

The Reindeer Botanist: Alf Erling Porsild

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ing. Readers familiar with hierarchy theory (Allen and Starr, 1982) will easily find a way to situate fine-scale questions within the coarse-scale controls laid out here by Körner.

There are several other books that have been published previously on treeline. Körner acknowledges this, and it is useful to know how his work fits into the collection of pre-existing treeline monographs. Earlier volumes have been either aimed at a different kind of audience (Arno and Hammerly, 1984), are location-specific (Butler et al., 2009), or focus on scales below the global (Holtmeier, 2003). This volume is most closely related to Tranquillini's (1979) *ALPINE TIMBERLINE*, and in many ways reads as an update on the status of physiological ecological research at treeline, but with an emphasis on the global treeline.

Overall this is an excellent addition to the library of anyone interested in the functional ecology of trees at high elevations. Graduate students and those new to studying treeline should be encouraged to read the text, and those of us who have been interested in treeline research for a long time will undoubtedly find something new in this book.

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THE REINDEER BOTANIST: ALF ERLING PORSILD, 1901–1977. By Wendy Dathan. Calgary: University of Calgary Press co-published with the Arctic Institute of North America, 2012. 726 pp. \$46.95 (softcover). ISBN: 978-1552385869.

In this book we learn of Erling Porsild, who he was, his path from being a very young Danish botanist in Greenland to respected

authority on arctic botany in Ottawa. First, I must say this is a terrific biography. Wendy Dathan has given us Erling's life as gleaned from a mountain of material: notebooks, interviews, library searches, archives, and correspondence of Erling to and from others (family, colleagues, administrators) all of which are part of the narrative.

As a taxonomist, in Alaska, I have made frequent use of Erling's "Contributions to the flora of Alaska," and so I was aware of the extraordinary trek made by him and his brother Bob, from Seward, Alaska, into the Interior, out to the coast at Unalakleet and Pastolik, and finally northward. After a side trip to Little Diomedé, then from Barrow across Alaska to Canada, the brothers made their way south following the Mackenzie River to the railhead and home to Ottawa.

The brothers had been hired by the Canadian government to learn all they could about reindeer husbandry from what was then deemed to be the successful Alaskan experience. Then they were directed to assess the suitability of the route proposed for a reindeer drive from Alaska to Kittigazuit on the east side of the Mackenzie River delta where the Canadian government planned to establish reindeer herds as a means to alleviate periodic famine among the Eskimo when caribou were not available. Ironically, the Alaskan reindeer industry was about to go into decline and then near-collapse. Nevertheless, reindeer herding survived and persists to this day, mainly on the Seward Peninsula.

I was aware of the broad-brush strokes of their journey, but the details have been limited to short articles by Erling and others, particularly ones in journals not among those I usually see. A government document Erling wrote in 1929 was in language so typically spare and understated that we learn from it very little of what actually happened. In *THE REINDEER BOTANIST* we get all of the fascinating details. We learn about the trek, the reindeer drive, and an analysis of the aftermath. Success and failure of the project is dissected, and, as is pointed out, the people who were suffering most from famine lived farther to the east where the vegetation would not support reindeer herding. The government was left with the initial objectives unfulfilled.

Accounts of the reindeer drive itself from the perspective of those doing the driving are not part of this biography, since Erling had nothing to do with the drive per se until the reindeer approached the delta. However, George Scotter (1978, 1982) wrote of Andrew Bahr, the herder in charge, and the five years (63 months) of struggle under exceedingly difficult conditions. From his account the journey could well be described as two feet forward, one foot back. Herding cats might have been easier.

Of course, the biography deals with more than the reindeer work, although it is a major element. Wendy begins with background from Erling's earliest days growing up on Disko Island on the southwest coast of Greenland with brother Bob. Their father, Morton Porsild, was a distinguished botanist and founder of the arctic research station where the family lived for decades. Wendy follows Erling through all the ups and downs of his life, his loves and tragic losses, and his professional uncertainties while he tried to chart a course to a permanent position as botanist at the National Museum of Canada. In the end, Erling succeeded and did indeed become the chief botanist. He was determined and decisive, yet quiet and reserved.

Until he finally resigned from the reindeer project, Bob Porsild was very much a part of the account. Bob was assigned to make forays into the world of reindeer husbandry, to handle logistics, build sleds, make balky engines work, and to erect cabins and corrals. Later, Bob and his wife Elly made the Yukon their home where Bob did some mining, boat building, and trapping. Eventually the family established the Johnson's Crossing Lodge on the Alaska Highway for which they will be long remembered.

Early in the biography we see the disconnect between Erling's fast growing reputation for first-hand knowledge of arctic plants on one hand and his lack of academic credentials on the other, which meant an uphill struggle for recognition within the government with its formal structures. This, for years, presented barriers to the secure position in botany Erling sought. His natural home was the herbarium, and even without long-term prospects, he threw himself into the task of identifying his own collections as well as identifying and integrating into the collection the unprocessed backlog, going back to the collections of John Macoun. With great success Erling transformed the collection from ordinary to exceptional.

Hugh Raup, the Harvard Forest/Arnold Arboretum ecologist, became his champion and close friend and additionally helped Erling launch his scientific career. Hugh was a wonderful letter writer, and the archive of their correspondence provided Wendy with excellent material from which she drew the story of a lifelong, mutually beneficial friendship. Hugh was able to enlist the support of others, like M. L. Fernald, whose backing of Erling carried a great deal of weight with Erling's administrative superiors in Ottawa. I was surprised by the ordeal of getting his work published.

Given the tasks and responsibilities Erling had with the reindeer work, it was 10 years before the collections he made in Alaska with his brother Bob were fully determined and the results published. During this period there was an interesting back story. Eric Hultén, the Swedish botanist, had announced his plan to write a flora of Alaska. Anxious to see what Erling and Bob had gathered, he offered Erling co-authorship. Erling, on the other hand, first wanted the opportunity to see for himself what they had gathered and to work it up. The pressure grew for him to have a solid, career-building publication in arctic botany and to release his material to Hultén. In the end, both desires were satisfied, perhaps not entirely, as we learn. There was competitive friction between the two. Although Hultén visited Ottawa on more than one occasion and in fact stayed with Erling, their views differed and they argued as reported by Erling's daughter, Karin née Edith.

Erling continued to publish papers of importance, and a list of them can be found in the Selected References section. I am fortunate to have many of them and keep several within easy reach and consult them frequently. Although published in 1939 (Contributions to the Flora of Alaska), 1951 (Canol Road), 1955 (Western Canadian Arctic Archipelago), and 1957 (Illustrated Flora of the Canadian Arctic Archipelago), they remain critical references for their description of taxa new to science and informed discussions of taxonomy and nomenclature. In due course he was awarded a well-deserved Ph.D. from the University of Copenhagen for "The Vascular Plants of the Western Canadian Arctic Archipelago."

For Erling it was not just about botany. From the beginning he showed a deep interest in permafrost soils, and from this came his paper on pingos, a term he introduced to the literature. He collected birds and mammals, with not inconsiderable extra effort,

for his colleagues R. M. Anderson (mammalogist) and Percy Taverner (ornithologist) back in Ottawa.

This book is about Erling the esteemed botanist, but it is also about his work as Acting Canadian Consul to Greenland during WWII, his advocacy for museums and herbaria, his work as committee member and organizer. From his correspondence we see a shrewd, thoughtful person with abundant skills for negotiation, and the ability to write forcefully.

I was introduced to Erling in the late summer of 1966 as I passed through Ottawa on route to a position at Memorial University of Newfoundland. It was from St. Johns that I made several trips to Ottawa where I sought Erling's help with identifications of my collections from the St. Elias Mountains of southwestern Yukon. Erling was naturally very interested. This was in the period just before his retirement. During his retirement years I was able to visit Ottawa several times from Fairbanks and seek further help, and Erling was always helpful.

At the herbarium he would come to the lunch table and chat. We learned why one of his fingers had its tip missing (explained in the book) and how he had to dispatch a polar bear that had forced its way into his tent, or was it an igloo? (not in the book). Once when I mentioned a section along Alaska's arctic coast where I had recently collected, he laughed and said, oh yes, I know the spot for I had to go back ten miles to retrieve a loose dog that had run back to a previous camp. Little bits of his life escaped the bounds of his reserve during those lunch sessions.

So, who was this man? Ernie Brodo in the Forward to the book put it so well: "... with a rifle over his shoulder, fighting arctic blizzards, and traveling hundreds of miles on dog sled through the frozen north, organizing a huge reindeer drive, and paddling rivers in the Canadian wilderness that few white men had ever seen while at the same time making major discoveries of plants of all kinds over terrain covered with half frozen peat and home to billions of mosquitoes and black flies ... the last of the botanical explorers."

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