

## A new weta from the Chatham Islands (Orthoptera: Raphidophoridae)

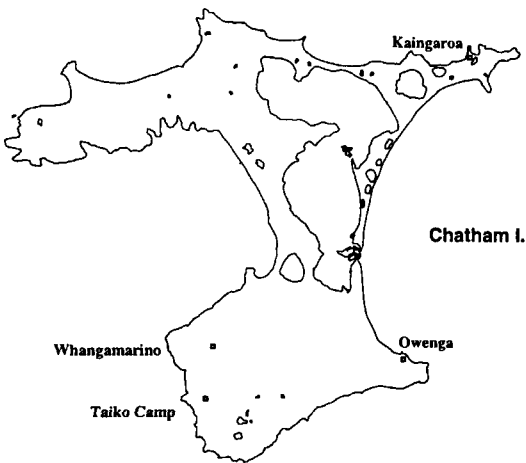
Steven A. Trewick\*

Cave weta from the Chatham archipelago, previously attributed to a single highly variable species *Talitropsis crassicuris*, actually comprise two different morphotypes. Specimens from Chatham Island were found to be taxonomically distinct from those collected on Rangatira, Pitt, Mangere and Little Mangere islands. A new species, *Talitropsis megatibia*, is described from these latter islands, and a neotype is provided for *T. crassicuris* Hutton from Chatham Island itself. Aspects of the ecology and

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### INTRODUCTION

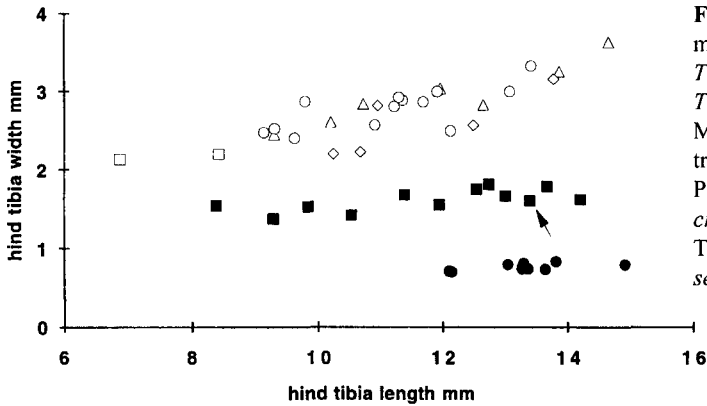
The Chathams archipelago is situated some 650 km east of the New Zealand mainland. It is



available. Similarly, only six of the specimens which I located in museums had previously been examined by A. M. Richards in 1955 and 1957 (however, it was not possible to confirm

from Chatham, The Sisters, Rangatira, Pitt, Mangere and Little Mangere for this analysis.

Each individual was examined for those external characters cited by H. W. (1957) 11



**Fig. 2** Length and breadth in millimetres of hind tibiae of *Talitropsis weta*. Open shapes *T. megatibia* (squares Little Mangere, circles Rangatira, triangles Mangere, diamonds Pitt). Filled squares *T. crassicuris* (arrow indicates The Sisters). Filled circles *T. sedilloti*.

hind femur, hind tibia and pronotum remained similar regardless of how the data were grouped. On the basis of hind tibial depth and breadth, individuals from Mangere, Little Mangere, Pitt and Rangatira were morphometrically indistinguishable from one another, but the populations from these islands were significantly different from the one on Chatham Island and The Sisters (Table 1. Fig. 2). All of the *Talitropsis* from the Chatham archipelago

(Fig. 3A-D) had thicker hind tibiae than *T. sedilloti* from New Zealand (Fig. 3F).

In conjunction with hind-tibial metric dimensions, the number and arrangement of spines on this limb also differed among populations. Lysaght (1925) and Richards (1958) gave examples of spine-count variation. Lysaght (1925) indicated that it was the number on the prolateral superior margin of the hind tibia that varied most in her sample. This is consistent with the present study, in which individuals from Chatham Island had spines along the full extent of the prolateral superior margin with a maximum of between 7 and 9 on each limb

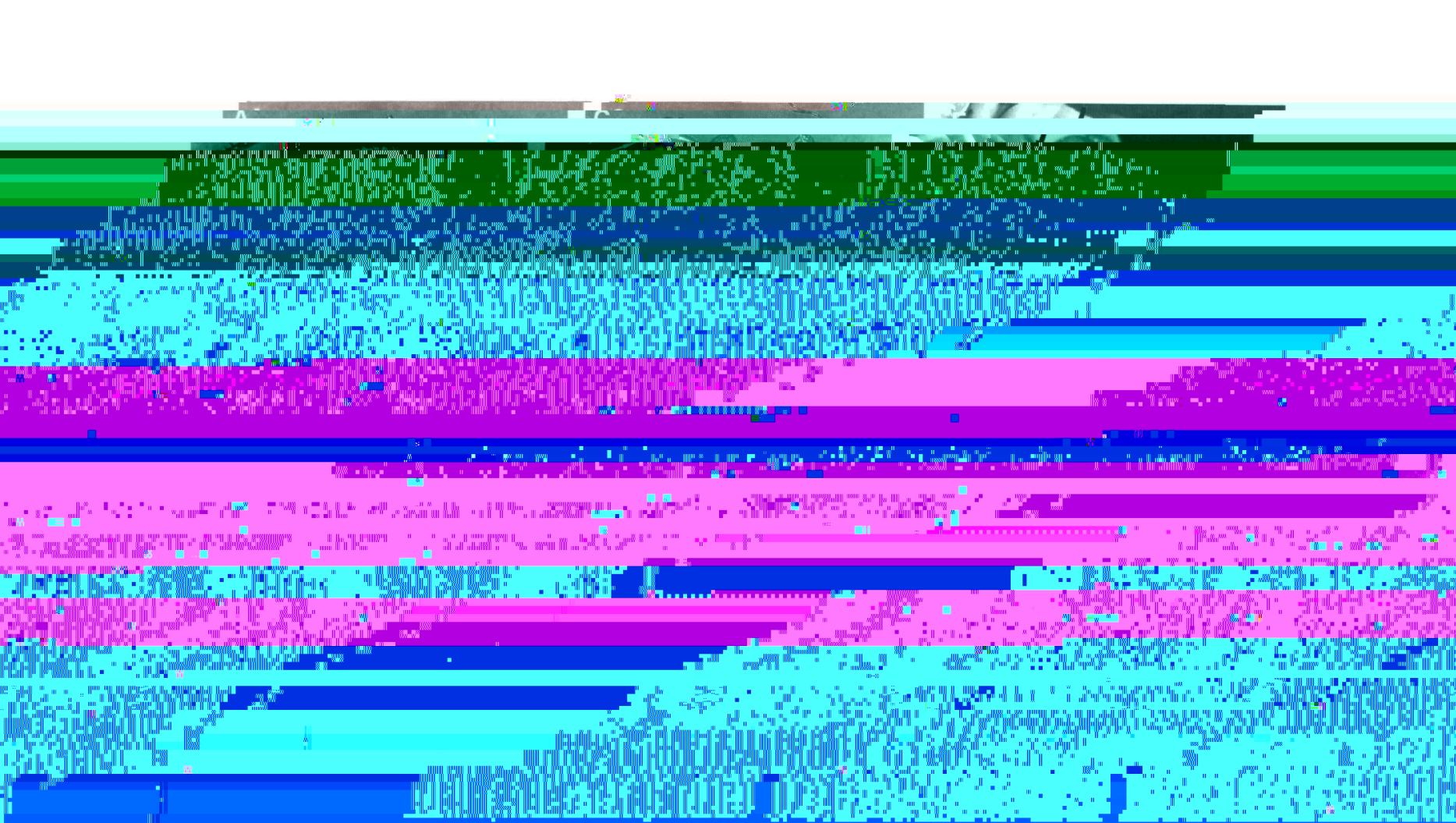


Fig. 2. 3D visualization of the structure of the *Chlamydomonas reinhardtii* cell wall, showing the various layers and components. The structure is composed of several distinct regions and layers, including a green layer at the top, a blue layer with a grid-like pattern, a prominent red layer with a grid-like pattern, and a white and yellow layer at the bottom. The overall appearance is that of a highly organized, multi-layered system.

1971.

**SPECIES DESCRIPTION**

*Talitropsis megatibia* Trewick, new species

**Diagnosis:** Hind tibiae bearing stout, only slightly backward-pointing spines on the retrolateral

and prolateral margins, but these are absent from the proximal half of the prolateral margin. Hind tibiae slightly laterally convex above, upper surface strongly longitudinally convex, or bulging. Average length/maximum width ratio of tibiae 4.1:1.

**Genitalia:** Female. Subgenital plate slightly wider than long, distal notch to between half and three quarters length of the plate. Lateral margin generally s-shaped. Cleft appendage arising medianly on sternite VII and extending distally, everted subgenital plate engages between the two lobes of this appendage.

**Male:** Subgenital plate slightly wider than long, bearing blunt median keel along its length. Lateral margin s-shaped, concave distally and three lobed at apex with abundant short setae. Median lobe bulbous.

**Legs:** Fore and mid-femora without spines. Hind femora with single distal inferior spine on

significant as it is the only known specimen of *Talitropsis* from The Sisters. A second neotype (female), also designated by A. Richards came from Mangere Island (Coll. C. Lindsay, 14 January 1924) and is consistent, in morphology and location, with *T. megatibia*. Paratypes: 1 male and 2 females (MONZ), 2 males and 3 females with the author.

**Distribution:** Restricted to Chatham Island.

**Up to 1924:** Collected on trees and shrubs at night, or extracted from narrow holes in living and

The coincidence of geographic range of these species is intriguing and may point towards an ecological explanation for the morphological differences between the two fat-legged weta

*T. eximius* and *T. mathisoni* are similar in the fine details of their morphology (see figure 1)



Lysaght, A M 1925 Orthoptera and Dermaptera from the Chatham Islands *Records of the Canterbury Museum* 2 300–310

Richards, A M 1958 Revision of the Rhabdophoridae (Orthoptera) of New Zealand Part I- The Rhabdophoridae of the Chatham Islands 1954 Expedition *Transactions of the Royal Society of New Zealand* 85 263–274

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