



NEW ZEALAND
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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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examined carefully this year, and their relation to other local sites plotted.

Among sites visited during the year was the large settlement area in the inland district, known as Rangitumau, about twenty minutes by car from Masterton. An area of approx. 40 acres, spreading over several adjoining hills is covered by pits of various sizes and shapes; and a further 100 acres shows scattered pits. The most interesting feature of this site is the presence of crescent shaped pits which have also been noted on other sites in the district. The site has no defensive features. Artefacts from the Wairarapa areas include a Type 4 adze, of the hogback variety, 14" long, and a stone sinker of white quartz with a notched periphery. Also found here was a whalebone adze 6" long. A moa bone was recovered from a cooking site, amongst burnt stone and charcoal, and was identified by J. Yaldwyn, of the Dominion Museum as probably Anomalopteryx sp.

Another site visited during the year was in the Lake Horowhenua area, where a midden compound composed entirely of freshwater mussels. *Hyridella Menziesi* measured 50' x 30' and varied in depth from the outer edge where it was 1" deep, to 18" in the centre. Careful examination yielded no other shell, or any bone. Other middens of this type are present in the district.

The Wairau Bar was also visited during the year, and surface sites visited in the company of Jim Eyles. Site records were made of two settlement areas in the Pelorous Sounds, close to the Government Walking Track, and they were closely examined and photographed. A clearly defined Mouri Walking Track up to one of the areas shows well in one photograph.

An interesting excavation under the leadership of Dr. T.T. Barrow, of the Dominion Museum, was done in Palliser Bay, and the expedition recorded some unusual features.

MOA REMAINS FROM THE WELLINGTON DISTRICT by J.C. Yaldwyn.

This account is intended merely as a preliminary review of the sub-fossil and archaeological moa material from the Wellington district which I am at present studying at the Dominion Museum.

This work is still in an early stage and all identification of moas to genera and to species must be regarded as preliminary and tentative. It is my intention here to discuss the material available, to give some idea of the difficulties involved in the identification of the smaller North Island moas, and to show how a detailed understanding of the sub-fossil moa remains from an area is needed to give a firm foundation to any attempted identification of the area's archaeological moa material.

The Wellington district, for the purpose of this account, is taken as extending from Paekakariki in the north, through Porirua Harbour, Wellington Peninsula and Wellington Harbour to Baring Head in the south. The main problem in this area, as in any other North Island coastal area, is the confusing complex of small to medium sized moas (eight species as understood by Oliver, 1949) which may be present as unassociated, and often damaged, bones. This complex of species is distributed in four different genera, Pachyornis (P. mappini and P. septentrionalis), Euryapteryx (E. tane & E. curtus), Zelornis (Z. exilis) and Anomalopteryx (A. didiformis, A. parvus and A. oweni). For some reason the most usual bone available is the tibia, either entire or reduced to merely the distal or proximal end, but it is this bone which is of least systematic use of all the leg bones. Femora and metatarsi are of much greater systematic value but are relatively uncommon, at least in the Wellington district. Skulls, generically diagnostic for this complex, would be a godsend, but are unfortunately completely absent in the material available from the area.

The large North Island moa referred to as Dinornis ingens by Archey (1941) and Oliver (1949) in their monographs, is referred to below as D. novaezealandiae, while the Dinornis novaezealandiae of Archey and Oliver must now be called D. struthoides. The reason for this confusing change will not be discussed here as it is the subject of a forthcoming paper in the J.P.S.

Localities from which Moa Material is available.

Paekakariki: A complete tibia in the Dominion Museum collections can be identified, from length alone, as Dinornis novaezealandiae. No data known other than locality, but the bone appears to be from a swamp or stream deposit and is clearly

non-archaeological.

Paremata: In 1951 a complete tibia of what I take to be Pachyornis septentrionalis was found in situ in shell and pumice sand several feet below a late maori midden layer, (containing broken china and glass) in a small gully near Walker's Hill. Associated sub-fossil fauna included New Zealand wattled crow (Callaeas), a small penguin (Eudyptula) and a small Kaka (Nestor cf. N. septentrionalis). The pumice sand layer can be correlated with the "Taupo Outwash Pumice" of Adkin's Horowhenua - Paekakariki sequence and is regarded by him as post-human. This site is now destroyed and buried beneath the new Mana View Road.

Another complete tibia in the Museum collections with no other data than the locality "Paremata", is also regarded as P. septentrionalis. It is a sand-dune bone and clearly non-archaeological. Two similar sand-dune museum bones with the same locality label are a femur, almost definitely from the large moa, Euryapteryx geranoides, and a metatarsus from the smallest species of Dinornis, D. gazella.

Makara Beach: - site N.160/3. This Beach midden area was investigated in some detail by Susan Davis and Bruce Palmer in 1958. Moa remains excavated from undisturbed oven and midden layers include the proximal head of a right tibia of Dinornis species, probably from its size D. hercules; the proximal half of a broken femur of Anomalopteryx cf. A. parvus; the proximal half of a broken tibia probably Pachyornis mappini or Anomalopteryx sp. but possibly Euryapteryx tene or Zelornis exilis (a perfect example of the problem outlined above), and the distal end of a tibia of an immature moa possibly Pachyornis mappini. Although the first three bones mentioned could have been brought to the occupation site in a sub-fossil state by non-moa-hunting maori, I consider the immature bone as decisive evidence of genuine moa-hunting by the inhabitants of the Makara Beach area. Several other fragments of unidentifiable moa leg bone were excavated in association with a bird fauna including a small penguin, (Eudyptula, probably E. minor) and a large shag (Phalacrocorax sp.). Because of the significance of this Dinornis bone excavated from a North Island archaeological site, both the bone itself (D.M.587) and a charcoal sample taken from the oven immediately surrounding the bone, will be submitted for carbon dating.

Supplementing the material of this excavation, Mr. C. Curtis has made a collection of moa bones over several years, from the wind-

blown and greatly disturbed surface sands of the Makara Beach area. Some of these bones, such as a femur of Pachyornis mappini, characterised by its completeness, its lightness in weight and its pale creamy-yellow colour, I regard as typical sub-fossil sand-dune bones; while others such as another femur of P. mappini, characterised by its abruptly broken and split shaft, its relatively greater weight and its dark strained appearance, I regard as being derived from disturbed midden layers. However, as the majority of the material in this collection is very damaged and badly weathered, it will all be regarded here as of uncertain origin. In addition to the two femora already mentioned a third is almost definitely Euryapteryx tane, though the possibility of Zelornis exilis can not be entirely ruled out. Several proximal and distal tibial ends are identified as P. mappini or perhaps Anomalopteryx didiformis, while others are either Pachyornis septentrionalis or A. parvus. One distal end could belong to any of the four genera in this complex. Finally this confusing assemblage includes a damaged metatarsus of Anomalopteryx didiformis, a completely certain identification.

Te Ika a Māru. Some years ago the proximal head of a moa tibia was found by Bruce Palmer in an extensive oven area on the northern side of this bay (south of Makara). The bone, though partially exposed in a stream bank was found in situ some ten inches down in the oven layer. Though it is much weathered it almost certainly belongs to either Anomalopteryx (both A. didiformis and A. parvus are possible) or Pachyornis mappini.

Karori and Makara Hills. In 1931 Mr. P.F. Kilmister presented to the Museum a damaged and abraded tibia which he had found in a gully to the east of the South Makara Road. This interesting bone is from a sub-adult Dinornis, almost certainly D. novaezealandiae. Both Kilmister and Mr. P. Bockett report that when the Karori and Makara Hills were first cleared for settlement large moa bones and numerous moa crop stones were found scattered over the surface.

Lyall Bay. An old sand-dune metatarsus in the Museum collections is clearly a large Euryapteryx, almost definitely E. gravis. There is no evidence of direct association with an archaeological site.

Seatoun: Mr. N.W. Thomas found a partial skeleton of the large moa Euryapteryx geranoides buried under nine feet of sand near Pinclands Avenue in 1939. As well as a damaged pelvis the bones of both legs are present in very good condition. The bird was not quite mature, and from the lightness of the bones and their white, almost chalky, appearance, as well as from their association as a partial skeleton, it is quite obvious that this is a sub-fossil specimen, and not, as Oliver announced in the newspapers at the time, a bird the maori had "used for food."

A complete femur and a damaged pelvis were brought to the Museum in 1953, from the Miramar Library. They had been found in the Seatoun area many years before, but the exact locality had not been recorded. They show traces of a yellow clay matrix and it is possible that the clay from each is different. The femur is almost definitely Pachyornis mappini, while the pelvis could be Euryapteryx cf. E. geranoides or possibly P. mappini. The bones are clearly non-archaeological.

Conclusions.

This survey of all the moa material apparently now available from the Wellington district, demonstrates that at least the following species were present in geologically recent (i.e. post-pleistocene) times:

Dinornis cf. D. hercules
Dinornis novaezealandiae
Dinornis gazella
Euryapteryx gravis
Euryapteryx geranoides
Anomalopteryx didiformis
Anomalopteryx cf. A. parvis
Pachyornis mappini
Pachyornis septentrionalis
 ? Euryapteryx tane

(List arranged in approximate order of size. The enigmatic species Zelornis exilis must also be regarded as a possibility).

Of these listed species only the following have been recognised in undoubted primary association with archaeological sites:

Dinornis cf. D. hercules
Anomalopteryx cf. A. parvis
 ? Pachyornis mappini.

Even in this list the identity of the third species is in doubt, any of the four small genera may be present, though it is fairly certain that P. mappini, at least, is represented. Finally it must be stressed again that except for the immature moa discussed above, there is still no conclusive proof that these bones represent moas killed by moa-hunting maori.

MOA IDENTIFICATIONS FROM TAIRUA, COROMANDEL COAST. by J.C. Yaldwyn.

In view of the announcement in this issue of the Newsletter of the first undoubted Dinornis remains excavated from a North Island archaeological site (Dinornis of D. hercules from Makara Beach, Wellington) I have thought it only fair to Roger Green, who is at present doing field work in French Oceania, to include here a preliminary announcement on the moa material he excavated at Tairua Harbour (site N 44/2, See Newsletter, Vol. 2. No. 2. pp. 22 & 24.

At least one species of Dinornis is definitely present in Green's "moa-hunter layer" and this is probably D. novaezealandiae (the D. ingens of Archey and Oliver). Another, larger, Dinornis species is represented by immature bones, while the possibility of a smaller species of Dinornis as well cannot be entirely ruled out. The genus Pachyornis appears to be represented in both the "moa-hunter layer" and in sub-fossil material excavated at the site, while moa vertebrae of several sizes are also present in the occupation layer. All the faunal remains from this site are under study at the moment and a full discussion of the groups represented will appear with Roger Green's final report. The problem of whether the bones have been brought to the site in a sub-fossil state, or whether they represent birds killed by moa-hunting maori will also be dealt with in this final report.
