



HARAKEKE

The Rene Orchiston Collection

Sue Scheele

3rd Edition

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Based on information provided by Rene Orchiston



Manaaki
Whenua
P R E S S

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FOREWORD

My friendship with Rene Orchiston began many years ago through her coming to visit me in Oparure, Te Kuiti, to ask the names of the harakeke my mother and I used for our weaving.

I was amazed at the knowledge she had of harakeke.

Some time later, I was to stay with Rene and view her Pa Harakeke (flax plantation); a sight I shall never forget. I deem it an honour and privilege to be associated with Rene as a weaver and I know many others will join me in thanking Rene for her patience in researching and recording the different varieties of harakeke; a part of New Zealand history that will be retained for coming generations. "Harakeke: The Rene Orchiston Collection" is a Taonga – Treasure.

Kia ora

Diggeress Rangituatahi Te Kanawa Q.S.O.

A PERSONAL ACKNOWLEDGEMENT

To all those who ensured the survival of these flaxes by their continuing care and who were willing to exchange plants with me, my grateful thanks. They have made the collection possible. Special thanks to my husband Ralph for his support and willing help over the years.

Rene Orchiston

Rene Orchiston, Gisborne, 1988



Rene Orchiston and Sue Scheele in pā harakeke,
Lincoln October 2003.

HARAKEKE

THE RENE ORCHISTON COLLECTION

TRADITIONAL USES OF HARAKEKE

"On my arrival in this country the Maoris would often inquire after the vegetable productions of England; and nothing astonished them more than to be told there was no harakeke growing there. On more than one occasion I have heard chiefs say, 'How is it possible to live there without it?' and 'I would not dwell in such a land as that.' "

After food, the most essential commodity to early Māori was harakeke (*Phormium tenax*, New Zealand flax). The first arrivals were well skilled in raranga, the plaiting of leaves to make mats and containers, and harakeke would have been immediately used in this way. When it was discovered that the leaves of harakeke could be scraped to obtain thick, strong fibre, Māori added new weaving techniques to their repertoire, and increased the range of possible uses.

Māori used harakeke for clothing, sandals, containers, mats, fishing nets, lines and sails, traps and cordage of many types. The kōrari (flower stalks) were lashed together for rafts, and bundled for torches. The flowers provided copious quantities of nectar to use as a sweetener for foods such as the root of bracken fern.

Harakeke was – and is – one of the key medicinal species. The leaf base and rhizome were boiled and the liquid used as a laxative, the mashed butt as a poultice for boils, abscesses and wounds. Fibre provided bandages and dressings, and the butts and leaves could be used for splinting. The antiseptic gum was applied to wounds, abrasions and burns.

Although the strictly economic need for woven products has disappeared, traditional skills have been kept alive by Māori weavers. Harakeke continues to have a prime role in Māori cultural expression, whether through traditional forms and patterns, or in contemporary works of art. Weaving with harakeke is hugely popular and there is increasing demand for quality plant resources.

THE FLAX INDUSTRY

From first contact, Europeans recognized the potential value of harakeke, particularly for marine ropes and cordage. For 60 years hand-dressed harakeke fibre (muka) was produced by Māori and exported to Sydney and England. In the 1860s machinery was

1. Colenso, William. 1892. Vestiges: Reminiscences: Memorabilia of works, deeds and sayings of the ancient Maoris. *Transactions of the New Zealand Institute* 24: 464



developed that could extract large quantities of fibre at a much faster rate. Flax mills were established near natural stands of harakeke throughout the country and by the early years of the 20th century, harakeke fibre was New Zealand's biggest export. Production declined steadily after the first World War with unstable prices, competition from other fibres, and an epidemic of the disease 'yellow-leaf' in the important Manawatu production area. Government subsidies and import restrictions continued to ensure a local market for harakeke fibre which was used for woolpacks, binder twine, carpets, underfelt, upholstery padding and wallboards. With the removal of subsidies in the 1970s, and the change to cheaper synthetic fibres, the harakeke industry collapsed.

HARAKEKE VARIABILITY

New Zealand flaxes belong to the family Hemerocallidaceae (the same as the day lily, *Hemerocallis*). Botanists recognise two species: *Phormium tenax*, harakeke, lowland or swamp flax; and *Phormium cookianum*, wharariki, coastal or mountain flax. Harakeke is the species most often used for weaving.

Harakeke is naturally very variable. In any wild stand, you may observe a variety of leaf lengths and widths, coloration of leaves, keels and margins, and form. The properties of the harakeke might differ too. If, for example, you were to test each bush on the ease of extracting fibre by hand, you'd probably come across some bushes that performed better than others. This does not mean that they are discrete varieties. They just reflect the normal variation in form that is found in a natural population.

However, you might choose to divide a ramet or fan from a bush you liked and plant it elsewhere. If you continue to split off fans as the bush grows, and replant them, keeping them in cultivation, then you are growing a cultivar, a clone of the parent plant. We commonly call them 'varieties'. And that, of course, is what Māori weavers did, to ensure they had forms of harakeke with the very best qualities for particular purposes, on hand, ready to use. Plants were chosen for qualities such as strength, softness, durability, colour, ease of extraction and quantity of fibre. Favourites were named, and fans exchanged.

Individual weavers have always looked after their own special bushes, though many selected forms have been lost over the generations. Only the vision and determination of a few people has ensured that the knowledge and plants that exist now are still available as a resource for today's weavers.

THE RENE ORCHISTON COLLECTION

Mrs Rene Orchiston of Gisborne is one such person. Rene started a collection of harakeke in the 1950s, after observing that many fine craftswomen in her area were using inferior material for their weaving. There was an extreme shortage of the special cultivars needed for different types of articles. At that time there was less



interest in flax weaving among younger folk. Special flax bushes had been neglected and often removed during the course of property or road developments.

Realising that in years to come there was likely to be a revival of interest in traditional arts and crafts, Rene visited many marae and individuals on the East Coast of the North Island and other parts of New Zealand talking to elderly weavers and carefully recording information on names and uses of their special harakeke. Small plants would be exchanged for a different variety of harakeke or for the fruit and honey which Rene always carried in the car. She also investigated areas where early records suggested particular cultivars had been grown, and found occasional remnants. Gradually a collection of some 60 of the most desirable cultivars of harakeke and wharariki was built up and looked after by Rene at her home. Many of the old bushes which provided the original fans for Rene's collection have since gone.

For Rene, the harakeke are personal friends. Tending each bush she was reminded of the place where it grew, the person who donated it, and the story that accompanied it. She tells, for example, of walking in the high country and coming across an old Māori campsite. Three tired looking bushes of harakeke were lying in the sun with their roots exposed, dug up by pigs. Rene replaced them after taking a small piece from a rare variegated cultivar which she had not seen elsewhere. It was later identified by a Whakatane woman as **Motu-o-nui**. The other two bushes were **Oue** and the yellow striped **Parekoretawa**. As harakeke was not indigenous to the area, Rene knew any to be found would be of high quality, since it had to be carried there on the backs of travellers.

As the years went by, there was renewed enthusiasm for harakeke weaving. Rene received many requests from all over New Zealand for superior types. Harakeke such as the tall, heavy duty *tīhore* types with fibres so strong that they can be drawn out easily into long strands; the straight, strong harakeke which strips easily and is used in piupiu making; the very long, bendy types for whāriki and kete; and the long, black-edged, slightly droopy blue-green harakeke which can produce long ribbons of soft fibre with the beauty and lustre of silk. Rene (and subsequently Manaaki Whenua) has donated thousands of plants of these special cultivars to weavers, marae, community groups and schools throughout the country.

INVOLVEMENT OF THE SCIENCE COMMUNITY

There is worldwide concern at the loss of natural genetic variability and traditional knowledge of useful plants. Harakeke is such an overwhelmingly useful plant that there was an obvious case for the assembly of a living collection of known cultivars, together with documentation on names, origins, special qualities and uses, and the maintenance of it in the long term as a national asset. In 1987, Rene Orchiston offered her collection to the Department of Scientific and Industrial Research (DSIR) to form the cultural basis of a national collection of New Zealand flax. When the DSIR was disbanded in 1992, Crown Research Institute Manaaki Whenua - Landcare Research



took over stewardship of the Orchiston Collection. The Collection is now growing at Manaaki Whenua, in Lincoln, Canterbury, as part of the National New Zealand Flax Collection, and is replicated on conservation land, at some marae, and research and educational institutions. In partnership with Māori weavers, Manaaki Whenua continues to research harakeke taxonomy and properties, and to add other cultivars to the National Collection. Most importantly, the Collection is a resource base, for weavers and other researchers.

HARAKEKE – NAMING AND DESCRIBING

One of the most confusing aspects of describing traditional harakeke varieties is that many of the same harakeke have different names in different regions. Similarly the same name is used to describe quite different varieties.

The most comprehensive written records on harakeke varieties are those of the Flax Commission who reported to the House of Representatives in the early 1870s on their inquiries into all facets of flax preparation in New Zealand. As part of their attempt to learn the best cultivars for industrial use, they investigated selections of harakeke used by Māori for different purposes, recording the name, description and use. The reports of leading Commissioners such as Kelly and Haultain detail the problems in matching plant to name.

With the Orchiston Collection, where names were not given by users in the source area, Rene identified the harakeke cultivars after careful study of old records and her own observations of the bushes. She has found it an advantage having the harakeke side by side for comparison and suggests:

“In distinguishing between the varieties it is wise to stand well back and study the bushes for habit of growth; width, length, strength and colour of the leaf, colour and form of the flower and stalk and the shape of the seed pods, as the difference in habit is more apparent. Then go closer to note the colour margins and keel, always remembering when comparing varieties to study leaves of the same maturity, usually the ones on the outer side of the rito – the central three blades. The colour margins differ considerably between the young leaves and the older ones, sometimes being a distinct yellow or red on young blades and turning to a deep brown on older ones. The flowers of *P. tenax* (harakeke) are usually reddish in colour and [the seed pods] are erect, while flowers of *P. cookianum* (wharariki) are often yellow toned and [the seed pods] hang down in a rather twisted manner, turning pale and fibrous with age.”

Rene also carried out an experiment testing all the cultivars for different uses such as piupiu or kete making. Strips prepared for kete dried out to a range of shades from pure white, through creams, fawns, golds and greenish tones, with some as yellow as pingao, the golden sand sedge. Mixed flax strips when used together created an interesting overshot pattern when the weaving was completed and dry.



FLAX PROPAGATION

Harakeke cultivars do not grow true from seed so they must be propagated by root division to ensure the special qualities of the plant are maintained. Harakeke will grow in almost any soil type, but will produce better quality fibre if grown in rich, light, moist soil which is well drained. Young fans with some root material attached, and trimmed back to the rito, or growing shoot, with the leaves on either side, are separated from the parent bush and planted at least two metres apart. This is to ensure ease of access for harvesting and pruning and to allow light and air among the plants to help control scale and fungal diseases. The late Ngoingoi Pewhairangi of Tokomaru Bay suggested that, when planting, the concave side of the fan should face the prevailing wind – “the flax, like the Māori, carries its baby on its back and the mother protects it.” Young flax leaves are very palatable to stock, so bushes should be securely fenced.

THE CATALOGUE

Information on individual harakeke cultivars in this catalogue is taken from research notes kindly provided by Rene Orchiston. Occasionally this has been supplemented by material from early records.

The harakeke are listed alphabetically. The numbers alongside are a unique ID for the plant. Please note that some numbers appear to be missing. These are plants which were found by Rene to be duplicates of others in her collection. A numerical index of names of cultivars, that follows the original printed catalogue format, is at the end of this document.



HARAKEKE CULTIVARS

AOHANGA, AWANGA (1)

Source: Waioamatatini, East Coast, North Island.

Description: Medium height. White stripes along the pale green leaf.

Uses: Decorative cultivar.

Selwyn (1847) and Best (1909) mention its strong coarse fibre used for rough garments, floormats and kete. “Ko te wharanui, ko te awanga tona ingoa he taroa” (Williams 1971). The **Awanga** used by the NZ Department of Agriculture earlier this century in breeding trials for the flax industry is a different cultivar.

ARAWA (42)

Source: Rotoiti area.

Description: Straight, fairly long, medium green blades. Up to 2.5 m tall. Reddish-orange margin and keel. Very high flower heads but seldom flowers.

Uses: Excellent muka harakeke. The best Mrs Orchiston found for producing long strands of clean fibre with hāro method (stripping with a shell). Good for piupiu because it is so easy to prepare. Especially good for ladies piupiu because of the length although the prepared strips do not dry as strong as other cultivars. When boiled for one minute, it dries to a cream colour. Ideal for whenu and aho in kākahu and for muka kete.

ATARAU (12)

Source: Pipiriki, Whanganui River.

Description: A handsome bush, quite a contrast with a distinctive deep blue tone about its tall bright bronzy leaves.

Straight, strong, pointed leaf with red tonings inside the old blades. Very blue bloom on the back of the blades. Very few flower heads.

Uses: Strips well and fairly easily, but not really a muka variety.

When Rene experimented with this harakeke, the scrape turned a lovely yellow-gold the same day. When boiled for one minute, strips dry to deep green/fawn shadings. Fawn-brown when unboiled.

ATE (21)

Source: Pipiriki, Wanganui River.

Description: One of the favourites in the Wanganui River district.

A fine looking bush with tall, straight, wide, dark blue-green blades with a definite blue bloom on the underside of the leaves. Margin and keel very dark reddish brown. No kōrari.

Uses: Does not strip well, but good for strong kete. The Flax Commissioner in Wanganui (1871) recorded its use for eel nets and baskets. Dries to a clear creamy white when boiled for one minute, more brown when unboiled. May be used for piupiu, although the para is inclined to adhere, but it dries hard and strong.

Rene's friend from this area sent a telegram to tell her she had sent the plant – "Ate flax sent today." The Post Office assuming a spelling error changed it to "Eight flax sent today"!

ATEWHIKI (20)

Source: Taranaki. One of cultivars sent to Botanic Gardens, Wellington in 1870.

Description: Tall, bendy leaves. Interesting looking bush showing blades of several different shades. Some older ones quite yellow with black margins and keel. Young blades bronze with red veining on margins and keel. Very glaucous blue on underside of blades (i.e., covered with bloom as on a plum, or cabbage leaf). Bright salmon red inside base of blade when cut. Flowers well.

Uses: Good for whāriki and kete as it dries to the colour of corn producing effective decoration. Not a muka variety, but has a nice white fibre. Not easily stripped.

AWAHOU (25)

Source: Eastern Bay of Plenty.

Description: A superior, handsome cultivar with short, wide, strong, pale green blades. Some of the blades measure 15 cm across. Distinct blunt, Gothic-shaped tips. The strong fibre shows clearly through the green skin. Orange-red keel and margin. Short kōrari with dense groups of blunt seed pods.

Uses: Makes very good strong kete which dry very white after boiling for one minute. Short, very strong and may be used for piupiu, but not really a muka variety.



HŪHIROA (19)

Source: Botanic Gardens, Wellington. Sent from Taranaki in 1870. Identified by Mrs Orchiston in 1972. Also sent to Britain earlier this century. Grew well in Ireland.

Description: Very tall, up to 3 metres. Tapering blades, pale bluish-green in colour. No kōrari. Dark brown edge with dark reddish-brown keel.

Uses: In Rene's experience, this harakeke does not produce very good fibre. The early records however suggest that Hūhiroa was well regarded in Taranaki and Wanganui. Its long fibre was of excellent quality and easily stripped. Used for fine mats, garments, fishing lines and ropes.

KAUHANGAROA (23)

Source: Wairoa, Hawke's Bay.

Description: A decorative variety which Rene has not seen growing elsewhere. Mentioned in the Flax Commissioners Reports on Hawke's Bay. Very tall, straight blades with a 3–7 mm red margin along the sides of the bronze-green blades, which shows up brightly when the sun is behind the bush. The centre of the young blades is pale green, then shaded in maroon out to the crimson margin. There is 5–7 cm of crimson on the tips of the blades. A very prolific flowerer.

Uses: Mainly ornamental. Dries out to an uninteresting brown shade. Rather poor fibre. Nairn (Flax Commissioners Report 1870) says it was used only for baskets and matting, and that the fibre easily breaks with a jerk. The strong kōrari were tied into bundles and lashed together to make rafts.



Kōhunga



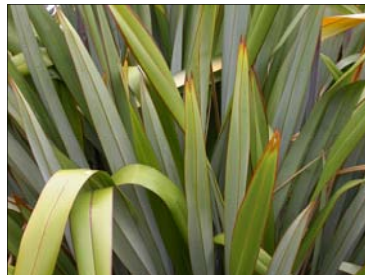
KŌHUNGA (16)

Source: Maniapoto area.

Description: Tall, rather droopy blue-green blades. Glaucous blue-green on underside. Black margin and keel. Many very tall flower heads with small seed pods.

Uses: Long recognised as a fine cultivar. One of the favourites of the Maniapoto people. Strips well into long, silky white fibres. Mrs Rangimarie Hetet and her daughter Diggeress Te Kanawa use this harakeke for the whenu in their finest kākahu. For kete, when boiled for one minute, the leaf dries to a very pale creamy fawn. Darker when unboiled.

Rene writes: "A time of great pride for all was when Aromea Te Maipi, a tutor in Māori weaving, came to my plantation and together we collected a bundle of the superior whītau blades from **Kōhunga** and **Taeore**. Members of the Māori Women's Welfare League helped her to prepare the whītau and feathers which Aromea used to weave a beautiful little muka and feather kete. This was presented to Her Royal Highness Diana, Princess of Wales, when she and His Royal Highness Charles, The Prince of Wales, visited Te Poho-o-Rawiri Marae in Gisborne in April 1983."



Māeneene

MĀENEENE (3)

Source: Urewera.

Description: Tall, bendy, but strong durable blades. Medium green with red margins and keel. Very bright salmon red at base of plant and inside the base of the cut blade. Has few, very tall kōrari.

Uses: A favourite whāriki harakeke in the Urewera. Rene writes "The 88-year-old lady who gave me my original plant was a very skilled craftswoman who had helped produce many fine patterned whāriki which have been in use for many years in the local meeting houses tucked in the hills of the Urewera." Also a fine kete variety – do not boil, but drag through boiling water. The roots were roasted on hot stones, then macerated into a very effective poultice for abscesses.



MAKAWEROA (30)

Also known as **Hiraka** – a name for fibre resembling silk.

Source: Torere, Eastern Bay of Plenty. From Mick Pendergrast.

Description: Medium height, fairly straight, strong, soft leaf. Pale green with orange-brown margin and keel. Very few kōrari. Seldom flowers.

Uses: Strips easily and cleanly (with care) into white, delicate, silky fibre. Needs hardly any dressing to prepare it for use in soft, fine muka kete.

MATAWAI TANIWHA (37)

Source: Matawai, near Waioeka Gorge, East Coast.

Description: Very tall, slightly bendy variety. Leaves a yellowy-bronze colour with darker shadings. Reddish-brown margin and keel. Very tall seed heads. Bright salmon red inside cut blade.

Uses: Kete variety. Also good for whāriki as it produces long strips which dry to a corn yellow shade. Gives good contrast when used in patterns. Better not boiled. For whāriki just drag through boiling water. Roots used for medicinal purposes.

MAWARU (9)

Source: Arawa.

Description: Medium to tall bush, bendy, wide, soft and shiny blades. Pale yellow-green with a very pale cream margin and keel. Produces flower heads on very dark purple stems, and later, rather droopy, twisted seed pods.

Uses: Easy to work with. Good for green kete, toys, etc. Do not boil.

MOTU-O-NUI (31)

Source: Urewera.

Description: One of the few traditional variegated cultivars. Medium height, straight, strong, very wide green blades unevenly striped with white. Gothic pointed. Very few, very small flower heads. Much wider blades than **Aohanga**.

Uses: Ornamental. Strong but poor quality fibre.



NGARO (29)

(sometimes **Ngaru**)

Source: Moutoa Estate, Foxton.

Description: Very tall (up to 3 metres), straight. Bush has dark, bronzy-green appearance. The strong fibres show clearly through the skin of the blades. The young blades are a distinct bronze shade and are relieved by a scarlet line along the centre of the blades.

Uses: Recognised last century as one of the best cultivars for milling. Strong, hard fibre, well suited for cordage. Very good piupiu harakeke especially for ladies piupiu, as it has length and the para comes away easily with a shell. The long fibres are surprisingly fine and silky for the strength of the blades. Ideal for whenu and aho in cloaks as it requires very little dressing. Makes strong kete. Inclined to dry out into mixed greenish to fawn tones when boiled for one minute. Darker when unboiled.



Ngaro



NGUTUNUI (50)

Source: Maniapoto.

Description: Short, bendy variety smudged with reddish shadings on sides and tips of blades. Overall bush has a yellow-bronze appearance particularly in the older leaves. Despite brownish tips and markings it is different from **Tupurupuru**.

Uses: Good for kete and whāriki if blades are long enough as it dries into mixed greenish-tan shades. If long enough can, with care, produce good muka for whenu in kete, wall-hangings, etc. The NZ Department of Agriculture (1908) described its fibre as strong and elastic, thin but tough. In strength, the fibre was by far the best of 10 cultivars tested. It was said to be highly prized for making fine mats and cloaks. Best (1909) said that in the Urewera nets and snares were made from the undressed leaves.

OPIKI (43)

Source: Near Foxton.

Description: Very tall, wide, medium green blades. Few kōrari.

Uses: Handy all purpose harakeke. Strips fairly well, although para is inclined to adhere. In tests for piupiu making, dried quite hard but strip needs to be cut to about 25 mm. Not as strong as other cultivars. Dries to a pale fawn.

OUE (26)

Source: Tairāwhiti (East Coast).

Description: Short, strong, straight, pale green blades with blunt Gothic points particularly on the young blades. Similar to **Awahou** but not such wide blades. Margin and keel are brownish orange. Few short kōrari with heavy, blunt seed pods.

The **Oue** described in some early records and given the synonym **Tāpoto** corresponds to the harakeke **Tāpoto** in this collection. Best (1909) says that Urewera Māori distinguished two sexes of **Oue**: the male, with longer fibre, more pointed and reddish leaves, and harsh fibre with a reddish tinge and the female, with shorter leaves and fibre, light reddish edges and soft white fibre. Best says that **Oue** was brought to the Urewera from Waikato.

Uses: Very good all purpose harakeke. Some mature blades may be used for piupiu but not really a piupiu variety. Makes very strong kete which dry out well into a rich pale parchment shade when boiled for one minute. Slightly darker when unboiled.



PANGO (48)

Source: Tawatapu district, south of Gisborne.

Description: Short, bendy variety . Overall bush has a dark appearance. Rito blades are a bronze colour. Reddish-brown margin and keel. Brownish-purple kōrari. Flowers well.

Uses: Green kete harakeke. Not good for muka.

PAOA (6)

Source: Muriwai, Gisborne District (Mrs Te Hau).

According to tradition, this variety was used to moor the canoe of Paoa when he arrived at Muriwai in the canoe Horouta.

Description: The bush is of medium height with a yellowy-green appearance, slightly droopy leaves, soft but strong. Margin and keel have fine bright orange lines. Yellow shading on tips of young blades which are rather Gothic pointed. Flowers freely even on young bushes. Long kōrari with dense, strong seed pods.

Uses: A fine kete variety sought after for decoration as the mature blades dry to distinct yellow tones – sometimes so yellow that it has been mistaken for pīngao, the golden sand sedge (*Desmoschoenus spiralis*). Ideal for decorative patterns in kete and whāriki.



Paoa



PAREKORITAWA (22)

Source: Waioamatatini, East Coast. Also sent from Taranaki to Botanic Gardens, Wellington in 1870.

Description: One of few traditional cultivars of variegated harakeke. The whole bush has a yellow appearance, with the bright green leaves striped with a bright sulphur yellow. Short, straight, strong, pointed blades. Orange margin and keel ("like karaka", Andersen 1907). Few kōrari, with light flower heads.

Uses: Kelly, in the Flax Commissioners Report 1870, described it as a beautiful plant and it was, and is, valued as ornamental. It is a parent of many modern coloured hybrids. Also produces high quality, shiny, but rather brittle fibre.



Parekoritawa

PARETANIWHA (10)

Source: Rotoiti area.

Description: Users today would give conflicting descriptions of this flax. Rene's plant tallies with information given in early records (Flax Commissioners Report 1871; NZ Department of Agriculture Report, 1908).

Very tall, erect cultivar, up to 3 metres. Straight, wide, medium green blades with yellow margin and keel. Flowers freely, short seed pods.

Uses: Makes a very good strong kete (unboiled) which dries out to a lovely rich golden corn colour. Slightly paler when boiled. Not heavy enough for piupiu.

POTAKA (60)

Source: East Coast.

Description: Tall, slightly bendy, blue-green leaves with powdery blue underside. Similar to **Ruawai**. Black margin and keel. Sends up plenty of very tall kōrari with light seed pods.

Uses: Mature blades strip well with shell into long strands of fine, silky fibre. Very good for kete as it dries very white when boiled for one minute.

RANGIWAHO (32)

Source: Tawatapu district, south of Gisborne. Named after a chief of the region.

Description: Short bush, bendy leaves, with reddish-brown margin and keel. Small flower heads with heavy seed pods.

Uses: Green kete variety . Not good for stripping as fibre breaks. The seed pods were used to dye fabric.



RAUMOA (35)

Source: Botanic Gardens, Wellington (originally sent from Taranaki in 1870) and Te Kuiti.

Description: Tall, soft but strong leaves. Tomato red keel and margins on all blades. Plenty of heavy, tall seed heads.

Uses: Good whāriki harakeke. Also good for fine kaitaka kete as it dries very white like kiekie when boiled. Strips easily with a shell into silky white fibre, though the para is inclined to adhere. For kete, the leaves dry to a greenish white when unboiled, almost white when boiled.



RUAHINE (46)

Source: Urewera.

Description: A muka variety. Tall, straight, strong, yellow-green blades. Light orange keel and margins. Similar to **Tāpoto**, but softer and taller. Tall thin kōrari with light seed heads.

Uses: Quite good for piupiu as it strips well and cleanly although it has rather thin fibre. Dries hard to a pale cream after being boiled for one minute.

RUAPANI (45)

Source: Urewera.

Description: Tall, straight, strong, medium green blades. Reddish-brown keel and margins on the older leaf and a fine orange-red on the younger rito leaves. Similar to **Ruahine** but taller, wider with finer fibre.

Uses: Very heavy, strong *tīhore* type. Most blades strip easily and cleanly into heavy fibre, although some of the para is inclined to adhere. A good piupiu harakeke – plenty of fibre, good length, dries hard and strong. When boiled, dries to a rich creamy biscuit colour. Unboiled, it has a greener tone.

The early Europeans would tear a strip from one of the long leaves for cordage – almost impossible to break.

RUAWAI (14)

Source: Near Mt. Hikurangi. From Pine Taiapa, noted master carver of the Ngāti Porou.

Description: Tall, rather bendy leaves. Bright, light blue-green blades. Silver-blue, powdery underside. Black margin and keel. Orange keel and black margin on young leaf. Silver-purple shadings at base of plant. Similar to the cultivar **Kōhunga**.

Uses: Grown widely on the East Coast and prized for its long, white silky fibres of superior quality. Strips easily and cleanly. Ideal for whenu (warp) and aho (weft) for kaitaka, korowai and muka kete. Used in kaitaka kete as it dries white when boiled for one minute.

Babies on the East Coast were once placed in tightly woven baskets for almost the first year of their lives. They were covered with a bundle of silky muka fibres which could be changed and washed.



TAEORE, TAIORE (15)

Source: Opunake, Maniapoto.

Description: A fine variety. Tall, bendy, pale blue-green leaves, powdery blue on reverse. Similar to **Kōhunga** but finer and slightly more droopy. Black margins and keel. Plenty of very tall, light-weight flower heads.

Uses: Easily stripped into long strands of strong, silky white fibre using haro method. Fibre used for aho in high quality cloaks. For kete, leaves dry to a pale fawn when boiled and a deeper colour when unboiled. Fibre in muka kete dries to a soft cream colour. Strips prepared for kete and whāriki will not shrink after being woven, if boiled or dragged through boiling water before weaving.

The stalks and seed pods have provided Rene with a fine range of apricot toned dyes for her handspun wool.

TAKAIAPU (49)

Source: Hawke's Bay.

Description: Tall, rather bendy, medium green leaves

Uses: Good all purpose harakeke. Good whāriki variety. May be used for piupiu although para adheres slightly. Dries very hard and strong. Medium quantity of fibre. Dries to greenish-fawn when boiled for one minute and a deeper shade unboiled. Kelly, one of the Flax Commissioners in Taranaki (1870), said its very strong fibre was used for fishing lines.

TĀKIRIKAU (5)

Source: Tauwhareparae, East Coast.

Description: A favourite of the Ngāti Porou. The term *tākirikau* (like *tīhore*) is applied to all the finer cultivars of flax which can be stripped of fibre without the use of a shell (i.e., with the fingers only).

A very handsome harakeke, growing at times up to 3 metres high. Straight, very strong, pale yellowy-green leaves. Bright yellow-orange margin and keel. Small number of very high, heavy kōrari.

Uses: A real whītau harakeke, producing long strands of strong, shiny fibre. Could be good for strong whenu (warp) in weaving. Very good piupiu variety, particularly for ladies piupiu – easy to prepare, has plenty of length and dries hard and very strong. Dries to a pale clear yellowy cream when boiled for one minute. Unboiled, has a little more greenish tone.



TĀNE-Ā-WAI (28)

Source: Tikitiki, East Coast.

Description: Medium height, rather bendy, wide blades. Brown margins and keel.

Uses: Used mainly in green kete. Better not boiled.

TANIWHA (8)

Source: Waioamatatini, East Coast. From the garden of the late Sir Apirana Ngata.

Description: A handsome bronze coloured harakeke. Deep brown tones with crimson, almost translucent margins and markings along centre of blades. Sometimes known as the Blue Flax because of the distinct purply-blue bloom on the underside of the leaves and on the kōrari. The young flower stems on one small bush were almost navy-blue.

Uses: Ornamental – mainly for garden display. Contrasts well when planted among other cultivars.

TAPAMANGU (18)

Source: Waioamatatini, East Coast.

Description: Tapa – edge. Mangu – black. Medium height. Straight, narrow, strong, pale green blades. Black margin and keel. Very seldom flowers.

Uses: A superior cultivar. Has always been grown on the East Coast. Seiferts Superior (S.S.), a cultivar once widely used by flax millers in the Manawatu, was bred from this plant. Most fibre per width of blade of any flaxes tested by Mrs Orchiston. Strips easily and cleanly into strong, shiny fibre. A very good piupiu variety. Dries very hard to a very pale cream. Strips tested for kete dried very white when boiled for one minute, and to a pale greenish cream when unboiled. Some Urewera women used the soft, shiny fibres of the young blades for very fine baby shawls and necklace ties.





TĀPOTO (27)

Source: Taihoa Pa, Hawke's Bay.

Description: A real *tihore* variety and one of the favourites of Hawke's Bay Māori. Once prevalent where Havelock North now stands. Strong, straight, short narrow blades tapering to a sharp point. Pale yellow-green leaves with bright orange keel and margins. Very fine, tall flower stalks. Similar to **Tākirikau**, but generally smaller.

Many early records enthuse about this harakeke. It was often given the synonym '**Oue**' but is a very different harakeke to the '**Oue**' in this collection. Recognised for its beautiful glossy fibre. Heaphy (Flax Commissioners Report 1870) says that "some of this flax was manufactured in France into fabrics, that resembled fine jean and silk in delicacy of gloss. . . The Oue is frequently planted by the natives in borders to divide small cultivations near a village, and where it is convenient for occasional use in mat-making. In this case it constitutes quite a property. It may be seen in the cultivations at Coromandel harbour, Kawhia, and the Waikato."

Uses: Muka variety. Strips easily and cleanly into long, shiny, white fibre, brittle but very strong. Very good piupiu harakeke. Dries very hard to a pale cream colour. Used for kaitaka, whāriki and kete.



TĀRERE (40)

Source: Tairāwhiti (East Coast).

Description: Short, bendy, bright yellow-green blades, giving the bush a yellowish appearance.

Uses: Very valuable for kete as it dries to a clear yellow when boiled for half a minute. Gives good contrast for patterns when used with other cultivars. When unboiled, it dries to rich bronze-golden shades. Not a muka variety.



TAUMATAUA (33)

Source: Urewera.

Description: Tall, straight with wide, green, strong blades. Pale yellow keel and margins. Seldom sends up flower heads.

Uses: Good for ladies piupiu because of the long blades. With care, will strip fairly easily into long strips of white silky fibre. For kete it dries to a pale fawn when boiled for one minute. Fawn when unboiled.

UNKNOWN - 'TE AUE DAVIS' (47)

Source: Sent to Mrs Orchiston by Te Aue Davis.

Description: Very similar to **Tapamangu**. Very black margin and keel.

Uses: A very fine muka cultivar.

TE MATA (53)

Source: Hawke's Bay.

Description: Very tall, up to 3 m. Overall bush has a pinkish bronze appearance, as the young leaves have crimson coloured veining along the bronze leaf. Red margin and keel. No kōrari.

Uses: Ornamental. Rather coarse fibre. May be good for whāriki because of its length. Dries darkish fawn.

TE TATUA (34)

Source: Puha, near Te Karaka. From Tekani te Ua's garden.

Description: Name means The Belt. Short, straight, strong, pointed medium green blades. Bright reddish-orange keel and margins. Plenty of very tall kōrari with short flower heads.

Uses: Strips well. Good for strong kete. Chief Tupurupuru had a belt made from this harakeke, hence its name.



Te Tatua



TUKURA (4)

Source: Waihirere, Gisborne District.

Description: A fine cultivar. Tall, very bendy leaves, soft but strong. Red margin and keel. Young leaves show reddish/brown shading at tips of blades. Grown in many districts under different names.

Uses: Do not boil, but just drag through boiling water. Gum at base has definite healing properties and was used for treating burns.

TUPURUPURU (2)

Known as **Tarariki** in Taranaki District.

Source: Gisborne, East Coast. Tupurupuru was a chief of Te Aitanga-a-Mahaki and lived about 12 km inland from Gisborne.

Description: Medium to tall in height, slightly bendy. Leaves dull olive green, soft, but strong. Chocolate-coloured margin and keel. 4–8 cm of brownish smudging at the tips of the young blades (Anderson, 1907, suggests “for the length of a finger”). Tall, pointed seed pods.

Uses: Ordinary purposes, kete, whāriki. The long blades are suitable for whāriki if just dragged through boiling water, not boiled.

TURINGAWARI (7)

Source: Tauwhareparae. Ngati Porou.

Description: Turi – knee. Ngawari – soft. A tall, soft, bendy harakeke. Margin and keel reddish brown with light shading on tips of young leaves.

Uses: Kete harakeke. Easy to work. Do not boil.

TŪTAEWHEKE (17)

Source: Botanic Gardens, Wellington. Sent from Taranaki in 1870. Identified again by Mrs Orchiston in 1972.

Description: A distinctive cultivar, with the mature bush having an overall inky blue appearance, the colour of the fluid ejected by the octopus to camouflage itself when under attack—hence the name. Medium to tall, with rather bendy blades. Black keel and margins on older blades, with dark, streaky bronze colourings on upperside. Tawny-red margins and veining in the young leaves. The young bush has a yellowy-bronze appearance.

Uses: Not best for muka, though some of the older blades strip fairly easily.



WAIHIRERE (63)

Description: Tall, rather bendy, blue-green blades. Dark brownish margin and keel.

Uses: Good kete harakeke. Goes white and stays shiny after being boiled for one minute. Not good for muka.

WHAKAARI (44)

(*Phormium cookianum*)

Source: Urewera.

Description: An unusual little wharariki. Medium height, short, strong blades, which shape into a narrow neck about 15 cm from the tips. No colour on margin and keel. Medium green, dull leaves, not shiny like usual wharariki. Twisted droopy flower heads.

Uses: Not really a piupiu variety, but could be used for short piupiu, as it has a strong blade which dries hard. The para falls off fairly easily. Good for strong, green kete. Dries to a pale greenish-fawn when boiled for one minute, and to a deeper colour unboiled.

WHARANUI (11)

Source: Urewera.

Description: Very tall, broad blades, soft but fairly strong. Pale green. In spring, kōrari are very purple and produce very tall, thin flower heads. In some old records, **Wharanui** is described as the common, coarse flax. On the East Coast it is known as a fine cultivar.

Uses: Soft and easy to use. Ideal for learners. Do not boil. An old lady in the Urewera told Rene that, with care, soft fibre may be produced. It was used for fine cloaks and baby wraps. A fine kete made with this harakeke looked like kiekie (*Freycinetia baueriana*).

WHARARIKI (41)

(*Phormium cookianum*)

Source: Tairāwhiti (East Coast).

Description: A tall cultivar of *Phormium cookianum*. Slightly bendy, soft, medium green blades. Hardly any colour on the margins and keel (greenish-white). High flower stalks with yellow flowers and lightweight pendulous seed pods.

Uses: Used for soft baskets, rourou, toys. Good for beginners as it is very soft to work with. A fine kete made from this had the appearance of soft kiekie. The strips were not boiled but dragged quickly through boiling water.



WHARARIKI (62)

(*Phormium cookianum*)

Description: Short to medium height. Shiny, pale leaves. Long seed pods which droop and are slightly twisted.

Uses: Better quality fibre than other wharariki. When woven into a soft kete, dries slightly yellow.

WHAREONGAONGA (36)

Source: Tawatapu district, south of Gisborne.

Description: Short to medium height. Straight, strong, narrow, tapered, yellow-green blades. Orange margin and keel. Similar to, but not as strong as **Tāpoto**. Very few, small flower heads.

Uses: Abundant, shiny, very strong but brittle fibre. May be used for piupiu but not as strong as other varieties. Cleans easily of para. Dries white.



Wharariki



GLOSSARY

aho	in weaving, a weft
harakeke	swamp or lowland flax, <i>Phormium tenax</i>
hāro method	to strip fibre from harakeke leaf with a shell
kaitaka	a fine cloak, with an ornamental border
kakahu	garment, cloak
kete	basket
kōrari	flower stalk of harakeke. In some areas, another word for harakeke
korowai	a cloak ornamented with black twisted cords
muka	dressed flax fibre, whītau
para	the leaf tissue scraped from harakeke fibre
piupiu	a waist garment with a swinging fringe
rito	centre growing shoot of harakeke
rourou	small food basket
tīhore	a fine harakeke variety – 'can be scraped clean with a fingernail only'
wharariki	coastal or mountain flax, <i>Phormium cookianum</i>
whāriki	floor mat
whenu	in weaving, a warp
whītau	dressed harakeke fibre, muka



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HARAKEKE CULTIVARS IN NUMERICAL ORDER

NUMBER	NAME	NUMBER	NAME
1	Aohanga, Awanga	28	Tāne-ā-wai
2	Tupurupuru, Tarariki	29	Ngaro
3	Māeneene	30	Makaweroa, Hiraka
4	Tukura	31	Motu-o-nui
5	Tākirikau	32	Rangiwaho
6	Paoa	33	Taumataua
7	Turingawari	34	Te Tatua
8	Taniwha	35	Raumoa
9	Mawaru	36	Whareongaonga
10	Paretaniwha	37	Matawai taniwha
11	Wharanui	40	Tārere
12	Atarau	41	Wharariki
14	Ruawai	42	Arawa
15	Taeore, Taiore	43	Opiki
16	Kōhunga	44	Whakaari
17	Tūtaewheke	45	Ruapani
18	Tapamangu	46	Ruahine
19	Hūhiroa	47	Unknown, 'Te Aue Davis'
20	Atewhiki	48	Pango
21	Ate	49	Takaiapu
22	Parekoritawa	50	Ngutunui
23	Kauhangaroa	53	Te Mata
25	Awahou	60	Potaka
26	Oue	62	Wharariki
27	Tāpoto	63	Waihirere



Harakeke (New Zealand flax) was an essential resource for early Maori. Over generations, weavers selected forms with the best qualities for specialised uses and cultivated them. Rene Orchiston of Gisborne spent over 30 years tracking down, documenting and maintaining in cultivation many of these traditional varieties. Her collection forms the basis of the National New Zealand Flax Collection maintained by Manaaki Whenua - Landcare Research.

This booklet is a catalogue of her fine collection. Fifty harakeke varieties are described and particular uses noted. It provides an invaluable reference to anyone interested in growing and using these special plants.