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A brief note on the STRATIGRAPHY of BIRD and HUMAN MATERIAL in HAWKES BAY.

by W.H.Hartree

The northern portions of Hawkes Bay have been subject, over a very considerable period of time, to sub-aerial deposits of volcanic material from the inland volcanic area. Two of these, the Taupo shower of A.D.150 and the Waimihia shower prior to B.C.1150, are most distinct and, in certain deposits, give a division of avian remains (and no doubt pollen grains) into three main groups:

1960 A.D. - 150 A.D.

150 A.D. - 1150 B.C.

1150 B.C. - ???

The upper group, 1960-150 A.D. can be further subdivided into three periods, European, Maori and pre-Maori, in certain favourable rock shelters.

This period of time, 1960-150 A.D., covers the extinction of the moas, native goose, swan, several rails and a duck, as well as the arrival of the Polynesians. Without having to use the 14^c method for dating each individual we can, by reference to the two pumice showers, give them an age grouping and although it is not possible to say when a bird species became extinct it is possible to say when it was still in existence.

From the association of various avian species, Tuis, pigeons, Kiwis, Kaka, blue-wattled crow, bell birds, parakeets, etc. with moa remains we get an association of birds at a given period in the past, and also an indication of the vegetation in the area. We have also been able to demonstrate the past existence of several species of birds not previously reported. From moa nesting sites comes a picture of moa nesting habits which, incidentally, are somewhat similar to those of the Kiwi and, as the birds died in and around their nesting sites, we can gather a picture of the proportion of mature and immature moas dying. Some nesting sites have been used only once or twice in the last 3000 years and others on an average of once in 500 years. Some species of moa lived, bred and died in the same area at approximately the same time. Species of Anomalopteryx, Pechyornis and Dinornis were breeding in Hawkes Bay after A.D.100.

I have found no evidence of a heavy population of moas in this area, rather they seem to represent a scattered population in the forest. The period of extinction of the moas and several other birds seems to coincide with the arrival of the Polynesians. Where no traces of Maori occupation can be found the occurrence of Kiuri (Ratus exulans) bones marks the point: these rats were very widespread and their remains are present in nearly every rock shelter and cave.

To sum up, these rock shelters and caves provide evidence of human, European and Maori, and bird occupation. We have added several species to the list of birds once living in the Hawkes Bay; enlarged the past distribution area of the land snails Rhytida and Paraphanta; discovered approximately 40 moa nesting sites; enlarged the distribution area of the Tuatara; and have gained an indication of past vegetative cover. A detailed, and practically unaltered, sequence of volcanic ash showers to reach the area, has been revealed at the same time. This has resulted in a better picture of the food animals and conditions encountered by the Maoris in settling the area.