



Forest Ringlet Project Report – March 2022

Over the past year several trips have been made into the known location of forest ringlets. We (Hugh Smith and I) base our excursions on the dates of previous trips when eggs or larvae have been found.

In January 2021 we followed the previous year's route and the usually productive *Gahnia* plants were carefully searched for eggs. Sadly, we found nothing. Later in the day, however, and by pure chance, I noticed a larva lower down on a blade of *Gahnia* – only because it moved as I was examining the blade for eggs.

Further examination and measurements showed the larva to be a 2nd instar individual. It was 11 mm long, which meant the eggs must have been laid about seven weeks earlier (ovipositing taking place early December). Even allowing for an early individual eclosure this would indicate an earlier emergence of the adults than the previous season.

It then was apparent that with our focus being on searching for eggs we may well have missed other larvae, so we made a return trip soon afterwards but found nothing.

In May we ventured into the same locations, ones which had been mildly successful in the past. Because of the declining temperatures it was decided that this trip would be the last of the season. The larvae would soon be transferring themselves to the base of any plants or ground to begin their overwintering phase in the leaf litter.

The first *Gahnia* we investigated revealed an absence of feeding damage, despite the plants being in lush growth. The second area, covering a good size and well off the track, was scrutinised thoroughly but revealed nothing and the third area resulted in a similar outcome. Thoughts that the larvae had already entered their overwintering phase was dispelled by the fact that feeding damage would still have been visible and the possibility that the female butterflies had largely ignored these favourite spots and found plants in other areas.

In November we were able to investigate the same locations and on the 9th we located one pupa and three larvae. Eight days afterwards the pupa eclosed, producing a healthy female butterfly, indicating that the larva had pupated late October. It was sad that it was too far out of sequence from other larvae to mate and breed.

One of the larvae displayed a breathing siphon in its rear abdomen indicating that it was infected by a tachinid fly. Tachinid flies are parasitic, either entering the host or attaching their eggs to their victim's exoskeleton. When they hatch the juvenile flies (larvae) begin to consume on their host, usually killing the host as they grow. When a beautiful butterfly is expected to emerge, what emerges is in fact a fly or in some cases more than one fly.

The grub later exited from the forest ringlet larva, leaving a dead host. The parasite eventually pupated and we are awaiting identification as to the species of tachinid from Manaaki Whenua – Landcare.

In January two *D. helmsii* eggs were found and a butterfly was seen. These eggs have now hatched and we are hopeful that the healthy butterflies will eventually be the end result.

Meanwhile the butterfly house funded largely by the Lottery grant has been assembled and installed, and we are using the facility to raise more host plants, *Gahnia* and *Chionochoa* spp.

Norm Twigge

