



COLLECTION OF A CRESTED MOA
Pachyornis australis
**from Megamania Cave, Kahurangi National Park,
West Coast, South Island, New Zealand**

- Deborah Carden

Early in 2006 the Canterbury Museum sought permission from the Department of Conservation (DOC), West Coast to collect the skeleton of a Crested Moa *Pachyornis australis*. The application was supported by two of New Zealand's leading palaeontologists Trevor Worthy and Richard Holdaway who believed that collection of the specimen would add significantly to understanding of the species. Ngati Waewae, the local iwi, also supported the collection.

Between the 5th and the 9th July 2006, Dr Paul Scofield, Kristen Ramsdale (Canterbury Museum) and Deborah Carden and Chippy Wood (DOC Buller/Kawatiri) collected the skeleton from a short blind passage near the main entrance of Megamania Cave, Kahurangi National Park. Paul Scofield and Russell Bromley, a Westport caver, first found this specimen during a private caving expedition in 2003.

Significance

Crested moa were found exclusively in the northern part of New Zealand's South Island, in NW Nelson. Prior to the collection of this specimen there was only one complete skeleton in any museum

collection. That had been collected from Mt. Arthur in 1998 by Te Papa Tongarewa (NZ's national museum located in Wellington).

The species remains the rarest moa in museum collections due to the difficulty in recognising individuals and its restricted range. Canterbury Museum previously had only nine bones of this species. Moa have been shown to vary significantly in size over time with animals during the Otiran glaciation (c 15,000 ybp) being smaller than those present later. Furthermore, moa have also been shown to be sexually dimorphic with males being smaller than females. Any understanding of the biology and relationships in this regional endemic can only be achieved through study of a number of complete skeletons. The collected skeleton will be preserved in the collections of Canterbury Museum rather than it gradually deteriorating in the cave.

The Collection

The bones were in a loose mud matrix that covered an old rockfall. After first photographing and mapping the visible bones each bone was carefully removed by hand from the matrix and placed in a plastic bag then wrapped in newspaper.

Paul Scofield, curator, Canterbury museum, with the skull of a male crested moa. Photo: C Wood, DOC collection.



They were wrapped in cave packs and carried by hand out of the cave then packed into two “Esky” bins for helicopter cartage from the site. All bones were collected except for six toes that may have washed away.

Both the tiny, light hyoid and thyroid bones were found making the collection very unusual. Small samples (<100g) of matrix were collected and placed in plastic containers for subsequent DNA, gizzard and pollen analysis. DOC staff members were present throughout the excavation to supervise and give advice.

Impacts

The skeleton was in an unpleasant rockfall in a passage that had not been explored prior to the Scofield/Bromley first visit. The bones were difficult

to see due to being of similar colour to the soil and removal did not affect the aesthetics of the cave.

It is likely that there will be little visitation to the passage as it has no decoration and does not lead anywhere. Thus it is of little interest to cavers.



Paul Scofield and Kristen Ramsdale, Canterbury museum, retrieving the crested moa skeleton, Megamania cave. Photo: C Wood, DOC collection.

What now

The bones will be cleaned, stabilised and prepared for display. It is envisaged that a short-term display will happen in less than eighteen months and that the skeleton will go on long term display in the newly developed natural history gallery.

