

Book Reviews

Book Review Editor's Note: *The Canadian Field-Naturalist* is a peer-reviewed scientific journal publishing papers on ecology, behaviour, taxonomy, conservation, and other topics relevant to Canadian natural history. In line with this mandate, we review books with a Canadian connection, including those on any species (native or non-native) that inhabits Canada, as well as books covering topics of global relevance, including climate change, biodiversity, species extinction, habitat loss, evolution, and field research experiences.

Currency Codes – CAD Canadian Dollars, USD US Dollars, EUR Euros, AUD Australian Dollars, GBP British Pound.

BOTANY

Ancient Pathways, Ancestral Knowledge: Ethnobotany and Ecological Wisdom of Indigenous Peoples of Northwestern North America. Volume 1: The History and Practice of Indigenous Plant Knowledge. Volume 2: The Place and Meaning of Plants in Indigenous Cultures and Worldviews

By Nancy J. Turner. 2014. McGill-Queen's University Press. 1056 pages, 125.00 CAD, Cloth. Also available as an E-book.

Nancy Turner is without doubt among the pre-eminent ethnobotanists of our time. I first encountered her work in the early 1990s and, since then, I have often drawn on her publications as I undertake palaeoenvironmental research. She has strongly influenced my understanding of the role of plant use in Indigenous lifeways and how that might be reflected in postglacial palaeoecological records. So it was an especial pleasure for me to encounter these encyclopedic volumes that pull together threads from those earlier publications and present a comprehensive synthesis of her knowledge. Decades of thoughtful scholarship and collaboration with Indigenous people have gone into this work. It is magisterial in the true sense of that word: the distillation of a career's experience and learning.

Although split into two volumes, this work is a seamless whole. It discusses relationships among people, plants, and environments, with a focus on British Columbia and adjacent areas including the Yukon, panhandle Alaska, and Washington. From her base at the University of Victoria, Turner sets out her intent to investigate "people-plant relationships in northwestern North America in an effort to better understand the pathways and processes by which ethnobotanical and ethnoecological knowledge systems of Indigenous peoples in this area have developed, accumulated, spread, and evolved over time" (V1, p. 3). Following an introduction, the first volume explores the history (three chapters) and development (three chapters) of plant use by Indigenous people in western North America. The second volume discusses Indigenous peoples' integration and management (four chapters) and underlying philosophy (three chapters) of plant use.

Throughout her discussion, Turner emphasizes that this work builds "on the knowledge shared by numerous Indigenous cultural and botanical specialists" (V1, p. 5). Her Indigenous collaborators and informants are acknowledged and thanked while many also

share co-authorship on publications arising from this concerted work. The reference list includes 119 publications on which Turner is an author, including 83 on which she is first or sole author. The books are illustrated with black-and-white photographs, including many of plants discussed in the text, of plant-derived foods, and of tools used to harvest and process plant foods and materials. In several images, Elders show how to harvest and use plants and plant material. In others, children harvest berries (V2, p. 65) and gather edible seaweed (V2, p. 36), highlighting continuity and the living tradition of plant use.

Turner lists an impressive array of plants that have been used, and continue to be used, by Indigenous groups in northwest North America. At least 82 taxa are listed as "traditional plant foods" (V1, Table 5.1, pp. 270–278). The most numerous are roots or tubers (24 taxa) or berries (24 taxa). Plants in the Apiaceae, Fabaceae, Liliaceae, and Portulacaceae families feature prominently as sources for roots and tubers, while berry plants are predominantly drawn from the Rosaceae, Ericaceae, and Grossulariaceae families. There are 106 entries for "plant materials used in Indigenous technology" (V1, Table 6.1, pp. 339–345), and a further 174 entries for "medicinal plants" (V1, Table 7.1, p. 429). Trees and shrubs, especially from the Betulaceae, Cupressaceae, Rosaceae, Salicaceae, and Pinaceae families, are important sources for fibre and wood, both for fuel and construction. Some plant taxa appear more than once in each list. For example, Bearberry (*Arctostaphylos uva-ursi*) appears twice on the food list and three times for different medicinal applications. Useful plants are found in many habitats, from lowlands and wetlands (*Sagittaria latifolia*, *Typha latifolia*), to uplands and alpine slopes (*Oxyria digyna*, *Lewisia rediviva*). Many plants, such as Scouring Rush (*Equisetum hyemale*), Chokecherry (*Prunus virginiana*), and spruces (*Picea* spp.) appear on all three lists. Turner points out

that these lists are selective, not exhaustive, and indicates that “about 200 plant species are used, or have been used, medicinally in some way” (V1, p. 419), while 160 species have technological applications and 150 species have food uses.

There is much to ponder in these volumes. As a palaeoecologist, I was especially interested in the sections that discussed purposeful translocation and trading of plants and also landscape management techniques, such as controlled burning, that affected vegetation composition and distribution. These subjects are explored in depth in the second volume, where Turner reviews the use of plants as technology, as well as trade in plants among coastal and interior Indigenous groups. She gives many examples of plant management practices, including selective harvesting, partial harvesting that leaves most of the source plant intact, pruning (especially of berry bushes), and cultivation, such as aerating the soil by using digging sticks. Such practices require a thorough and sophisticated knowledge of plant biology and ecology. Moreover, they imply active intervention in the way in which plants are distributed across the landscape and their relative abundance in different localities. Turner is clear that “people systematically manipulated many different plant resources and habitats to enhance the productivity, reliability, and sustainability of the plants they used for food, materials, and medicines – that they, in fact, *cultivated* their environments and plant resources” (V1, p. 265). This is a very different perspective from that which posits that active landscape management in western Canada began when the first Euro-Canadian started to plough.

The take-home message here is that a distinction between “agricultural” and “hunter-gatherer” lifeways is too sharp a dichotomy (V1, p. 265). The plant and landscape management practices of Indigenous people that Turner describes are far from the passive acquiescence to environment that the word “gatherer” conjures up. She comments that the “stereotypical ‘hunter-gatherer’ paradigm is being increasingly challenged as more becomes known of Indigenous peoples’ often subtle but sometimes quite obvious manipulation of species and their environments” (V1, p. 265). This also reflects my understanding as I find the compartmentalism between “hunter-gatherer”, “horticulturalist”, and “agriculturalist” blurring. In my experience, the archaeological rec-

ord in western Canada privileges the “hunter” part of the “hunter-gatherer” lifeway, mainly because animal-derived food remains, such as bones, tend to be well-preserved and well-represented, whereas plant-derived food remains are not. Similarly, technology associated with hunting, such as stone projectile points, are also persistent in the archaeological record and have been used as the basis for distinguishing past cultural phases. In contrast, plant food remains or technology associated with plant food processing, such as gathering baskets or grinding stones, either do not preserve or have not, until recently, received the same attention from archaeologists. Today, new techniques, such as residue analysis, are being applied more frequently in research on artifacts and are revealing new details about plant use in the past. Turner also points out that the importance of plant foods may have been overlooked in the ethnographic record because “it is primarily ‘women’s work,’ and the majority of ethnographic information from the Indigenous cultures of the region was recorded by men of European background and culture” (V1, p. 265). Yet she cites research suggesting that for some groups in the interior, plant foods may have “contributed as much as 70 per cent of total dietary calories” (V1, p. 264). This emphasizes the importance of such plant foods to long-term community viability.

In this discussion, I have touched on only a few of the wide-ranging and important themes that weave throughout this study. Turner’s synthesis is dense, richly textured, and thought provoking. She writes lucidly and with great authority. This is not, however, a work to be tackled as a continuous narrative. I took several months to work through both volumes, savouring and thinking about each chapter. I found this an enjoyable and rewarding experience. My copies are now filled with marginal notes, underlined passages, and marker flags. I have no doubt that this synthesis will be one of my “go to” works as I continue my palaeoecological research. Nancy Turner offers valuable perspectives on plants of western Canada that complement and extend insights from biology and natural history. I highly recommend these volumes to anyone with an interest in Indigenous lifeways and plant use.

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