MAI Journal A NEW ZEALAND JOURNAL OF INDIGENOUS SCHOLARSHIP

DOI: 10.20507/MAIJournal.2026.15.2.6

MĀUI TINEI AHI

Fire extinguishment, fire generation, and fire transportation in Māori society

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Abstract

Māui Tinei Ahi is an ancestor who achieved a number of remarkable things in his life—from fishing up lands, to slowing the sun, to sourcing fire, and much more. The fire pūrākau details Māui's interaction with his great aunt, the Atua of Fire, Hinemahuika. It tells the narrative of Māui sourcing fire for humankind. While this pūrākau is well-known in Aotearoa New Zealand (and in other islands of Te Moananui a Kiwa), various kurahuna are often overlooked. Based on the author's PhD thesis, this article provides an original retelling of part of the fire pūrākau. The fire pūrākau lays a platform to critically explore three kurahuna within the pūrākau—about fire extinguishment, fire generation, and fire transportation. As well as discussing these three kurahuna, this article profiles three fire technologies: those used to extinguish, generate, and carry fire. These are the ārai ahi technologies, the hika ahi technologies, and the puku tawai technologies.

Keywords

Māui, Hinemahuika, fire, pūrākau, kurahuna, mātauranga

Introduction

Māui is a name known by many people throughout Aotearoa New Zealand and Te Moananui a Kiwa. He is celebrated because of the many illustrious tasks that he completed in his lifetime. Who was it who used his inherited mātauranga to "fish up" the lands of Aotearoa? It was Māui. Who was it who conducted a large-scale inquiry into time? It was Māui. Who was it who brought back the life-giving element of fire from Hinemahuika? You guessed it: It was Māui.

These three accomplishments of Māui's are often considered the major pūrākau within the collection of narratives known as the Māui cycle (Reed & Calman, 2021; Stoddart, 2024). While they are the major pūrākau in the cycle, they are not the only ones. Pouwhare's (2019) doctoral thesis and subsequent work show that there are many more Māui narratives than the three we are familiar with. Pouwhare also speaks to the richness, diversity, and nuance of each pūrākau in the Māui cycle (Houkamu & Pouwhare, 2025; Pouwhare, 2019).

In my estimation, there are many tasks ahead for us to join the likes of Pouwhare in speaking

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to the richness of the Māui cycle. One is to pay attention to the less well-known narratives—Māui's birth and upbringing, Māui's interaction with *tuna* in defence of his wife, Māui's fractious relationship with his brother-in-law, and many more (Pouwhare, 2019; Reed & Calman, 2021).

Another way to enhance the Māui cycle is to pay attention to some of what we might call the smaller details in the pūrākau. These details are often overlooked because of the grandeur of the major elements. For example, it is hard to reflect on the practice of weaving in a narrative in which the sun is slowed. It is difficult to contemplate sibling dynamics in a pūrākau in which a giant fish is caught (Ihimaera, 2020). However, it is my belief that these smaller details are just as important as the major, grandiose ones. Small details add a great deal to the Māui cycle and to what we might describe as Māui's biography. The smaller details complement the larger ones to make them much fuller narratives, jam-packed with wonderful mātauranga. But just telling you this is ineffective. I hope that in this article I show you what I mean.

The article focuses on just one pūrākau—the aforementioned fire pūrākau, in which Māui visited his great aunt Hinemahuika and brought fire back to humankind. Drawing on my PhD thesis entitled *Ahikā—The Burning Fires*, this work explores how Māui returned to his people not just with fire but with new mātauranga about fire—including how to extinguish it, how to generate it, and how to transport it. The article also describes various fire technologies used to extinguish, generate, and carry fire that Māui either invented himself or inspired the invention of. As there are many hundreds of fire technologies, this article focuses on just three—ārai ahi, hika ahi, and puku tawai.

The article presents some of the treasured mātauranga associated with fire, particularly sociological, scientific, and technological knowledge. Much of this mātauranga is not thought about or appreciated in contemporary times. There are many reasons for the lack of understanding of fire mātauranga. One reason is the oft-mentioned word that starts with c and ends with -isation and seems to work its way into most Māori scholarship. This word describes a concept, an ideology, and a process that commenced in Aotearoa in 1642, re-emerged in 1769, and saw the violent invisibilisation, suppression, and destruction of mātauranga (O'Connor, 2024). Another reason that fire mātauranga is underappreciated is that modernisation has resulted in few people living in Aotearoa lighting fires on a daily basis or relying on them to live (O'Connor, 2024). There are more reasons why fire is often ignored, but suffice it to say, this work is the revitalisation of a body of mātauranga that once burned brightly but has dimmed significantly over the past few hundred years.

In terms of structure, the article is split into two sections. The first section presents my own retelling of part of the fire pūrākau. This original vignette is called "Hinekaikōmako and Hinemahuika's musings over tī". The decision to include only part of the pūrākau was made because the full composition is beyond the scope of this article. For those readers who want to contextualise the following vignette in the full pūrākau, I can recommend a retelling by an up-and-coming author named Witi Ihimaera, in his book *Navigating the Stars*. Furthermore, I have written a version of the pūrākau in my thesis, which will be published as a book soon.

The pūrākau is a first-person narrative from the perspective of Hinemahuika, talking to her mother, Hinekaikōmako. Each piece of dialogue is numbered (Parts 1 to 14), so that I can easily refer to specific parts of the vignette in the analysis in the second section of the article. The retelling draws on a vast range of published and unpublished scholarship, all of which is carefully referenced in my thesis. These references are omitted in this article so as not to disrupt the pūrākau with dozens of citations.

The second section presents three kurahuna contained within the vignette that pertain to the topics of fire extinguishment, generation, and transportation. Subsections are used to enhance the structural integrity and readability of this section. It should be noted that these kurahuna are three among many, and are not exhaustive. Just three kurahuna were selected to keep the scope of this article tight. As this article is informed by my PhD thesis, analysis was conducted in the doctoral study (which concluded in 2024). In that study, analysis included the triangulation of three sources of data: pūrākau, whakataukī, and wānanga with my own elders (O'Connor, 2024). For those wanting more methodological information, my full methodology is available in my thesis, but I will disclaim that this particular chapter is probably most efficacious as a cure for insomnia. In terms of te reo Māori orthography and dialect, this article uses a number of Ngāti Kurī and wider Te Tai Tokerau words. Ka huri—without further ado, let us commence.

Hinekaikōmako and Hinemahuika's musings over tī

"The audacity of that mokopuna of yours, Māmā!" I said, sipping at my kaputī kawakawa. "I still remember him turning up at my place time after time, pōtae in hand and with that faux remorseful expression fixed on his face—asking for another flame of mine to take home. He had me fooled. Pākura had warned me what he was up to, but my ears were well and truly closed to any kōrero that implicated any one of my moko."	*Part 1*
"Of course your ears were closed, bub," replied Hinekaikōmako, taking a sip of her tī as well. "How could you suspect that that mokopuna of yours was playing such a trick—straight from the wheelhouse of Māui te Whare Kino indeed! Although maybe we all could have seen a bit of a pattern, the way he took off with Murirangawhenua's jawbone . . . still, everyone thought that was a one-off.	*Part 2*
"I just couldn't believe there was anything intentional going on," I said. "I thought that he was as uncoordinated as a kūkupa who has drunk too much fruit punch. He said he slipped on a mossy rock into Taiau, got caught in the rain, and even somehow let the fire slip from his grasp and fall into an innocuous little puddle—and I believed him! I might have thought back to his having doused all of the fires at his kāinga, and plunged humankind into darkness but I thought that was a one-off too."	*Part 3*
"Yes," Hinekaikōmako said, nodding. "And he is so clumsy sometimes too—not surprising either, you know, after his birth, 24 weeks and all. He was never the most coordinated moko of ours, not like his brothers and his sister—physical specimens, the lot of them." She laughed. "Except when he's imitating the birds of Tāne Matua's Waonui—he's actually quite graceful then."	*Part 4*
"Yes, like when I threw my pōtiki, Tōiti, at Māui," I said, laughing. "He flew off in a fantastic frenzy of feathers. First he was in ruru form, flying up into the branches of a tree where he was rūrūing in fear. Looking down at me with those wide eyes of his, the green one and the grey one!"	*Part 5*
"Beautiful eyes, our moko," Hinekaikōmako said distractedly.	*Part 6*
"And able to disguise deceit too!" I replied. "Anyway, Tōiti's fires followed him up the trees and Māui was suddenly a kāhu, soaring up into the cool sky. Laughing away he was, thinking he'd escaped, but Tōiti leapt up from the forest canopy and snatched at Māui, burning his belly. Māui zigzagged off clutching his puku and called in Uncle Tāwhirirangi and Aunty Whaitiri Mātakataka."	*Part 7*
"Our poor Uncle and Aunty," replied Hinekaikōmako, "having to douse you in water. They were stuck between a toka and a hard place, though. It was either pull the plug at Māhutonga or watch you burn their moko Māui to a crisp—and the whole of Te Ao Tūroa while you were at it."	*Part 8*
"I don't blame Uncle and Aunty at all," I replied. "It's a mihi in a way! They saw my power and knew that only fellow atua could do something about it. I could have battled them—and I could have won, of course—but there was more at stake so I retreated back into the forest."	*Part 9*

"And I'm glad you did," said Hinekaikōmako. "We were all here for you."	*Part 10*
"Well, some of you were a bit hōhā at me. Some of the aunties and uncles gave me the cold shoulder—Rātā, Hīnau, Kahikatea, Rimu, and Miro. But I knew I could rely on you for comfort, Māmā, and Tōtara, Taraire, Patete, Pukatea, and Māhoe consoled me too."	*Part 11*
"I suppose you can understand Rātā mā. While your fiery fury was aimed at Māui, you'd seriously scorched some of them too!" said Hinekaikōmako.	*Part 12*
"I know," I replied. "It wasn't my intention to burn them. Anyway, while I was with you and the others, I saw Tīrairaka flitting around, carefully watching which trees accepted me back and which didn't. Later, Māui Tinihanga squeezed the information out of that unlucky manu. And what did Māui go back to his kāinga with? Not with an olive branch but with a kaikōmako branch!"	*Part 13*
"Āe, and when Māui Hangarau showed everyone what he could do with one of the branches they soon forgot all about his hē!" said Hinekaikōmako. "Anyway, we better stop the ngutungutu—my tī is finished and your father-in-law's slipping off to the hauāuru mō te pō nei. Doesn't he move fast? Anyway, nighty nighty, my darling, kia au te moe." (O'Connor, 2024)	*Part 14*

Māui Atamai and fire extinguishment, generation, and transportation

First kurahuna: Fire extinguishment

The first kurahuna in "Hinekaikōmako and Hinemahuika's musings over tī" that I discuss pertains to fire extinguishment. In Parts 1, 2, and 3, multiple references are made to Māui's extinguishment of fire. These acts gave Māui the epithet Māui Tinei Ahi (Māui the Extinguisher of Fires). Parts 1, 2, and 3 allude to the two instances when Māui put out fires in the Māui cycle. In the first instance, he put out all of the fires in his kāinga—subjecting his people to great darkness and cold, and forcing them to eat raw food. In the second instance, Māui extinguished 9 of the 10 flames that Hinemahuika gave him (O'Connor, 2024).

"Why on Earth did Māui put out all of these fires?" is the natural question on everyone's lips. To move in chronological order, in putting out the kāinga's fires, Māui wanted to challenge the status quo. Part 3 describes Māui as "plunging" the kāinga into darkness (O'Connor, 2024). This abrupt act forced his people to address their ignorance of fire and commission a study of the element.

In the later act of extinguishing Hinemahuika's fires referred to in Parts 1 and 2, Māui's actions are often said to have been motivated by his haututū spirit—a haututū being a type of swirling wind. In other words, he is mischaracterised as someone who is cheeky and disruptive for the sake of being cheeky and disruptive (O'Connor, 2024). While he *was* often cheeky and disruptive, the primary motivation that led to him putting out fires was knowledge expansion.The extinguishment of Hinemahuika's fire was symbolic of Māui studying fire's resilience (or lack of resilience) to water. This transforms our perception of Māui at the stream called Taiau, the place where he put out most of Hinemahuika's fires. Māui was experimenting at Taiau, extinguishing flame after flame. In this act, Māui was asking questions such as "Can the flame withstand total submersion in Taiau?" ("No, it cannot.") "Can the flame withstand a hue-full of water without going out?" ("No, it cannot.") "Can the flame withstand a few splashes of water?" ("No, it cannot.")

The above questions—and more that Māui would have asked—help us to understand why he needed so many of Hinemahuika's flames. It also reconfigures our understanding of Taiau, which was not just a river but akin to a laboratory for Māui. In the "Taiau Labs", Māui learned that fire has almost no ability to withstand water.

This reinforced his earlier learning (from extinguishing all of the kāinga fires) that fire is very vulnerable to water, even fire provided by an atua. Of course, the dynamic between fire and water is well understood by us today, but remember, Māui lived in an epoch in close proximity to the atua, when the universe was still taking form and much fundamental knowledge was still being learned. The theme of water putting out fire continues in Parts 7, 8, and 9. Tāwhirirangi (sometimes called Tāwhirimātea) and Whaitiri Mātakataka were summoned by Māui to extinguish the wildfire, which in Māori is an ahitūrangi. Ahi means "fire", tū means "standing", and rangi means "sky", making ahitūrangi a "fire standing in the sky", or a wildfire (O'Connor, 2024). Tāwhirirangi pulling the plug at Māhutonga is a reference to the most ferocious southern storm. One of the kurahuna communicated by Tāwhirirangi's involvement is that ahitūrangi are largely outside of humankind's control. Māui is symbolic of humankind in this part of the pūrākau and (unwillingly) demonstrates our reliance on external forces—torrential rain and cold—to put out the fires. In other words, our little hue filled with water are largely ineffective. We better have a compelling karakia to Tāwhirirangi and Whaitiri Mātakataka prepared (and luckily Māui did).

Parts 5 and 7 contain a reference to Māui having taken bird forms. Again, this part of the pūrākau contains great symbolism. The ruru and kāhu are just two of the many forms that Māui took. Storytellers dramatise this part of the pūrākau differently, inserting a range of birds (and even fish and insects) into the narrative. The kāhu is an effective inclusion in the pūrākau because it is one of the highest-flying birds, thus symbolising that even the birds way up in the sky are not safe from the ahitūrangi. While the fauna differ from one pūrākau to the next, a consistent detail (based on retellings I have heard) is that none of the forest animals can escape (O'Connor, 2024). Thus, mention of the various birds and animals being chased by the fire conveys the kurahuna that no living entity can effectively escape the hot flames of the ahitūrangi, not even the exceptional (or unexceptional) humans.

Considering what Māui learned about the ahitūrangi, Hinemahuika's use of the wildfire becomes less about her losing control in her anger (although she was furious) and more about her teaching her mokopuna a lesson. In some retellings, she both scolded him and scalded him when he was in fish form (O'Connor, 2024). Hinemahuika's lesson showed Māui that he overestimated his knowledge of fire and its extinguishment. After his experiments at Taiau, Māui thought he knew all there was to know about fire extinguishment, safety, and control—"Just put it out with water!" he thought. Hinemahuika was showing him through an ahitūrangi of unprecedented scale just how dangerous fire can be. She was reminding Māui that while fire was vulnerable, it could easily become impossible for humans to control, as conveyed in the following whakataukī:

> He kāpura iti i te ngahere, mura katoa te pae rae.
>
> A small flickering flame in the forest burns to the furthest horizon.
>
> (Riley, 2020)

Part of me wonders whether this was a controlled exercise on Hinemahuika's part. Far from losing her cool, she knew her uncle and aunt Tāwhirirangi and Whaitiri Mātakataka would come and douse her fires. Perhaps she had even pre-arranged it with her elders. This makes sense when we consider that both Tāwhirirangi and Whaitiri Mātakataka had taught Hinemahuika the danger of fire in a previous epoch. They had used lightning to set fire to the land, to show Hinemahuika the danger of the element that would be under her care (Grace, 2024). Thus, Hinemahuika was merely teaching Māui a lesson that had earlier been taught to her.

"Why does all of this talk of fire extinguishment matter?" you ask. That is an excellent question. It meant that when Māui returned to his kāinga, he possessed not just fire but the ability to extinguish small fires and also the interconnected message that fire is sometimes impossible to extinguish (at least for humankind).

An interconnected kurahuna relates to technological ethics. Māui learned both how to extinguish fire and how to generate it. This maintained or helped set a technological precedent: to know how to stop, terminate, or discontinue a technology before it is too late. What would the world look like if Māui returned with fire generation technologies but no knowledge of how to put fire out and no knowledge of the ahitūrangi?

Fire extinguishment technology: The ārai ahi

Many technologies were developed to extinguish fires. Further, highly trained people were appointed as firewatchers, to monitor wind and hazards, and to keep fire extinguishers nearby. Fire extinguishers included technologies such as specially designed receptacles to hold water and soaked

mats that could be layered on buildings, among many more (O'Connor, 2024). These technologies were expected near any fire (just as we expect to see modern fire extinguishers today).

Ārai ahi is a compound noun, ārai meaning "to obstruct", "to hinder", or "to prevent". It is translated into English as "firebreak" (Heremaia Hopihana Rōmana, personal communication, November 28, 2025). Ārai ahi were large infrastructural technologies to safeguard the Māori kāinga and pā. The ārai ahi technology involved the deliberate selection and growth of certain types of trees, shrubs, and plants to create a perimeter of trees with low flammability. These safeguarded kāinga and pā against external fires that threatened to burn through the area (Soutar, 2022). Kāinga and pā destruction and death from fire certainly took place (Brougham et al., 1999; Riley, 2020). However, as Papakura (1986) stated, "I have never known a fire to occur in a kāinga Māori [in the late 19th century], nor a house to be burnt accidentally". (p. 273). This statement signals the efficacy of Māori understanding of fire extinguishment and prevention technologies such as ārai ahi.

Second kurahuna: Fire generation

The second kurahuna in "Hinekaikōmako and Hinemahuika's musings over tī" that I discuss pertains to fire generation. In Part 11, Hinemahuika describes the ahikōmau trees, or the trees that harboured the seed of her fires. Kōmau means "to keep a fire alight", which is a reference to the role these trees played in preserving fire (Biggs, 1985a, 1990a). Part 11 also documents the trees that rejected fire. In Part 13, it is noted that it was Tīrairaka that observed which trees accepted the essence of fire and which trees did not. Māui forcibly took the information from Tīrairaka, which explains their difficult relationship and Tīrairaka's role later on in Māui's life (O'Connor, 2024).

Taken as a collective, these parts of the pūrākau detail the codification of trees into two distinct categories: trees suitable to kindle fire and trees unsuitable to kindle fire, as is displayed in Table 1. When Māui returned home—as detailed in Parts 13 and 14—he brought the mātauranga about ahikōmau trees with him as well as samples from each tree. There was potential for his people to be furious, confused, or disappointed. Instead of bringing back fire in a neat package, Māui set the whole world alight and then drenched it with water. Further, he brought back not the fire that he had promised, but a collection of branches and sticks from various trees. We can only imagine how pōrangi Māui must have looked as he approached the kāinga—"Poor Māui, he's finally lost it. Look at him, completely drenched and carrying an armful of branches." However, the emotions that afflicted Māui's people were short-lived, as upon his arrival he showed them what these particular trees were capable of through the hika ahi technology, the fire generation technology. What an astounding moment this must have been. Let us move on and have a look at the hika ahi technology.

Fire generation technology: Hika ahi

Let us start with the etymology of the phrase hika ahi before exploring its whakapapa and its utility. Hika ahi is made up of two words. The first word, hika, in this context, means "kindle" (Reed, 2022). For the younger readers, before a kindle was a type of eReader, it meant to "set on fire" (Fowler et al., 1964a). Thus, hika ahi is to "kindle fire".

Hika ahi first came into Te Ao Mārama through Hinemahuika's grandfather, Ranginui, who was the original holder of the mātauranga. When his children separated him from Papatūānuku, the Sky Father saw the extreme cold that entered the world. Ranginui gifted the first hika ahi firesticks to Paia, the 69th child out of 70. These firesticks were sourced from his own sternum (which created the gap in the human chest). The proximity to Ranginui's body made the firesticks tapu, and they were called Te Ahi Tapu (O'Connor, 2024;

TABLE 1 The ahikōmau trees: trees for hika ahi

Trees suitable to kindle fire	Trees unsuitable to kindle fire
Kaikōmako	Rātā
Tōtara	Hīnau
Taraire	Kahikatea
Patete	Rimu
Pukatea	Miro
Māhoe, or hinahina	

Te Rangihīroa, 1950). Te Ahi Tapu was later gifted by Ranginui's children to their youngest sibling, Rūaumoko, to warm him in his subterranean realm. But that is another story.

When Māui returned home, he brought a remarkable addition to humankind's technological and scientific mātauranga. Through hika ahi, we graduated from having fire but not knowing how to generate it, to having both fire and the knowledge of fire generation. This is a reminder of the value of having not just the object or the article but also the scientific and technological mātauranga necessary to produce that object. One of the kurahuna conveyed is that just having the object of fire is inferior to having the technology of hika ahi. This is similar to the proverbial statement about giving someone a fish in contrast to teaching them how to fish—and the enduring sustenance that the latter provides.

Now let us turn to the utility of the hika ahi technology. Hika ahi toolkits were varied, but usually consisted of a lower firestick and an upper firestick sourced from the ahikōmau trees (described above). Ahikōmau trees were organised into those suitable for lower and upper firesticks. For example, kaikōmako was an effective upper firestick and māhoe an effective lower one (O'Connor, 2024). Both sets of firesticks in the hika ahi toolkit had specific names. Among other names, the lower firestick was called the kauahi, the kapukapu, and the kaunoti. The upper firesticks were referred to as the kaurimarima, the kauureure, and the hika (Te Rangihīroa, 1950). All of these names have wonderful etymologies and I explore just a few. Words such as ahi, rimarima, and ureure act as adjectives. As described, ahi means "fire", making the kauahi the "stick where fire seeds" (Wayne Petera, personal communication, November 10, 2025). Rimarima is a synonym for ringaringa, meaning "hand" (Williams, 1971b), and this is the "firestick that is grasped by the hand".

In terms of positioning of the hands to balance the upper firestick, the favoured technique was to interlace the tōnui and the tōiti behind the kaurimarima. The takōroa, māpere, and mānawa were interlaced in front of the kaurimarima (O'Connor, 2024). This provided great stability.The fire generation technique gives the impression that the people holding them have only six fingers because the upper firestick hides the thumb and little finger. The significance of six-fingered anthropomorphic forms is often depicted in carvings in which atua and tūpuna have only six fingers (Harrison & Mutu, 2008; Walker, 2004). This provides more evidence of just how valued the hika ahi practice was.

To turn to the last adjective, ureure or ure is "penis". The "penis-like firestick" is the one that thrusts rhythmically (the rhythm depending on the skill of the practitioner), gliding forwards and backwards. The relationship between fire making and sex is codified in the following whakataukī:

> Kei te wahine te kaunoti, kei te tāne te hika
>
> The receiving piece is with the woman,
> the fire-causing piece is with the man
>
> (Mead & Grove, 2001)

This whakataukī adds further meaning to the words hika and hikahika. When engaging with the hika ahi practice, it becomes clear that hika and hikahika are onomatopoeic—making the sound of the rhythmic friction. The ureure is also a reference to the types of woods that were considered most efficacious as the upper firesticks. Often the hardest woods—such as that of the kaikōmako—were selected, informed by the understanding that the wood needed to be hard enough to generate the necessary friction and plant the seed (of fire). Conversely, soft woods were generally unable to effectively plant the seed (of fire) (O'Connor, 2024). Firesticks were highly valued. They were kept dry in baskets hung in the ceilings of whare, where the warm air from the hearth gathered (Best, 1976). Firesticks were often carved with atua such as Hinekaikōmako, Hinemahuika, and Auahituroa. Perhaps other atua associated with hika ahi—such as Paia, Tāne, Irawhāki, and Tamanuiterā—were sometimes carved upon them. Maybe even Māui was carved on firesticks.The carving of the firesticks is interesting because favourite firesticks were often used until they were too short to use, the friction having worn down the wood (O'Connor, 2024). It is fascinating to consider that temporary objects were carved nonetheless—again indicative of the prestige and value of hika ahi as a technology that generated fire.

Third kurahuna: Fire transportation

The third (and final) kurahuna in "Hinekaikōmako and Hinemahuika's musings over tī" that I discuss in this article pertains to fire transportation. As discussed in depth earlier in this work, in Part 3, Māui extinguished the fires that Hinemahuika had gifted him. Alongside the reasons outlined above, the extinguishment of Hinemahuika's fires was about the impossible nature of carrying fire. Put simply, Māui was experiencing the difficulty

of carrying a live flame from one place to another. Ultimately, he discovered that it was impossible to carry live flames very far. Before you judge Māui, see how far *you* can carry a live flame the next time you are in the ngāherehere!

The kurahuna about the difficulty of carrying fire also forces us to reassess whether Māui intentionally put the fire out, or if it was a mistake. Most of the retellings of the pūrākau frame the extinguishment as intentional. However, some retellings state that the first fire was extinguished by mistake and the subsequent fires were put out intentionally (O'Connor, 2024). This is my personal favourite retelling of the pūrākau, because it creates space for the kurahuna that Māui learned—that fire was impossible to carry—when the first fire went out (after which he started studying fire and water with subsequent flames).

In any case, when Māui returned from Hinemahuika's kāinga, he brought with him mātauranga about fire extinguishment and fire generation (as described above). He also asked a question—"How will we transport fire from one place to another?" This may have been accompanied by the statement—perhaps issued under his breath—"Because I myself found carrying fire very difficult." This was a crucial question, given the highly mobile nature of Māori society (O'Connor, 2024). One answer to Māui's question was through the puku tawai technology, which we turn to now.

Fire transportation technology: Puku tawai

Let us start with the etymology of puku tawai before discussing its utility as a fire technology. Puku tawai is a compound noun. To start with the first word, puku refers to "forms of fungus that grow on tree trunks" (Best, 1942). Puku is also a noun meaning a "swelling" or a "knob", which may seem unconnected, but probably refers to the visual nature of the fungus (Mita, 2025). Māori language speakers may smile at the conceptual overlap between the word swelling and the most common meaning of puku, which is "belly" (Biggs, 1985b, 1990b; Williams, 1971a). English language speakers may grin at a colloquial meaning of the word knob—but let us move on.

A synonym for puku is punga (Best, 1942). Like puku, punga are defined as a "fungus which grows on the trunks of trees". It also shares the meaning of a "lump" or a "swelling", discussed in the previous paragraph. Punga is also an "anchor" (Ryan, 1983). Again, this meaning may appear unconnected but it probably is related to the way that these fungi anchor themselves on to trees (Williams, 1971a). Although it does not appear in the literature, you could probably use punga tawai as a synonym for puku tawai.

To address the second word in the compound noun, tawai is a common noun referring to beech trees (Biggs, 1985c, 1990c). Tawai acts as an adjective in this context, denoting that the fungi typically grow on beech trees. It also grows on hutu (Sisson, 2023, Vennell, 2023). Thus, literally the puku tawai translates as the "beech tree fungus" (Best, 1942; Riley, 1994; Vennell, 2023). A synonym for puku tawai is pūtawa (Buchanan et al., 2017); however, puku tawai is the word favoured in this article. The puku tawai are referred to in Latin as *Ascarina lucida* (Mita, 2025; Paekupu, n.d.; Sisson, 2023; Vennell, 2023).

Moving on to the utility of the fire technology, the puku tawai were highly valued for their ability to start fires and transport fires, and were "dried and used as tinder" (Biggs, 1985c, 1990c). For younger people who may have different associations with the word, tinder is a "dry substance readily taking fire from a spark" (Fowler et al., 1964b). When set alight, the puku tawai technology smouldered with a low-burning flame, staying alight for the duration of trips—even some that lasted a number of days (Sisson, 2023). Puku tawai were largely impervious to normal methods of fire extinguishment, such as rain (so must have been fascinating to Māui). They were put out by being completely buried. It is possible that the puku tawai helped to foster further understanding about the relationship between fire and hau. Alternatively, pre-existing knowledge about the relationship between fire and oxygen may have been applied to inform extinguishment methods for the puku tawai.

Whatever the case, partially burying puku tawai in the ground became an orthodox way of prolonging their burn time by deliberately limiting their access to oxygen. Partially buried puku tawai were used as technologies in the kāinga, when travelling, or at a travelling party's destination. Half-buried puku tawai provided a reliable source of fire, and could be used to ignite other fires (Vennell, 2023). It is likely that highly combustible materials, such as toetoe, were lit and used as the basis to ignite new fires (O'Connor, 2024).

The burying of puku tawai had further application, as described by Tame Te Rangi (personal communication, June 21, 2024). Puku tawai were also placed in a hole in the ground when hapū and whānau departed seasonal kāinga. An ember was placed on top of the puku tawai until it was smouldering. The hole was then filled in and made airtight. It was carefully marked and upon the

return of the hapū and the whānau, it was dug up, exposed to oxygen, and used as a basis to start the next season's fires. This allowed the people to issue the statement that their fires had never gone out in that land, and is linked to the tikanga of ahikā (Tame Te Rangi, personal communication, June 21, 2024).

There were different methods of transporting puku tawai. In some instances, lit puku tawai were carried in ornately carved tinderboxes. As with hika ahi firesticks, it is likely that the carvings were fire related, possibly depicting the atua (referred to above). In other instances, smouldering puku tawai were affixed to the end of a torch, and used for light at night. Thus, puku tawai became one of the many rama technologies, used to travel at night and engage in other night-time activities. Puku tawai were particularly useful in the damp forests, where generating fire with the hika ahi technology was immensely difficult (Sisson, 2023). Puku tawai were considered, as Buchanan et al. (2017) put it, a "taonga tahu ahi . . . hei kawe anō i te ahi ki wāhi kē" ("a treasure for igniting fires . . . to carry fire from one destination to another").

Conclusion

My aspiration for this work is twofold. First, I hope that people start to appreciate the breadth and depth of Māui's accomplishment when he sought fire from his great aunt Hinemahuika. He returned not only with fire but with a polished study of the element, and mātauranga about how to extinguish, generate, and transport fire. This knowledge influenced a technological revolution and thousands of fire technologies were developed, by Māui, by his people, or by their descendants. These included ārai ahi, hika ahi, and puku tawai.

The second aspiration is that work like this and the work of many other scholars supports efforts to lift Māui off the pages of celebrated children's books and reinsert him into scholarly forums—places where his name resided for millennia. That is not to say that he does not belong in children's books. It is instead to say that he belongs also in our most celebrated academic texts and compositions. I conclude this work with the first part of a Ngāti Kahungunu composition that acknowledges Māui and his role in bringing mātauranga of fire to humankind, and as an example of the reverence that many of our ancestors had for our esteemed tūpuna:

Hika ake au i taku ahi,
Te ahi nā wai?
Te ahi nā Māui
Māui Tikitiki a Taranga.

I now generate my fire,
The fire of whom?
The fire of Māui,
Māui the Topknot of Taranga.

(Te Rangihīroa, 1950)

Acknowledgements

It is my pleasure to publish this article in this particular journal: *MAI Journal: A New Zealand Journal of Indigenous Scholarship*. This journal is one of the two journals of Ngā Pae o te Māramatanga: New Zealand's Māori Centre of Research Excellence. During my PhD study—which was a basis for this article—I was awarded with a Ngā Pae o te Māramatanga PhD scholarship. In line with the socio-economic tikanga of utu, it is wonderful to publish research in a Ngā Pae o te Māramatanga journal as an expression of my gratitude.

I am also grateful to Professor Poia Rewi, who read this article prior to its publication. I am exceedingly privileged to have an experienced scholar read over my work so carefully. Thank you for your inspiring comment: "The particular style that Te Kapua has applied is clever, innovative, refreshing and provides an exceptionally easy and pleasant read. At no time, as a reader, did I feel as though I was labouring through the text. I found the article academically engaging and thought provoking. Kia mihi ake au i te taera wānanga a te kaituhi. He whakahika i te pūrākau, he whakamura i tōna rangahau."

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Funding

This PhD research was funded by a Ngā Pae o te Māramatanga PhD scholarship.

Glossary

āe	yes
ahi	fire
ahikā	the burning fires of enduring presence
Aotearoa	New Zealand

atua	god
hapū	subtribe
hau	air, wind, oxygen
hauāuru mō te pō nei	gone west for the evening
haututū	mischievous
hē	error
hinahina	whiteywood, *Melicytus ramiflorus*
hīnau	*Elaeocarpus dentatus*
hōhā	annoyed
hue	gourd
hutu	*Ascarina lucida*
kahikatea	white pine, *Dacrycarpus dacrydioides*
kāhu	hawk
kaikōmako	*Pennantia corymbosa*
kāinga	village
kaputī kawakawa	kawakawa tea
karakia	prayer, chant, incantation
kia au te moe	sleep well
Kōmau	to keep a fire alight
kōrero	discussion
kūkupa	wood pigeon
kurahuna	implicit meanings
māhoe	whiteywood, *Melicytus ramiflorus*
Māhutonga	the Southern Cross, a constellation seen in the southern skies
māmā	mother, mum
mānawa	fourth or ring finger
manu	bird
māpere	middle fingers
mātauranga	knowledge
mihi	tribute
miro	brown pine, *Prumnopitys ferruginea*
moko, mokopuna	grandchild, grandchildren
ngāherehere	bush, forest
ngutungutu	gossip
pā	fort
patete	seven finger, *Schefflera digitata*
pōrangi	stupid, silly, insane
pōtae	hat
pōtiki	youngest child
pukatea	*Laurelia novae-zelandiae*
puku	belly
pūrākau	myth, ancient legend, story
rama	torch
rimu	red pine, *Dacrydium cupressinum*
rātā	*Metrosideros robusta* (Northern), *Metrosideros umbellata* (Southern)
ruru	owl
takōroa	index fingers
tapu	sacrosanct, under atua protection
taraire	*Beilschmiedia tarairi*
Te Ao Mārama	the natural world
Te Ao Tūroa	the longstanding world
Te Moananui a Kiwa	the Pacific Ocean
tī	tea
tikanga	custom, practice
tīrairaka	fantail, *Rhipidura fuliginosa*
toetoe	*Cortaderia*
tōiti	little fingers
tōnui	thumbs
tōtara	*Podocarpus totara*, *Podocarpus cunninghamii*
tuna	eel
utu	reciprocity
wānanga	discussion
whakataukī	proverb
whare	dwelling

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