

# Bats of the Mornington Peninsula

Victoria is home to two kinds of bats: large flying-foxes or fruit-eating bats, and the much smaller insect-eating bats or 'microbats'.

Mt Martha is home to a number of species of insect-eating bats (there are 21 species in Victoria). These tiny, nocturnal bats are hidden by day, and their calls are mostly outside our hearing range. But there are lots of them, even in cities. Look up on a warm summer night and you may see some – particularly around street-lights, or at a farm dam.

## Tiny but vital

Most of our bats are tiny. The smallest Victorian species weighs only 4g. The largest, the Grey-headed Flying-fox, weighs up to 1 kg with a wingspan of almost a metre. Bats are important to a healthy ecosystem. Flying-foxes play a role in pollination and seed dispersal, while insect-eating bats help keep insect numbers in balance.

## Hands that fly

Bats are the only mammals that can fly – and their wings are modified hands. You can see their very long fingers in the photo. A thin membrane stretches between the fingers and attaches to the body and legs. Bat wings beat 15-20 times a second in flight, and fold like an umbrella when at rest. The long-eared bats have shorter, broader wings to zig-zag deftly among the trees. Others, such as the White-striped Freetail Bat, have long, narrow wings to fly high and fast, and feed above the forest canopy.

## Navigating the night sky

Microbats are creatures of the night and they hunt using a sonar system called 'echolocation' (though they also have good eyesight).

They emit ultrasonic pulses of sound, and use the echoes to 'see' obstacles to avoid and insects to catch. Most echolocation calls are outside our hearing range, except those of the White-striped Freetail Bat. (All bats have social 'chattering' calls that we can hear.)

## Living arrangements

By day, most microbat species roost in tree hollows. Some use open dead trees, others seek live trees. Some roost in cracks or under bark, others use hollows or dead spouts. Some species will even use cracks in old fence posts, or under the eaves of houses.



The loss of big old trees and tree hollows is a major threat to these little insect-eating bats – the fewer of these old trees, the fewer the bats.

To provide some alternatives in the Balcombe Estuary Reserves, BERG Mt Martha has installed a number of bat roost boxes and monitors them with a pole camera.

Bat roost boxes with Gould's Wattled Bats in residence (left) and leaving (right)



## Bats eat a lot

Flying takes lots of energy, and insect-eating bats eat up to three quarters of their body weight in insects each night. They are natural pest controllers and a great help to farmers. And some species eat heaps of mosquitoes!

Different species have different diets. The Little Forest Bat eats bugs, beetles, moths, ants, flies and mosquitoes. The Chocolate Wattled Bat favours moths. The Southern Myotis feeds only over water on aquatic insects and small fish.

Bats are aerial acrobats. They can catch an insect in their wing membrane, flick it into the tail membrane, and then grab it with their mouth – all while in flight.

While insect-eating bats will fly over open paddocks, most feeding occurs around trees, so old paddock trees are critically important – for both bats and farmers.

## Winter shut-down

In winter, when food is scarce, microbats go into torpor (a mild hibernation) to save energy.

When active, their body temperature is around 40°C, and their heart can race up to 1000 beats a minute.

But when daytime temperatures drop, they find a safe roost, cool their body to within a few degrees of the surrounding air – as low as 10°C – and lower their heart and breathing rates.

## Microbat Species

### White-striped Freetail *Austronomus australis*

The one Mornington Peninsula bat whose echolocation call we can hear, a high-pitched metallic 'ping ping', it forages mostly above the tree canopy for moths and beetles, including agricultural pests.



### Little Forest Bat *Vespardelus vulturinus*

Australia's smallest bat, weighs only 4g (less than a 10 cent piece) and easily fits in a matchbox. One of the most common species on the Peninsula. Eats lots of mosquitoes.



### Large Forest Bat *Vespardelus darlingtoni*

Roosts by day in tree-holes or cracks. Becomes torpid in the coldest months, but on warmer nights it emerges from torpor and feeds.



### Lesser Long-eared Bat *Nyctophilus geoffroyi*

Common on the Peninsula. You may find one roosting in a shed or under a verandah.

With a body about the size of a matchbox (4.5cm long), it's highly manoeuvrable and can flutter amongst vegetation to pick off insects. The female roosts in long, narrow cracks in dead trees to give birth. Its ears can be up to 2.5cm long.



### Chocolate Wattled Bat *Chalinolobus maria*

Chocolate coloured with a stubby nose, almost exclusively a moth-eater.



### Gould's Wattled Bat *Chalinolobus gouldii*

Black fur on head and shoulders contrasts with their brown body for they roost in colonies of up to 30 in hollows in large old trees, and feed at canopy height.

### Eastern Freetail Bat *Mernopterus ridei*

Uncommon on the Peninsula.

They are known to live up to 22 years in captivity where they are fed on meal worms.



### Eastern Bent-wing Bat *Miniotropis orianae oceanensis*

One of the three Victorian microbat species that roosts in caves. The females will only give birth to one pup to give birth.

There is just one cave in Victoria used as a maternity site by the Eastern Bent-wing Bat. Thousands of females (including from the Mornington Peninsula) gather each year over summer at a cave near Lakes Entrance.

They might fly 300 km or more to get there.



## Amazing mums!

Most females give birth to a single 'pup' each year, although some species have twins. The new-born are big, about 30% of the mother's body weight (imagine giving birth to a 20 kg human baby!).

They are born in early summer and the mothers suckle their young until they are ready to fly, at 1-2 months old. Pups stay latched onto the mother's teat and belly fur even when she is flying.

Females breed every year of their life, which is typically 7-8 years though some species can live up to 20 years.

Gould's Wattled Bat – A tiny mum in a gloved hand with two pups

Photo courtesy Steve Griffiths

