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**NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER**



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EXCAVATION AT HAMPDEN BEACH, NORTH OTAGO

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The presence of occupational remains in the vicinity of Hampden Beach, between the Little and Big Kuri Streams, North Otago, has been known locally for fifty or sixty years, and numerous artifacts have been found on the beach and ploughed up in the paddocks adjoining the sand dunes.

The immediate hinterland is rolling country (which was mostly bush covered at the time of European settlement), running into steep spurs and valleys some two and a half miles from the coast. According to tradition a track left the beach at Hampden and proceeded inland (Beattie 1954: 121). Numerous adzes have been found throughout the whole of the locality, usually while ploughing or cultivating, and oven depressions and middens are known behind the township (e.g., Site Number S.146/12). The majority of the adzes are untanged quadrangular varieties of various materials including basalt, argillite and nephrite, but tanged quadrangular and hogbacked adzes have also been recovered.

From investigations which I made in 1952 and 1957 (Trotter 1959: 11), I assumed that although most of the beach site (S.146/16) had been disturbed by ploughing, roadworks and erosion, the remaining portion was "protected" for the present time by pine trees (*Pinus radiata*) which had been planted on either side of the mouth of the Big Kuri. In several places where the top soil or sand had been removed to a depth of six to nine inches, a black earthy deposit containing burnt stones, moa bones and occasional artifacts could be seen. While naturally-deposited moa bones are not unknown in the loess cliffs in this vicinity, they are generally noticeably mineralized or are more brittle (due to reduced organic content) than those of the beach site. The likelihood of primary association, together with artifact types such as a tanged quadrangular adze (fig. 1), a minnow lure (Otago Museum D.34.505), and blades of orthoquartzite, suggested that this was a fairly early occupational site.

Early in 1965 the local body who has control over the area, cut down the trees on the southern bank of the Big Kuri Stream and bulldozed several hundred yards of soil - including occupational material - into a swamp to clear land for use as a carpark adjacent to a camping ground.

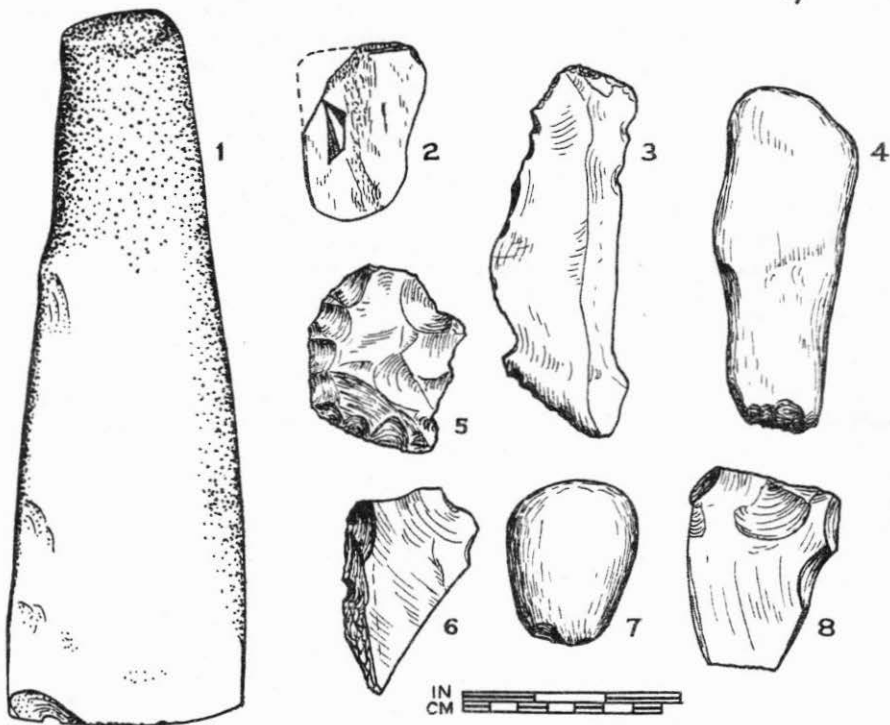
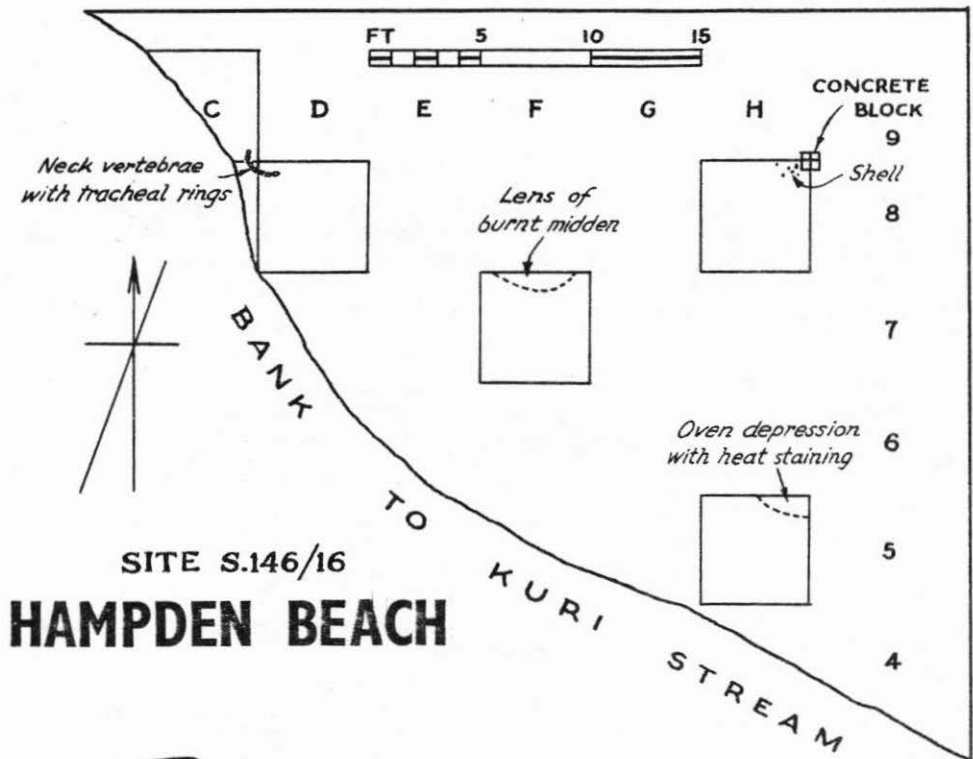
Apart from a few pockets and a possible area beneath the camping ground, this left only a small portion of the site (about one hundred square yards plus isolated ovens) undisturbed on the northern bank. In order to obtain data and material from here before it was destroyed, I made an excavation with members of the North Otago Scientific and Historical Society in May 1965.

A grid of five-foot squares (see Trotter 1964: 117-120) was laid out on this northern portion of the site, and five of these, which appeared to contain occupational material yet were not too close to trees, were selected for excavation.

In general the occupational deposit had from two to ten inches' cover, and was up to nine inches thick, comprising mainly numerous burnt stones and broken moa bones in a matrix of river gravel.

Over 750 whole and broken bones of Euryapteryx gravis were recovered, including a neck with skull, quadrates, vertebrae and tracheal rings approximately in position of articulation, and part of another neck. Most bones showed considerable breakage and apart from ischial processes, pelvis were absent. An analysis of all bones and fragments over three-quarters of an inch long is, in the main, rather inconclusive due to the low number of squares concerned. It is, however, interesting to note that 97.5% of the identifiable pieces of moa bone came from two squares, one of which was incomplete due to river erosion; and the ratio of these pieces to small, generally unidentifiable, fragments is quite different in each (C.9 = 39.9/43, D. 8 = 57.6/26.6) - in other words, square C.9 had over 60% greater small-fragmentation than the diagonally adjacent D.8. Almost 20% of the small fragments and some of the larger pieces had been burnt or darkened by heating. The absence of certain bones from one of the squares and their presence in the other suggests that the bones came from a small number of birds, and this is supported by the minimum number of bones (centre column of table) all of which could be accommodated by three individual moa.

This may mean that the area selected for excavation was either a localised temporary butchering and cooking place, or that it was a small encampment chronologically separate from the site on the other side of the stream, although the deposits are outwardly identical. It would be difficult to prove the contemporaneity or otherwise of the occupational deposits on either side of the stream. Even had disturbance not taken place, the effects of different matrices (gravel, sand, earth) in different parts of the site, and the shallowness of the cover, would make fluorine analyses, or similar comparative dating processes, unreliable.



The only other midden bones obtained were six pieces of bird and three of dog. Shell was very sparse, there being only 25 fragments, representing perhaps eight or nine shellfish of four species. Although the Hampden Beach is sandy with few rocks, several sand-inhabiting species of shellfish not represented in the site are readily obtainable now.

Twelve flakes of orthoquartzite and seven of chalcedony were obtained from the excavation, fifteen of them being between 15 mm. and 40 mm. (9/16" and 1.9/16") in the longest dimension. Most of these appear to be waste flakes, but two larger ones of orthoquartzite (figs. 3, 5) show considerable usage, and one of them (fig. 5) has had much secondary flaking. Other artifacts are a water-worn greywacke stone of flattened cross section which has been used as a "chopper" (fig. 4), a broken one-piece hook tab of moa bone (fig. 2), and three fragments of moa bone with work marks. Although few in number and not very distinctive in type, these artifacts, like the surface finds from elsewhere in the site, are comparable to those from other moa-hunter sites in Murihiku.

Two samples of moa bone collagen were radiocarbon dated by Mr T. A. Rafter at the Institute of Nuclear Sciences, Lower Hutt, and gave reliable dates of A.D. 1412  $\pm$  70 and 1396  $\pm$  53 respectively.

A small lump of baked clay approximately  $1\frac{1}{4}$ " x 1" x  $1\frac{3}{4}$ " in size was found, but it did not have any moulded surface which might indicate its use (cf Trotter 1965: 177). Like those found in a number of other sites where clay does not occur naturally, its presence can hardly be accidental.

#### References

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|----------------------|--|
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| Trotter, M. M., 1959 | "Archaeological Investigations in North Otago". N.Z.A.A. Newsletter 2 (3): 10-13.                                      |
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MIDDEN SPECIES

Shells:

- Catseye: *Cookia sulcata*.  
 Turret: *Maoricolpus* sp.  
 Oyster: *Ostrea* sp.  
 Bivalve fragment sp. not identifiable.

Bones:

- Dog: *Canis familiaris*.  
 Moa: *Euryapteryx gravis*.  
 Bird: Penguin species.

HAMPDEN BEACH

Identifiable Pieces of Moa Bone

Bone	Number of Pieces				Min. No. of Bones	% of Identifiable Pieces			
	C.9	D.8	H.8	Total		C.9	D.8	H.8	Total
Skull	3			3	2	1.9			1.9
Quadrates	1		1	2	2	.6		.6	1.2
Tracheal	6	12		18	18	3.8	7.6		11.4
Vertebra	10	34	1	45	45	6.3	21.5	.6	28.4
Rib	5	4		9	6	3.2	2.5		5.7
Pelvis	3	6		9	2	1.9	3.8		5.7
Sternum		2		2	1		1.3		1.3
Femur		6		6	4		3.8		3.8
Tibia	7			7	6	4.4			4.4
Fibula		8		8	4		5.1		5.1
Metatarsus	2		1	3	3	1.3		.6	1.9
Toe	18	13	1	32	32	11.4	8.3	.6	20.3
Claw	8	6		14	14	5.1	3.8		8.9
Total	63	91	4	158	139	39.9	57.6	2.5	100.0

Small Fragments of Moa Bone

	C.9	D.8	F.7	H.5	H.8	Total
Number	256	168	100	10	60	594
Percentage	43.1	28.2	16.8	1.7	10.1	100.0

ARTIFACTS

Excavated:

Fish-hook Tab: moa bone (fig. 2).

Worked moa bone, 3.

Flakes: orthoquartzite, 12 (e.g., fig. 3, 5).

Flakes: chalcedony, 7 (e.g., fig. 6).

Chopper: greywacke, 1 (fig. 4).

Surface:

Adze: basalt (fig. 1).

Flakes: orthoquartzite, 3.

Flakes: chalcedony, 2 (e.g., fig. 8).

Chopper: jasper, 1 (fig. 7).