



Welcome to this special edition Friends of Flora newsletter dedicated to the Mt Arthur giant wētā.

Hopefully you know that Friends of Flora is the proud champion of the Tu Ao Wharepapa | Mt Arthur giant wētā for Bug of the Year 2024. But you may be less clear why it's so important that you vote. So please read on to learn more about the cutest of the giants and FOF's alpine monitoring project.



Voting is open until February 12<sup>th</sup> at <https://bugoftheyear.ento.org.nz/>. Please support FOF and vote for the Mt Arthur giant wētā. This is the picture to look for on the voting page.

STOP PRESS! Two weeks into voting we've learned that the Mt Arthur giant wētā is leading the field by the slimmest of antennae, but the red admiral butterfly is flapping hard, and our wee giant is at risk of being overtaken in the popularity stakes. So, when you've voted, ask everyone you know to vote too. If you know John Oliver, all the better!

FOF is very fond of the Mt Arthur giant wētā, so much so we've given it a nickname - 'Tibio', after the wētā's Latin name, *Deinacrida tibiospina*.

Why is FOF so keen that you vote?

- **Tibio, the Mt Arthur giant wētā is the only critically threatened nominee for Bug of the Year, 2024.** It is found above the treeline on just a few mountains in Kahurangi National Park, including Tu Ao Wharepapa/Mt Arthur. That's right — nowhere else in the world. Without conservation action the Mt Arthur giant wētā will become extinct. The world would be poorer and less interesting without Tibio, but if we lose it, we are also likely to lose many other vulnerable invertebrates, geckos, skinks and the enigmatic black mountain ringlet butterfly, that share this alpine habitat. All these species are at risk from the same threats — rodents, especially mice, and climate change.

- Tibio needs help. It may be a giant wētā, but it's the smallest of them, weighing only 7 g. It's a gentle vegetarian and those characteristic spiny hindlegs have little defensive value against rodents. It's also cute, definitely the cutest of Aotearoa's wētā! The nymphs, or young wētā, are particularly gorgeous, all decked out in black-and-gold (see banner). It's nothing like the fearsome looking wētā that you find in the log pile.
- FOF's project area mirrors the national picture in that around 14% is above the trees, yet very little known about its biodiversity. FOF is working with Tibio, to try to address this lack of knowledge. But, much more research and conservation management are needed.
- FOF feels a special responsibility for Tibio, because it was first found on Mt Arthur by the entomologist Geroge Vernon Hudson in the 1880's.

*The Arthur Range is prominent in Te Tau Ihu, please help us shine a light on its' unique and wonderful biodiversity by voting for the Mt Arthur giant wētā.*



Photo: Ruedi Mosimann

## FOF's work with the Mt Arthur giant wētā

The Mt Arthur giant wētā lives in dense tussock grassland and sub-alpine shrubland. To understand where they are and how they are faring, we

*Tracking tunnel card with Mt Arthur giant wētā prints*

*Night search for alpine critters*



need to monitor them. But they're nocturnal and scarce, so transect or quadrat counts are not practical methods. Instead, we use unbaited,

tracking tunnels. Each tunnel contains a white card with a band of ink in the centre. Anything that passes through the tunnel gets ink on its feet and leaves footprints on the white card as it exits the tunnel. Of course we need to understand which footprints were left by which critter. To learn this, we had to search at night and encourage anything we found to walk through a tracking tunnel.

Over the years the FOF alpine project has developed and we now lay out a series of 100 cards four times each summer, specifically for Tibio monitoring. The proportion of cards tracked by Tibio provides an index of abundance.

*FOF volunteers led by Lesley Hadley and Martin Howard have been doing the hard yards monitoring the Tibio population on the Wharepapa ridge since 2016*



Photo: Ruedi Mosimann

What are we finding? The tracking index falls after periods with high mouse numbers particularly when the tussock grasses flower and set seed en-masse – lots of tucker for mice. Some other wētā can retreat to a defendable ‘house’ such as a tree cavity — not so Tibio; living on the ground in tussock grassland it has nowhere safe to hide and is particularly vulnerable to predation. Despite this, it has been a low priority for conservation action because rodent numbers and hence predation risk were thought to be low in the alpine zone. FOF’s monitoring has shown that this is no longer the case.

What can be done? Being an alpine specialist, the Mt Arthur giant wētā cannot be given sanctuary on an offshore island or in a fenced enclosure. Continued survival of this, the cutest of the giants, requires a mouse control tool that is effective in the massive landscapes of Kahurangi. There is currently no such tool. Like all the giant wētā, Tibio is wingless, so if it is lost from one maunga, the chances of it walking to another is remote. This makes it particularly vulnerable to climate change.

Thanks to the mahi of FOF volunteers, the threats mice and climate change pose to this charismatic giant wētā are beginning to be understood. FOF’s work demonstrates that local, dedicated groups of volunteers can make a difference for invertebrate conservation, even in the harsh alpine environment.



*FOF's temperature data loggers have shown summer temperatures in the tussock as low as 1C and as high as 34C. In winter it's bitter! Tibio's a hardy critter.*



Photo: Martin Howard

**Please help FOF look after Tibio and vote the Mt Arthur giant wētā vote for Bug of the Year 2024!  
Please ask your friends and whanau to vote!**

During the voting period, we are posting videos and other information on FOF's Facebook page, as well as at local events – please share it all. [#mtarthurgiantweta](#), [#BugoftheYear2024](#)

We also have a web page devoted to Tibio : <https://www.fof.org.nz/bug-of-the-year.html>.

To find out why Nicola Toki describes Tibio as a cross between a rhinoceros and a Humvee listen to RNZ's Critter of the Week in early December: [Tibio, on Critter of the Week](#). Nicola says nice things about FOF too!

And we're absolutely delighted that Julie Davies of Joolzart has made a beautiful painting especially for FOF's Mt Arthur giant wētā for Bug of the Year campaign. **Come to FOF's stall at the Motueka Market on 28 January** for a chance to win a print. **Thank You!**

