The UBC Herbarium: an institutional history

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Abstract:

The University of British Columbia (UBC) Herbarium was created by John Davidson in 1912 and he saw the expansion of the institution until he retired in 1948. Since then, little has been documented about its history involving the individuals who have played important roles in its development. The Directors of the UBC Herbarium aligned with the Head of the Botany Department after John Davidson retired, and before Gerald Straley was appointed in 1992; because of this, many individuals were seen largely as figureheads and it is the curatorial staff, technicians, and collection managers who have been essential for the institution’s operation and growth. The computerization process beginning in the late 1970s and early 1980s was a major project that brought a welcomed advancement and ease, as well as difficulty and frustration. This paper will set the stage for further research and begins to fill the gap in the institution’s history.
1. Introduction

John Davidson created the University of British Columbia’s herbarium and oversaw the expansion of the institution from 1912-1948. Once John Davidson retired from his position, little is known about the institutions history, including who the directors were, what years they were in charge, and what major changes or projects aligned with certain directors. The UBC Herbarium is an institution that stores dried and mounted specimens for research purposes, and it includes one of the largest Bryophyte Collections in all of North America. All levels of staffing of the UBC Herbarium, including assistant curators, technicians and collection managers, have been integral to its operation. In this paper, I begin with setting up the context how John Davidson was able to create the UBC Herbarium and Botanical Gardens in 1912 and then go on to write briefly about the expansion from 1912-1948. Moving on to 1948-present, as well as giving an overview of the timeline of directors, will explore the UBC Herbarium as an institution through analyzing three separate job positions: a Director, a Curator, and a Collection Manager. I will focus this further by exploring the process of the computerization of the UBC Herbarium. The information in the paper pertaining to the more recent history was derived from oral history interviews. I hope to begin to fill a gap in the knowledge of the undocumented history of the UBC Herbarium.

2. Pacific Northwest Botanical History before 1911

The University of British Columbia’s (UBC) Herbarium has an extremely short history relative to the history of botany itself. Before John Davidson arrived in 1911 and began his journey to create the UBC Herbarium and Botanical Gardens, the botanical history in the Pacific Northwest is largely undocumented and pertains to two
separate histories: the indigenous people’s oral knowledge passed down through generations for practical uses of plants, as well as the colonial extraction of botanical specimens from the Pacific Northwest in the 1800s.1

Until the early 1800s the Pacific Northwest was largely unexplored; David Douglas was the first botanist to explore such an extensive area, make discoveries, and send a large amount of seeds back to Europe from the area.2 David Douglas came to the region in 1825 and was there for two years before returning home; in that time he made relations with natives and explored a vast area of the Pacific Northwest Region. Douglas sent many specimens back to Europe, and took a great number more with him on his journey home.3 The extraction of specimens was important at this time, and with no large infrastructure or settlements on the West Coast, there was no incentive to keep records locally. This short botanical history of the 1800s accounts partly for why there was no regional herbarium or botanical collection in the region made before Davidson moved to Vancouver in 1911.

Botanical history does not only include European learning by extraction of specimens through expansion and exploration. The history of botany in the Pacific Northwest goes largely undocumented, as Aboriginal traditional plant use knowledge has largely been passed through generations by way of oral histories and story telling. That knowledge pertains to foods, medicines, technology and handicrafts.4 Because aboriginal botanical knowledge is passed through oral histories rather than keeping

2 Davies, John, Douglas of the forests, 11-24.
3 Davies, John, Douglas of the forests, Seattle, 1980, 17.
textual records as well as European extraction of specimens rather than keeping them local, John Davidson arrived to Vancouver, B.C. in 1911 to a botanical ‘blank-slate’, for creating a Botanical Garden and herbarium institution in the Pacific Northwest.

3. Herbaria: the necessity of the institution

John Davidson saw the importance of keeping a record of botanical specimens in the Pacific Northwest, as well as hosting a conjunctive Botanical Garden. Herbaria host specimens that are whole or portions of plants that are pressed flat on a stiff sheet. The specimens are selected to show features such as leaves, flowers, stems, roots and fruits. The collected specimens are given a number tag relating to the field notebook. After being pressed flat and dried they are ready for the herbarium. Collectors in the field write in their notebooks characteristics such as locality, latitude, longitude and altitude; frequency, how much of that plant is in the immediate area; habitat, description of things like topography, soil, water supply; description of the plant itself, leaves, flowers, fruit, local and vernacular names, bark; and a collecting number.

Herbaria are institutions that collect specimens from field collectors and arrange them so that the same species are located together and related plants are close with each other forming a collection. The staffing of herbaria will vary greatly in response to availability of funding and the overall goal of the size of the institution. Staffing requirements can include a Director, nominated assistant, Botanists who are

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6 Womersley, Ch. 1: Field Collecting in: Plant collecting and herbarium development.
7 Womersley, Ch. 1: Field Collecting in: Plant collecting and herbarium development, 2.
professionally qualified, short term contracts for specific jobs, curatorial staff for processing collections, as well as clerical and administrative staff.\(^9\)

The UBC herbarium houses many specimens that are now on their way to being endangered or extinct; because of this issue, herbaria and botanical gardens are ways to document and preserve these species.\(^10\) John Davidson held this point of view. As he created the UBC Herbarium, he also jointly created the University’s Botanical Gardens, which is Canada’s oldest University Botanical Garden.\(^11\) The UBC Herbarium and the Botanical Garden were both created by John Davidson, and both are still very alive today.

4. Botany in the Pacific Northwest 1911-1948: The Davidson Years

John Davidson was born in 1878 in Aberdeen, Scotland.\(^12\) He married Annie Seivwright Fraser on August 3, 1903 who was also Scotland born. They had three children together, one of which was adopted: Jean Elizabeth Walker Davidson, born August 1904, John Fraser Davidson, born January 1911, and their last daughter was born in November 1918 and adopted in April 1921.\(^13\) In 1910 John Davidson had double pneumonia and after recovering his doctor told him to leave Aberdeen for a better climate. While looking into where to go, he found that BC’s botany had very little recorded, he decided that if he moved there, he would try to set up an institution to record the province's botany; John Davidson arrived in Vancouver in January 1911,
followed by his family in July 1911. Davidson inaugurated BC's Provincial herbarium in 1911 and in the following year, he was appointed BC's first official ‘Provincial Botanist’. Dr H.E. Young, BC's Minister of Education gave Davidson the responsibility and honour to lay the foundation of Botanical survey for the Province which resulted in the formation of the herbarium for the University's Botany Department. He expanded the UBC herbarium greatly by writing around the province through schools asking for specimens to be sent in. He also went on many field collecting missions and was the first to prepare a map showing the river basins of BC in 1912. The new Provincial University (later, UBC) had its first Botanical Office set up at 821 W. Pender St. Vancouver, British Columbia; this location was the beginnings of the UBC Herbarium.

In 1915 the herbarium had grown so much that Davidson sent a request for more workers - he noted that there was too much for Mary Grutchy, his assistant, to do. Davidson retired in 1948 after 37 years overseeing the expansion of the UBC herbarium and Botanical Garden. His first wife, Annie Davidson, died February 19, 1936 at the age of 45; Davidson remarried to Edna Catherine Baily Stoddart on June 5, 1939 and stayed with her until he died on February 10, 1970 due to stroke complications in the Vancouver General Hospital.

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14 University of British Columbia Archives, John Davidson Fonds, Box 1 File 1, “Historical Sketch of the late John Davidson”.
15 University of British Columbia Archives, John Davidson Fonds, Box 1 File 3, “J. Davidson’s Firsts”.
16 University of British Columbia Archives, John Davidson Fonds, Box 1 File 2, “Application for job”.
17 University of British Columbia Archives, John Davidson Fonds, Box 1 File 3, “J. Davidson’s Firsts”.
18 University of British Columbia Archives, John Davidson Fonds, Box 1 File 1, “Historical Sketch of the late John Davidson”.
19 University of British Columbia Archives, John Davidson Fonds, Box 5 File 3, “Second Annual Report”.
20 University of British Columbia Archives, John Davidson Fonds, Box 3 File 2, “The Botany Department”.
21 University of British Columbia Archives, John Davidson Fonds, Box 1 File 1, “Historical Sketch of the late John Davidson”.

5. University of British Columbia Herbarium 1948-Present

After John Davidson retired in 1948, the UBC herbarium’s history is less documented. The Director corresponded with the Head of the Botany Department until 1992, when Gerald Straley was appointed to the position. Through correspondence and oral interviews with Jack Maze and Iain Taylor, I have found that until Gerald Straley was appointed, the director acted largely as a ‘figurehead’ and overseer of the institution as a whole, rather than having a heavy direct involvement. The exceptions are T.M.C. Taylor and R.F. Scagel who both had heavy involvement with the UBC Herbarium before being appointed Head of the Department, and the Director of the Herbarium. Table 1 shows the timeline of the UBC Herbarium Directors from 1912 to present. It is important to expand on certain individuals and events that took place in this timeline.

The UBC Herbarium’s collections are sizeable; the Bryophyte collection is one of the largest in Canada, and one of the bigger ones in all of North America. The Lichen Collection still brings many surprises as they are receiving new species all the time. The Herbarium extensively covers British Columbia and lots of North America and has received specimens by donations from research as well as exchange with other institutions. Notable contributors have been R. Bandoni, K.I. Beamish, J. Calder, J. Davidson, J.W. Eastham, H. Kennedy, V.J. Krajina, P. Lebednik, R. Scagel, W.B. Schofield, G.B. Straley, and T.M.C. Taylor. The UBC Herbarium is one of the first places that a researcher in the Pacific Northwest will stop to get material and as an institution continues to be a valuable asset to the academic community.

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Table 1: UBC Herbarium Directors from 1912-Present

<table>
<thead>
<tr>
<th>Name</th>
<th>Start</th>
<th>End</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Davidson</td>
<td>1912</td>
<td>1948</td>
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<td>1950</td>
<td>1969</td>
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</tr>
<tr>
<td>G.N.H. Towers</td>
<td>1964</td>
<td>1972</td>
<td>“Director”</td>
</tr>
<tr>
<td>R.F. Scagel</td>
<td>1972</td>
<td>1986</td>
<td>“Director”</td>
</tr>
<tr>
<td>A.D.M. Glass</td>
<td>1986</td>
<td>1991</td>
<td>“Director”</td>
</tr>
<tr>
<td>D.H Turpin</td>
<td>1991</td>
<td>1992</td>
<td>Title but not Acting</td>
</tr>
<tr>
<td>G.B. Straley</td>
<td>1992</td>
<td>1997</td>
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</tr>
<tr>
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<td>1998</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>F.R. Ganders</td>
<td>2000</td>
<td>2005</td>
<td>“Director”</td>
</tr>
<tr>
<td>J. Whitton</td>
<td>2005</td>
<td>Present</td>
<td>“Director”</td>
</tr>
</tbody>
</table>

**Director: Robert Scagel**

Robert Scagel had the opportunity to be a student of John Davidson while completing his B.A., 1947 and M.A. 1948 at UBC. This was “when the Department of Biology & Botany was in the Faculty of Arts - before the establishment of the Faculty of Science”. Further degrees include a Ph.D from the University of California, Berkeley in 1952, and F.R.S.C., 1954. Scagel has four children: “Robert Kevin, B.Sc., M.A.(U.B.C.);
Nancy Kathleeen; Ernest John; Carolyn Frances, B.Sc. (U.B.C.), Ph.D. (Oregon State University)”. As well as being Director of the UBC Herbarium 1972-1986, Scagel was the Curator of the Phycological Collection from 1952-2000; he also spent time as the Assistant Dean of Science, and the Associate Dean of Science. Scagel’s involvement with the UBC Herbarium was long lasting, during his time as director, the computerization of the specimens began, a difficult process in which the UBC Herbarium was one of the first to attempt in North America.

In the late 1970s to early 1980s Director Scagel decided the UBC Herbarium should be a part of the Pacific Northwest Consortium; to do this the UBC Herbarium had to know the physical size of the collections it housed. Before this time only the Vascular and Algae Collections had an exact count with accession numbers. This led to the hiring of a summer student to take an exact physical count of the specimens the UBC Herbarium had. The Bryophyte Collection was so huge that all new additions have accession numbers stemming from that summer’s physical count, however not every specimen currently has an accession number assigned to it. It is hoped that one day all specimens will be in the database properly and have an accession number, for now at least the specimens are preserved properly and will not be forgotten.

**Curator: Jack Maze**

Jack Maze was the Curator of the Vascular Plant Collection from 1979 to 1988. Dr. Maze signed papers necessary for loans of specimens, made some decisions about to which institutional exchanges took place, and he “would occasionally go through the

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herbarium and throw out stuff that shouldn’t take up space”.29 There was some policy involved having to do with the exchange process: which institution would benefit from British Columbia specimens, and which would benefit the UBC Herbarium. While Maze was the Curator, he notes that a major project was trying to get Vladimir Krajina’s Collection incorporated into the Herbarium. Maze believed, while he was at the Herbarium, that the most valuable collection was the Bryophyte Collection, and that the Vascular Plants Collection was a good regional and teaching collection.

Jack Maze was at the herbarium at the time when the director, Robert Scagel began the attempts to computerize the UBC Herbarium’s specimens into a database. The Technician at the time was John Pinder-moss. Pinder-moss would look after “day-to-day running of the place, sending stuff out on exchange, processing loans that go out, processing loans that came back in”.30 Pinder-moss also had much to do with the beginnings of the computerization process,31 until his position was eventually eliminated. Jack Maze left the UBC Herbarium after Cynthia Dorant’s position was terminated so that the money could be used to hire students.

Collections Manager: Olivia Lee

Olivia Lee is a Collections Manager at the UBC Herbarium and has been with the institution since September 1975. She received her Bachelors of Science, Majoring in Botany from the University of British Columbia before she began working at the UBC Herbarium. Lee originally was hired to deal with the Bryophyte Collection, Fungi Collection and Lichen Collection. Her main function has been to curate collections, to

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make sure they are ready for use. When there is a Curator designated for a collection, – for example, the Bryophyte, Lichen and Fungi - Lee is there for the physical work: she makes sure the specimens that come in are processed, labeled, filed, and does some identification. Her job does not allow much time for identification, and main tasks have been to prepare specimens for users and to help researchers and deal with loans.

The UBC Herbarium, although they have more staff than most herbaria, has faced the issue of being short of staff. The numerous donations of specimens as well as the constant struggle for space have added to the workload seen by the UBC Herbarium’s staff. Lee remarks she has spent much time re-shuffling the Herbarium to create space; during the time where the specimens were kept in “shoe boxes in open shelving” the constant reshuffling meant that she did not “really seem to be able to have the time to progress further in real work”.

The constrained space and constant reshuffling as an issue has been accompanied, at times, by a lack of staff to handle the workload. When Julie Oliviera retired, having held a position similar to Olivia Lee’s, there was a period of five years when Lee had the added responsibility of doing entries for the Vascular Collection. The two women had previously shared the responsibility for doing the databasing and loans for the Vascular Collection; Lee would do the loans for the collection and Oliviera did the entering of specimens into the new database. It took five years until there was a part time employee, Cindy Sayer, hired to take on some of the workload, hired as a Vascular and Algae Collections Manager. Sayer’s position is

presently held by Linda Jennings who is the Assistant Curator of the Vascular and Algae Collections.33

Although there has been a heavy workload, Lee has always encouraged people to deposit material and has never wanted to refuse donations of specimens. The UBC Herbarium is important in that sense because the deposited specimens and the “habitat might not be there anymore so [Lee] always encourage people to deposit, but at the same time every time people deposit material [Lee] will have to find space for it to add onto the backlog”.34 The backlog is unavoidable; for an institution as ambitious as the UBC Herbarium, the important matter is that there will be “material for the future when that might be the only representation of that organism”.35 It is the individuals who care about expanding and caring for the institution that let it thrive in more recent years.36

**Computerization of the UBC Herbarium**

The process of the computerization of the UBC Herbarium began in the late 1970s. A representative from the Botany Department had written to the National Museums of Canada to ask for financial assistance to begin creating a database of the specimens in the UBC Herbarium. After being declined, Robert Scagel, as the Director, designated funds for the computerization project.37 Organizing for the large undertaking was largely done by Jack Maze, and the herbarium hired a graduate student, David Crow, to create a program to write data input, label making, data storage

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34 Olivia Lee, Oral history interview, March 25, 2013.
35 Olivia Lee, Oral history interview, March 25, 2013
36 Iian Taylor, Personal communication, 2013.
37 Pinder-moss, Computerization of the herbarium of the University of British Columbia, 145.
and data retrieval. The problems involved with the creation of the database included time, cost, error correction issues as well as creating another layer of work for employees. Originally the storage of the database was on magnetic tape, which made making corrections very difficult. The time and cost of this project was immense – the UBC Herbarium was one of the first of its kind to attempt such a mission. New, slow, and expensive technology was used for many years. What became initially quite useful was the speeding up of work, however, there was also an enormous backlog of work created, as every new specimen would need to be put in the database as well as the old specimens dating back from when John Davidson began Collections. After Maze had left, René Bland got the programs shifted around so that they could be put on a PC. The initial attempts to put the specimens from the UBC Herbarium in an online database is a fascinating process as the institutions advances were in a sense, ahead of what technology allowed them to do at the time.

6. Conclusion

The botanical history in the Pacific Northwest was not locally documented before John Davidson arrived in 1911. This is because there was very late colonial exploration in the region, and little settlement until the late 1800s. John Davidson oversaw the expansion of the UBC Herbarium and Botanical Garden. The collections in the Herbarium have grown substantially and are invaluable today as a record of Pacific Northwest botanical specimens. The Directors of the UBC Herbarium aligned with the Head of the Botany Department until Gerald Straley was appointed in 1992. Apart from

39 Pinder-Moss, Computerization of the herbarium of the University of British Columbia, 148.
Robert Scagel who was the Director from 1972-1986, many of the Directors before Gerald Straley were seen more as a figurehead. Positions that had high involvement were the Curators, Assistant Curators, Collection Managers and Technicians. More research is needed to further explore the inner-workings of the UBC Herbarium and identify individuals who had important involvement in its history.
**References**

**Secondary Sources**


**Primary Sources**


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