

Records of the Auckland Museum

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TAMAKI PAENGA HIRA
AUCKLAND WAR MEMORIAL MUSEUM

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Hemideina gigantea !
Deinacrida heteracantha
Trans. N.Z. XXVII p. 144.
Colenso 355/31.

Captured 1838.
Described 1880.



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Cover image: Holotype of *Hemideina gigantea* Colenso, AMNZ21862. Photo: Peter Quin.

Table of Contents

Foreword	iv
Articles	
Fossil and Recent molluscan types in the Auckland War Memorial Museum. Part 1: Bivalvia Wilma M. Blom	1
Provenance of the type specimen of William Colenso's giant weta <i>Hemideina gigantea</i> . John W. Early	49
Biogeography and biodiversity of intertidal micromollusca of northern New Zealand Margaret S. Morley & Bruce W. Hayward	55
Ostracoda of the Cavalli Islands, Northland, New Zealand Margaret S. Morley & Bruce W. Hayward	79



Provenance of the type specimen of William Colenso's giant weta *Hemideina gigantea*

John W. Early Auckland War Memorial Museum

Abstract

A specimen of a giant weta in Auckland Museum's collections (AMNZ21862) is confirmed to be the holotype of *Hemideina gigantea* Colenso, 1882 and its provenance is established. Its current name is *Deinacrida heteracantha* White, 1842 (Orthoptera: Anostostomatidae). It was collected in 1839 and is the oldest specimen of a New Zealand insect (or perhaps of any NZ land animal) in any New Zealand collection.

Keywords

William Colenso, *Hemideina gigantea*, *Deinacrida heteracantha*, Orthoptera, Anostostomatidae.

INTRODUCTION

William Colenso (1811-1899) was a significant figure in 19th Century New Zealand in all of his various capacities as missionary, printer, correspondent, trader, politician, linguist and first resident naturalist. The biographies by Bagnall and Petersen (1948), Mackay (2012) and Wells (2011) give good insights into this complex man and his very colourful life. His interest in natural history, although primarily botanical, was broad and he published a number of zoological papers including several on insects. A bibliography of his publications can be found in The Colenso Project (2013).

In 1882 William Colenso described a new species of giant weta under the name *Hemideina gigantea*. (Giant weta is the common name now applied to New Zealand's large flightless crickets of the genus *Deinacrida*, Orthoptera: Anostostomatidae). The description was based on a single specimen he had captured in 1839 near Paihia in the Bay of Islands (Colenso 1882) and so it automatically becomes the holotype specimen. A giant weta (Fig. 1) acquired in 1931 by the Auckland Museum (and now registered as AMNZ21862) purports to be this specimen but there is no label with it which links it directly back to Colenso. The brief entry from the museum's accession register, dated 6 August 1931, simply records

355/31 Large collection of zoological and botanical specimens in alcohol.¹
Purchased: Mr W. Hill. Napier.²

1 The weta is the only specimen from this accession that can be currently located in Auckland Museum's collections.

2 Archival correspondence from W.H. Hill gives addresses in Hamilton and Taupo rather than Napier which is where H.T. Hill lived.

St George (2013) published a note on this specimen. At that time the identity of the Mr W. Hill who sold the specimen to the Auckland Museum was uncertain but more information has since come to light. A folder of correspondence between W. Hill and Gilbert Archey, then Director of the museum, has been located in the museum's archives (General Museum Correspondence 1926-1940, MUS-95-43-8). This reveals that he is Mr W.H. Hill, known as Harry, and son of H. T. Hill (Henry) who was one of Colenso's friends, a trustee of his estate³ and also a scientist largely mentored by Colenso (Morris Matthews 1993, 2012). This established a direct link back to Colenso.

THE SPECIMEN AND ITS LABELS

Colenso (1882) stated that his type specimen was preserved in spirits in a clear glass bottle with a ground glass stopper. It has since been removed from alcohol and is now stored dry and held in position in a unit tray by bracing pins. It is covered with a whitish bloom as is often the case with old specimens that have been stored in alcohol for a lengthy period, and is no longer in good condition. The head and right antenna are detached, the head is pierced by an entomological pin, and the left foreleg is broken at the joint between the femur and tibia. There is a large hole in abdominal tergite 3 as though it may have once been pinned in that position. Its body length of approximately 100 mm agrees with published information (four inches).

The labels alongside the specimen are shown in Fig. 1. None is in Colenso's hand so there is no type designation by him. They also contain a number of errors.

3 W.H. Hill stated that his father H.T. Hill was one of Colenso's five trustees (*in litt*, Hill to Archey, 22 June 1931) but Wells (2011: 390) implies that he was not.



Figure 1. Holotype of *Hemideina gigantea* Colenso, AMNZ21862. Photo: Peter Quin.

The large label in pencil reads “Type Colenso 1838” and is in an unknown hand, possibly Hemingway’s. This label is annotated “Labelled thus in Hemingway Coll.” and initialled by E.G. Turbott, the museum’s Ornithologist and Entomologist, probably in 1943 when the Hemingway collection was acquired by the museum. Wilfrid Hemingway was the museum’s Honorary Entomologist from 1937 until his death in 1943. He was a well-off businessman who had his own personal collection of mostly exotic insects which were used in both museum displays and his own exhibitions which he used to raise money for the New Zealand Crippled Children’s Society. He also employed an assistant to pin and prepare the insects at the museum. It seems that he took a liking to Colenso’s giant weta and took it home, unbeknown to anyone at the museum and only

realised after his death in 1943 when his collection was presented to the museum by his widow. It was probably he who removed it from alcohol. Hill implied that there were labels with the specimen (Hill to Archey, 22 June 1931), clearly not Colenso originals but perhaps prepared following deliberate breaking of its glass jar for photography and subsequent re-housing in a new container. The date 1838 is in error, probably for the collection date of 1839.

The two labels in an antique style were written by John Salmon (pers. comm.) when he borrowed the specimen for his taxonomic revision of the New Zealand wetas (Salmon 1950). The reference on the larger of these labels is to a paper by Buller (1895) which mentions Colenso’s species. Both dates on the smaller label are erroneous.

ACQUISITION AND PROVENANCE

Hill initially wrote to Archey on 22 March 1931:

Dear Mr Archey

I have a number of "rare?⁴ specimens" collected by the late Rev Colenso & now in my possession which are certainly valuable enough to be included in the exhibits of your museum. These [?][?][?] 15-20 collecting bottles – made up of botanical specimens in spirits e.g. orchids etc – also including that remarkable specimen of weta *Deinacrida gigantea* which he (W. Colenso) writes of in the *Trans*⁵. Owing to being indirectly? affected? by the Napier 'quake⁶ I feel? [?] to part with them - but given a satisfactory offer - am prepared to let the museum have them – particularly since the collections named[?] were collected in the early '40's. The weta alone? is over 90 years old - & is now as good as when first placed in the spirit. The Dominion Museum in 1914 were keen to collect the specimen from me.

Yours faithfully

W.H. Hill

Hill proposed a sale price of £25 for the lot, noting that he had already been offered £5 in 1913 by the Dominion Museum (now Te Papa Tongarewa, Wellington) for the weta alone, but he preferred not to part with it at that time. He later expressed to Archey that he preferred these specimens come to Auckland Museum rather than Wellington but did not give reasons. Archey's counter-offer was £10, being £5 for the weta and £5 for the other specimens, and he expressed regret that he could not offer more because that would prejudice the Museum's ability to acquire other items for its collections. Hill accepted (but hoped that the Museum might increase its offer to £12), packed and dispatched the specimens which were received by the museum by 15 June 1931.

On 17 June Hill wrote to Archey requesting that he send a cheque for £10 as soon as convenient as he was experiencing some financial hardship. Archey responded that he could not pay immediately

...because it is not perfectly clear as to whether the large weta is actually Colenso's type of *Deinacrida gigantea*. The references in the literature are not particularly clear and there is a possibility from

what Captain Hutton has written that all Colenso's types may be in the Canterbury Museum⁷, and I am awaiting particulars which should reach me on Saturday or Monday. Can you, in the meantime, give me anything that will lead to a more certain identification of the specimen as Colenso's actual type? (Archey to Hill, 18 June 1931)

Hill's response indicates that he was upset, if not more than a little offended, by this but it did elicit the necessary information to establish the weta's status and provenance.

With reference to the *Deinacrida gigantea* of Colenso (type) I am not only satisfied that it is Colenso's type, but perfectly and conscientiously sure of this even taking into account whatever statements to the contrary may be stated by Hutton. Father was a Trustee of Colenso's estate (one of 5) and all his (Colenso's) dry specimens (botanical) were to be deposited in the then Colonial Museum, no mention being made of those that came into my hands very many years ago. The label on the bottle was stated by Colenso as the type specimen but as a photograph was taken of the specimen it was necessary to break the bottle, hence this label was destroyed. I can positively assert that the above specimen as stated to you on divers occasions is the type specimen as mentioned in the *Trans*. or which appears on the label as such.

Revising the matter from any position, I cannot understand why there is the slightest cause of doubt.

I do so trust you appreciate the spirit in which I write, but I feel sure you will understand that your letter has come somewhat as a surprise. (Hill to Archey, 22 June 1931)

In the meantime Archey received a telegram from the Canterbury Museum confirming that they did not have Colenso's type in their collection and he was happy to accept Hill's statement. Hill subsequently wrote

With respect to the *Deinacrida* I felt a little hurt in the belief you did not credit me with the knowledge I possessed so far as Colenso's specimens were concerned, for I feel sure there is but little I do not know respecting this remarkable man; and I am therefore pleased that you are adopting the method you suggest knowing as I do the specimen is as advised. (Hill to Archey, 26 June 1931)

4 Hill's handwriting is difficult to decipher. A ? following a word indicates my best attempt. [?] indicates a complete word is missing.

5 *Transactions and Proceedings of the New Zealand Institute*.

6 It is not clear what he is referring to, but his father H.T. Hill was badly affected by the Napier earthquake of 7 February 1931. H.T. Hill had recently mortgaged his property on Napier's Bluff Hill to fund a trip back to England, only to have a large part of his section subside and be lost in the earthquake (Morris Mathews 1993).

7 I do not know the basis for this. I have read all of Hutton's insect papers and cannot find any statement which would support this. Hutton died in 1905 so it cannot refer to any recent correspondence.

TAXONOMY AND THE NAMING OF THE SPECIES

Colenso collected the weta in 1839, some 4-5 years after he arrived in New Zealand as a young man from England on 30 December 1834 (Wells, 2011). He was aware that Adam White had described *Deinacrida heteracantha* in 1842 (through Dieffenbach's (1843) book) and supposed that his own specimen was identical to it. The specimen was packed away in 1843 before he moved from Paihia in the Bay of Islands to found a mission station at Waitangi, just south of Napier. It wasn't until 1864 that he re-examined it and stated that this showed "their respective and great differences" (Colenso, 1882). Although he stated that it had a close affinity with *D. heteracantha* he chose to place it in the genus *Hemideina* but gave no reasons as to why. In later papers he commented that he doubted that the two genera were naturally distinct (Colenso 1885, 1887).

Hutton, Curator of the Canterbury Museum, borrowed the type from Colenso and after examination decided that their differences were not great and so placed the name *Hemideina gigantea* as a junior synonym of *Deinacrida heteracantha* White (Hutton 1897) which is the name that it is now known by. A similar fate befell many of Colenso's other new species of insects. As a taxonomist Colenso was a 'splitter' - minor differences that would be regarded as intraspecific variation were magnified in his mind so that he saw many new species that did not really exist. This has been well documented for his botanical work (St George, 2009).

A CHEQUERED HISTORY

Although now known by a different name, this weta retains scientific significance as the holotype specimen for the name *Hemideina gigantea*. Should some taxonomist in the future decide that Colenso was correct after all and that it is a distinct species (no matter how improbable) this specimen will be the holotype. However, unlike most specimens in scientific collections, this weta has had quite a history and achieved fame so that its scientific value and importance are enhanced from this historical perspective. Details of its history prior to 1880 are taken from Colenso (1882).

- 1839: Captured in a small low wood behind Paihia.
- 1839-43: Examined by luminaries in Paihia – Ernst Dieffenbach, Sir Joseph Hooker, Dr Andrew Sinclair, Lady Franklin and various visiting American and French naturalists.
- 1843-1864: Packed away in a box.
- 1865: Exhibited at the New Zealand Exhibition, Dunedin.
- 1880: Colenso decides it is a new species and presents a paper to the Hawkes Bay Philosophical Institute.
- 1882: Colenso's description and name are published in the *Transactions of the New Zealand Institute*.
- 1896: Capt. F.W. Hutton borrows it from Colenso and synonymizes the name with *Deinacrida*

heteracantha White, 1842. The name change is published in 1897.

- 1899: Came into the possession of H.T. Hill's family, Napier, following Colenso's death, probably bought by H.T. Hill from the estate. Wells (2011: 393) mentions "1 Lot of Preserved Insects etc & 1 Lot of Specimens of all sorts (£5)".
- 1931: Purchased by Auckland Museum from W.H. Hill for £5 after due diligence by Gilbert Archey.
- 1937-43: Found its way into the private collection of Wilfrid Hemingway, Honorary Entomologist, Auckland Museum.
- 1943: 'Discovered' in Hemingway's collection when it came to Auckland Museum after his death.
- 2002: Poster girl for *More than a Mummy*, Auckland Museum's 150th birthday exhibition.

THE OLDEST NEW ZEALAND INSECT?

In one of his letters, Hill wrote

...and I believe that if the truth were known, that specimen is one of the oldest in N.Z. today. (Hill to Archey, 26 June 1931)

Enquiries to fellow curators of museums and other collections in New Zealand show that Hill's prediction was correct and that it is indeed the oldest specimen of a New Zealand insect in a New Zealand collection. There are older N.Z. specimens in European collections obtained during the early voyages of discovery (e.g. Captain James Cook in the Natural History Museum, London), and there may well be exotic insects older than 1839 in New Zealand collections e.g. Auckland Museum holds a small collection of European insects, mostly Hemiptera, Orthoptera and Hymenoptera, made by the Swiss entomologist Henri de Saussure and acquired 1877-1880.

The weta may also be the oldest N.Z. land animal collected alive that survives in any New Zealand collection. The oldest New Zealand bird in a New Zealand collection is probably a takahe (*Porphyrio hochstetteri*) at Te Papa collected in 1851 (Gill 2007) but the oldest land vertebrate is a shore skink (*Oligosoma smithi*) taken from Bay of Islands in 1841 and now in the Auckland Museum's collection. It was collected by naturalists of the *Erebus* and *Terror* Antarctic Expedition under the command of James Clark Ross (1839-1943) (Gill 2000). The visit of the HMS *Erebus* to the Bay of Islands occasioned the meeting of Colenso and Joseph Dalton Hooker, the expedition's botanist. The two young men had an instant rapport and thus began a lifelong friendship and collaboration as their frequent correspondence demonstrates (St George 2009). Colenso certainly showed Hooker his giant weta (Colenso 1882) and it seems probable that he (Colenso) may have seen the freshly-collected shore skink, another link between these two pioneering naturalists who contributed so much to the early scientific knowledge of the flora and fauna of Aotearoa New Zealand.

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