the leaves they leave a distinctive triangle-shaped notch or hole.
- The caterpillar is nocturnal – only coming out at night.
- The cabbage tree moth is brown with parallel strips meaning it is perfectly camouflaged on dead cabbage tree leaves.
- Moths are about 4 cm across.
- This species is native and does not kill the cabbage tree.

