

How well do we know our talitrid taxonomy? A Northland case study

Olivier Ball ^{*1}, Richard Webber ², Lara Shepherd ³

¹ Department of Applied and Environmental Sciences, NorthTec, Private Bag 9019, Whangarei

² Museum of New Zealand Te Papa Tongarewa, P.O. Box 467, Wellington

³ Museum of New Zealand Te Papa Tongarewa, P.O. Box 467, Wellington; and School of Biological Sciences, Victoria University of Wellington, Kelburn, Wellington

We examined the landhopper (Crustacea: Amphipoda: Talitridae) fauna of Te Paki in the far north of New Zealand using an extensive pitfall trapping study in 2006 - 2009. Six putative species were identified but only one (*Waematau reinga*) could be identified with confidence. A second taxon that is very similar to *W. reinga* was shown to be distinct by DNA analysis. Two further species described from Northland (*W. unuwahao* and *W. muriwhenua*) were also found but required the examination of type material for identification as published descriptions were not sufficiently accurate. Both were widespread and sometimes common despite having been considered rare and possibly extinct. Another two taxa from Te Paki are undescribed, and it is not yet possible to attribute them to genera. Additional collecting in Northland indicated that the distributions of the latter two species range from at least the Three Kings Islands to Whangarei. The three described species of *Waematau* found at Te Paki have been considered endemic to that ecological district, but individuals very similar to two of them (*W. reinga* and *W. unuwahao*) have recently been discovered in other parts of Northland. Lastly, our research has shown that some type material of at least two Northland species had been misidentified and preliminary molecular analyses suggest inconsistencies among New Zealand's current generic groupings. We therefore conclude that despite the considerable efforts of previous taxonomists, knowledge of our talitrid fauna is still at an early stage.

