

the North Cape to the southern districts of Awanui and Kaitaia, a distance of forty miles as the crow flies, there is no volcanic land, and there has been a succession of kauri forests which were extinct long before the Maori first settled in New Zealand. Evidences of the forest of bygone ages are, however, afforded by the huge trunks of trees, in many cases as sound as the day they had fallen, and their branches and limbs scattered over and under the ground in the utmost confusion. It is amongst this mass of timber and roots of the kauri-trees where the valuable resin known as kauri-gum is found at depths varying from a few inches to 15 ft., and in some instances at very much greater depths.

It is suggested that the present extensive swamp areas in the far North at one time were continuous from coast to coast, but successive sand-drifts, principally from the west coast (the prevailing winds being from west to south-west) have caused sand-ridges to form and divide the swamps into different parts and varying areas.

For thousands of years these vast kauri forests lived and died, and from the dead timber and prolific vegetation these huge gum-bearing swamps, thousands of acres in extent, have been built up generation after generation. The kauri-tree, as is well known to botanists, was slow-growing, and took as long as five hundred years to reach a state of maturity; indeed, it is estimated that there are some living specimens in the kauri forests to-day of the remarkable age of three thousand years.

It is difficult to conceive the immense quantities of kauri-gum which have been deposited in the present extensive swamp areas in bygone ages. Much of the gum, though of an almost imperishable nature, must have decayed, for it has been proved that the kauri peat of which the swamps are composed has absorbed some of the essential oil of the decayed gum.

With regard to the sand-drifts, it should be borne in mind that it is open to question whether the present prevailing winds are the same as those in more remote times. It may be that the sand-drifts have gradually killed the vegetation and sounded the death-note of the kauri forests of each particular period. This drift may not have been general over all the gum-bearing swamps, and this peculiarity of the sand-drifts may be responsible for the kauri-gum being found at greater depths in some parts of the swamps than at others.

These swamp areas, on account of the configuration of the sand-ridges surrounding them, act, so to speak, as reservoirs, and, partly by consolidation and by pressure, fissures are formed which conserve the water, causing springs in different parts of the swamps, but generally on the edges of the swamps, and this probably explains the large amount of water in these swamps even in very dry summers. A typical occurrence in all this class of swamp throughout the gumfields is a bar of sand which is formed near the outlet. This is probably caused by the oxidization of the sand due to the constant flow of water on the sand which drifts into the wet flowing swamp. This oxidized sand forms the bottom of many of the swamps beneath which the lower layers of kauri-gum with other decayed products of the kauri forest are found. It is suggested that at some period in the growth of these forests the vegetation was able to hold its own against the sand-drift and gradually worked its way up the sand-ridges, which would probably explain the fact of kauri-gum being found on the ridges and slopes of the sandhills close to high-water mark.

In a short geological description of the country forming the peninsula extending from Ahipara Bay to the North Cape, Mr. T. F. Cheeseman, F.L.S., says :—

“Much the largest portion of the district is occupied with Recent deposits. These consist of swampy or alluvial deposits, chiefly developed around Rangaunu Harbour and between it and Ahipara, and also occupying a considerable area around Parengarenga Harbour; of ancient sand-dunes, now consolidated and covered with vegetation, and which form the backbone, as it were, of the narrow tract connecting Ahipara with the North Cape Peninsula