

## **Audio observation of a Wellington Tree Wētā *Hemideina crassidens* defence stridulation**

**Richard Littauer**

Te Kura Mātai Pūkaha, Pūrorohiko, School of Engineering and Computer Science, Te Herenga Waka Victoria University of Wellington

richard.littauer@gmail.com

Wellington Tree Wētā *Hemideina crassidens* are known to produce a stridulating sound during defence (Field 1982). No papers that I could find have presented publicly available audio files which include this sound. Here, I describe one such call, and encourage others to upload their observations to community science websites.

iNaturalist is a community science website where people can upload audio and photos of various species. At present, there are 2,370 research-grade observations of the Wellington Tree Wētā. Research-grade means that other users have examined the evidence, either photo or audio, and confirmed those observations. Only three of these observations have a sound recording attached.

On 4 February 2025, I observed a Wellington Tree Wētā at my home in Island Bay, Wellington. I was able to record a defence call, which the Wētā was doing as I was situating it for macroscopic photos (Fig. 1). The recording was done using my iPhone, and uploaded to iNaturalist. It is available at <https://www.inaturalist.org/observations/260566754>. A screenshot of one of the stridulations is provided using the free open-source tool Audacity (Fig. 2). Note that the band goes from around .5kHz to 16kHz; the top end may be the limit of the iPhones recording ability. To my knowledge, this is the first audio file that is publicly licensed of this defence call.



Figure 1: The Wellington Tree Wētā in a defense posture.

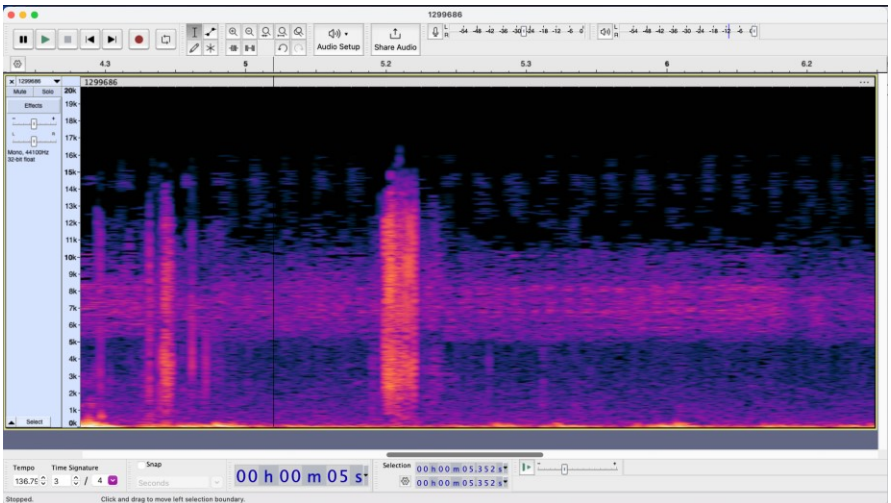


Figure 2: A screenshot of one of the stridulations using Audacity.

Two other sound files, <https://www.inaturalist.org/observations/77216552> and <https://www.inaturalist.org/observations/244452517>, showcase other calls, which are probably territorial signals. No observations of Wellington Tree Wētā are available on XenoCanto (<https://xeno-canto.org/species/Hemideina-crassidens>. Accessed on 5 February 2025), another database of insect sounds nor on Wikimedia Commons (<https://commons.wikimedia.org/w/index.php?search=Wellington+Tree+Weta&title=Special:MediaSearch&go=Go&type=audio>. Accessed on 5 February 2025).

Field (1982) presented seven different species of Wētā, with sonograms of each. This was a novel work at the time, as it would take considerable effort to record different species in their native environments. However, with sites like iNaturalist, it is easier than ever for members of the public to record and make observations that can be of use for understanding the variation in calls of insects like the Wellington Tree Wētā. By pointing out that this may be the first such openly-licensed recording, I hope to encourage others to also contribute to such databases.

## Reference

Field LH. 1982. Stridulatory structures and acoustic spectra of seven species of New Zealand Wētās (Orthoptera: Stenopelmatidae). *International journal of insect morphology and embryology*, 11(1), 39-51