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THE ANTIQUITY OF THE TAKAHE VALLEY ROCK SHELTER SITE

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The antiquity of the Maori occupation of the two rock shelter sites on the southern face of Takahe (Notornis) Valley in Fiordland has been the subject of a great deal of conjecture but considerably less credible enquiry. Shelter A was discovered by Ken Miers, then a Wildlife Officer, in October 1949. Since then, estimations of the time of the occupation have been made based on the state of preservation of the material found and the suggestion that metal tools may have been used at the sites. Two radiocarbon dates taken in the mid 1950s failed to produce conclusive results, leaving the time of occupation and associated questions unanswered. This paper gives a brief history of the inquiries into the age of the site and reports new radiocarbon dates for the shelters.

The two shelters were excavated in December 1949 under the direction of Dr R.A. Falla, then director of the Dominion Museum and an ornithologist. Given the state of preservation of the remains recovered, including wood, feathers and textiles, Falla concluded that the occupation must have been comparatively recent '... possibly within the last 100 years' (cited in Duff 1952: 92). This first estimated age of the occupation, giving a date of c. 1850 on, was quickly discredited by Duff, who noted that the appearance of the remains could not be reasonably used to gauge the age of the site and '... had the shelters not been discovered until 2050 I believe that the feathers and textiles would have scarcely altered, provided the protective dust canopy remained in being' (Duff 1952: 102).

During the December excavation, an ischial process of a small moa identified as *Megalapteryx didinus*, exhibiting distinct butchery marks, was recovered. On inspection H.D. Skinner noted that the butchery marks '... are the work, not of a stone flake, but a heavy steel knife' (cited in Duff 1952: 102). The assemblage of artefacts is undoubtedly Maori and included stone flakes, and so he concluded that the moa in question was killed during a time when '... European influence was felt among Maoris even in remote places' (cited in Duff 1952: 103), but before metal wholly replaced stone in the Maori tool-kit. The idea that a residual population of the smallest member of the moa family survived post-European contact was established, and coupled with the then recent rediscovery of the takahe (*Porphyrio mantelli*, formally *Notornis*) in the same area, several 'Megalapteryx hunts' ensued, the most recent of which was by a Japanese film crew in 1978 (Brewster 1987: 52).

The disturbed sites were further investigated by both Skinner and Duff in February 1950 and then by Duff alone in December 1951. From these excavations it was established that the shelters were occupied only once, or if

on more than one occasion, at very close intervals over a very limited period so that only one occupation layer is apparent in the stratigraphy. Sceptical of the attribution of the cut marks to metal tools, Duff wrote in his 1952 report on the excavations that he felt '... that the scales are [now] tipped against the metal hypothesis, with all that this implies regarding the possible continued survival of the *Megalapteryx moa*' (Duff 1952: 104). Although he believed that the sites were probably occupied in the prehistoric period, Duff attributed the occupation(s) to 'post-Fleet tribes' (Duff 1952: 102), even though it confused his already established conceptions of Maori and Moa hunters. Why he considered the sites the result of a hunting party of 'retreating Ngati Mamoe' or early hapu of Ngai Tahu is unclear, but it appears that this too was based on the state of preservation of the artefacts present. He apparently thought that the artefacts would survive longer in the sites than Falla had and, disagreeing with the 'metal hypothesis', placed the occupation in the late prehistoric period.

Although Skinner downplayed the *Megalapteryx*'s post-European survival by suggesting that despite being a moa taxonomically it was 'probably only as big as an outsize kiwi' (Skinner 1950), he apparently never retracted his idea that the butchery scars were the result of a metal implement. Until the present, there has been no rigorous scientific investigation of the claim, leaving the question of the species' late survival unresolved.

Among the very first radiocarbon dates obtained for New Zealand archaeological sites in the 1950s were two samples from Takahe Valley submitted by Duff. One on tussock, NZ51, claimed by Duff to have been used as bedding in Shelter A, returned a date of 289 ± 63 yrs BP (Anderson 1989: 226), initially reported by Duff as 110 ± 60 years from 1955 (1956: xii). In a discussion of C14 dates for shelters exhibiting rock art, Trotter and McCulloch recorded the date as 230 ± 60 yrs BP in radiocarbon years, but noted that they have found tussock of a similar cut appearance in other rock shelters that exhibit no signs of ever having been occupied by Maori (Trotter and McCulloch 1973: 178). The plant was found growing around the shelter at the time the sample was secured, and lacking evidence demonstrating a cultural significance it may be a natural deposit (Anderson 1989: 178), perhaps the work of later avian occupants rather than the earlier human ones.

NZ52 and duplicate were on totara bark thought to have been used by the Maori at the site and gave dates of 857 ± 48 and 840 ± 60 BP respectively (Anderson 1989: 226). Duff reported the date as 700 ± 60 years from 1955, but saw it as evidence that the bark had been stripped from already aged or dead trees (Duff 1956: xii). Trotter and McCulloch, however, favoured the bark date as an indicator as it appeared to be consistent with dates secured from other South Island shelters exhibiting rock art. They estimated the time of the occupation as 500-600 years BP (Trotter and McCulloch 1973: 178). Despite problems associated with dating the bark of long-lived species, Anderson considered that these dates are 'more likely to express the approximate age of the site, c. 800bp', than is the tussock date (Anderson 1989: 178). It appears that given the unconvincing evidence supporting claims of the late occupation of the shelters, deduction from other sites in the wider southern South Island area and current theories on moa extinction helped Anderson to this conclusion,

although he has since discredited the bark date as well, stating that it was 'possibly several hundred years old at the time of its removal' (Anderson 1991: 788).

Given the ambiguity still surrounding the time of the occupation, the National Art Gallery and Museum of New Zealand submitted two samples for dating by accelerator mass spectrometry to the Nuclear Sciences Group, DSIR. Both samples are from Shelter A and, given Duff's record of a single occupation layer, are thought to be contemporary.

A charcoal sample was extracted by Dr R. Wallace from a larger sample in the Museum collections registered as:

'(No.) [ME]6629, Ash, ... (date collected) Dec. 1949, (collector) Dr. R.A. Falla, (Locality) Notornis [Takahe] Valley, Te Anau, (How acquired) Dec. Expedition. 1949, ... Found at Fire site No. 1...'

(Maori Ethnology Register No. 3: 46)

Dr Wallace identified the sample as 1.15 g of burnt feathers, tussock stems and beech leaves with a total absence of wood charcoal (Wallace 1991). The sample, NZA 2228, returned a $\delta^{13}\text{C}$ value of -24.58 per mille and the conventional radiocarbon age is 611 ± 51 yrs BP, with calibrated age in terms of confidence intervals of:

1289 CAL AD to 1359 CAL AD (95%)

1306 CAL AD to 1359 CAL AD (45%)

plus 1379 CAL AD to 1407 CAL AD (23%)

A section of the renowned *Megalapteryx didinus* ischial process was carefully extracted so as to avoid damage to the butchery marks. The museum registers record it as:

'(No.) [ME]6609, ... Pelvic process of *Megalapteryx*... (Collector) Dr. R.A. Falla, (Locality) Notornis Valley, Te Anau, (How acquired) December Expedition, 1949...'

(Maori Ethnology Register No. 3: 45)

It was considered best to date the actual bone exhibiting the butchery marks around which the controversy lies rather than other associated material. This sample, NZA 2227, has a $\delta^{13}\text{C}$ value of -23.5 per mille and the conventional radiocarbon age is 628 ± 39 years BP with calibrated age in terms of confidence intervals:

1289 CAL AD to 1406 CAL AD (95%)

1305 CAL AD to 1361 CAL AD (51%)

plus 1379 CAL AD to 1397 CAL AD (16%)

The medians of both calibrated ages are c.1350.

For the first time since the discovery of the shelters we now have a secure age for Takahe Valley Shelter A. Although both samples are derived from material deposited in Shelter A, following Duff (1952) Shelter B has been assumed to be contemporary with Shelter A. This being the case, the rock art on the wall of Shelter B can also be attributed to the fourteenth century.

Until evidence to the contrary surfaces, the previous attributions of ages for the Maori occupation of the shelters are negated. Anderson's (1989), and Trotter's and McCulloch's tentative support of the totara bark date is credible in that it placed the time of the occupation well back in the prehistoric period rather than nearer its close as was suggested by the tussock date. Nonetheless, the bark date was some 230 years too early, while the tussock date was three and a quarter centuries too late.

Duff's attribution of the occupation to 16th century Ngati Mamoe and/or 17th century Ngai Tahu is erroneous both in the time frames he suggested and the iwi credited with the occupation. Although we no longer consider either the Ngati Mamoe or Ngai Tahu iwi to be 'Post-Fleet', within our current understanding the site was occupied before either of these iwi migrated south into Te Wai Pounamu.

Falla's and Skinner's suggestions that the site was occupied after the initial contact between southern Maori and pakeha (post-1769), based on the use of metal implements at the site, either in the butchery of a *Megalapteryx didinus* or in the manufacture of a fire stick found at the site (Duff 1952: 92) are both wrong.

Two of the outstanding issues regarding this site have been resolved. Firstly, the site was occupied during the fourteenth century. Secondly, if there is any evidence supporting the survival of a residual population of *Megalapteryx didinus* into the late prehistoric or early historic period in New Zealand, then it is not from the two rock shelters previously occupied by the Maori on the southern face of Takahe Valley.

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