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DES OGLE'S OLD STUMP

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Introduction

On 17 October 1997 Sylvia Bryan of R.D. 4 Kaitaia wrote to 'Dear Somebody-Everybody' at the Anthropology Department, University of Auckland, urging further examination of an adzed stump found by Des Ogle during planting out of the Te Aupouri forest. The authors have since sought out relevant information and present it here for the interests of our readers.

The Discovery

In 1971 the stump of a tree apparently felled by stone adze was discovered in peat on a Lands and Survey block adjacent to Taumatawhana pa near Houhora. The importance of this discovery was recognised by the officer in charge of the Te Aupouri forest, D.G.Ogle who recovered the stump.

A portion of the stump was removed for radiocarbon dating and is of some interest as the outer portion of this stump would be expected to coincide with the time of felling. Unfortunately the radiocarbon date has never been published and its details are clouded in mystery.

Some time after the stump was dated Janet Davidson wrote to Des Ogle in response to queries from John Coster and Gabrielle Johnston (then Forest Service archaeologists) reporting some details of the date that had been produced by DSIR Radiocarbon Laboratory, in Gracefield. On March 22 1977 she wrote:

> The Geological Survey..... have now written and informed me that a sample was dated of the outer 30 rings

> of the stump after Hank Jansen had collected tree ring data from it. The result was 940 years before A.D.1950, plus or minus 30 years..... this puts it at the beginning of the generally accepted settlement of New Zealand ... you can now be reassured that no-one will dispute your view that it was adzed and be justly proud of the stump not as a freak that archaeologists look sideways at, but as totally acceptable hard evidence of settlement of the North as early as anywhere in the country. (Davidson n.d.)

which is a very interesting result, though subsequent reports in the archaeological literature are confusing.

Published interpretations

The first published reference is by Hicks (1977:52), who wrote:

> as is proved by ^{14}C dates obtained by D.Ogle (pers. comm.) for a *Dacrydium kirkii* stump (3140 $\pm$ years B.P. (sic))
> *Note: the error in the date reported by Hicks*

Later Janet Davidson wrote:

> Particular mention may be made of the site of Taumatawhana (or Tomoatawhanu) at Onepu.... adjacent to a small lake from whose fringes have come quantities of wooden material, including an *apparently adzed tree stump* which has yielded a remarkably early radiocarbon date. The artefacts are clearly maori, however, and it seems that another explanation must be sought for the stump other than it was actually adzed by man at the time indicated by the date. (Davidson 1982:25) (emphasis ours)

However, she does not state the date nor the extent to which it is remarkably early.

The final published reference by John Coster (1989) refers to the previous reports by Davidson (1982) and Hicks (1977)

> An unreported radiocarbon date of 3140 years B.P. (Hicks

> 1977: 58), obtained by D. Vincent of Kaitia on a sample collected from an apparently adzed stump, is almost certainly from subfossil swamp wood. It is not considered relevant to the present discussion, since it is unlikely to bear any direct relationship to the date of the site itself. (see Davidson 1982:24-25)

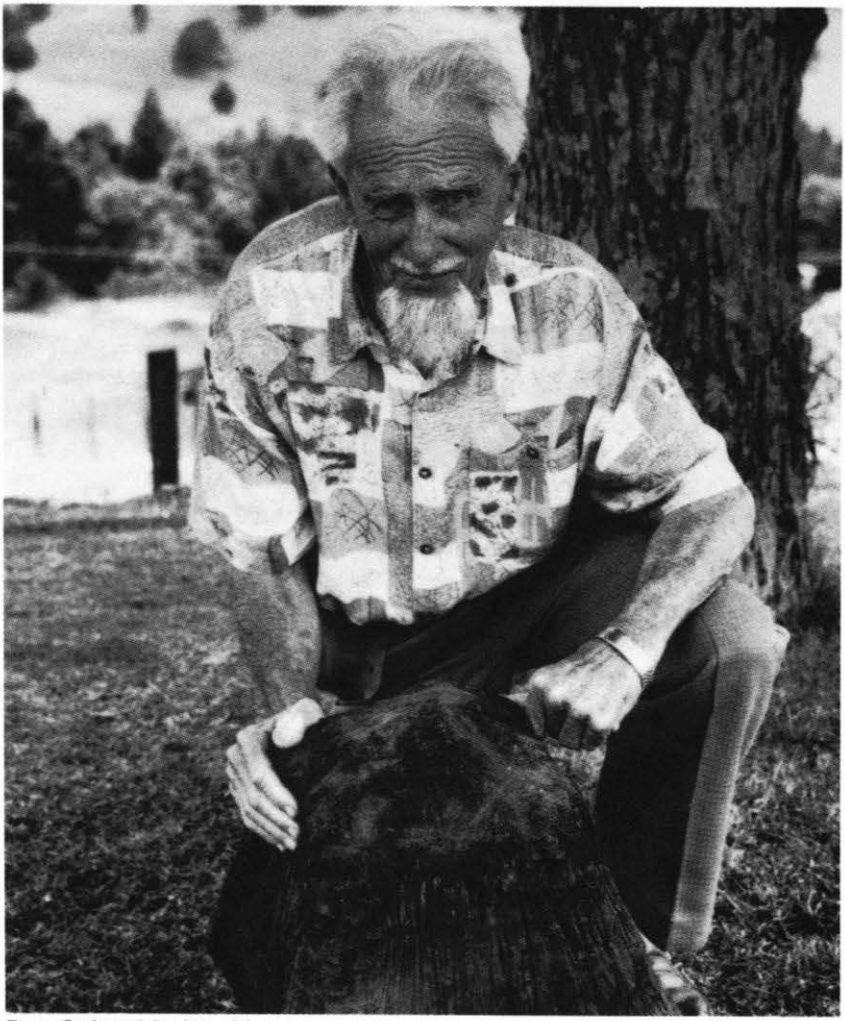
The clear impression given by the published reports is that the stump is of an antiquity unlikely to be associated with human activity, most probably of the order 3,000 B.P., and is most probably subfossil swamp wood. This impression contradicts the evidence reported by Des Ogle, and the initial description in correspondence between Davidson and Ogle.

The Stump

In light of the apparent confusion surrounding the details of this stump the authors decided to find the stump and re-analyse it. This turned out to be fairly easy. A family friend of Des Ogle happened to overhear a conversation between Doug Sutton and Martin Jones as they wondered where he could be found and provided an address. Once Des Ogle was contacted the stump was quickly tracked down to Whangerei Museum where it is in storage. The authors visited the museum, photographed and measured the stump and removed a sample for further analysis and dating, by permission of Stephan Tenblad and Des Ogle.

In spite of the original identification of the stump as manaoa (*Halocarpus kirkii*) the stump is positively identified as Totara or Hall's Totara (*P. totara or P. hallii*), though most probably the latter. In the sample we analysed, all of the axial parenchyma contained dark cell contents indicating heartwood. The interpretation is that the sapwood has rotted away and the current stump surface is the heartwood/sapwood boundary. The stump is currently 40 cm in diameter at the trunk base which corresponds to a tree of about 250 years of age (see following discussion) and in the sample we have analysed the growth rings correspond to approximately 100 years of age. It is apparent that little rotting of the heart wood has occurred as distinct adze marks are still visible in the stump and the stump draw is still present.

Fortunately we have a set of data that enable us to estimate the loss of sapwood from this sample. John Ogden, Botany Department, University of Auckland, has measured and counted rings on 27 separate radii from storm felled Totara yielding a mean growth rate of 0.8 ± 0.09 mm per ring, and



Des Ogle with the old stump.

measurements by Rod Wallace of the sapwood on 23 radii from the same samples have shown a mean of 72 ± 19 mm of sapwood. Thus we would estimate that Totara sapwood amounts to somewhere between 35 and 180 years growth. Additionally we would estimate that less than 1 cm of heart wood has rotted (due to the condition of the adze marks and the presence of stump draw) which would place the age of the current stump surface some 45-190 years older than the date at which it was felled.

The stump has clearly been adzed. It is apparent that the tree has been felled by successively adzing around the circumference until only a thin central portion remained. This thin central portion (the stump draw) is still present as are sharp marks in the stump consistent with adzing. As the stump was still in a position of growth when discovered and the adzing is even around the circumference it is highly unlikely that this is a sample of subfossil swamp wood that has been used some time after death. Our interpretation is that this stump corresponds to a living Totara or Hall's Totara of 300-400 years age felled by humans, and concurs with the original interpretation of the stump provided by Des Ogle. This brings us to the problematic radiocarbon date.

Radiocarbon Date

A search of the IGNS gas counting database revealed that a single date was run on a sample of the 30 outermost rings of this stump (NZ-3541, R 2898) in 1971, returning a CRA of 938 ± 31 years, just as initially reported to Des Ogle by Janet Davidson in 1977. We are completely mystified how a date of 3140 B.P. has arrived in the literature. Des Ogle has never communicated to anybody that the sample was 3000 years old, the first and only impression that he held was that the sample was about 900 years old as communicated by Janet Davidson. It is possible that confusion has arisen due to several swamp kauri samples being dated at the same time by Deric Vincent and the discovery of a fallen kauri log during the drainage episode which led to the recovery of the stump.

Interpretation

Our assessment of the stump is that this was a living tree felled by people working without the aid of fire. The single date is from 30 years of growth occurring prior to a surface 35-180 years older than the actual date of felling, thus the date should correspond to an event some 50-200 years prior to the felling episode. The 95% calibrated date range (CALIB 3.03, Stuiver and Reimer 1993; Stuiver and Becker 1993) is 1033 to 1216 A.D. (using a 40 year southern hemisphere atmospheric offset) thus we would interpret that the felling took place in the interval 1080 to 1420 A.D or in the range 870-530 B.P.

This date range is entirely consistent with the date range for earliest human environmental impact reported by Elliot *et al.* (1995) on the basis of a pollen core from the immediately adjacent Taumatahana swamp.

Conclusion

In spite of previous reports to the contrary, the adzed tree stump discovered by Des Ogle in 1971 has produced a perfectly reasonable date that directly corresponds to independent evidence provided by palynology. This sample is neither subfossil swamp wood nor a case of misidentification, and is an important piece of evidence relating to human activity in Northland. In view of this we are currently having further samples dated.

It should be noted that as this stump was discovered during a drainage operation and it is unlikely that this tree would be growing in isolation. Therefore it is likely that there are other similar stumps and associated evidence in the vicinity.

Acknowledgements

We are grateful to Sylvia Bryan for writing her letter, and providing us with an opportunity to clarify the details surrounding this interesting and important artefact and to Stephan Tenblad and the Whangerei Museum for providing access to the stump.

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