



NEW ZEALAND
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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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Further Report on:

EXCAVATIONS AT POUKAWA, HAWKE'S BAY, NEW ZEALAND

T.R. Price

INTRODUCTION:

Prior to original drainage in 1931 the main body of water from Poukawa Lake had reached the outfall via two natural channels which passed through very extensive areas of dense high raupo. These waterways were wide and shallow with reasonably good footing and afforded excellent feeding grounds for many types of birds. The outfall its tributaries and the lake itself provided ideal conditions for the development of the Hyridella and other smaller types of fresh water shellfish, also fresh water fish and crayfish common to the North Island of New Zealand. The sites, N141/1 and N141/2, which are being investigated at present are situated at the north end of the old Poukawa Lake bed just inside the outfall, a short distance to the west of the present drainage channel. (Price 1963 : 169) In view of the possible archaeological associations of the site, all excavating has been controlled and proper records kept from the first.

SUMMARY OF ALL WORK CARRIED OUT AT N141/1 from October 6th 1962, to December 26th, 1964.

The site has been divided into three parts for convenience in working:

1. The Stream Bed: This is the dry bed of an old stream meander, the stream having been drained into the present drainage channel.
2. The Stream Bank: This is a strip of land, 2 - 3 ft. higher than the bed, which lies at the base of a headland. It is a gentle rising slope from 12 ft. to 30 ft. across and about 335 ft. in length.
3. The Headland: This is a low flat grass covered area some 10 ft. higher than the stream bed. A small shallow depression which proved to be an oven (or fireplace) was the only surface indication of occupation.

The three parts have been investigated separately and the work of the immediate future is to correlate the findings of each part.

THE STREAM BED:

Section of a 9 x 9 ft., 7 ft. 10 in. deep test square

- | | | |
|-------|-----|---|
| Layer | (1) | 6 ins. brown peat. No timber |
| " | (2) | 2 ins. coarse pumice mixed with peat. No timber |
| " | (3) | 4 ins. dark peat. No timber. |
| " | (4) | 2 ins. fine white pumice. No timber. |
| " | (5) | 25 ins. dark reddish cracked peat (sedimentary) No timber.
Moa vertebra. |
| " | (6) | 6 ins. almost pure deposit of hyridella, a few twigs. |
| " | (7) | 8 ins. yellow brown decayed matter with hyridella. |

Layer (8)	fine shells and small branch wood. Whole hyridella scattered.
" (9)	12 ins. peat with fine shells and hyridella.
" (10)	4 ins. pure deposit fine shells some hyridella. No timber.
" (11)	18 ins. silty peat, small wood and hyridella. 5 giant swan bones.
" (12)	Base - blue pug.

A distance of 65 ft. of the stream bed has been excavated, a total of 804 square feet to date. The following were found:-

44 broken moa bones	35 bones of other extinct birds
70 unbroken moa bones	72 unbroken bones, extinct birds
72 gizzard stones	1 split slab of totara cut in half.

Only 4 broken moa bones were found in layer (2), a few in layer (6) and the majority imbedded in, or resting on, layer (5). The split slab of wood was imbedded in layer (6) immediately under the edge of the stream bank.

THE STREAM BANK:

Section of test square:

Layer (1)	6 ins. peaty top soil
" (2)	3 ins. coarse pumice, peat, pumice stones.
" (3)	2 ins. peat. No timber
" (4)	1 ins. fine white pumice
" (5)	5 ins. peat, wood, matai seeds.
" (6)	6 ins. brown stained soil with wood.
" (7)	6 ins. stained pug.
" (8)	Base pug.

The following were excavated from 1,760 square ft. of bank squares:-

161 broken moa bones	1,203 broken bones of other extinct birds
183 unbroken moa bones	565 unbroken bones of other extinct birds
430 gizzard stones	

The great majority of the moa bones were found along the edge of two middens; most of the bones found in the stream bed were a spill over from the midden which came right to the edge of the bank. 95% of the bones came from below the two pumice bands. At the foot of the headland some fire blackened broken stones together with a sandstone file and finely grooved sandstone were found in the midden. A further midden at the north extremity of the excavation contained several types of moas some of the bones of which were possibly worked, together with badly smashed pelican bones, oven stones and an obsidian cutter. When the squares at the foot of the south-west face of the headland were excavated, a well marked layer of redeposited subsoil appeared. This had clearly come from the higher part of the headland, but its nature and extent has yet to be elucidated.

THE HEADLAND:

The headland has been divided into three faces for convenience, the south-west, the south and the south-east.

The south-west face:

880 square feet have been excavated and four fire pits found, two containing fragments of moa bone. Several pieces of totara wood were found 2 inches below the surface. A total of 547 pieces of stone were found. (The

nearest local source of stone is a limestone outcrop a mile or so from the site). There were 241 fire stones of local origin, 160 broken hard non-local stones, 81 stone flakes (heat fractured), 25 flint flakes, 27 jasperoid stones, 7 sandstones, 2 unbroken hard stones, 4 obsidian flakes and 262 broken pieces of moa bone.

The south face:

756 square feet in extent, has not yet been excavated.

The south-east face:

1,788 square feet, of which 352 sq. ft. have been excavated. A large hybridella midden was found below the crest of the face, resting on a previously occupied area. Moa bones were found on the base in association with shallow scoops and post-holes, both these lying above the top pumice band. Pieces of worked totara wood were found some two inches below the surface, scattered over a wide area, associated with a few stones and one obsidian flake. From the midden and below were found: 820 fire stones of local origin, 702 broken stones (non-local), 34 broken soft white stones (flint core casings), 15 pieces of worked totara wood, 1 flint stone, 1 obsidian flake, 10 pieces broken moa bone and 6 broken extinct bird bones.

SUMMARY OF RESULTS FROM N141/1:

Signs of human habitation have been found on the headland, and there appears to have been at least three periods of occupation. The link between these occupations and the extensive middens on the stream bank and in the stream bed has not yet been clarified, but it seems clear that the first, and possibly the second, occupation were associated with extinct bird hunting and with the extensive middens at the base of the headland. There are indications that the two early occupations were separated from the later one by the pumice bands. The stone artifacts recovered are sparsely scattered throughout the site and number about thirty: these are primitive flakes of flint, together with sandstone files and rubbers.

A total of 2,373 broken and unbroken bones of extinct birds were found, 95% below the fine pumice layer (4). 458 broken and unbroken moa bones were also recovered - all but 4 below layer (4).

The extinct birds comprise a wide range, some very rare. No bones of the swamp hen common in the district today have been found at either site. The remains of the extinct giant swan and extinct ducks dominate the collection. The moa bones represent a wide range from *Dinornis giganteus*, *D. hercules*, *D. gazella*, two *D. immatures* and several types of smaller mature and immature moas.

The chief objective of the early hunters appears to have been the giant swan and smaller birds and whatever moas were handy together with hybridella shellfish. No moa eggshell was found. Parts of two tuataras were recovered from the base of the excavation.

It is of first importance to establish the validity of airfall Waimihia Lapilli and this may be accomplished by further mapping around Poukawa and through Heretaunga Plains to the uplands at Patoka, Te Pohue, and Raupunga where the bed has been definitely identified. But this may be impracticable as I am not resident on the spot, and to be effective, this kind of work requires much searching. Another method is to determine the radiometric age of the bed by sampling the peat immediately above and below and so bracketing the deposit as it were. Dating in this manner proved fruitful at Lake Repongaere, Gisborne, where Taupo Pumice and Waimihia Lapilli in subfossil peat were confirmed after hand over hand mapping along a line of 100 miles (Fullar, 1964).

A few field characters associated with Waimihia Lapilli may not go amiss:

- (1) in peat, alluvium, and collovium the bed is always white and fairly compacted.
- (2) it has organisation cursorily in a fine top and a coarser base with a sharp contact as in the profile above
- (3) on floodplains and fans, waterborne ash is associated with the airfall deposit giving the impression of extraordinary thickness, and for a while in the Gisborne district gave much trouble in plotting isopachs until the two depositional forms were separated. The close association of waterborne/airfall deposits is now discovered to be common in the Bay of Plenty and Gisborne districts and from variable thicknesses quoted by Price, (as much as 10 in.), it would appear that the same character is to be noted in Hawkes Bay. Indeed, in the landforms mentioned I would now regard this association as a diagnostic criteria for Waimihia Lapilli, just in the same way as the highly vesicular lapilli typify Taupo Pumice in the Gisborne district (Green and Fullar, 1960; p.349). An example of waterborne/airfall association is given by Fullar (1963); figure);
- (4) Waimihia Lapilli is widespread having been noted in eastern Bay of Plenty, Gisborne district and northern Hawkes Bay.

The lower ash layer is unlikely to be Taupo Pumice as the members were all erupted close in time (Healy, 1964; p.29) and at Poukawa, the layers are separated by 15 in. of peat; nor are the Taupo sub-group members 9 to 13 (erupted 2,500 to 2,800 years before 1950) a likely source as on the Taupo-Napier Road about 5 miles east of Rangitaiki, the collective deposit is only a few inches thick (Healy, 1964; fig. 9, (p.25) and at Gisborne is 1 in. and at Tiniroto $\frac{1}{2}$ in. As a first shot, and on stratigraphic grounds, I plump for Waimihia Lapilli.

REFERENCES:

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N.Z. Geol. Surv. Bull. N.s. 75. 88 pp.

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The work at Poukawa has been extensive; this has been possible by the assistance given by Mr. K. Ramsay, Mr. F. Tegg and Mr. K. Pedler and I am sincerely grateful to them for their careful and methodical help over a very considerable period of time.

Reference:

Price, T.R. 1963 - N.Z.A.A. Newsletter, Vol. 6, No. 4.

NOTE ON ASH BEDS AT POUKAWA, HAWKES BAY

W.A. Fullar

Ash beds at Lake Poukawa (Price, 1963) were briefly examined on 30th December, 1964, in the company of Mr. P.J. Grant, Havelock North. At the diggings, probings in peat revealed two ash beds near the surface and this arrangement was confirmed along the side of a drainage canal $\frac{1}{2}$ mile west where the following profile was obtained;

- 9 in. dark brown peat
- 1 in. pale yellowish white coarse ash and lapilli (up to $\frac{3}{4}$ in. long, jagged, and highly vesicular)
- 15 in. dark brown peat
- 2 in. white fine ash (upper lin. very fine and lower inch fine); firm.
- On peat

I consider the upper ash layer to be airfall Taupo Pumice (erupted 1819 plus 17 years before 1950) and the lower, airfall Waimihia Lapilli (erupted 3270 plus 200 years before 1950). An account of the chronology of these ashes is given in Healy, Vucetich and Fullar (1964: pp.33 and 42).

If the lower layer is indeed Waimihia Lapilli then the discovery by Price (p.171) of "items related to man found below the pumice band....." raises implications almost too daring to be true. At Orongo Bay, Gisborne, Green and Fullar (1960) could find no evidence of occupation below the Taupo Pumice and suggested first occupation of the site between AD 500 - 1200, and Wellman (1962: fig. 22, p.88) finds no sign of human occupation in his stratigraphic division No. 5 between AD (?) 500 and AD 150 (Taupo Pumice eruptions). Indeed, in the Bay of Plenty it has become exceedingly difficult to prove occupation below the Kaharoa Ash (erupted 930 plus 70 years before 1950).