
The Māori Fish Hook: Traditional Materials, Innovative Design

Chris Paulin

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Abstract

Traditional Māori fish hooks made using wood, bone, stone, and shell were discarded after the introduction of metals to New Zealand by Europeans, and the knowledge surrounding their design and use was lost. By using current understanding of the ecology and feeding strategies of New Zealand fishes, the knowledge held within the objects themselves can be used to determine how original or traditional Māori hooks (matau) functioned, identify those made for fishing, and distinguish them from hooks that may be replicas or forgeries made for sale to tourists and collectors by both entrepreneurial Māori and European forgers. It is ironic that present-day fishers consider metal ‘circle hooks’ an advance in hook design, when it is rather a re-discovery of a much older technology. Many hooks (and other traditional tools) have been incorrectly interpreted as decorative, ceremonial, or even magico-religious objects, which has influenced the design of many present-day pendants (hei matau) worn as symbols of Māori cultural revival.

Keywords: Māori, fishing, rotating hooks, hei matau

Introduction

On James Cook's first Pacific voyage of discovery (1769-1772), Joseph Banks observed Māori fishing and commented that "... Their hooks are but ill made, generally [sic] of bone or shell ...".¹ William Anderson, ship's surgeon on board the *Resolution* during Cook's third voyage (1776-1779), observed that Māori "... live chiefly by fishing, making use ... of wooden fish hooks pointed with bone, but so oddly made that a stranger is at a loss to know how they can answer such a purpose ...".² Early explorers, including Pottier de l'Horme, an officer on de Surville's ship *St Jean Baptiste* in 1769,³ expressed doubt as to the efficiency and function of the traditional hooks. European settlers also dismissed the hooks, stating they were "... very clumsy affairs...".^{4,5} Ethnologists and archaeologists throughout the twentieth century questioned the Māori hooks, which were described in such terms as "... impossible looking ..." and "... shaped in a manner which makes it very difficult to imagine could ever be effective in catching a fish...".^{6,7,8}

Figure 1. Composite Māori fish hook with carved shank. Date unknown. Museum of New Zealand, Wellington, OL000105.



Following European exploration in the late 1700s, sealers and whalers began visiting New Zealand and traded extensively with Māori for provisions and

other services, providing metal tools as a form of currency.^{9,10} Metals imported by Europeans were quickly adopted by Māori for manufacturing fish hooks, and traditional hooks made of wood, bone, stone, and shell were discarded.¹¹ Other changes in Māori lifestyle associated with the increasing availability of European agricultural cultivars and domestic animals in the nineteenth century, and urbanisation in the twentieth century, led to a general decline in Māori fishing activity and exclusion from large-scale fishing opportunities and investment.^{12,13,14}

Although Māori initially continued to make fish hooks following the traditional circle hook design using new materials, the adoption of mass-produced steel hooks soon led to the nature of the original design and function of the traditional hook being lost.¹⁵

Mātauranga Māori (traditional knowledge) was entirely memorised and transmitted orally by tohunga (experts or priests). In 1879, John White, an ethnographic novelist recognised as a leading authority on Māori, was appointed by the government to write an official history of New Zealand's indigenous people.¹⁶ From the 1840s to the 1890s, he procured information for his history from some 300 Māori by payment, cajoling, and friendship. He described how those who held the sacred knowledge, even after converting to Christianity, were in such awe that to divulge it (the knowledge) to Europeans, or even to the junior branches of his own people, was to incur the penalty of death. The death of many tohunga and elders resulted in a loss of knowledge, including details of how traditional fish hooks were made, and eventually even mātauranga Māori itself was disregarded as a knowledge base.^{17,18,19,20,21,22,23}

By using current understanding of the ecology and feeding strategies of New Zealand fish we can unlock the knowledge held within the traditional hooks, determine how original Māori hooks functioned, and identify matau made for fishing. This understanding helps us to determine which hooks in museum and private collections may be replicas or forgeries made for sale to tourists and collectors by both entrepreneurial Māori and European forgers.

Traditional fish hook design

Fish were traditionally caught by Māori using suspended bait hooks. Sharp points and barbs required for piercing and holding fish on the hook could not be easily manufactured from natural materials such as wood, bone, stone, and shell. Hence traditional hooks were made to a design known as a circle hook and have certain characteristics: the point of the hook is directed inwards, perpendicular to the shank, the gap between the point and the shank is extremely narrow, and the fishing line is attached to a groove at right angles to the direction of the point and leads away from the inner side of the shank.

Circle, or 'rotating', hooks function in a different manner to European J-shaped metal 'jabbing' hooks. The latter are attached to the fishing line with the shank parallel to the point so the angler can 'set' the hook with a sharp upward jerk on

the line to pierce the fish, which is then held on the hook by the reversed barb. A circle hook does not pierce the fish, rather the fish hooks itself and it is held on the hook without the need for a barb. As the fish attempts to remove bait from a circle hook, the jaw slips through the narrow gap between the shank and the point of the hook. Increasing tension on the line then causes the hook to rotate away from the direction of the point as it slides to the corner of the mouth, trapping the fish's jawbone. Thus there was no requirement for a reversed barb or for Māori to use rods for leverage to set the hook.²⁴

Following European contact, the superiority of metal over natural materials for working implements quickly became apparent and stone, wood, and bone tools were discarded by Māori. Metal hooks replaced those made of wood, bone, stone, and shell, and by the mid-1800s few traditional hooks were being made. However, demand from tourists and collectors for souvenirs and artefacts in the late nineteenth and early twentieth centuries resulted in the production of numerous replica fish hooks and other artefacts by both Māori and Europeans.^{25,26,27,28,29,30,31}

Fish hooks were popular as tourist souvenirs, particularly lures with brightly coloured pāua shell inlays, and wooden hooks with shanks adorned with detailed ornamental carving. However many of these 'souvenir' or 'replica' hooks, now held in museum collections, do not meet the design requirements for a functioning circular hook or trolling lure.

Wood-backed trolling lures (Figure 2) were not reported by European observers prior to the mid-1800s, and were probably not easily made until the introduction of metal tools enabled the delicate shell inlay to be fitted to the wood. Lures with wooden shanks would have floated at the surface and would not attract and catch fish efficiently; earlier lures made using stone, bone or shell shanks would sink in the water column to fish at depth.^{32,33,34}

Figure 2. Wood-backed pā kahawai. Dates unknown. Puke Ariki, New Plymouth: A, A57-788; B, A57-876.



Numerous examples of pā kahawai lures made with wooden shanks and inlaid with pāua shell backing were manufactured in the inland Māori village of Parihaka,

Taranaki in the latter part of the nineteenth century and sold through Butterworth's Old Curiosity Shop in the nearby town of New Plymouth.³⁵ Traditional rotating fish hooks with ornately carved wooden shanks, and wooden trolling lures with pāua shell inlays, are examples of formerly rare categories of taonga which came to be specifically designed and produced for their desirability as trade items.³⁶ This mirrored a similar process of the most internationally identifiable Māori symbol, the hei tiki.³⁷

Commercial long-line fishers have recently adopted the circle hook design. Metal J-shaped hooks rely on a sharp point to penetrate the flesh and the fish is then held on the hook by a reversed barb (Figure 3). This results in injury to the fish, and in long-line situations it often dies and deteriorates before the line is retrieved. The traditional Māori hook did not require the angler to set the hook, as it captured the fish by rotating as tension on the line increased. As the point of the circle hook is not required to penetrate the fish, but holds it securely at the corner of the mouth, the fish is not injured and remains in good condition until the line can be retrieved. Metal circle hooks will penetrate the fish at the corner of the mouth, but rarely cause severe injury.

Figure 3. Modern metal J-shaped hook (left) and circle hook (right). Photograph by Jean-Claude Stahl. Museum of New Zealand, Wellington.



While the introduction of metal in the early 1800s led to traditional tools made of natural materials being discarded, those made of valuable greenstone were often kept as items for personal adornment, their original purpose frequently lost to subsequent generations.³⁸ Europeans often interpreted unusual items with no apparent function as decorative, ceremonial or even magico-religious objects.^{39,40,41} Among these are examples of large flat greenstone tools, possibly used as scrapers or for scaling fish, which superficially resembled small fish hooks. However they were described by European commentators as stylised fish hook pendants (hei matau) in the late 1800s.^{42,43,44}

Conclusion

In pre-European New Zealand, Māori caught fish efficiently and sustainably in a marine environment that has undergone significant changes over the 240 years since the voyages of James Cook and European settlement. The traditional fish hook was made of wood, bone, shell, or stone. Suspended hooks were made to a circle hook design in which the barbless-point of the hook is directed inwards and the line attached leading away from the inner side of the shank causes the hook to rotate backwards to hold the fish, while lures were made using stone, bone, or shell shanks which would sink to fish effectively. By understanding the function of the design encapsulated within traditional hooks, it is possible to distinguish hooks that have been made since European contact that are possibly replicas or forgeries made for tourists and collectors.

The circle hook design was very efficient and ironically has been re-adopted by present-day fishers using modern steel hooks as an ‘innovation’ in recognition of its advantages in holding live fish on the line. Greenstone tools, whose true function has been forgotten, had been interpreted as decorative items or stylised fish hooks by Europeans in the early twentieth century. This interpretation, combined with the unusual Māori fish hook design, has influenced the present-day design and custom of wearing hei matau as personal adornment and a symbol of Māori customary revival.

Endnotes

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Biographical note

Chris Paulin is a marine biologist with the Museum of New Zealand Te Papa Tongarewa. His research on the taxonomy and systematics of fishes of the New Zealand region has been published in over 50 scientific papers in national and international journals, as well as numerous popular articles, and six books and identification guides. He was a recipient of the 1996 Royal Society of New Zealand Science Communicator Award. Using his background knowledge of the ecology of New Zealand fishes, Chris has been studying the unique design and function of the Māori fish hook, and in 2009 he received a Winston Churchill Memorial Trust Fellowship to travel to Europe to examine pre-contact hooks collected by James Cook and other explorers in the eighteenth century. He is currently working on a historical project investigating traditional Māori fishing and the development of commercial fisheries in New Zealand since European settlement in the nineteenth century.

Email: chrisp@tepapa.govt.nz