

also drains into the Mohaka River. On the western side the land slopes down towards Lake Taupo but is intersected by deep valleys draining into the lake, the largest of which, the Tauranga-Taupo, cuts back to a series of low saddles with the Mohaka head streams and this trough separates the northern from the central ranges.

(2) The Central Kaimanawa consists of five ranges which diverge slightly in a S to SW direction from a scarp formed by the deep valleys draining west into Lake Taupo. These valleys not only truncate each of the central ranges but also behead the intervening valleys. The heads of the Waipakihi, Rangitikei, Mangamaire and Ngaruroro (Waiotapuritia) are thus over-mature and meander for some distance in flat-bottomed boggy valleys (Fig. 11) before these become V-shaped.

The central ranges are less dissected than the northern range, with wide crests, some of which carry traces of incised meander patterns resembling those of the Ngamatea Plateau. Cliffs and screes are infrequent. Though each of the five ranges has peaks exceeding 5,000ft, only one, the Middle Range, has any considerable area in excess of this.

(3) The trend of the Southern Kaimanawa is SE, so that where the Motumatai Range meets the middle Range at Patutu there is a sharp right-angled bend from SW to SE. The deep valley of the Otamateanui running SE parallel to the Motumatai Range to meet the Rangitikei makes an abrupt topographical boundary between the Central and Southern Range systems.

The Motumatai Range is paralleled to the south by two lesser greywacke ranges and finally by a tertiary scarp, the area being drained by the twin heads of the Moawhango River which unite above the Mt. Azim gorge. The Moawhango drainage system is peculiar with a number of subsidiary greywacke gorges both above and below this main gorge, the river finally breaking through the tertiary scarp a few miles north of Moawhango village.

(4) The Ngamatea Plateau is a shallow circular basin about six miles in diameter, the surface showing on aerial photographs as a mass of lightly incised meander patterns, which in the centre become the Ngamatea Swamp. This is not a continuous area as shown on Survey maps, but a number of winding arms up to a quarter mile across which are former V-shaped gullies filled with semi-liquid peat (Fig. 4), and boring in this discovers at least one band of consolidated pumice at a depth of about 10ft. Beyond the low hills which form the western and north western boundary of the swamp is a sort of rim perhaps a mile wide, forming an extension of the plateau and draining into the swamp for the most part through a number of small gorges, and not as would appear at first sight into the side tributaries of the Rangitikei.

North of the plateau a wide tussock trough extends to the Golden Hills at the head of the Taruarau, and beyond this the upper Ngaruroro River runs into a similar trough, the line of these troughs forming the boundary between the Kaimanawa and Kaweka Ranges.

LITHOGRAPHY

Most of the range consists of greywacke that cannot be distinguished from that of the other North Island ranges, but along the western side a sort of slate which weathers into thin pencils has been observed on Umukarikari and on Thunderbolt, while rectangular jointing is conspicuous in the main gorge of the Otokororo Stream. These presumably belong to the subschistose bands mentioned by Grange as occurring in that area.

The tertiary deposits of the Moawhango form a prominent scarp 1,000 feet