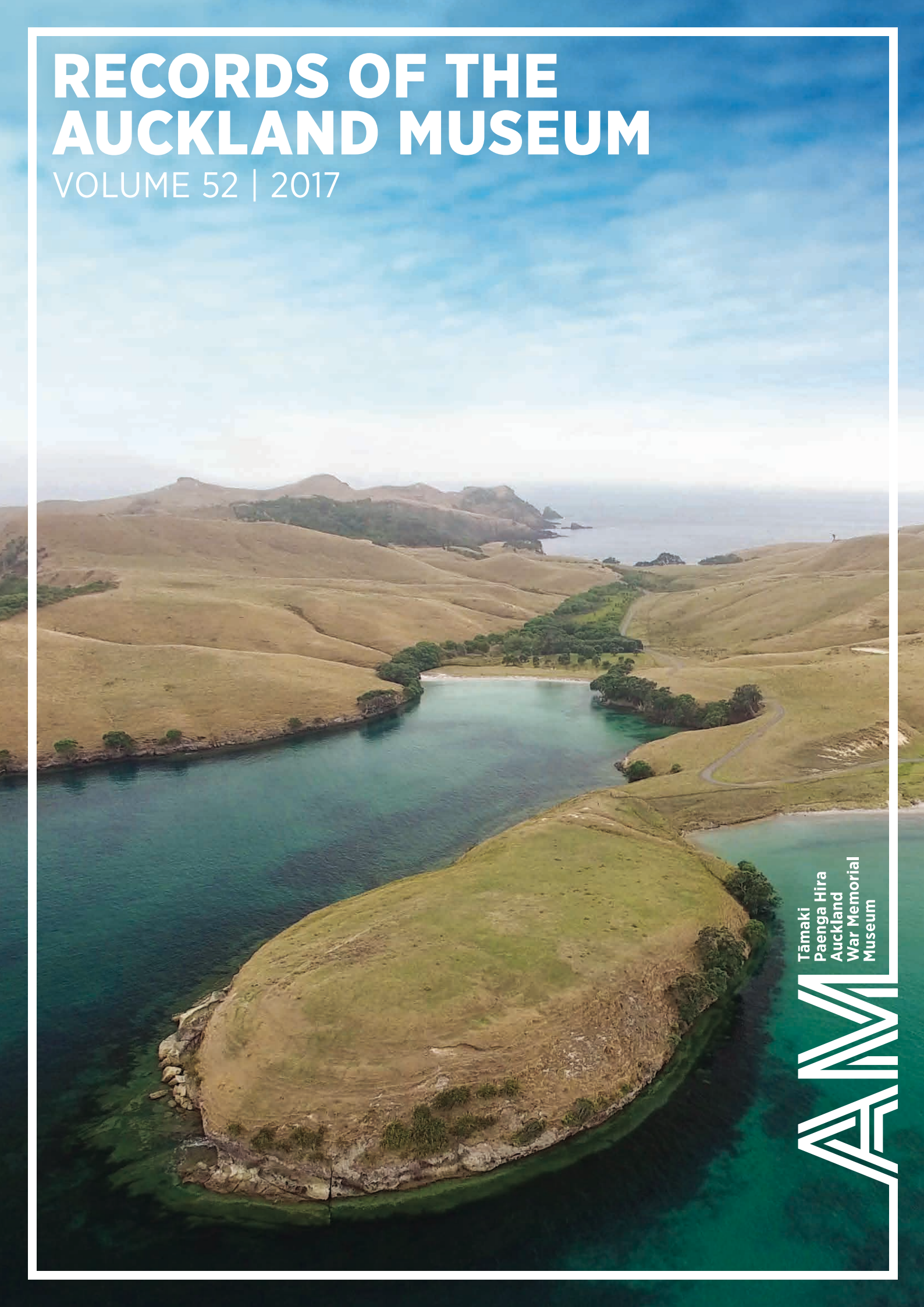


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# Māori Kākahu (Cloak) Fragments from Piha: Whakaari Pā

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## Abstract

The recent examination of textiles collected from dry caves and rock-shelters in Te Wao Nui a Tiriwa (Waitakere Ranges), and held at Auckland Museum Tāmaki Paenga Hira revealed an assortment of woven, twined, twisted and plaited fragments. The whatu (twined) fragments from Whakaari Pā (Lion Rock) are rare examples of fine weaving associated with the use of kōkōwai (red ochre). The twined fragments are likely to be kākahu (cloak) remains as they share structural attributes of known cloaks. However, they also display rare forms of whenu (warp) and hukahuka (tags). The fragments demonstrate specialized knowledge of fibre preparation and cloak manufacturing techniques and have a range of elaborate decorations.

## KEYWORDS

Māori cloaks, kākahu, Māori weaving, whatu.

## INTRODUCTION

The organic nature of archaeological textiles results in poor preservation except in very arid or wet environments (Cameron 2012). The fragmentary remains, their delicate condition and depositional context, all tend to put constraints on textile research. However, the structure is often clearer in fragmented objects, and the type of raw material and traces of use-wear provide valuable information on how the textile was made, used, and deposited. This paper focuses on kākahu (cloaks) fragments from Te Wao Nui a Tiriwa (Waitakere Ranges), Auckland. Kākahu were manufactured with innovative weft twining techniques, and from a new fibre, muka (inner flax fibre, also known as whītau), inventively processed into fine, soft cords. Post colonisation, Māori quickly adopted and adapted European materials, leaving the customary cloak making tradition in serious decline in the first half of the 20th century (Mead 1997; Te Awēkotuku 1993; Trotter and McCulloch 1989). Elsdon Best (1856–1931) and Rangi Hiroa (1877–1951) worked tirelessly throughout this time to record intricate details of Māori textile construction methods, techniques and protocols. Fortunately, small pockets of weavers kept fibre traditions alive before, in 1951, the Māori Women's Welfare League began supporting weaving classes, and in 1983 the formation of Aotearoa Moana Nui a Kiwa Weavers (now known as Te Roopu Raranga Whatu o Aotearoa) secured the continuation and consolidation of weaving knowledge (Mead 1997; Te Awēkotuku 1993). Archaeological textiles contribute to this knowledge base by providing a baseline to compare against ethnographic examples, and to trace variation in technological practices.

The fibre fragments were collected by Colwyn Trevarthen (AM31112) and Vic Fisher (AM31387.2 and .3), on separate occasions, from a small dry rockshelter on Whakaari Pā. Trevarthen studied biology at Auckland University and it was during this time that he collected the textiles. Vic Fisher was ethnologist at Auckland Museum from 1936–1968, and frequently collected material which he placed in Auckland Museum. The textile fragments were accessioned into the museum collections in 1949 (Trevarthen) and 1950 (Fisher). Other textiles in Auckland Museum and attributed to different collectors are believed to be from the same rock shelter. They include finely woven and intricately patterned whāriki (mat), tātua (belt) and human hair remains. These objects are outside the scope of this paper and will be discussed in a future paper.

The Waitakere Ranges, on the western coastline of Auckland and north of the Manukau Harbour entrance, are known by Māori as Te Wao Nui a Tiriwa (Taua 2009) (Fig. 1). This volcanic landscape has been modified by erosional process along the rugged coastline, forming caves and rock-shelters. The forest, rivers and ocean were abundant with key resources, including the fibres essential for daily survival. There are several small islands off the west coast of the region, including Whakaari Pā (Lion Rock) at Piha (referred to as Q11/57 in ArchSite, the New Zealand Archaeological Association database for archaeological sites) (Fig. 2).

Whakaari Pā is surrounded by steep cliffs and accessible to the mainland. However, it does lack a fresh water supply, making it unsuitable for long occupations. The many archaeological features on this small island include platforms, midden and terraces (Hayward and

Diamond 1978). The rock-shelter the textiles were collected from is on the seaward side of Whakaari Pā, not far from the top, and could only be reached by ropes (Q11/213 site record), with its small size making it likely to be a repository for items.

**Kākahu research**

Māori cloak makers were known for their innovation and creativity (Puketapu-Hetet 1999; Te Kanawa 1992) and researchers of Māori material culture have been fascinated by kākahu since they were first observed by early explorers to Aotearoa. Of the many cloaks collected, examples held in museums including the British Museum and the Pitt-Rivers Museum in England, and the Museum of Ethnography, Sweden, are now some of the remaining few complete examples of Maori pre-European contact,

or early contact textiles (Blackman 2011; Pendergrast 1987; Roth 1979). Māori wove diverse garments; from the practical pākē (rain cape), the delicate and intricate kaitaka (finely woven with a patterned border) to decorated cloaks such as the korowai (tagged cloak), kahu huruhuru (feather cloak) and the prestigious kahu kuri (dogskin cloaks) (Puketapu-Hetet 1999; Tamarapa 2012; Te Kanawa 1992).

Pre-existing knowledge of the whatu (weft twining) technique aho pātahi (single-pair twining), primarily used for making fishing traps out of vines, was adapted by Māori for soft fibre garments (Hiroa 1926). In addition, Māori developed innovative methods to extract the muka from harakeke (*Phormium tenax*, New Zealand flax). The fibres were usually hand rolled into two-ply Z-twist cords and then beaten to produce a fibre that was

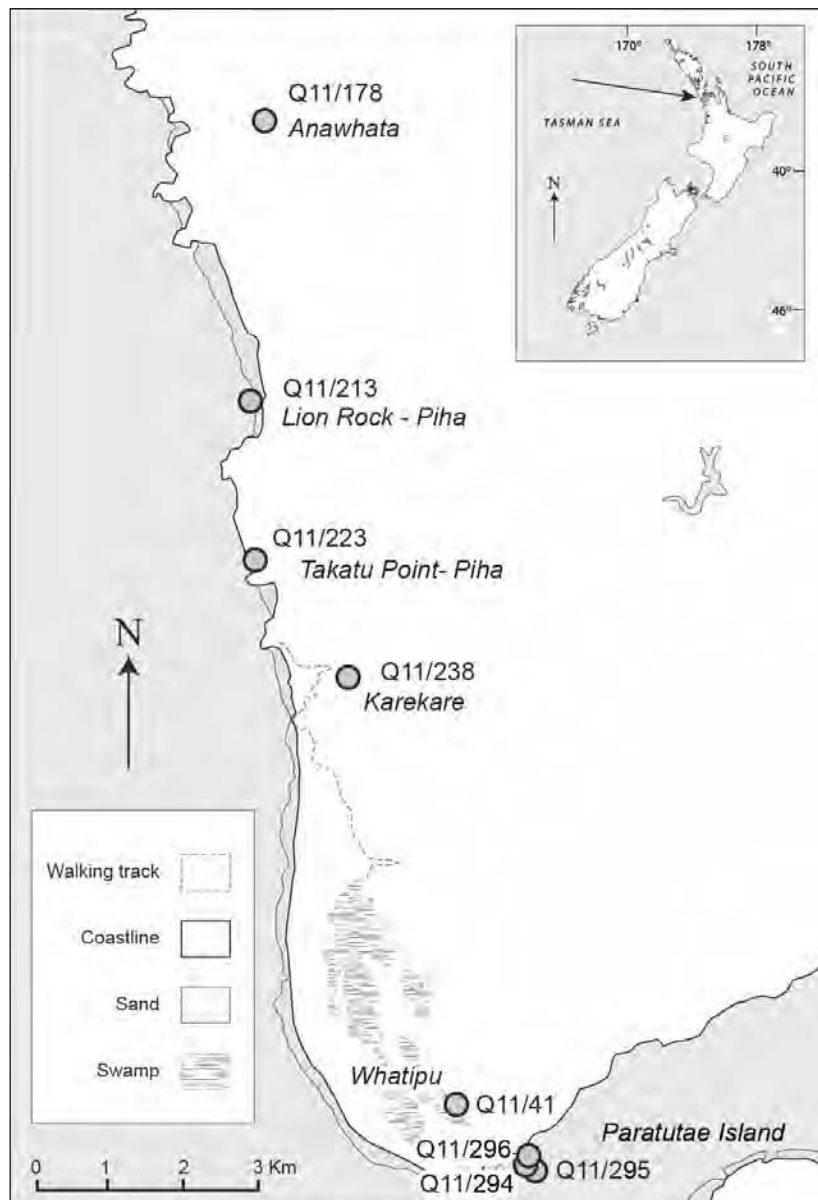


Figure 1. Map of Te Wao Nui A Tiriwa. Image by Tim Mackrell.



Figure 2. Whakaari Pā. Image by Tim Mackrell.

very soft (Pendergrast 1987; Puketapu-Hetet 1999; Te Kanawa 1992), which would have been ground-breaking in comfort and warmth. The *whatu* technique was refined for use with these soft fibres, and the *whatu aho rua* (double-pair twining) technique was developed (Mead 1969). This innovation facilitated the secure addition of practical and decorative tags to the *kaupapa* (body of the cloak). The *hukahuka* (tags) could be cylindrical flax strips (*pokinikini*), rolled cords of *muka*, dog skin tufts, or feathers. Other advances include *aho poka* (shaping rows) in the body of the cloak to account for the shoulders and buttocks, decorative neck edges such as *kurupatu* (collar), and *pāheke* (ornamental stitches) (Mead 1969).

Previous research on the Te Wao Nui a Tiriwa material culture was undertaken by Joan Lawrence in 1989, where she describes the cloak fragments from Piha as having natural and dyed rolled tags of varying thicknesses (Lawrence 1989: 103). However, textile 31112 is recorded as “one fragment of cloak” (Lawrence 1989: 106), yet a closer investigation revealed this bundle of fibres contained three *raranga* (weaving with leaf strips) fragments and seven *whatu* fragments.

### Techniques

A *kākahu* is manufactured with the *whatu* technique, often called downward finger-weaving as no loom is used (Pendergrast 1996). The two key twining structures evident in Māori cloaks are *aho pātahi* (Fig. 3) and *aho rua* (Fig. 4) (Blackman 2011; Hiroa 1926; Pendergrast 1996). *Aho pātahi* involves “two *aho* (weft threads)

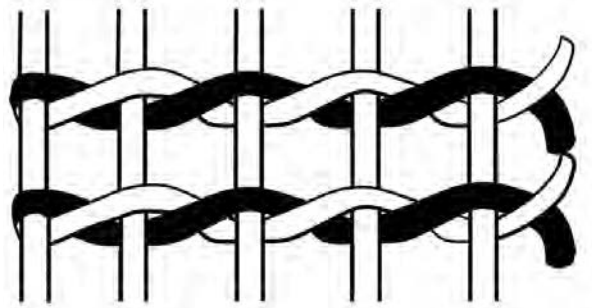


Figure 3. *Aho pātahi* (single-pair twining).

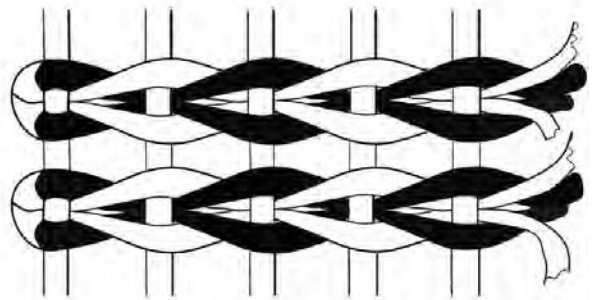


Figure 4. *Aho rua* (double-pair twining).

Table 1. Structural attributes of the *kaupapa* (body of the cloak).

AM_ID	Length mm	Width mm	Weave	Spacing mm	Whenu/Warp	Whenu form	Whenu width	Aho/Weft	Aho width	Kōkōwai	Aho Poka	Neck	Side Edge
31112.1	255	140	Aho Pātahi	30	one-ply I-twist	Shredded	3	one-ply I-twist	2	Y			
31112.2	320	220	Aho Rua	5	two-ply Z-twist	Muka	1.5	two-ply Z-twist	0.5	Y	Y		
31112.3	14	35	n/a	n/a	n/a	Muka	n/a	n/a	n/a	n/a	n/a	n/a	n/a
31112.4	216	143	Aho Rua	18	one-ply Z-twist	Muka	2	two-ply Z-twist	1	Y			Y
31112.5	265	155	Aho Rua	15	one-ply Z-twist	Muka	2	two-ply Z-twist	0.5	Y			
31112.6	145	65	Aho Rua	16	two-ply Z-twist	Muka	3	two-ply Z-twist	1	Y			
31112.7	365	180	Aho Rua	22	two-ply Z-twist	Muka	2	two-ply Z-twist	1	Y			
31387.2	355	360	Aho Rua	16	one-ply Z-twist	Muka	2	two-ply Z-twist	1	Y	Y	Y	
31387.3	330	235	Aho Rua	18	two-ply Z-twist	Muka	2	two-ply Z-twist	1	Y			

Table 2. Structural attributes of the *hukahuka* (added tags).

AM_ID	Thatch	Cylindrical	one-ply Z-twist	two-ply S-twist	two-ply Z-twist	three-ply Z-twist (3xtwo-ply s-twist)	Stitch	Knot
31112.2		X						
31112.4	X	X	X	X				
31112.5		X	X					
31112.6			X	X				
31112.7	X		X					
31387.2	X		X	X	X	X		X
31387.3		X		X			X	

which twist or twine around each other to enclose the adjoining whenu (warp threads)” (Blackman 2011: 78). Aho rua uses four threads, working in pairs to pass over and behind each warp (Blackman 2011; Pendergrast 1996). One of these methods, and occasionally both, were used to build the kaupapa and then the tags were added to this surface during construction. In addition, some rain cloaks were made by using the fibrous ends of flax strips or thatch to be the kaupapa warp (Mead 1969: 165). The spacings (distance between the rows) of cloaks varied widely from 5–30 mm, depending on the type of cloak. For example, a rain cape tended to have wide spacing while a fine kaitaka had narrow spaces between rows. In addition, a compact form ‘pukupuku’, was woven in aho pātahi, primarily for constructing dogskin cloaks.

The structures recorded for the kaupapa are the twining technique, the warp and weft forms, the spacing between the rows, shaping rows, the edge form, and finally, the side and neck finishes. The adornment components can include twisted and dyed cords, cylindrical flax strips or shredded fibres. The cords can have a twist direction of I, S or Z (Connor 1983; Emery 1966; Wendrich 1991). The category ‘I’ consists of untwisted, shredded or retted fibres. The notation adopted for this paper is the number of ply (strands), followed by the final twist direction. Upper case is used for the final twist direction and lower case for the components. For example, two-ply Z-twist is a cord with a final Z twist and made up of two strands spun in a ‘s’ direction.

## TEXTILE DESCRIPTIONS

There are nine pieces from Whakaari Pa that can be identified as probable cloak fragments, with the kaupapa attributes in Table 1 and the *hukahuka* (added tags) attributes in Table 2. The kaupapa attributes reveal narrow whenu and aho widths (0.5–3 mm) and the spacing between rows ranges from small through to

large, with many medium (10–20 mm). One fragment is woven in aho pātahi (single-pair twining) and eight in aho rua (double-pair twining). Most fragments have a varied range of added tags and are heavily impregnated with *kōkōwai*; two fragments have aho poka (shaping rows); one piece has an intact portion of a side edge; and finally, one textile has part of a rolled neck edge. All twisted and cylindrical tags are made from muka, with both harakeke and kiekie used for thatch.

## Trevarthen collection

The fragments are small, between 65 x 145 mm and 360 x 365 mm, and all made from muka except AM31112.1 (not shown) which is made from shredded kiekie. This is a simple, unadorned twined fragment with three rows of twining and may be a *kōkau* (plain, unadorned cloak). It is woven with aho pātahi and has a wide spacing of 30 mm. The whenu are 3 mm wide and untwisted (one-ply I-twist), and the aho are 2 mm wide strips of kiekie. There is faint *kōkōwai* staining on the aho threads but not on the kaupapa.

Textile 31112.2 (Fig. 5) is a very finely woven fragment (320 x 220 mm) made from processed harakeke or muka. The rows are woven in aho rua with thin two-ply Z-twist cords for the whenu and aho. The spacing is small and the tags are long thin strips of harakeke (52 x 4 mm), probably pokinikini based on the presence of small amounts of para (epidermis), and are spaced rather than densely applied. In addition, the whole fragment is lightly covered in *kōkōwai*.

The small mass of fibres, AM31112.3 (not shown) (25 x 13 mm) are too deteriorated and dirty to confidently identify any structures, but are likely to be from a cloak with shredded fibre whenu. Part of the mass is very dense and round (12.5 x 40 x 30 mm), and therefore may be a neck edge.

Cloak fragment AM31112.4 (Fig. 6) is woven with aho rua and a medium spacing (18 mm) from one-ply



Figure 5. AM31112.2 with long thin *harakeke* tags. Photograph by Tim Mackrell.



Figure 6. AM31112.4 with multiple added tags; one-ply Z-twist, two-ply S-twist, cylindrical strips, kiekie thatch. Photograph by Tim Mackrell.



Figure 7. AM31112.5 *kaupapa*. Photograph by Tim Mackrell.



Figure 8. AM31112.6 with one-ply Z-twist and medium two-ply S-twist cords. Photograph by Tim Mackrell.



Figure 9. AM31387.2 with multiple added tags; one-ply Z-twist, two-ply S-twist, three-ply Z-twist, *harakeke* thatch and twisted neck edge. Photograph by Tim Mackrell.



Figure 10. AM31387.3 with *pokinikini* tags and close up of the *pāheke* stitch. Photograph by Tim Mackrell.

Z-twist whenu and two-ply Z-twist aho. The surface has dense tags attached including two forms of tags in muka (one-ply Z-twist and two-ply S-twist), long cylindrical harakeke tags (125 x 5mm) and wide thatch-like kiekie fibre groups (87 x 48mm). In addition, there is one intact medium two-ply S-twist edge cord with many long, thin tight two-ply Z-twist cords attached. Finally, the kaupapa and tags are all covered in kōkōwai.

Textile fragment AM31112.5 (Fig. 7) (265 x 155 mm) is very dirty and compressed, and woven in aho rua with a medium spacing (15 mm) from one-ply Z-twist whenu and two-ply Z-twist aho. Two types of tags, loose one-ply Z-twist muka cords and thin strips of harakeke, are attached. These are badly deteriorated; however, they appear to be pokinikini or may be from a wider strip that has split due to use or deterioration (probably in the cave).

The smallest fragment, AM31112.6 (Fig. 8) (145 x 65 mm) is woven with aho rua, a medium spacing (15 mm) and two-ply Z-twist cords for both the whenu and aho. There are two types of tags added; loose one-ply Z-twist and medium two-ply S-twist muka cords. This piece is densely covered in kōkōwai.

The final fragment in this group, AM31112.7 (not shown), is woven in aho rua with a wide spacing of 22 mm and two-ply Z-twist whenu and two-ply Z-twist aho. This item has densely attached pokinikini tags, a few irregularly placed loose one-ply Z-twist muka, and is covered in kōkōwai. It is rolled tightly with the tags on the inside and was not unravelled due to its fragile condition.

### Fisher collection

The cloak fragments collected by Fisher are also made from muka and covered in kōkōwai. Fragment AM31387.2 (Fig. 9) is the most complete in the group and woven in aho rua with four types of tags, a decorative knot and two rows of aho poka (shaping). The whenu are loose one-ply Z-twist muka and the aho are two-ply Z-twist threads. The tags include medium two-ply S-twist, tight three-ply Z-twist and loose one-ply Z-twist cords from muka, and, shredded harakeke thatch. The tagged rows are spaced 16 mm apart and directly below each other (not staggered), with one row of shredded harakeke alternating with a row of one-ply Z-twist tags spaced approximately 30 mm apart. There are a few two-ply S-twist and three-ply Z-twist tags attached on the same row as the one-ply Z-twist tags. The knot is a single one-ply Z-twist muka cord, dyed with kōkōwai and knotted three times on itself. The miro (twisted) neck edge is made from tightly twisting the whenu ends of the kaupapa into tight two-ply Z-twist cords before being rolled.

The final textile, AM31387.3 (Fig. 10) is woven in aho rua with medium spacing (18 mm) and two-ply Z-twist whenu and aho. It is densely covered in pokinikini and has a hidden decorative stitch made from a kōkōwai stained, loose one-ply Z-twist muka strand woven on top of the kaupapa but beneath the tag layer. Further, there are a few very tight two-ply Z-twist muka cords attached in haphazard places within the flax tags. These have a selvedge end indicating they are a single thread twisted on itself.

## DISCUSSION

The nine textile fragments investigated here are from at least six different cloaks. The fragments AM31112.4 (Fig. 6) and AM31112.5 (Fig. 7) are the only two pieces that may be from the same cloak. Apart from the kōkōwai fragment, all the kaupapa attributes display the use of aho rua, fine whenu (either one or two-ply Z-twists) and aho, close spacings, the presence of poka and hukahuka, which indicate these are high quality cloaks. In addition, they reveal unusual structures such as the one-ply Z-twist whenu, a hidden stitch and an exceptionally broad range of tag types, alongside the prolific use of kōkōwai. One fragment is made from kiekie, with the remaining specimens have a kaupapa of muka, with various tag forms constructed from harakeke and kiekie.

### Materials

The one-ply Z-twist whenu made from muka reflect the nature of the raw material harakeke. The extraction of clean fibres is possible only from this plant as the inner fibres can be released from both the upper and lower surfaces of the leaf, unlike other monocotyledons where the epidermis remains connected to the inner fibres (Dr. R. Wallace, School of Social Sciences, University of Auckland, pers. comm 2016). In addition, the variety of harakeke used is crucial as fibre quality and ease of extraction are specific to certain varieties (Te Kanawa 1992). The weavers understood the nature of muka to twist gently as it dried, and to not get caught up or twisted with other strands. As there are fragments with two-ply Z-twist whenu as well, it shows knowledge of both techniques and the choice of different processing methods. This may be an indicator of different weavers or different regional methods, as weavers tend to have their own ways of doing things (Puketapu-Hetet 1999; Tamarapa 2012). A larger database is needed for robust interpretations; however, an assessment of the other key structures (spacing and twining) will provide more clarity on this initial explanation.

### Kaupapa attributes

Most of the garments were woven with a medium distance between the rows, with widest spacing on the kōkōwai. Fragment AM31112.1 (not shown) has the common attributes expected on a utilitarian garment: a shredded fibre warp, shredded weft, single-pair twining, wide spacing and no decoration. The fragment AM31112.2 (Fig. 5) has the closest spacing and appears to be similar in many ways to the other five fragments with the same catalogue number AM31112. These similarities are a range of added decorative tags, the use of aho rua and kōkōwai. This fragment has two-ply Z-twist whenu, as do fragments AM31112.6 (Fig. 8) and AM31112.7. However, it is the narrow spacing that separates this textile from all the others in this series. The distance between the rows is smaller than the other specimens by at least 4 mm, a considerable difference within this framework.

The value of a systematic technical analysis is demonstrated by the identification of fragments that appear to be from the one cloak. The spacing distances

on AM31112.4, .5 and .6 (Figs 6, 7 and 8) are close enough to suggest they may be from the same cloak (18 mm, 15 mm and 16 mm respectively). In addition, the broad range of tag types is comparable in their diversity, and they are all woven in aho rua. However, textile AM31112.6 has two-ply Z-twist whenu while the other two fragments have one-ply Z-twist whenu. This indicates fragments AM31112.4 and .5 could be from the one cloak, and AM31112.6 from a separate item. Yet, as with most of the twined fragments, they are all highly decorated with hukahuka and kōkōwai.

### Surface additions

The added decorative elements on the surface of the cloak fragments are dominated by the one-ply Z-twist tag in conjunction with an unusual diversity of tag types. Most fragments have either one or all types of tags: the one-ply Z-twist and two-ply Z or S-twist tags, indicating a common variability. Some of these fragments also have fibrous thatch like tags and pokinikini tags, revealing highly aesthetic requirements (Figs 6 and 8). The diverse textures would create different reflections and shapes, making a highly visible and impressive cloak.

Another cloak fragment with a strong visual and audio impact is the pihepihe (AM31387.3, Fig. 10). This type of dress cloak has densely added tags of pokinikini or long thin strips of flax which have muka exposed at regular intervals (Pendergrast 1987), creating light and dark patterns, while the hollow tubes rustle as the wearer moves. The textile also holds a curious component, a concealed stitch sewn tightly to the kaupapa. This is a version of the pāheke (looping stitch) (Tamarapa 2012: 66), and was commonly made with wool post-contact as ornamentation on tagged and feather cloaks (Hiroa 1926; Mead 1969; Roth 1979). However, as so few early cloaks have been described in detail, the frequency of use in pre-European times is unknown. Cleaning and conservation of the fragment is required before close examination for more stiches. Tamarapa (2012) suggested a weaver may add an anomaly which acted like a signature: a feather cloak held in the Auckland Museum has a single hidden peacock feather concealed amongst the white kererū feathers on a cloak dated between 1860 and 1900 which was interpreted as a form of signature. This is clear evidence, along with the different twining techniques and warp forms mentioned previously, of weavers' idiosyncrasies, or regional styles being visible in the archaeological textile record. In addition, the creativity and artistry of these cloak fragments is heightened by applying kōkōwai to the finished garment.

Heavy impregnation with kōkōwai is another special feature of these textiles. Red is a highly significant colour in Polynesian cultures, with Mead (1997: 98) commenting the hair and clothes of a person were stained with red ochre "to make them more chiefly or sacred, red being associated with the sacredness of chieftainship". Taylor (1855: 96) reports of human bones being "wrapped in a red-stained mat" and deposited in a sacred place. Ritual may be behind the placement of these textiles in the rock-shelter, or they may have been

stored for future use. Regardless of why they are there, the use of kōkōwai does indicate they were prestigious cloaks for important people. The fine weaving indicates expert weavers, with the whenu type variation and hidden stitch suggesting the work of more than one weaver. In addition, the similar wide range of tags and prolific use of kōkōwai may reflect a specific regional characteristic in expressing aesthetic sensitivities.

### Comparative textiles

There are very few archaeological or ethnographic specimens comparable to the cloak fragments from Whakaari Pā rockshelter. There are two cloak remains with kōkōwai staining from Anawhata, West Auckland, one of which is similar to the Whakaari Pā fragments. This has yet to be analysed in detail, but it does have diverse twisted muka tags and patches of kōkōwai. Lander (1992) reports cloak fragments with kōkōwai from the excavation of Raupa near Paeroa, but their construction differs in that they have a beaten warp and no added tags. Finely woven cloak fragments covered in kōkōwai were found inside burial chests from Kohekohe Cave at Waimamaku, Hokianga (Fox 1980) but have yet to be investigated in detail. Further research is required to understand the intricacies of these kākahu and the relevance of the use of kōkōwai.

There is only one extant cloak with evidence of kōkōwai staining held at The British Museum (Q1982 OC.712). It is believed to have been collected from Northland in the 18th century (Pendergrast 1996: 121). This cloak does share surface similarities with the Te Wao Nui a Tiriwa collection in using various twisted muka tags and kōkōwai. However, the kaupapa structures differ, with Q1982 OC.712 having highly processed plied and beaten warp cords. This contrasts with the one-ply Z-twist warp on many of the Whakaari Pā fragments, however, this form of whenu has been identified in other archaeological fragments.

The one-ply Z-twist cord was reported as the whenu type in a Raupa fragment (Lander 1992) dating from circa 1820, confirming its use post-contact. In addition, the whenu of the whatu fragments from Kaitorete Spit, Canterbury "show no sign of plying" (Smith 2014: 298), however, they may have a gentle Z-twist as Jacomb et al. (2004: 293) described them as "loosely twisted", with no surface additions. This cloak has been radiocarbon dated to the early 1500s (Jacomb et al. 2004). These suggest the use of this whenu type was widespread over time and space, and the Whakaari Pā fragments may be from anywhere on this continuum. Curiously, the one-ply Z whenu is very uncommon in ethnographic cloaks (Tamarapa 2012). Mead's (1969: 78) classification did build a group called mai muka (M), with a subgroup (M1) where the whenu are "apparently not rolled (plied) as is usual". These specimens are defined as finely woven, plain, unadorned cloaks and the Kaitorete Spit cloak is one example. However, the Whakaari Pā textiles are highly decorated. In addition, the M1 class has cloaks only woven in aho pātahi whereas this collection primarily uses aho rua for the kaupapa.

Other archaeological cloak fragments from cave deposits also have variable kaupapa structures and tag attachments. Many have been radiocarbon dated, with ages ranging from the 16th to early 19th centuries (Anderson, White and Petchey 2015). The earlier South Island sites include Glendhu Bay, Lake Wanaka, Lee Island, Lake Te Anau and Straeth Taieri, Central Otago. The later sites are Lake Hauroko in Fiordland, and Whakamoenga Cave and Waihora Bay, Lake Taupo (Blackman 2011; Hosking and Leahy 1982; Leahy 1976; Ngarimu-Cameron 2008). Many of the kaupapa structures differ from the Whakaari Pā cloak fragments, from ethnographic specimens and from each other. For example, the whenu of the cloak from a burial cave at Straeth Taieri (Ngarimu-Cameron 2008) is constructed of three-ply plaits while the Lake Hauroko and Lee Island specimens have the two-ply Z-twist whenu. The aho pātahi technique is used on most cloaks, regardless of age. However, some of the South Island cloaks are constructed with a variation on the typical whatu technique. The weave used is a half-hitch or wrapping technique (Ngarimu-Cameron 2008), more reminiscent of taniko rather than whatu. Further, the surface additions are feathers and skins of rare or extinct birds such as albatross and kākā (Ngarimu-Cameron 2008). The variations in added components may be related to the cold, harsh South Island environment and availability of local resources. However, the distinctive weaving techniques and warp forms, which differ from ethnographic specimens and from the Whakaari Pā fragments, underlie the ingenuity and creativity of early Māori weaving practices.

The cloak fragments from Whakaari Pā are rare textiles, of equal complexity in design, decoration and technique to many archaeological or ethnographic specimens. The kōkōwai staining of tagged cloaks and exploitation of the natural Z twist of muka is unusual, confirming their importance as contributors to the knowledge base of Māori fibre-working practices. Further, these cloak fragments demonstrate well-established textile manufacturing processes, and innovative weaving technology in action.

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