

## SUB-FOSSIL AVIAN REMAINS FROM TWO LIMESTONE CAVES IN NORTH TARANAKI

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### ABSTRACT

Sub-fossil avian remains from two cave systems of Mahoenui Valley, Taranaki, New Zealand, are listed, with reference to the occurrence of present day birds of the area.

### INTRODUCTION

Since 1965, limestone caves around Mahoenui, North Taranaki, have been explored by members of the Taranaki Caving Club. In many caves in this area sub-fossil avian remains have been found (Medway 1967, 1971).

In 1967 it was decided to systematically excavate two caves: 'Bluegum' and 'Spotlight'. In this short paper material found over a period of three years is described.

### DESCRIPTION OF CAVES

Spotlight Cave is situated on Totoro Road, 13 km (about 8 miles) north of Mahoenui. The cave consists of a narrow stream passage, with several side passages. The majority of bones appear to have been swept in by floods and deposited on ledges, either before or after the birds had decomposed.

Bluegum Cave is 9.5 km (about 6 miles) north west of 'Spotlight' on Mongaorongo Road. This cave has been formed by subsistence of the underlying rock leaving a large central cavern with numerous tomos (vertical shafts) to the surface above. The birds presumably fell down these tomos and were buried by the continual deposition of material from the surface.

### DISCUSSION

Many of the species represented in these caves are now extinct: North Island takahe, Finsches duck, lesser aptornis, owl nightjar, snipe and moas. Other species are presumed extinct: North Island thrush, North Island kakapo, North Island huia; or restricted to certain areas of New Zealand and offshore islands: North Island weka, North Island saddleback, little spotted kiwi, Cooks petrel, and red-crowned and yellow-crowned parakeets. New Zealand pigeon, North Island kiwi, scaup, North Island kaka, bellbird, tui, whitehead, North Island robin, morepork and North Island fernbird are found in the area at present. No remains of pukeko (*Porphyrio melantos* Temminck, 1820) or introduced passerines and gamebirds, which are common in the area, have yet been found in the caves around Mahoenui.

SPECIES LIST OF SUB-FOSSIL AVIAN FINDS IN  
SPOTLIGHT AND BLUEGUM CAVES

Bones of the following species were identified using Scarlett (1972) and with the assistance of R.J. Scarlett.

SPOTLIGHT CAVE

- Cnemiornis septentrionalis* Oliver, 1955 (North Island extinct goose)  
*Euryanas finschi* (Van Beneden, 1875) (Finsches duck)  
*Aptornis otidiformis* (Owen, 1844) (lesser aptornis)  
*Notornis mantelli* Owen, 1848 (takahe)  
*Megaegotheles novaezealandiae* Scarlett, 1968 (owlet nightjar)  
*Coenocorypha* [new species - awaiting publication] (snipe)  
*Turnagra capensis tanagra* (Schlegel, 1865) (North Island thrush)  
*Strigops habroptilus* Gray, 1845 (kakapo)  
*Apteryx australis mantelli* Bartlet, 1850 (North Island kiwi)  
*Apteryx ?oweni* Gould, 1847 (little spotted kiwi)  
*Callaeas cinerea wilsoni* (Bonaparte, 1851) (North Island kokako)  
*Pterodroma cooki cooki* (Gray, 1843) (Cook's petrel)  
*Gallirallus australis greyi* (Buller, 1888) (North Island weka)  
*Cyanoramphus novaezealandiae novaezealandiae* (Sparrman, 1787)  
 (red-crowned parakeet)  
*Cyanoramphus auriceps auriceps* (Kuhl, 1820) (yellow-crowned parakeet)  
*Aythya novaeseelandiae* (Gmelin, 1789) (New Zealand scaup)  
*Nestor meridionalis septentrionalis* Lorenz, 1896 (North Island kaka)  
*Hemiphaga novaeseelandiae novaeseelandiae* (Gmelin, 1789) (New Zealand pigeon)  
*Anthornis melanura melanura* (Sparrman, 1786) (bellbird)  
*Prothemadera novaeseelandiae novaeseelandiae* (Gmelin, 1788)  
 (tui)  
*Mohoua albicilla* (Lesson, 1830) (whitehead)  
*Petroica australis longipes* (Lesson, 1828) (North Island robin)

Dinornithiformes (moas)

- Dinornis struthoides* Owen, 1844 at least 4 individuals  
*Dinornis giganteus* Owen, 1844 at least 4 individuals  
*Dinornis gazella* Oliver, 1949 at least 2 individuals  
*Dinornis novaezealandiae* Owen, 1843 at least 2 individuals  
*Euryapteryx curtus* (Owen, 1846) at least 9 individuals  
*Euryapteryx geranoides* (Owen, 1848) at least 8 individuals  
*Zelornis exilis* (Hutton, 1897) at least 9 individuals  
*Anomalopteryx didiformis* (Owen, 1844) at least 20 individuals  
*Anomalopteryx ?oweni* (Haast, 1886) at least 1 individual

BLUEGUM CAVE

- Philesturnus carunculatus rufusater* (Lesson, 1828) (North Island saddleback)  
*Gallirallus minor* Hamilton, 1893 (little extinct woodhen)  
*Heteralocha acutirostris* (Gould, 1837) (huia)  
*Euryanas finschi* (Van Beneden, 1875) (Finsches duck)  
*Megaegotheles novaezealandiae* Scarlett, 1968 (owlet nightjar)  
*Coenocorypha* [new species - awaiting publication] (snipe)

*Turnagra capensis tanagra* (Schlegel, 1865) (North Island thrush)  
*Strigops habroptilus* Gray, 1845 (kakapo)  
*Apteryx australis mantelli* Bartlet, 1850 (North Island kiwi)  
*Apteryx oweni* Gould, 1847 (little spotted kiwi)  
*Gallaeas cinerea wilsoni* (Bonaparte, 1851) (North Island kokako)  
*Pterodroma cooki cooki* (Gray, 1843) (Cook's petrel)  
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*Hemiphaga novaeseelandiae novaeseelandiae* (Gmelin, 1789) (New  
 Zealand pigeon)  
*Anthornis melanura melanura* (Sparrman, 1786) (bellbird)  
*Prothemadera novaeseelandiae novaeseelandiae* (Gmelin, 1788)  
 (tui)  
*Mohoua albicilla* (Lesson, 1830) (whitehead)  
*Ninox novaeseelandiae novaeseelandiae* (Gmelin, 1788) (morepork)  
*Bowlderia punctata vealeae* Kemp, 1912 (North Island fernbird)  
 Dinornithiformes (moas)  
*Zelornis exilis* (Hutton, 1897) at least 3 individuals  
*Euryapteryx curtus* (Owen, 1846) at least 1 individual  
*Anomalopteryx didiformis* (Owen, 1844) at least 7 individuals

Tuatara (*Sphenodon punctatus*) remains have been found with the avian bones in both caves.

The material from Spotlight Cave consisted of individual, isolated bones; while the material from 'Bluegum' included many part skeletons. A large number of bones from 'Bluegum' were of immature birds. Many of the bones recovered were worn or broken and individual skeletons were spread over a wide area, making it difficult to determine the actual number of birds represented. A minimum figure can be determined from the numbers of a particular bone, e.g., at least twenty *Anomalopteryx didiformis* are represented in Spotlight Cave since twenty left tibio-tarsal bones were found. On the basis of particular bones for the other species of moa, there are at least forty-nine individuals present.

Accumulation of bones took place over a long period of time. Part skeletons of *Cnemiornis* from 'Spotlight' were found in mud, sealed under a calcite flow with a maximum thickness of about 75 mm (3 inches). Thus these bones are at least one thousand years old, or possibly older (R.J. Scarlett, pers. comm.).

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