

THOSE WINTER WINDOW BASHERS—the Ghost Moths ... John Lenagan

The Ghost or Rain Moths - Family *Hepialidae* - Order *Lepidoptera*

As the seasons turn and the first autumn rains pass through Anglesea, the unusual and yes, just a bit spooky, tapping on our windows starts. It is the season of the Ghost Moths, one of largest moths found across Victoria. Many live the first stage of their lives underground, where they emerge from, after the soils start softening with the rains.

The Ghost or Rain Moths occur worldwide, but the Australian fauna is exceptionally rich in species with 49 different species found in Victoria. The smallest, *Lophocoronoidae*, has a 30 mm wingspan and the largest *Zelotypia*, is a massive 250 mm.

They are an ancient lineage and considered primitive in evolutionary terms. They have a simple wing venation that does not include the structures which couple the fore and hind wings during flight. This makes them somewhat clumsy fliers so they spend some of their time scurrying across the ground. If airborne, when they land in trees and settle, they hang head upwards.

While it has not been scientifically recorded, it is proposed that the larval stage of the moths that mainly feed on



the roots of Eucalypt trees can last several years—up to seven years—underground before they emerge. They are sought after by fishermen among the Murray River Red Gums where their grubs, the so-called bardi grubs, are the ideal bait for catching the Murray River Cod. The Ghost Moth larvae pupate underground and leave their pupae shell at the top of their fairly large burrows after their pupae have wormed their way up and finally, remarkably, emerged. There are some *Hepialidae* that are wood borers and their pupae can be seen emerging from the juncture of branches of trees such as wattles. These wood-boring moths have also

Remnant pupal shells protruding from or near burrows

been called bardi moths. They are different from the Goat Moths that are found in wattle trees as well.

In Anglesea, on the wetter nights there can be hundreds of these moths— often two or three different species, some over 100 mm in length— coming to the mothing sheets and household lights where we find them relentlessly bashing against our windows.

Often the slightly smaller male moths are the first to emerge with the females following later in the night. After they mate, the females fly back out across the forest where they disperse their eggs (up to 40,000 plus) on the forest floor. These moths have no feeding mouth parts. They hatch, mate, disperse their eggs and then die within two days of emerging if they have not been eaten beforehand.

Because these large moths emerge ready to mate and disperse their eggs, their bodies are a protein rich food



Sugar Glider eating a Ghost Moth



Long-eared Bat, capable of catching moths in flight

source and eagerly sought by most of the forest predators keen to fatten up before the sparser winter months. During the night they are eaten by all of the possums, Tawny Frog Mouths, owls, and the larger bats and during the day they are voraciously sought after by all the insectivorous birds and reptiles. I have seen a fairy

wren eating a moth nearly as big as its self.

The large Grey Moths that come out later towards the end of winter are the Goat and Carpenter Moths that typically have wood boring larvae; some of these are parasitised by the *Cordyceps* fungi which has also been known to attack the Ghost Moths. The fungi's single protruding fruiting body of 50–120 mm can be seen under the host wattle trees.

The Hepialidae Moth Species we have recorded in Anglesea include :-

The primitive smaller Ghost Moths - Fraus and Elhamma - 30 – 40mm WS



Fraus pteromela



Fraus fusca



Fraus simulans



Elhamma australasiae



Oxycanus silvanus

The Medium sized Oxycanus Ghost Moths - 80 – 90mm WS –



Oxycanus australis – various patterns



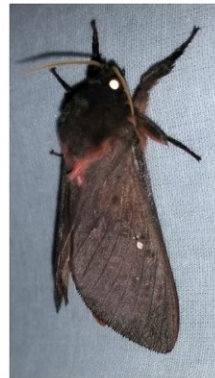
Oxycanus sirpus



Oxycanus dirempta



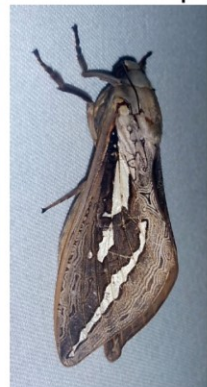
Oxycanus rufescens



The larger Ghost Moths the Abantiade Splendid and Bardi Ghost Moths -- 120 – 140mm WS



Abantiades latipennis



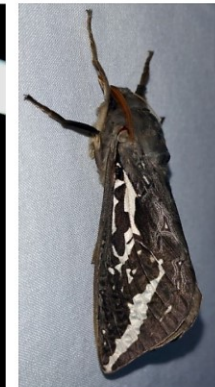
Abantiades labyrinthicus



Abantiades hyalinatus



Aenetus lignivoren



Trictena atripalpis Bardi GM

The Goat Moths which emerge later at the end of winter are not to be mistaken for Ghost Moths -- 120 – 140mm WS



Wattle Goat Moth - Endoxyla lituratus



Carpenter Moth - Trismelasmos sp - Caterpillar with *Cordyceps* Gunnii

