



*Male and female wetas, showing the total absence of a tusk on the female.*

hind legs or hissing as well. Both sexes of the Mercury Island weta threaten instead with impressive mandibles, and throw up their forelegs or lunge rather than kick. The “tusks” of the male greatly enhance this display. In fact when the ridges on the “tusks” scrape together they produce a shrill rasp to startling effect. The captive males also use their “tusks” to threaten and spar with each other, apparently over access to hiding places where the more secretive females gather. We now believe that this is the tusk’s main function. Studies using video playback to analyse behaviour show how these sparring bouts can escalate into an energetic and prolonged head-butting contest, in which the wetas use their tusks much in the way that deer use their antlers. Eventually one concedes defeat and walks away unharmed. The tusks are part of the jaw without separate articulation and seem to get very much in the way at other times.

Unlike the giant wetas or well known common tree wetas (*Hemideina* spp.) which are vegetarian, this species seems to be mainly carnivorous. The captive specimens eat grubs and beetles, earthworms, mincemeat and “Biscats”! Cockroaches and slaters are less popular, while the more usual weta fare of fresh mahoe leaves and sliced carrot rates hardly a bite.

These wetas can also leap up to a metre at a time, and are adept tree climbers with well developed tarsal pads, or “suction cups” on the feet. Nevertheless, they live on the ground and seem reluctant to climb unless chased.

Now that research has begun on the weta, concern has arisen over how to best protect the species. Middle Island is small (10ha), bush-covered, rocky and steep. It is one of only two islands in the Mercury group (the other even smaller) naturally free from intro-

duced mammals. Both have surprisingly rich faunas of invertebrates and reptiles, which are in marked contrast to other nearby islands which have kiore and, in one case, rabbits as well.

The tuataras on Middle Island are probably natural predators of these wetas. However, because both animals are cold-blooded the tuatara does not pose the same threat as a warm-blooded predator like a rat would. Rats seek out their prey and find any cold-blooded creatures easy game when they become inactive in cold weather. Fortunately Middle Island so far has been spared this affront. Tuataras, in contrast, sit in wait for a meal to walk by. It also seems likely that the tuatara and weta prefer slightly different habitats, with the weta usually living where there is deep forest litter or dense low ground cover.

There could be other threats to survival of this weta. These are associated with small size of the island, which makes it particularly vulnerable to damage from any natural disturbance or introduced animals. This is perhaps well illustrated by the plight of the smaller common tree wetas on the Mercury Islands, which are becoming increasingly rare. Past burning and rat infestation have been pointed to as a reason; however some observers believe that the releases in the past 25 years of saddlebacks on two of the larger Mercury Islands have had an adverse effect on tree wetas. Saddlebacks are skilful foragers often able to prise prey out of tree holes during daylight. The Victoria University scientists would like to see this situation monitored more closely, and warn that any bird relocations on to rat-free island where invertebrates appear to be abundant should nevertheless be carefully assessed for potential impact.

Self-introduced birds such as starlings also pose a threat to wetas, but in an unexpected

way. Starling droppings from an extensive night-time roost on Middle Island have impaired plant growth except for hard ferns on the forest floor. Even a minor disturbance such as this could have unexpected biological consequences for the native animals, especially for those living on small islands where such effects are magnified.

Although Middle Island is a strictly protected site, the future for “Jaws” there is not assured. The threat of rats reaching the island is ever present, as was proven in 1988 with the escape of a ship rat on nearby Korapuki Island where kiore were eradicated in 1985. Small boats frequent the Mercury Islands, providing opportunities for an unwelcome “hitchhiker” to escape. The discovery of the ship rat on Korapuki demonstrates the value of adequate surveillance in the area.

While continuous protection from rats is essential, in the long term this unusual species will require the preservation of suitable habitat, a suitable food supply, and an animal community without close competitors – and perhaps also a captive rearing “insurance” programme. Plans are underway to find out more this summer by tracking wetas with miniature radiobeeepers – providing sponsorship can be found.

Until we understand more of the habits, susceptibilities and genetic resources of this unusual creature, we will not know what additional measures are needed or indeed what can be done, to provide appropriate protection. 🦗

*Source: Mary McIntyre (who would like to acknowledge the permission of the Department of Conservation for permission to collect wetas and for logistic support).*