

How to make a watercolour



soak



strain



reduce

Grinding ochre: A sandstone grinding slab (hōanga) found washed down the Wairau river.

Round basalt stone to pound and grind found on the beach on the southern side of the Akaroa peninsular.

Preparing oil: Shark: prepared by gently heating the shark livers, bought from a fish monger, in a pot and then strained when melted.

Titi (mutton bird): collected from the gland of the bird shortly after capture.

Harakeke brush: The firm base is halved and a thin sliver sliced lengthwise is then scored horizontally with a craft knife about ½ cm from the end that is away from the base. Then use a mussel shell to scrape off the para (skin) on the upper side of the brush and the gum underneath until a firm but short brush has been fashioned.

Findings from Rangimarie's Wall 2018:

Tap water gently applied last year with a hose to clean the lower three rows caused flaking and a rapid increase in the deterioration of the drawings, whereas those left to the natural effect of rainfall and storms have survived well.



OCHRE AND MUKA

WORKSHOP

Time:
11-3pm

Place:
The marae weaving room

Date:
**27-28 October
Sat & Sun**

A light lunch will be provided

**The research is being carried
out by Charlotte Andrew**

Approved by the University of Auckland
Human Participants Ethics Committee on
21-Feb-2018 for three years.

Dyeing



To dye the harakeke we needed a mordant which is a dye fixative and binds the colour to the fabric. A variety of substances can act as mordants. We used tannin and ferrous oxide which

contain iron. A mordant is always a metal but not all metals are mordants. Mordant comes from mordere (latin), to bite, which means that the mordant helps the dye bite into the harakeke.

Tannins are found in some trees with hard, dark or red wood and increase the effectiveness of the dye.

Mordant

There were two large pots for the mordants. The stainless steel pot contained only bark of young totara trees and the aluminium pot contained manuka branch and leaves. These tannins are non-toxic. Of the two mordant baths there was more colour in the manuka brew. However, the totara mordant produced a darker, richer red when the ochre watercolour dye was added to the muka. Alum is also a mordant and is present in the aluminium pot but had little effect on the manuka.



Method: The foliage and bark were cut up, brought to the boil and boiled gently for 40 mins with the lid on. The concoction was then left overnight. The following day the debris was removed and the remaining brown liquid mordant was reheated. To this hot mixture we added our prepared muka and left it in the bath of liquid until it cooled. However, being short of time we removed the muka early (after an hour or so) and drip dried it outside.

Setting the dye

Fastness of colour is increased when the dyed muka and harakeke blade had been given a period of time drying in the sunshine.

Ferrous sulphate is said to aid colour fastness. We had unbaked ochre (containing ferrous oxide) and baked ochre (converted to ferric oxide). Time will tell if these oxides have a similar effect and the dyed muka will remain colourfast.



Experimentation with naturally occurring 'glues' in place of mordants.

Pia is the gum or jelly collected from the base of locally found harakeke. Rautawhiri seeds are

said to have been used with the soot from burnt tarata to adhere to the muka (we used kauri gum soot instead of tarata or monoao).

Both of the above 'glues' were mixed with kōkōwai and successfully dyed the muka. The pia also worked successfully when rubbed directly on the harakeke blade to attach kōkōwai.

Painting

What is ochre?



Heat from either a volcanic or thermal source is necessary for ochre production. The resultant rock contains iron oxides. These are weathered over time and are released into the surrounding soil type such as silica or clay.

Fe_2O_4 = ferrous oxide which is called magnetite and is naturally occurring, FeO = iron oxide which is rare, Fe_2O_3 = ferric oxide which is haematite. Rust is hydrated ferric oxide.

$Fe_2O_3 + H_2O$ = goethite. This is orange / yellow ochre and when baked in a wood burning stove overnight converts to Fe_2O_3 or haematite. The water is burnt off and the ferrous oxide becomes a ferric oxide. This was the process used to make the dye that we then added to the muka following mordanting.

We mixed kōkōwai (the mixture of hinu and maukoroa) in a paua shell. The holes of the paua are stopped with muka. Alternatively a woven harakeke base could be used to tilt the shell forward, similar to those found in Okains Bay Maori and Colonial Museum.

The tiles are first underpainted in oil in the shape of the motif that will be subsequently painted on top. This method helps to draw the pigment into the stone.

