

ART. LXVIII.—*On Maori Middens at Wainui, Poverty Bay.*

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LEAVING Gisborne by the Gisborne-Tolago Road, a pleasant walk of about three miles brings one out on to the sandhills of the coast at Wainui. Amongst these sandhills, both up and down the coast, are to be found great heaps of shells, with burnt stones, flakes of obsidian or native glass, and flint chips, mixed with great numbers of bird, fish, and other bones, marking old native camping-places, or middens as they are sometimes called. Many interesting details of the ways of primitive man have been made out from the contents of the old Danish kitchen-middens, and these middens of our own country will be found no less instructive. Some of these cooking-places are of quite recent date, as is evident from the presence of the bones of cattle, large dogs, and other imported animals; but there are also the refuse-heaps of a vastly older period, telling of the times when the great moas ranged through the adjacent thickets and swamps, and on the hills that remarkable lizard, the tuatara, was plentiful; while the little brown native rat, the *kiore Maori*, abounded in the bush, and was used as an article of food.

The greater part of these old middens lies buried under the low hills of shifting sand, but here and there the winds, and in places the sea, have swept the old land-surface bare, leaving exposed a wonderful collection of bones and shells, showing what varied fare these old moa-hunting lizard-eating men lived on. About the best exposure of this kind lies down the coast, about a quarter of a mile from where the road first reaches the sandhills. Here, on the south side of the creek that drains an extent of flats that open out on to the coast, is a space of a few acres swept clear of sand, cut into four levels or terraces, each about 3 ft. high. These terraces face seawards; the uppermost is on a level with the surrounding flats, and the lowest merges into the sand of the beach. They are formed of a hard brown sandy loam, and are literally white with the multitude of bones and shells upon them.

Human bones are plentiful, grim tokens of many a wild cannibal feast; also numbers of moa-bones, and quantities of the fragments of their shells. Here, too, are the neat little saw-like jawbones and cupped vertebræ of the tuatara, a lizard some 20 in. in length. It is said to have been com-

mon here till some sixty years ago, but is now extinct on the mainland; it is still found on a few of our outlying islands, but nowhere else in the world. Rat remains are plentiful, skulls, jawbones, and delicate incisors forming, with their other bones, tiny drifts, in places inches thick. The *kiore Maori* must have been much smaller and slighter than our grey Norway rat, judging from these bones. With these are vast numbers of the bones of land-birds, sea-birds, fish, and piles of the shells of pupus, pipis, pawas, and others, mixed with flint and obsidian flakes and cooking-stones.

The human and moa remains seem confined to the three lower terraces; they are all much worn, and when freshly extracted from the soil were, with the exception of the lower mandible of a moa, very brittle, crumbling away if not carefully handled. The moa-egg shells occur in little piles of fragments varying from 1 in. to $2\frac{1}{2}$ in. in diameter. So sound are they and the markings are so distinct that it is hard to realise that they have lain buried for years, probably centuries. The highest of these little terraces has evidently been occupied quite recently, as mixed with lizard-bones, which are the only ancient remains, are the bones of cattle, large dogs, seals, and whales, all apparently having been eaten there within the last twenty or thirty years. The flint and obsidian flakes or knives so common here are all more or less worn and blunted by use and the action of the wind-blown sand, but must have made, in the absence of metals, most efficient tools for skinning, shaving, tattooing, and other light work. A large block of obsidian was kept in every camp, and each made his own knife by tapping off flakes till a suitable one was procured. These knives were used till blunt and then thrown away, not treasured up and sharpened again and again like the worked-up stone adzes and meres. We hunted long and carefully in the hopes of finding one of these obsidian blocks; but in vain, only securing a small flint core from which a few flakes had been roughly chipped.

Amongst the bone drifts one can easily distinguish the beaks, breast-bones, &c., of kakas, pukekos, wekas, and a host of smaller land-birds; also the strange flattened tarsi of penguins, and the slender pipe-like wing-bones of the strong-flying sea-birds; while amongst the fish are the teeth of whales and sharks, the hoof-like grinders of the stingaree, the long serrated fin-spines of the elephant-fish, besides a host of others too numerous to mention.

These terraces run under low sandhills which extend for about a quarter of a mile southwards, where they are stopped by a spur of the coastal range. There is a deep hollow between the sandhills and the spur. This hollow reminds one of the discription of the Roc's Valley in "Sinbad the

Sailor," so full is it of dead men's bones, which have worked down from a layer which shows out some 30 ft. up the face of the spur. The layer is said to be the level of an old burying-ground, which seems likely enough, as, with the exception of a few lizard-bones and obsidian flakes, the remains are all human, unmixed with cooking-stones. These bones are in a much better state of preservation than the larger kinds of bones on the terraces below, and are very thick and massive, particularly the skull-bones, of which we found many fragments but no perfect specimens, the perfect skulls having no doubt been carried off long ago. Stone weapons and bone and wood combs have been found here, but we were unsuccessful in getting any, probably from the same reason that we found no perfect skulls.

This spur ends precipitously over the beach, and is the first of a succession of sea-faces of grey marl. The remains of a terrace runs along these faces for some distance, at a height of about 100 ft. above the sea. In the black soil of this terrace are again the burnt stones of the "copper Maoris"* and heaps of shells, but we could find no human, moa, or lizard remains. If it had not been for the unmistakably burnt stones and shells I should have put it down as a raised beach, as, further up the coast, beyond Turehau, are beds of shells at quite as great a height, wonderfully fresh in appearance, that have undoubtedly been left by the sea.

A curious feature here is the immense numbers of the bleached shells of land-snails amongst the other remains. The greater part of them are the tiny fellows so common in our shady gullies, ranging from $\frac{1}{8}$ in. to $\frac{1}{3}$ in. across, but having amongst them one large species (*Rhytida greenwoodi*) measuring nearly 1 in. in diameter. It puzzles me to account for their presence here in such numbers. Nowadays great numbers may be found in the drifts left by floods on the banks of streams draining suitable country, but they are too evenly distributed here to be accounted for in this manner. The smaller species may have found a living on the old land-surface when it was covered with herbage; if so, it is curious that they are so well preserved, as the shell soon rots away, as a rule, when the occupant is dead. I have never seen a living specimen of the large *Rhytida* in Poverty Bay, though I have heard of a shell answering to its description from the Tolago Bay district. In Taranaki, where it is fairly common, it haunts the dankest and darkest gullies, where under rotten logs and dead nikau-heads it and its tiny lime-shelled eggs may be found; but I never saw it in the class of vegetation that would clothe these middens. On asking a Maori of North

* ? Kapura Maori.—ED.

Auckland if the great purangi, our largest land-shell (*Paryphanta busbyi*), was edible, the answer was a decided negative, in which disgust and amusement mingled, so that it is hardly probable that this smaller species was collected for food.

There is one land-shell that this locality thoroughly suits—that is, *Helix aspersa*, the garden snail. It swarms under the sparse vegetation of the sandhills, and numbers of its dead shells lie mixed with the moa- and lizard-bones of the middens—a strange contrast.

One of my visits was at low tide, and all down the coast great stretches of slippery shining reefs, with fascinating pools and weed-clad ledges, lay shining in the sun, teeming with the life of the sea. These ancient shell-eaters had their harvest right at their doors, and the shell-heaps show how varied were their takings. Even the sea-slugs were laid under contribution, as I found fine specimens of the duck's-bill limpet (*Parmophorus*) on the heaps. It is common under the stones on the reef, the black, slimy, slug-like body in which the flat white shell is deeply immersed looking anything but inviting for food.

In conclusion, I would say that a much pleasanter though rather longer route to these middens is by going out past the Gisborne Breakwater and up the beach till opposite what is called "the island," where an old tramway-track runs through a saddle in the coast range and joins the coast road within half a mile of the middens. This route, however, is only available at low tide, as at full tide the sea washes right up to the low cliffs on the town side of the island.
