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More botany from the south end of Lake Taupo

Rhys Gardner

Introduction

This article is the overflow, so to speak, of fieldwork I did earlier this year concerning one of the streams at Turangi, in relation to proposals to ameliorate its flooding above State Highway 41 (Fig. 1). The stream is called the Hangareto, though you won't find this name on any of the inch to mile or metric topographical sheets, nor even on the 1937 Geological Survey map, which otherwise has such a nice lot of incidental information that I have reproduced it here as Fig. 2. But the name does appear on a copy of an old ink-and-wash survey plan that I found in the Turangi Public Library, a work marvellously besprinkled with long-forgotten names for streams, hillocks and personages as well as with swamps, graves, mills, potato fields and perhaps the first willow in the district. Unfortunately the copy is not clear enough to be reproduced (but I will tip a photocopy into the AK file of this journal). As yet I have not located the original.

Botanical Notes

1. Waihi. Thomas Cheeseman collected *Rhabdothamnus solandri* (AK 8608) from here in January 1905, by far the most inland station for this plant. There seems to be no old collection of the thermal fern *Christella dentata* from Waihi, the first (AK) being made in 1984 by ethnobotanist Peter de Lange: "several plants growing above a hot spring used for cleaning pigs".

In 1905 J. Adams and also Thomas Cheeseman collected (together ?) the mistletoe *Ileostylus micranthus* from Waihi; neither of these two AK collections indicate a host. Then in 1964 a G. L. Zinzan sent the plant to Bob Cooper at AK, from a plum tree at the fishing lodge "Braxmere" just south of Waihi Village. Now, with rare-plant botanist P. J. de Lange having taken an interest, specimens from this population fill two boxes at AK, along with an astonishing diversity of native and exotic hosts, the latter including ash, dawn redwood, rosemary and ivy! In the absence of a big grant to study this bizarre behaviour all I can do here is speculate: might not this profligacy be caused by an unusually high local rate of plant wounding, as by activities of neophyte members of the fly-fishing guild, perhaps after pre-dinner ingestion of excessive numbers of the cocktail known as a "Braxmere Bombshell" ?

2. Tokaanu. The thermal springs (a DoC reserve) are dominated by kanuka (*Leptospermum ericoides* s. l.) and jointed rush (*Apodasmia similis*). There are a few manuka (*L. scoparium*) here too, some with the mistletoe *Korthalsella salicornioides*. The orchid

Calochilus robertsonii has been seen here recently. The wind-grass *Lachnagrostis striata* occurs in the open on slightly warmed ground, perhaps only at the one place where there is a communal hangi-pit. A specimen of mine a short way away to the east from Motuoapa headland has been determined by Elizabeth Edgar as *Lachnagrostis lyallii*. According to agrostologist P. J. de Lange the "ordinary wind-grass" *L. filiformis* is also present in the district.

In AK there are two collections of *Bulboschoenus caldwellii* made by Varner Cook in the 1940s; presumably they came from brackish water associated in some way with the springs.

Cheeseman obtained *Cyclosorus interruptus* from "Tokaanu" in January 1904 (AK 139508). It seems not to have been seen again here. One wonders whether it persists at any other of its old Lake Taupo localities, for example: Waipahihi, Crow's Nest, Terrace Hotel (all AK).

3. Maunganamu. Cheeseman collected *Senecio rufiglandulosus* (AK 10614) from here in January 1905; there are no modern AK collections from the district.

At the foot of this hill, growing out midstream in the Tokaanu Power Station tailrace, there is (according to hydrologist P.J. de Lange, who waded out here one summer) a growth of *Potamogeton pectinatus*. There are no AK collections of this for the Taupo region. In fact, I formerly thought that a sterile herbarium specimen (Tokaanu River, Cheeseman , AK 1257) belonged to *P. pectinatus*. Mr Cheeseman though had been less rash and had left it unnamed, and did not mention it in his Manual. On re-examining the specimen I have decided that it is actually *Isolepis fluitans* - the way in which the leaf bases become strongly fibrous with age is decisive.

Just south of the Tokaanu Tailrace by the S. H. 41 bridge there is a large gravelly hillock, perhaps in large part artificial and related to the construction of the tailrace (which I believe was formed c. 1964). The dominant tree here is the kowhai typical of the region, seen here as individuals to c. 13 m tall and 25 cm dbh among kanuka, fivefinger etc. This kowhai, which is uniform around the Lake Taupo shores, I had called *Sophora microphylla* though noting that it lacked a distinct juvenile form (Gardner 1984); according to legume taxonomist P. J. de Lange it is actually *S. tetraptera.*

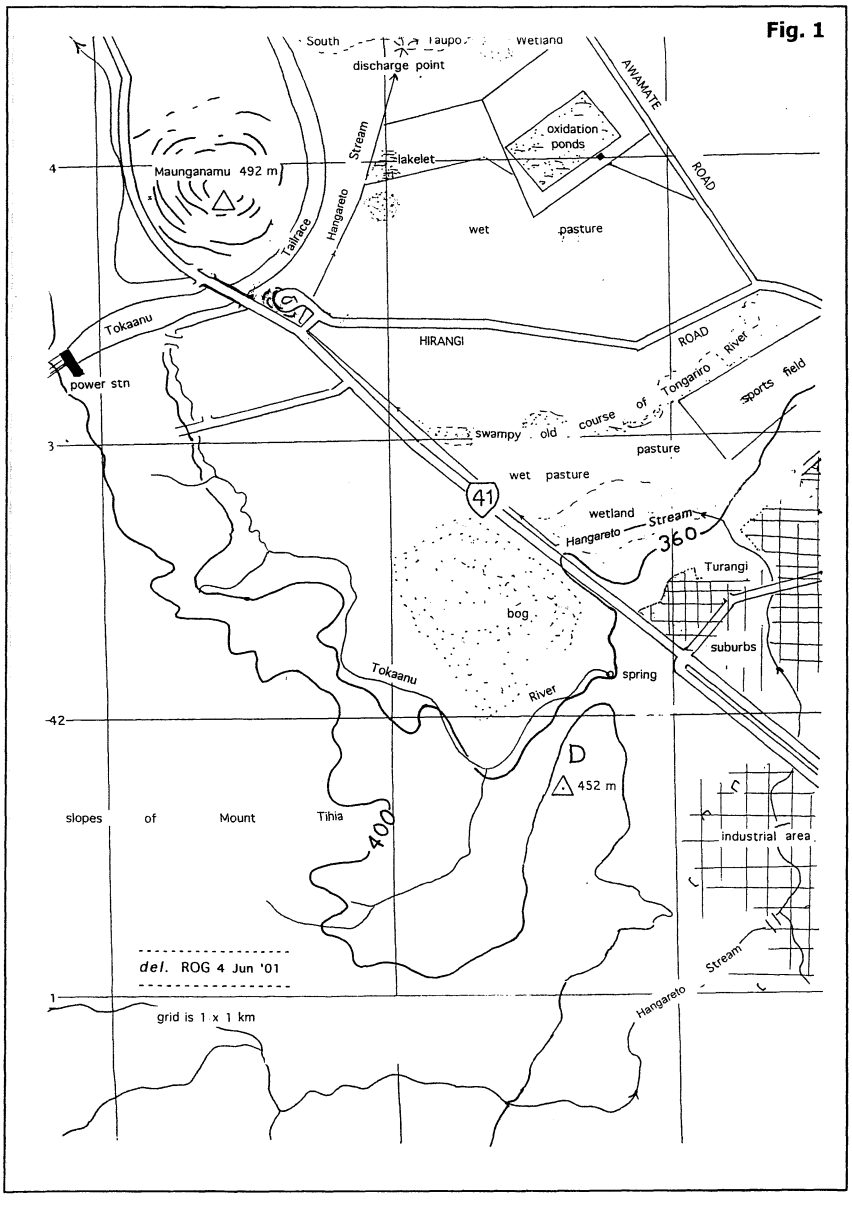

Fig. 1. Southern end of Lake Taupo showing location of Hangareto Stream etc.

4. South of S. H. 41. On the expanse of ground that slopes gently back from S. H. 41 towards the foot of the ranges and upper course of the Tokaanu River there is a large bog. Its cover is of 1.5-2.5 m tall manuka above dense waist-high jointed rush; few other native species are in evidence and willows are almost completely lacking. This bog is a paradise for fernbirds.

5. North of S. H. 41

Quite different in character is the wetland north of S. H. 41, around the mouth of the Hangareto Stream where it emerges from the terrace on which Turangi stands (see the geological map where this stream is annotated "dried up"). The higher ground further north from here towards Hirangi Road is a pasture apparently on thin peat over gravel. The lower ground towards S. H. 41 is partly grazed but has various communities of *Carex sinclairii* and *Baumea* ? *rubiginosa* (I have not seen this fertile). *Carex dipsacea, Sparganium subglobosum, Isachne globosa* and *Carex coriacea* are also present; *Carex geminata* agg. is very abundant close to the stream channel

among willows and blackberry. Manuka is absent, nor did I see any sphagnum.

6. Hirangi Road. Very easy to see on the ground but hardly delineated on the topographical sheets is the swampy former course of the Tongariro River, immediately south of Hirangi Road (the road would run on levee gravels of the north side of this old course). I did not make any systematic examination here - some places are deep enough to have raupo (*Typha orientalis*) while *Baumea ?rubiginosa* is also locally dominant. It deserves further exploration. At its eastern end alongside the Turangi Sports Field and marae there is a strip of native scrub as good, or at least as old, as anything else in the Tongariro River delta region. It is dominated by medium-sized kanuka with a few cabbage trees over an undergrowth of *Pseudopanax arboreus* and ferns (*Blechnum novae-zelandiae, Hypolepis ambigua, Phymatosorus pustulatus*). Kahikatea (*Dacrycarpus dacrydioides*) is regenerating here very sparingly (as in the similar scrub further lakewards beyond the oxidation ponds); I saw only one young-adult canopy individual. Other podocarps are lacking.

7. Hill D. The waste ground in the gullies in and rearwards of the Turangi terrace have an abundance of exotic scrub weeds, with the orange-fruited *Pyracantha angustifolia* very conspicuous in autumn. I went a short way up the unnamed andesitic hill D (452 m) inland of S. H. 41 into the pine forest which had recently been felled here, and was relieved to find that it had not got for itself a pyracantha undergrowth. Nothing much of interest was worth noting among the fellings, except perhaps for the abundance of young poroporo (*Solanum aviculare* ?) - I do not recall this being a common member of the district's present-day scrubby places.

A non-botanical feature seen from Hill D was a great surprise though: looking out northwards towards Tokaanu and Maunganamu one sees that the uppermost part of the Tokaanu River is not at all as drawn on any of the topographical sheets - the river in fact begins at a very large spring in a chasm in the northern side of the hill. The spring is indicated on the geological sheet, and also on the old plan referred to in the first part of this article, where it is marked just as "Te Puna". It seems that on this old plan two other springs might be marked at the bend further to the west, but there is no indication on the topographical sheets that this is so, and I have not checked the ground myself.

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Fig. 2

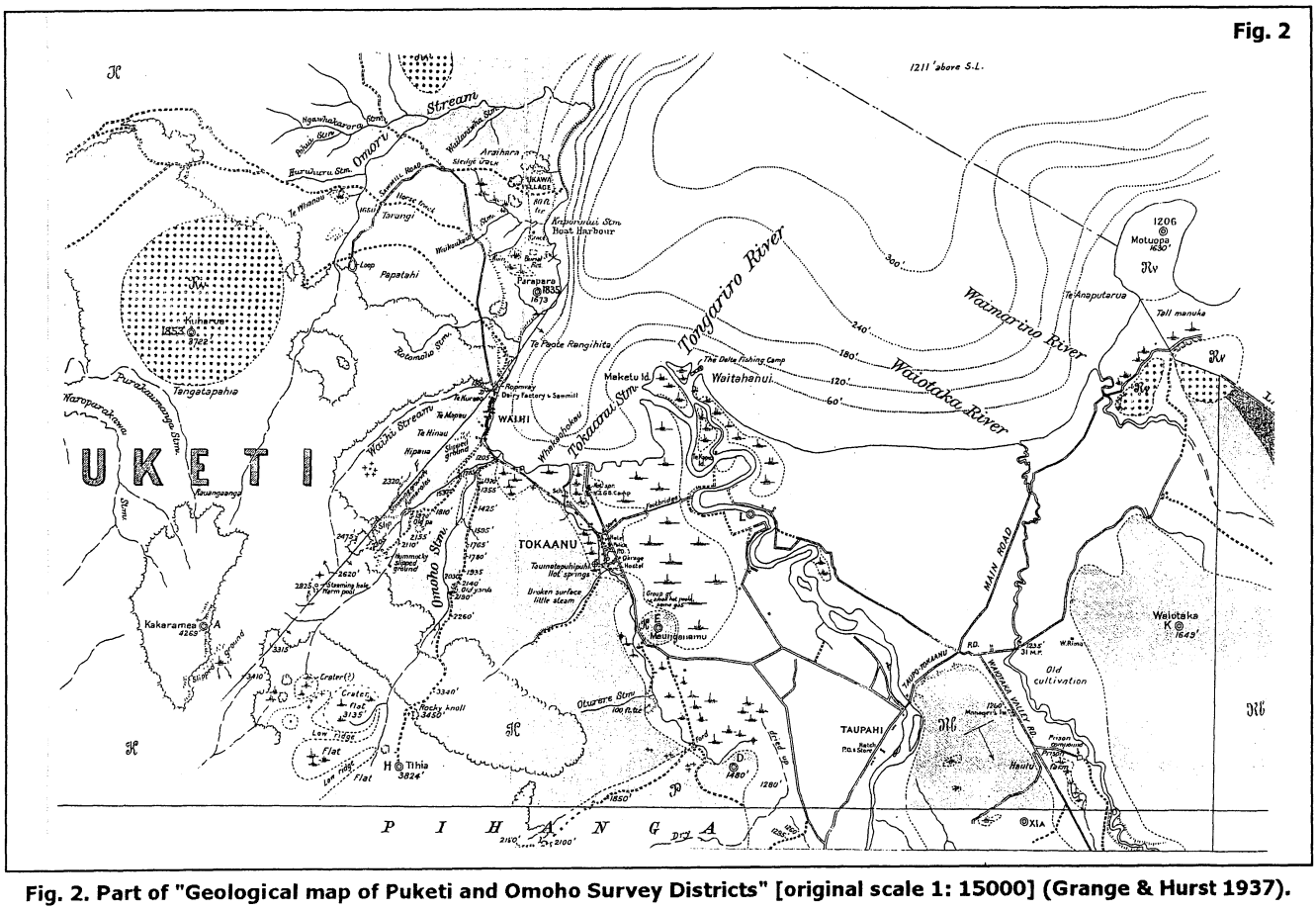

Fig. 2. Part of "Geological map of Puketi and Omoho Survey Districts" [original scale 1: 15000] (Grange & Hurst 1937).