thinner or thicker coating of loam and humus. In some parts the clay is more or less orange-coloured and in others chocolate-coloured, but frequently it is much paler and almost white. The accompanying table, very kindly supplied to me by Mr. B. Aston, F.C.S., Chief Chemist, Department of Agriculture, and to whom I am much indebted, shows the chemical and physical constitution of certain soil-samples collected by me. Samples 600 and 601 were taken in the rimu forest near the Opanake–Taheke Road, the former being the top layer of humus 3¼ in. in depth and the latter the soil beneath to a depth of 2 ft. Sample 602 is a river-valley soil of the tararii association taken from beneath the humus layer to a depth of 2 ft., and sample 603 was from the kauri association near the base of Pukehurehu Hill, also taken to a depth of 2 ft.

As for the analyses, that of 600 shows a very high percentage of available potash, so much so that it appears as if the sample had been contaminated, which is hardly likely. Otherwise it is a typical humus soil, not being much decomposed, while the nitrogen-content is high. Samples 601, 602, and 603 are deficient in phosphoric acid for ordinary crops, and the amount of potash is normal.

CHEMICAL ANALYSIS.

No.	Classification.	Loss on Air Drying.	Loss at 100°C.	Loss on Ignition.	Total Nitrogen.
		Per Cent.	Per Cent.	Per Cent.	Per Cent.
600	Humus soil	67	16·16	78·17	1·770
601	Clay soil	36	10·08	22·20	0·303
602	Clay soil	32	10·16	21·50	0·273
603	Clay soil	33	11·28	21·24	0·268

No.	Available by 1 per Cent. Citric Acid.		Colour of Extract on Ignition.	Reaction of Soil to Litmus.
	Potash.	Phosphoric Acid.		
	Per Cent.	Per Cent.		
600	0·090	0·020	Greyish-brown	Acid.
601	0·013	0·005	Yellowish-brown	Acid.
602	0·027	0·004	Light-chocolate	Acid.
603	0·016	0·003	Reddish-brown	Acid.

MECHANICAL ANALYSIS.

—	Sample No. 601.	Sample No. 602.	Sample No. 603.
Residue on washing	Very small residue of well-worn rock-particles	Small residue of worn quartz and ferruginous particles	Small residue consisting of small even-sized worn quartz-particles.
Stones	Nil	Nil	Nil.
Gravel	Nil	2 per cent.	Nil.
Fine gravel	Nil	Nil	Nil.
Analysis of fine soil—			
Coarse sand	1 per cent.	7 per cent.	6 per cent.
Fine sand	23·88 "	29·09 "	16·87 "
Silt	9·07 "	7·56 "	5·78 "
Fine silt	7·24 "	4·75 "	4·53 "
Clay	50·28 "	55·01 "	58·77 "
Moisture, &c.	8·53 "	5·59 "	8·05 "
	100·00	100·00	100·00
Capacity for holding water	Very good	Very good	Very good.

C. THE NORTHERN FLORISTIC PROVINCE.

As we proceed from north to south in New Zealand certain plants occur, at first in abundance, then become fewer, and finally are quite absent, others appearing and disappearing in their turn. By collating the facts *re* the general distribution of the species it is possible to divide the New Zealand biological region into provinces, each having certain distinguishing features, both floristic and ecological. Thus I have divided New Zealand into a Northern, Central, and Southern Floristic Province (6), the first-named being by far the best-defined, containing as it does 120 species or distinct varieties of spermaphytes and pteridophytes which either do not pass beyond latitude 38° S., or overstep it only for a short distance and in limited numbers. This Northern