The diet of two tree weta species: the natural and captive folivory preferences of *Hemideina crassidens* and *Hemideina thoracica*.

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Tree weta are common and widespread in New Zealand but we know little about their ecology because they are nocturnal. Basic knowledge of tree weta diet was sought by examining wild diet using cuticle analysis of frass, and captive experiments with *Hemidiena crassidens* and *Hemideina thoracica*. This base line data should help improve our understanding of where tree weta fit into New Zealand forest ecosystems. In the present study I examined the natural (wild) diet of two tree weta species Hemideina crassidens and H.thoracica and some aspects of dietary preference. The frass of thirty-three wild tree weta indicated that tree weta do not eat at random when compared to the plant species available to them. Some common plants were never eaten by tree weta. It was of note that a favoured plant species present in the frass was an exotic legume, known to have a high nitrogen content. Weta in this study ate on average only two plant species in a single night, however they increased the number of plant species they ate over two nights. By limiting the number of plant species eaten in a single night, tree weta may be allowing themselves time to deal with toxic compounds in the plant. Additional research into tree weta use of natural resources and dietary requirements would help further our knowledge of tree weta ecology.