



NEW ZEALAND
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NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER



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THE PHYSICAL ANALYSIS OF REFUSE IN NEW ZEALAND
ARCHAEOLOGICAL SITES

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Janet M. Davidson states that her Thesis (Davidson 1964) was undertaken because "there is still a need for systematic investigations of various kinds of midden deposits and for a consideration of techniques which could be applied to them." The greater part of her thesis concentrates on refuse deposits in New Zealand, techniques of excavation and analysis while interpretations and inferences based on midden analysis is dealt with in a rather brief chapter as she had only a relatively few samples from three widely separated areas in the North Island and a few from South Island sites. Without a doubt, Miss Davidson could have profitably extended this chapter if she had had comprehensive records of midden refuse from defined areas.

Realising this deficiency, I chose the area west of Auckland and have commenced to survey and record all the midden sites I can find therein. With only about one-third of the area covered - 42 sites - unexpected information has come to light, so I thought that a summary of the information so far obtained would interest other recorders to carry out similar surveys in their areas.

The western districts of Auckland are perhaps unique in that most types of topography are found within their boundaries, and this would help to account for the diversified nature of the midden content. The area has a tidal inlet of the Kaipara Harbour almost reaching its northern boundary, on the south is the Manukau Harbour and its tidal inlets and bays, while on the east is the Waitemata Harbour with its tidal inlets reaching almost up to the eastern scarp of the Waitakere Ranges. The centre of the area, a rugged heavily forested country with numerous streams, is bounded on the west by the Tasman Sea, with sheer cliffs of conglomerate rock up to 900 feet in height. Several streams flow out to this coast and around their mouths are sandy beaches. The area described is roughly oblong, 16 miles in length and 10 miles wide.

Tradition tells of the land being part of the tribal territory of the Kawerau who were in possession of most of it up to the time of European settlement (Graham, 1925; Diamond, 1966). Its pa and settlement sites differ from the usual pattern in that they all lack surface evidence of defensive works such as ditch banks, and pits are limited, often only one or two to a site (Diamond, 1961, 1963). Midden refuse is found in the bush as well as on the coast and the 42 sites are almost evenly divided between inland and coastal sites.

I do not propose at this stage to draw any inferences or offer any interpretations of my analysis compiled to date, but append the following summary to show the information that has been gleaned from a systematic survey of a defined area.

1. Although Toheroa, Amphidesma ventricosum, are abundant on the beaches both to the north and south of the area, only two middens very close to these borders contained its shells. Of exceptional size, averaging $5\frac{1}{2}$ " , they made up the bottom layer in these two middens. Not one Toheroa shell has been found in any of the other middens so far recorded.

2. Fish and bird bones are absent in the lower layers of the middens although fish are plentiful in the harbours and from the coastal beaches and rocks. It is only in the top layers or isolated coastal midden that any bones have been found.

3. Around what I term pa sites, midden is almost non-existent. There are sometimes thin layers up to 2" in thickness, but in most cases only sprinklings of shells are to be found.

4. Throughout the area, middens with a pure Pipi, Amphidesma australe, and Tuangi, Chione stutchburyi, content have been recorded. Even on the coast where there is an abundance of shellfish in the beach sand and on the rocks, there are middens composed entirely of these two shellfish. In this type of midden, the average size of the shells fall into two distinct categories:

A. Midden containing shells of a big average size.

B. Midden containing shells of a small average size.

This is accounted for by the fact that in B, the content is made up of far greater percentages of small even minute shells, thus reducing the overall average size. Group B middens are usually located close to the source of supply, while A are found as much as 15 miles or more away. On the eastern side of the Waitakere Ranges many Group A sites appear to be along the route of a reputed Maori track from the Whau portage to the west coast at Muriwai and the Kaipara.

5. Only in one midden have I found large quantities of clean shells such as are found on the pa sites on the Auckland isthmus. This midden is on the west bank of the tidal portion of the Whau Creek on the Waitemata side of the Whau Portage. Practically all the other middens have shells intermingled and packed with earth or sand.

6. At Hobsonville on the shore of the Upper Waitemata Harbour there is a midden which yielded the unusual number of eight different varieties of shells, all of large size and all available from the nearby beach or from the sandbanks off-shore. Most of my recordings show three, but at the most five, varieties of shells in a midden, although a greater variety of edible shellfish is available in the immediate neighbourhood. However, the midden at Hobsonville has since proved to have been deposited over a period of about 35 years by an English family very fond of seafood.

7. Almost invariably no other shells but the common Mussel, Mytilus canaliculus, along with a few Hopetea, Neothais scalaris, make up the content of the topmost layers of the middens. The average size of the mussel shells decreases towards the top layers - one midden from 2 and 7/8ths to 2½ inches - but the Hopetea remain very much the same average wherever they are found - two inches. My records show that a few Hopetea shells are always found in association with Mussel shells.

While the analysis of a large stratified midden can provide progressive information on the culture and time sequence of occupation associated with that midden, I consider that the systematic survey of many middens in a defined area is necessary to complement that information. Miss Davidson's Thesis proved that this type of recording is sadly lacking in New Zealand archaeology.

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