

PREFACE

My BA and MA University studies were on fungi, insects and plants. I worked at the Royal BC Museum as a Conservation Scientist studying mainly plant material in artifacts. I retired in 1991 as Chief of Conservation Services.

Circa 1998 I was undertaking SEM images of fungal conidia in an 1854 year old book at the Canadian Forestry Services, Pacific Forestry Institute. At that time they took on contracts. I asked Terry Holmes, a Microtechnique Technician, if he could make microscope stained slides of serial section of small roots and branches of some native trees. He said yes. I collected the samples from the institute's arboretum –with permission. To get the three surfaces, transverse, tangential and radial, on the approximately 5mm samples, he made a transverse cross section and then cut serial sections from the tangential surface until the last cuts were radial. The slides were stained with saffranin and fast green. At that time I did not have a specific use for them so stowed them away for the future.

In 2007 I was involved in species identification of small –a few inches or less - water logged wood archaeological , artifact pieces. They were difficult to identify. Only after finishing the project, did I remembered the microscope slides I had stowed away. Since then I have been using the slides. I then realized the need for an illustrated book on the comparative anatomy of branches and roots of the NWC coniferous and also of some common endemic deciduous trees and woody shrub that were used in ethnographic artifacts.

There is extensive literature on dead heartwood- just called wood, but little on the living tissues in roots and branches. They are no longer living in artifacts but it still contain sugars, starch, and proteins. Their presence is a concern for conservators. Because of my museum background, whenever I study the material of any artifact I always think of their conservation concerns and the curators needs for a valid species identification. Thus, wherever possible I have mentioned these concerns throughout the book.

It has taken about four years to put all the information in a book. Every moment has been a delight for me just to view the different species' complex, yet simple, anatomies and their beauty in the colored slides. They are a work of art.

I thank the University of British Columbia cIRcle Digital Repository, for accepting my book for their repository. I am incredibly pleased the information will be available for anyone interested. An author could not wish anything more. It will be a useful book as a lab manual for teaching and reference for research, not only for ethnographic reasons, but also for many aspects of plant anatomy and identification and forestry.

In closing I thank all whom have helped me make it possible to write and present this book.

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