

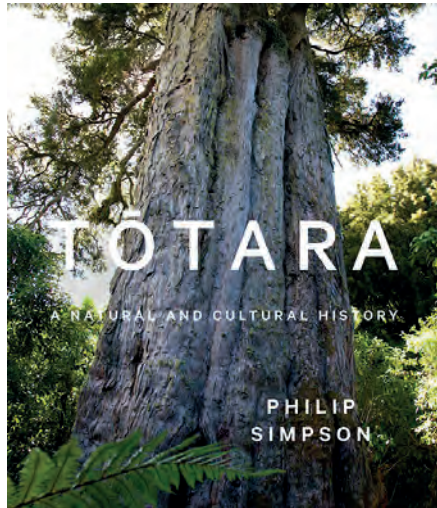
Tōtara: A Natural and Cultural History

By Philip Simpson

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Reviewed by Murray Dawson



Author Philip Simpson (Fig. 1) is an eminent botanist and natural historian based in Takaka. He has previously authored remarkable in-depth 'tree monographs' on two iconic native plant genera: *Metrosideros* (*Pōhutukawa* and *rātā*: *New Zealand's iron-hearted trees*, 2005) and *Cordyline* (*Dancing leaves: the story of New Zealand's cabbage tree, tī kōuka*, 2000)¹. Both are outstanding, and both received Montana Book awards.



Fig. 1 Author Philip Simpson standing in front of a tōtara registered with the New Zealand Notable Trees Trust (NZNTT). Photo courtesy of Auckland University Press.

These books, together with his latest offering on tōtara, provide richly illustrated and authoritative reads. They follow a rather unique holistic approach that cover many facets including botany, ecology, cultural values, folklore, economic uses, history, and conservation.

In 2009, Philip Simpson received a Creative New Zealand Michael King Writers' Fellowship which provided a stipend for the dedicated research and resource gathering needed for his new work on tōtara. Numbered notes and references are included in the back of the book for each chapter, which reveals how thoroughly the book has been researched over its years of preparation.

This book primarily focusses on lowland tōtara, *Podocarpus totara*, the tallest growing podocarp in New Zealand with some of the oldest trees (1000 years plus, giants of the forest). Because of its remarkable durability, tōtara is perhaps best known for being highly prized by Māori for traditional carving and for tōtara fence posts used in the 'No. 8 wire' and earlier period by Pākehā farmers. However, as the book reveals, there is far more to the mighty tōtara.

The first chapter ('Tōtara in the natural world') sets the scene and introduces us to the fascinating world of gymnosperms, conifers and podocarps – and their biogeography. We learn that there are four currently recognised species of native tōtara, *Podocarpus acutifolius* (needle-leaved tōtara), *P. laetus* (Hall's tōtara, which until recently was known as *Podocarpus hallii*), *P. nivalis* (mountain or snow tōtara), and *P. totara* – and all are discussed in the book. The last species, *Podocarpus totara*, has two varieties – var. *totara*, the lowland tōtara, which is the main subject, and the range restricted var. *waihoensis*, the South Westland tōtara, which the author considers to be a separate species that he dubs *Podocarpus* "waihoensis". In the future, DNA sequencing may be able to help resolve the status and possible hybrid origin of South Westland tōtara, but until then the varietal name *Podocarpus totara* var. *waihoensis* should be retained.

Chapter Two ('How tōtara grows') traces the life history of tōtara,

from young seedlings to mature forest giants. Reproductive features including cones, pollen and fruit are well illustrated and explained. Also included in this chapter are some excellent photomicrographs showing sections of root nodules, leaves, bark and wood. I fear that the botanical discipline of anatomy and the associated techniques of sectioning are becoming a lost art, so it is great to see them shown here to good effect. In this chapter, we also learn of totarol, an antibacterial terpene responsible for protecting tōtara from decay.

As the title of Chapter Three ('Where tōtara lives and who lives with it') suggests, the ecological preferences of tōtara (Fig. 2) and other life associated with it is outlined, including epiphytic plants (such as astelias, ferns, mosses, lichen, and fungi; Fig. 3), and animals (such as birds, bats, lizards and insects). We learn that the red, berry-like fruit of tōtara (called a podocarpium) provide a reliable food source for native birds including bellbird, kererū, kōkako, and tūī, and that introduced birds also feed upon them.



Fig. 2 Farmland at Karamea. Tōtara trees pruned by wind and salt are characteristic of the New Zealand coast. Photo: Philip Simpson.



Fig. 3 Old tōtara have many epiphytes, especially 'lilies' (*Astelia*), orchids and ferns, and sometimes shrubs such as *Pittosporum cornifolium*. Photo: Philip Simpson.

¹ It's sobering to consider that *Metrosideros* may be under great peril through the recently arrived myrtle rust and that since the late 1980s cabbage trees have been afflicted by Sudden Decline Syndrome. Add to that kauri dieback which was formally identified in 2008, and let's hope that tōtara and other treasured New Zealand native trees won't become casualties of further pathogens.

The following three chapters ('Te mauri o te tōtara: how Māori value tōtara', 'Ngā mahi o te tōtara: using tōtara wood', and 'Te kiri o Tāne: the bark of tōtara') provides a large central ethnobotanical section of the book that takes us on a journey spanning folklore, cultural and spiritual values, and physical uses that tōtara has to Māori. There is no doubt that tōtara has been, and still is, of great importance. For example, we are told (p. 109) that "Nearly all of the most treasured carvings in Aotearoa / New Zealand are made from tōtara", as were many waka (traditional canoes), implements, and buildings. Bark was also used for a wide variety of purposes. Author Philip Simpson has a rare talent for combining the scientific with the cultural (Māoritanga) – and indeed with artistic and historical perspectives. Few others do this well – only the late Dr Geoff Park comes to mind.

Chapter Seven ('Pākehā discover tōtara') shifts to the beginnings of European colonisation of New Zealand with the extensive deforestation and plundering of tōtara that followed. Philip Simpson writes at the beginning of this chapter, "For the first few decades of pākehā settlement, tōtara was the raw material for every kind of construction. A family could get off the boat with an axe and build a new life from the tree. Entire houses, early churches, grave markers, and even cobbles and kerbs were made of tōtara. On the farm all fences were tōtara..."

Chapter Eight ('Tōtara creates a nation') continues from the early days of Pākehā colonisation of New Zealand, as settlements grew into towns and towns grew into cities. Here, the wider uses of tōtara are explored, for constructing road, rail, and sea infrastructure, such as telegraph poles, railway sleepers, bridges, wharves, and boat building.

Chapter Nine ('Where have all the tōtara gone?') highlights the decline of tōtara through natural loss (such as floods, storms, and earthquakes), Polynesian settlement (with relatively limiting harvesting, but a period of extensive fires which cleared at least a third of the whole country), and major impacts from European settlement (with fires, land

clearance, sawmilling for fencing, housing and public works, and also browsing damage by the introduced possum). Philip Simpson provides sobering estimates for the year 1904 of the 'superficial feet' (12 × 12 × 1 inch) milled (1532 million), number of trees harvested (about 511,000), and sawmills operating (414) at that time. When considering the collective harvest of millions of trees over several decades, the author concludes "It is no wonder that mature tōtara trees have almost completely gone" (Fig. 4).



Fig. 4 The once vast tōtara forest of the Volcanic Plateau is now reduced to a few remnants, of which Whirinaki is one of the best. Photo: Philip Simpson.

With this scarred past largely behind us ("The Europeans – land hungry, resource reckless – were supported by a government with eyes on the British Empire rather than sustainability"), the final chapter ('How tōtara is (and isn't) being protected') fittingly moves to a conservation theme. Changing perceptions and public protests on the continued logging of indigenous forest eventually resulted in the formation of the Department of Conservation, and a full transition to a forestry industry based on *Pinus radiata* plantations. This chapter also provides an interesting summary of various conservation initiatives and frameworks in New Zealand – including National Parks, reserves, and covenants. Tōtara in ecological restoration planting, in horticulture,

and planting tōtara for timber are all covered here. This book concludes by acknowledging those who have been active champions of tōtara, and makes a plea for its ongoing conservation.

My coarse chapter-by-chapter overview only hints at the richness of this book. Beautifully crafted, lavishly illustrated, tōtara is another winner for Philip Simpson. I have no hesitation in recommending it highly.

This book was launched 13th June 2017 at Devonport Library in Auckland. Available from Auckland University Press and Potton & Burton

10% discount for RNZIH Members

Tōtara: A Natural and Cultural History by Philip Simpson

Richly illustrated, this handsome book combines the ecological and cultural stories of one of New Zealand's most famous trees and identifies the important role that tōtara played in building New Zealand.

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