

Hab. Eweburn Creek, Naseby, 2,000 feet; Hector Mountains, 3,000 to 5,000 feet; Mount Tyndall, 3,000 to 4,000 feet.

This species has pretty close affinity to *U. compacta*, Br. It is easily distinguished by its spreading habit, longer spikelets, small dark-brown and strongly divaricating utricles.

The plant ascends the mountains to a height of 5,000 feet or more, becoming smaller and smaller as the height increases. Many specimens in the higher valleys of the Hector Mountains do not exceed 2 inches in length.

I have long been convinced of the independence of this species, but have found it most difficult to satisfy myself on the point. The extant descriptions of the New Zealand forms are very imperfect and sometimes contradictory, and the genus badly needs working out afresh. I have much pleasure in dedicating the species to C. B. Clarke, Esq., F.R.S., F.L.S., who has most kindly compared it with the types in the Kew Herbarium, and supplied me with much valuable information about the New Zealand species.

ART. XXVI.—*Rate of Growth of Transplanted Trees.*

BY J. BABER, C.E.

[Read before the Auckland Institute, 29th August, 1887.]

No. III.*

PROFESSOR KIRK suggested that it would be well to record the growth of the kauri and other native transplanted trees in the Auckland Domain during the lifetime of the planter.

These trees were planted in the year 1865 by Mr. Chalmers, formerly head caretaker of the domain, now resident at Whangarei. The height of three kauris measured are 22ft., 24ft., and 29ft.; circumference of bole 2 feet from the ground, 2ft. 1in., 2ft. 3in., and 2ft. 2in. respectively.

As a period of fifty years is short enough to deduce from observation a reliable datum as to the profitable value of kauri-planting, it is to be hoped that the restless spirits who preside over alteration and improvement will spare these trees till the year 1915.

The sprigs from these kauri trees, plucked in this month of August, the end of our winter, have on them male and female blossoms, immature cones, and leaflets, showing that the trees are in the vigour of growth. The kauri grows in the latter part of the winter, a fact to be regarded in felling, if the non-growing season be the proper time to fall timber.

* See "Trans. N.Z. Inst.," vol. xviii., p. 311.

Rimu has overtopped the other native pines, owing to favourable situation.

Totara comes next to rimu; then follow tanekaha and miro.

As I said in 1885, the period is too short to form an opinion as to relative profitable values. These records are data for others to work upon.

A writer in the "New Zealand Herald" suggested that information as to the Norfolk Island pines growing in Official Bay, Allotment 12, Section 7, Auckland, should be given.

These trees were planted under the care of the late Rev. Walter Lawry, Superintendent of the Wesleyan Mission, about the year 1844 or 1845. The height of the tallest is 81 feet; girth of bole 2 feet from the ground, 8 feet.

The growth of this is outdone by one growing in Mr. Brookfield's grounds, Allotment 10, Section 34, Onehunga, planted in 1852 by Sergeant McMahon, of the N.Z. Fencibles, for Dr. Mahon, senior surgeon of the same force.

This tree, standing by itself on level ground, conspicuous all around Onehunga, is the most handsome transplanted pine in the neighbourhood of Auckland. It has attained during thirty-five years a height of 89 feet, with a circumference of 9 feet, 2 feet above the ground.

Of the value of the timber of the Norfolk Island pine I have not been able to obtain information.

TABLE OF RATE OF GROWTH OF TRANSPLANTED TREES.

NAME OF TREE.	Height in feet.		Circumference 2 feet above the ground.	Age.	SITUATION.	PLANTER.
	ft.	in.				
Kauri, average of 3	25	0	2 2	22	Auckland Domain	Chalmers.
Totara " "	28	4	1 11	22	"	"
Rimu " "	31	0	2 3	22	"	"
Tanekaha " "	22	8	1 5	22	"	"
Miro " "	16	0	1 2	22	"	"
Norfolk Island Pine	81	0	8 0	42	Allot. 12, Sec. 7, Auckland.	Rev. W. Lawry.
Do. do.	89	0	9 0	35	Allot. 10, Sec. 34, Onehunga.	Sergt. McMahon N.Z. Fencibles.

NOTE.—In the table, vol. xviii., page 314, the age of the kauri is given as 16 years; Mr. Chalmers, the planter, informs me that it was planted in 1865, consequently it should have been 20 years old, not 16.