

BEATY BIODIVERSITY MUSEUM

ANNUAL REPORT

2014-2015

A world where biodiversity is better understood, valued, and protected.



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

A close-up photograph of green peacock feathers, showing intricate patterns and vibrant colors ranging from deep emerald green to bright turquoise. The feathers are layered and overlapping, creating a textured background for the text.

BEATY BIODIVERSITY MUSEUM 2014-2015

36,166 VISITORS

129 VOLUNTEERS

8,200 PROGRAM PARTICIPANTS

17,057 NEW SPECIMENS

104 PUPPET SHOWS PERFORMED

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Backyard Biodiversity
Derek Tan

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DIRECTOR'S REPORT



It has been a wonderful year for the Beaty Biodiversity Museum. Our staff have continued to deliver top-notch educational programming for all age groups, added carefully prepared specimens to the collections, designed beautiful exhibits, helped tell the stories of research conducted by UBC scientists, and hosted a wide variety of scientific talks and gatherings for biodiversity enthusiasts. They have done all this while ensuring the long-term safekeeping of our 2.1 million treasured specimens of biodiversity.

During the first five months of the 2014–2015 fiscal year, Dr. Eric Taylor continued to serve as director of the Beaty. After he went on a well-deserved sabbatical, I took the reins as Interim Director for a one-year term. Interacting with our talented and dedicated staff, our generous and creative volunteers, and our enthusiastic visitors has been a richly rewarding experience. Highlights for me include the opening of the *Shutterbug* exhibition, which celebrates the life and photographs of insect enthusiast Ian Lane; hosting our first and only live specimen, the writer-in-residence Aislinn Hunter; leading a “Birding with the Director” Campus Walk and finding that one of the best birders-by-ear on the walk was only three years old; celebrating the biodiversity of beer at a members-only sneak-peek event; accepting Mike Whitlock’s donation of an elephant bird egg (now on display!); and working with our staff to plan our upcoming commemoration of UBC’s Centennial, titled *100 Years, 100 Treasures: A Celebration of 100 Years of Biodiversity*.

During this time of rapid transformation of the Earth’s ecosystems brought on by large-scale human activities, we view the Beaty Biodiversity Museum as a sort of time capsule: here you can see forms of life that no longer exist in the wild, and you can imagine people in the distant future examining these same precious specimens. With your support of the museum, you are sending a message to these future generations: we treasure biodiversity and wish to pass it on to you, both in the museum but more importantly intact out in Earth’s forests, fields, rivers, and oceans. We hope that the museum’s educational work enriches the lives of those who interact with the museum and helps lead to a future filled with biodiversity. Thank you so very much for joining us in these efforts; I am confident that current and future generations will be deeply grateful.

Dr. Darren Irwin

Interim Director, Beaty Biodiversity Museum
Professor, Department of Zoology
Director, Cowan Tetrapod Collection



Hands-on curriculum-based school programming

This year, educators could choose from six different school programs, three children's community programs, and ten public tours. School program highlights included: launch of Earth Experience, a full-day school program run in collaboration with the Pacific Museum of Earth; trials of our Beaty Box specimen loan program; the addition of Collections Experience and Curator Tours to our suite of tours; and 200 children piloted our new Perspectives on Biodiversity school program that looks at local species from a variety of perspectives including First Nations, ecosystem roles, and UBC research. All of our school programs complement the BC curriculum, feature current biodiversity research, and offer students hands-on learning experiences with museum specimens increasing awareness of evolution, ecology, conservation, and biodiversity.

The museum provided support for several low-income and inner-city schools to ensure students from across Vancouver have access to the museum. We hosted a museum studies intern and two pre-service teachers as part of the Faculty of Education Community Field Experience practicum, providing opportunities for future professionals to gain hands-on experience. We also work closely with the Vancouver School Board Supporting the Scientists in Residence program.

EDUCATION AND OUTREACH

MUSEUM TOURS DELIVERED: 426 | NUMBER OF VISITORS IN BOOKED GROUPS: 8,200
NUMBER OF CREATURES CREATED BY STUDENTS IN OUR *ONE LIFE TO LIVE* PROGRAM: 1,081

The Education and Outreach team shares the stories of the research collections with the public through school programs, daily tours, activities, special events, and partnerships.

Jackie Chambers
Education and Outreach Manager

Nicole Balsdon
Education and Outreach Coordinator



Nancy Lee
Tanis Gieselmann
Sabrina Cornish Shartau
Derek Jang
Sheila Byers
Kashifa Hafeez
Museum Interpreters

Bringing the collection to life with programs and events

Interpreters and volunteers provide daily programming for visitors, including tours, puppet shows, story time, and noon-hour activities. Special events this year included: record attendance in our Teachers' Professional Development Day, Mushroom Walks with Botany faculty and graduate students, Hands-On Biodiversity during spring break, and FestEVOLVE—our annual celebration of Charles Darwin and evolution. Over 40 public lectures and programs were offered, including the popular Biodiversity Lecture Series and the monthly, family-friendly Way Cool Biodiversity series. We also launched two new monthly series, Campus Walks and Ask an Expert Table.

Reaching out to the community

The Education and Outreach team worked with several organizations on community events. Through support from UBC Campus + Community Planning and work with the Pacific Museum of Earth, the Beaty was able to develop a monthly Nature Club for families on campus. Event partnerships included: walks and information tables in association with Nature Vancouver and the BC Native Plant Society, and FestEVOLVE with the Biodiversity Research Centre. We support a variety of teaching assistants and professors of undergraduate and graduate classes here at UBC.

VOLUNTEERS

VOLUNTEER HOURS: 8,544.81

ACTIVE VOLUNTEERS: 129 | NEW THIS YEAR: 60

PUPPET SHOWS PERFORMED: 104

"WONDERFUL PEOPLE"

-visitor comment card



"VOLUNTEERS AND RESEARCHERS ALWAYS TAKE THE TIME TO TALK TO MY KIDS AND GIVE THEM MORE INFO AS WELL AS ASK THEM WHAT THEY KNOW"

-visitor comment card

Beaty Museum volunteers come from all walks of life, ranging from high school and post-secondary students to working and retired professionals. Our dedicated volunteers have an understanding and an enthusiasm for the museum, which they readily share with visitors. This team of knowledgeable and friendly people adds a personal touch to the visitor experience and strengthens the connections between the museum, the collections, and the community.

Over 125 active volunteers support the Education and Outreach team to share the stories of the research collections. Along with other members of the museum team, volunteers are identifiable in their red vests and are ready to answer questions and share stories with visitors. Volunteers also assist with events and special programming such as hands-on noon hour and Spring Break drop-in activities, public lectures, exhibit openings, and membership events. Volunteers are supported with learning opportunities on a weekly basis, and given in-depth workshops once monthly.





**"THE MUSEUM IS EXCELLENT FOR OUR
FAMILY AS AN OUTING. WE HAVE BEEN
COMING FOR YEARS AND THE KIDS
AND I REALLY ENJOY THE ACTIVITIES"**

-visitor comment card

Membership

We had a lot of fun at our three Members Sneak-Peek events:

- Family Sneak-Peek Morning in April – a curatorial tour of the Cowan Tetrapod Collection and a hands-on eyeball dissection
- Family Sneak-Peek Morning in August – a behind-the-scenes tour of the Spencer Entomological Collection and a hands-on pooter-making activity
- Brewing Biodiversity Beer Tasting in January – a curatorial talk about the ethnobotany of beer and a beer tasting with Granville Island Brewing and Steamworks Brewery

Members were specially invited to our feature exhibition openings for *The Herbarium Project*, *Backyard Biodiversity*, and *Shutterbug*.

Community Outreach

You might have seen our smiling faces at a few local events this year including: UBC Alumni Weekend, Car Free Day on Main Street, Khatsahlano Street Party, UNA Barn Raising, Wesbrook Village Festival, Apple Fest at UBC Botanical Garden, Around the Dome at Science World, UBC Sustainability Fair, and Night Quest with Metro Vancouver Regional Parks.



Dedicated volunteer, Lindsay displays our certificate.
Mairin Kerr

MEMBERSHIP AND COMMUNITY

ACTIVE MEMBERSHIPS: 490

TWITTER FOLLOWERS: 1,363 | FACEBOOK FOLLOWERS: 1,544

Mairin Kerr

Marketing, Communications, & Events Coordinator



Community Partnerships

It was our pleasure to work with renowned author and poet Aislinn Hunter who was our Writer in Residence in November. Poems written by Aislinn during her time at the museum will be featured in *PRISM International* 2015 summer edition.

This year we entered into a partnership with Grey Advertising. We would like to express our sincerest thanks to Grey Advertising for their generous donation of time and creative energy to the museum.

Our members-only Brewing Biodiversity Beer Tasting event was made possible by the donation of time, expertise, and beer by Granville Island Brewing and Steamworks Brewery.

We continue to work with *Vancouver is Awesome* to communicate the awesomeness of this city's natural history museum.

"I LOVE THE THEORY AND REFLECTION BEHIND
HER ART AND THE INTEGRATION WITH THE
MUSEUM'S HERBARIUM SUBJECTS"

-visitor comment card

The Herbarium Project

Through partnerships with different communities and individuals, the Beaty Biodiversity Museum presented five feature exhibitions that celebrated the beauty of biodiversity and explored our relationship with the natural world.

Wondrous, April 2–July 27, 2014

Produced by artists for WWF-Canada and Science World British Columbia, this exhibition's stunning photographs and nature sounds transported visitors to the Great Bear Rainforest, one of the most spectacular ecosystems on earth. Sponsored by The Willow Grove Foundation.

The Herbarium Project, May 16–August 24, 2014

Karen Yurkovich's paintings encouraged visitors to build a stronger emotional bond with nature—to view it not as a resource, but as a source of cultural, emotional and aesthetic value. Herbarium specimens and the artist's materials provided a unique insight into her artistic process.

Artists for Conservation, September 11–15, 2014

This fine art exhibition and screening of conservation films offered visitors a special preview of works being showcased in the 2014 Artists for Conservation Festival.

Backyard Biodiversity, September 27, 2014–February 15, 2015

Featuring stories and illustrations from CWILL BC (Children's Writers and Illustrators of BC), this exhibition showcased our local biodiversity. Visitors were invited to immerse themselves in nature through reading, writing, and art making.

Shutterbug, March 11–September 6, 2015

Through spectacular photography, visitors explored local insect life and discovered how these images have contributed to science. The exhibition incorporated family-friendly activities, such as a dress-up area with bug costumes. Part of the Capture Photography Festival.

EXHIBITS AND DESIGN

FEATURE EXHIBITIONS: 5

NUMBER OF EXHIBITION EVENTS, TALKS, AND TOURS: 15



Yukiko Stranger-Galey
Exhibits Manager

Hana Dethlefsen
Interim Exhibits Manager

Derek Tan
Digital Media Specialist

Lesha Koop
Museum Artifact Technician



A new set of *Researchers Revealed* panels, our series that highlights the work of Biodiversity Research Centre researchers, was installed and accompanied by video interviews with the featured scientists. This year's panels have asked questions such as *how do closely related species interact*, *how does a plant's community affects its growth*, and *how can geese fly so high*?

Two key permanent exhibit displays, the Victorian Cabinet and the Big & Small Cabinet, were revitalized. The cabinets were redesigned, specimens removed and added to support new stories, and new interpretive signage installed. Specimens such as an extinct passenger pigeon, a delicate hummingbird egg, and a massive elephant bird egg are now showcased.



The Herbarium Project
Karen Yurkovich

**"THE WONDER OF
DISCOVERING NEW THINGS
AROUND EACH CORNER"**

-visitor comment card



Backyard Biodiversity



Shutterbug

**"INCREDIBLY CURATED.
BEAUTIFUL SPECIMENS AND
AN OUTSTANDING VARIETY"**

-visitor comment card



Backyard Biodiversity
Paul Bucci



Northwestern salamander
Ambystoma gracile
Derek Tan

COWAN TETRAPOD COLLECTION

SPECIMENS ACCESSIONED THIS YEAR: 42 BIRDS, 15 MAMMALS
DAYS USED BY VISITING RESEARCHERS: 30 | POST-SECONDARY TEACHING LOANS: 5
DAYS OF ARTIST VISITS: 29 | DAYS OF GRADUATE STUDENT USE: 30
VOLUNTEER HOURS: 1,426

The Cowan Tetrapod Collection (CTC) is the second-largest scientific collection of birds, mammals, reptiles, and amphibians in British Columbia.

Renewal of the amphibian and reptile collection

Most of our amphibian and reptile collection consists of whole animals placed in jars and immersed in preserving fluid such as ethanol. The oldest such fluid specimen in our collection is an Olympic torrent salamander collected in Triple Trip Creek, Washington in 1923. Renewal or refreshment is essential to keep these visually fascinating specimens in tip-top condition. Approximately 1,500 lids were replaced and the fluid of 2,000 specimen jars was either topped up or replaced.

Digitizing and databasing of the collection

Digitizing the bird, mammal, and herpetology specimens for the database is progressing on schedule, with images of more than 2,500 specimens being added this year. Researchers, citizen scientists, students, and museum curatorial and educational staff are regularly utilizing our internal museum database. Via sharing of our data with the international specimen database VertNet, 29,637 BBM CTC specimen records have been downloaded from 1,610 searches from 26 countries during the year. We are also growing our OMBIRDS (Online Museum of Biological Images, Recordings, and DNA Specimens) database and promoting similar efforts to preserve information from temporarily caught wild birds (see publication below).

New acquisitions

Highlights from our new acquisitions included two spectacular pheasant mounts (Himalayan monal, and satyr tragopan) donated by Plato Mamo and four whole-body mounts of wild sheep (Afgan urial, Armenian moufflon, Laristan sheep, and aoudad), as well as a wonderful full-body musk-ox mount, and a huge elephant bird egg.

Dr. Darren Irwin
Director and Curator

Ildiko Szabo
Assistant Curator of Birds

Chris Stinson
Curatorial Assistant of Mammals,
Reptiles, and Amphibians

Research collaboration

The CTC facilitates a wide variety of research. As one example, the CTC partnered with the University of Maryland–Baltimore and the University of Oslo on a study of genetic variation and historical biogeography of ravens of the whole Northern Hemisphere. Sixty-one common ravens from British Columbia were salvaged, followed by tissue collection and DNA analysis. To date, the British Columbian birds are the only ravens in this project that were vouchered and accessioned into a museum collection.

Notable publication:

Szabo, I., Cavaghan, S., Hurley, G., and D. E. Irwin. 2014. A call for the preservation of images, recordings, and other data in association with avian genetic samples, and the introduction of a solution: OMBIRDS. *The Auk: Ornithological Advances* 131: 321-326.

MARINE INVERTEBRATE COLLECTION

SPECIMENS: OVER 500,000 | NUMBER OF SPECIES: 50,000

Marine animals without backbones are housed in our Marine Invertebrate Collection. The collection contains thousands of specimens representing the major lineages of animals, such as cnidarians, molluscs, annelids, crustaceans, echinoderms, and sponges. These creatures have a tremendous variety of colours and forms.

Dr. Brian Leander
Director

Undergraduate invertebrate biology classes access the Marine Invertebrate Collection for teaching purposes.

This year the collection received a donation of California mussels (see below). The mussels were collected in the late 1980s from Botanical Beach, near Port Renfrew on southern Vancouver Island.



Octopus
Octopoda
Paul Bucci



California mussel and blue mussel (lower right)
Mytilus californianus and *Mytilus edulis*
Derek Tan



Portuguese man-of-war
Physalia sp.
Derek Tan

HERBARIUM

SPECIMENS: OVER 675,000 | ACCESSIONED THIS YEAR: 14,000
DATABASED RECORDS: 519,000 | NEW RECORDS THIS YEAR: 16,000
IMAGED SPECIMENS: 27,000 | NEW IMAGES THIS YEAR: 3,000
RESEARCH VISITORS: 484 | LOANS: 74 | VOLUNTEER HOURS: 780

The Herbarium comprises several collections including the algae, bryophytes (mosses and relatives), vascular plants, fungi, and lichens.

Digitizing and databasing specimens for preservation and research

- We received an award of \$15,000 from the Irving K. Barber BC History Digitization Grant to image 3,000 specimens collected by renowned UBC professor, researcher, and collector, Dr. Vladimir Krajina.
- Received a new species to science, a member of the sunflower family from northern BC.
- We received funding through the Wilf and Peggy Schofield Memorial Fund to update our lichen database to current standards, so that the data could be shared via our online database and via other web portals. This project supported database technician Ms. Beryl Zhuang.
- Funding from the Botany Department supported a curatorial Research Assistant, PhD candidate Ludo LeRenard, who completed inventory and databasing of the extensive collections of fungi that are part of the legacy of Prof. Robert Bandoni, former UBC professor emeritus, making these collections accessible for future research.

Our collections support research

- The International Barcode of Life (iBOLD) is working on DNA barcoding of all species of vascular plants in Canada. The iBOLD team visited UBC to take samples of more than 1,180 specimens as part of this project.
- The Genetic Data Centre, Royal British Columbia Museum, and Ministry of the Environment are working on a DNA barcoding project to study BC's Okanagan and Garry oak rare plant habitats.
- The Department of Agriculture and the Canadian Food Inspection Agency are working on the Genomics Research and Development Initiative (GRDI) project to help identify invasive species in Canada.
- We supported many BioBlitz surveys including the Whistler BioBlitz, Cypress Provincial Park, Fort Rodd Hill, and Echo Lake BioBlitz where a federally endangered species was found and documented for better protection. We also organized the 5th annual Schofield Bryophyte and Lichen Foray in "Darkwoods" on Nature Conservancy of Canada lands.
- We completed sharing all our 520,000 databased herbarium records with local, national, and international biodiversity databases.

Dr. Jeannette Whitton
Director

Linda Jennings
Assistant Curator

Olivia Lee
Collections Manager

Dr. Michael Hawkes
Curator of Algae

Dr. Sandra Lindstrom
Curator of Algae

Dr. Patrick Martone
Curator of Coralline Algae

Dr. Judith Harpel
Curator of Bryophytes

Dr. Quentin Cronk
Curator of Eudicots

Dr. Sean Graham
Curator of Monocots and
Basal Angiosperms

Dr. Mary Berbee
Curator of Fungi

Trevor Goward
Co-Curator of Lichens

Curtis Björk
Co-Curator of Lichens



Our collections support teaching

- We ran workshops in UBC undergraduate courses for Science One students on plant identification, and conducted tours for Plant Taxonomy and Fungi classes. Linda Jennings delivered a guest lecture in Anthropology, for their Intro to Museums and Museology course, and ran activities for the class Plants and People and for the new Capstone Sustainability course at UBC and was also a community partner in History of Geography class project as well as supervising a Professional Experience, SLAIS graduate student project.
- We supported a workshop for Katzie First Nation Members on how to identify rare plants for the Alouette River Restoration Project.

Our collections continue to grow

We received nearly 13,000 specimen donations.

- A collection of 6,000 coralline algae was donated by Dr. Phil Lebednik. These specimens were collected over 15 years of studies at UBC, and represent a unique and valuable collection from the BC coast. The specimens, which are mostly attached to rocks, weigh a total of 250 kilograms. One notable specimen is estimated to be 700 years old! These have already been used in multiple studies from descriptions of new species to research on global climate change.

Notable publications:

Hind, K. R., Gabrielson, P. W., & G. W. Saunders. 2014. Molecular-assisted alpha taxonomy reveals pseudocryptic diversity among species of *Bossiella* (Corallinales, Rhodophyta) in the eastern Pacific Ocean. *Phycologia*, 53(5): 443–456.

Hind, K. R., Gabrielson, P. W., **Lindstrom, S. C.**, & **P. T. Martone**. 2014. Misleading morphologies and the importance of sequencing type specimens for resolving coralline taxonomy (Corallinales, Rhodophyta): *Pachyarthron cretaceum* is *Corallina officinalis*. *Journal of Phycology*, 50(4): 760–764.

Miadlikowska, J., Kauff, F., Högnabba, J., ... **Björk, C.**, ..., **Goward, T.** ... & S. Stenroos. 2014. A multigene phylogenetic synthesis for the class Lecanoromycetes (Ascomycota): 1307 fungi representing 1139 infrageneric taxa, 317 genera and 66 families. *Molecular Phylogenetics and Evolution*, 79: 132–168.

Li, F. W., Villarreal, J.C., Kelly, S., **Rothfels, C. J.**, ... **Graham, S. W.**, ... & K. M. Pryer. 2014. Horizontal transfer of an adaptive chimeric photoreceptor from bryophytes to ferns. *Proceedings of the National Academy of Sciences*, 111(18): 6672–6677.

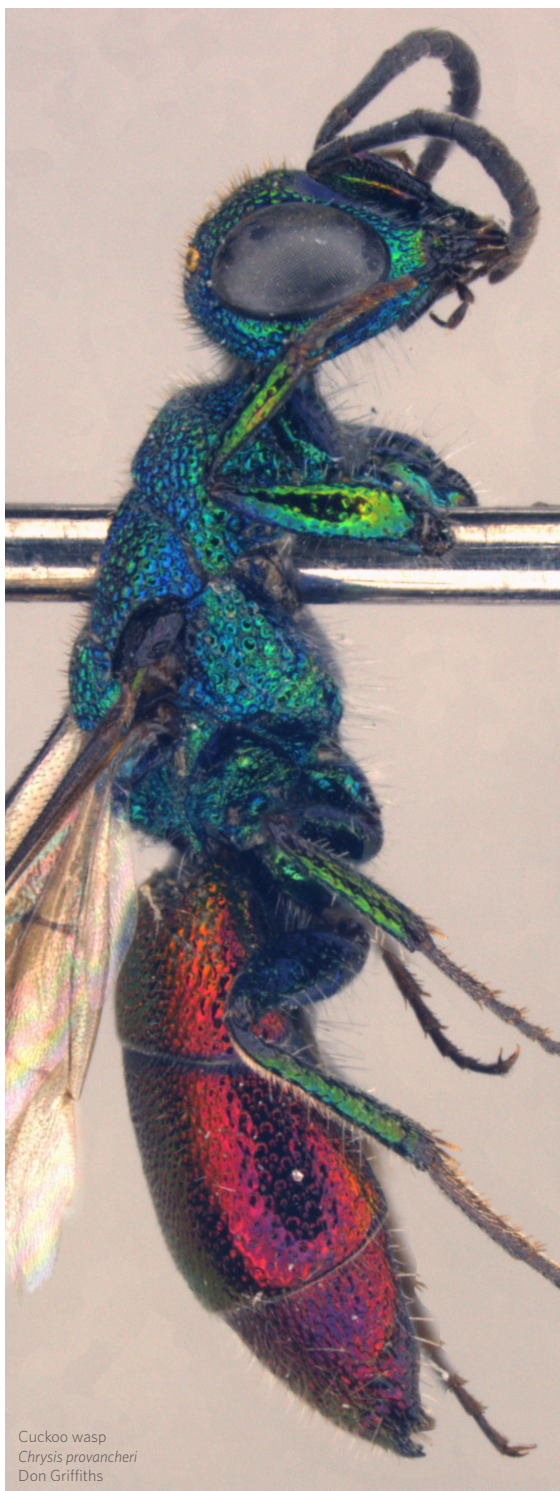
Lindgren, H., Velmala, S., Högnabba, F., **Goward, T.**, Holien, H. & L. Myllys. 2014. High fungal selectivity for algal symbionts in the genus *Bryoria*. *The Lichenologist*, 46(05): 681–695.

Duffy, A. M., Stensvold, M. C., & D.R. Farrar. 2015. Independent gametophytes of *Hymenophyllum wrightii* in North America: not as rare as we thought. *American Fern Journal*, 105(1): 45–55.

Tai, J., Cheung, S. S., & D. Hasman. 2014. Human ovarian cancer multicellular spheroids: a model for testing antiproliferation activity of Devil's club (*Oplopanax horridus*) and anticancer agents. *Planta Medica*, 80(8–9): 662–670.



Lebednik Collection
Jasmine Lai



Cuckoo wasp
Chrysis provancheri
Don Griffiths

SPENCER ENTOMOLOGICAL COLLECTION

SPECIMENS: 650,000 | ACCESSIONED THIS YEAR: 3,000
PHOTOGRAPHED SPECIMENS: 10,000 | NEW THIS YEAR: 5,700
VOLUNTEER HOURS: 600

The Spencer Entomological Collection (SEC) is the second-largest collection of insects and other arthropods in western Canada.

Dr. Wayne Maddison
Director

Imaging the collection

The SEC benefitted once again from an Irving K. Barber BC History Digitization Grant to employ an imaging technician and a Work Learn student in our efforts to bring our collection online. All 30,000 images taken to date of specimens in our collection are available on the Beaty Biodiversity Museum website, now in a new format that will make them more useful to researchers and to those seeking to identify BC insects.

Karen Needham
Assistant Curator

Don Griffiths
Imaging Technician

Work in the field

Staff and volunteers of the SEC were also honoured to participate in two BioBlitzes this past year. One was held at Echo Lake, an important piece of old-growth forest near Harrison that is under threat, and the other an annual event in Whistler and Pemberton. All together, 500 specimens of at least 275 species were added to our collection from these concentrated efforts to document BC's insect diversity. Wayne Maddison also conducted jumping spider field work in Mexico last summer.

Closer to home, we have been documenting the spread of the eastern bumble bee, *Bombus impatiens*, from its introduced locations in Delta and Ladner northwards across the Fraser River and eastwards up the Valley. Our production of a Spheciform wasp checklist for the province yielded 64 species new to BC, 42 species new to Canada, and two species potentially new to science.

Notable publications:

Klimaszewski, J. et al. 2015. Synopsis of adventive species of Coleoptera (Insecta) recorded from Canada. Part 3: *Cucujoidea*. Pensoft Publishers. 171 pp.

Runyon, J. B. & R. L. Hurley. 2015. A revision of the Nearctic species of *Liancalus* Loew (Diptera: Dolichopodidae). *Zookeys*, 483: 97–147.

Zhang J. X. & W. P. Maddison. 2015. Genera of euophryine jumping spiders (Araneae: Salticidae), with a combined molecular-morphological phylogeny. *Zootaxa*, 3938: 001–147.

Maddison W. P., Li, D., Bodner, M., Zhang, J. X., Xu, X., Liu, Q., & F. Liu. 2014. The deep phylogeny of jumping spiders (Araneae, Salticidae). *Zookeys*, 440: 57–87.

Maddison, W. P. & E. K. Piascik. 2014. *Jerzego*, a new hisponine jumping spider from Borneo (Araneae: Salticidae). *Zootaxa*, 3852: 569–578.

Zhang, J. X. & W. P. Maddison. 2014. *Tisaniba*, a new genus of marpissoid jumping spiders from Borneo (Araneae: Salticidae). *Zootaxa*, 3852: 252–272.

The Fish Collection is the third-largest ichthyological collection in Canada and a major provincial, national, and international resource.

Dr. Eric Taylor
Director

A year in the tropics

Since September 2014, activity on the fish collection has been muted given that the Director, Dr. Taylor has been on sabbatical. While based at the University of Queensland in Brisbane, Australia, Dr. Taylor travelled to the home of the Queensland lungfish and made several trips to the Great Barrier Reef to witness tropical diversity both in freshwater and marine habitats firsthand (see Beaty Biodiversity Museum blog posts). Dr. Taylor also made visits to the Queensland Museum (Brisbane) and the Australian Museum (Sydney) to observe their fish collections and how they do business.

Updates to the collection

A major update to the Fishbase version of our collection database was made in February of 2015. This added almost 1,000 records to the searchable database. In addition, we finished the project with the UBC Library Digital Collections team to digitize, and make accessible on the web, all 30,000 or so field records of fish collections held at UBC (see digitalcollections.library.ubc.ca/cdm/landingpage/collection/fisheries). This was a huge task that has safeguarded these records, some that go back over 100 years, and made them more accessible. Thanks to Robert Stibravy and his team at the UBC Library Digital Collections.

Graduate theses

Three students, **Shannan May-McNally**, **Amanda Moreira**, and **Jennifer Ruskey** completed their MSc degrees in the autumn of 2014, and **Allison Dennert** completed her BSc Honour's thesis in May, 2015. During their work, the collection was used and

each student made important depositions into the fish collection: char from various sites in Alaska, a rare form of "black" kokanee from central BC, and longnose and Nooksack dace from southwestern BC.

Fish Identification Workshop

After a successful and first-ever BC Freshwater Fishes Identification Workshop held in May, 2014, word got around and we hosted a second workshop in July. This workshop specialized in fishes of northeastern British Columbia and had 20 participants.

Field Guide to BC Freshwater Fishes

Based on feedback received from participants in the fish ID workshops, a major update to McPhail and Carveth's (1994) *Field Guide to BC Freshwater Fishes* is being finalized. In addition, a draft of a *Pictorial Guide to the Freshwater Fishes of BC* (Taylor and Tan, planned for 2015) is being finalized.

Notable publication:

Taylor, E. B., & S. M. May-McNally. 2015. Genetic analysis of Dolly Varden (*Salvelinus malma*) across its North American range: evidence for a contact zone in southcentral Alaska. *Canadian Journal of Fisheries and Aquatic Sciences*, 10.1139/cjfas-2015-0003.

This publication used Fish Collection tissue samples dating back to the 1990s to survey genetic variation in Dolly Varden char and illustrates the importance of archival museum collections in promoting contemporary research.



Archaeocyatha
Ada Sin



FOSSIL COLLECTION

SPECIMENS: 20,000 | SPECIMENS CATALOGUED: 4,452

VOLUNTEER HOURS: 450

Dr. Kirsten Hodge
Curator

Dr. Stuart Sutherland
Advisor

The Fossil Collection has 20,000 specimens that range from recent shells to early traces of cyanobacteria, called stromatolites that represent some of the oldest evidence of life on Earth. The Collection includes several of British Columbia's earliest natural history records and represents a comprehensive survey of BC's paleontological heritage.

Keeping house

The reorganization of the Fossil Collection—including cataloging of specimens and cleaning of the storage cabinets—is ongoing, with volunteers generously putting their time towards this project.

Reaching out

We sent a collection of 18 marine fossils to the Ucluelet Aquarium on Vancouver Island. They will be displayed for the general public during the summer months and returned in September. We focused on specimens that reflect the general geographic area surrounding Vancouver Island.



ADMINISTRATION

TOTAL VISITORS: 36,166 | OPEN DAYS: 333

This past fiscal year, the Beaty Biodiversity Museum continued to align organizational and staffing structures with the museum's new strategic plan to better position the museum as a leader in the acquisition, care, and use of biological collections. The museum now has over 21 full and part-time staff, 13 part-time student staff, and over 100 dedicated volunteers all working towards ensuring the museum achieves its vision of a world where biodiversity is better understood, valued, and protected.

Financial health

Through the support of the Faculty of Science, grants, donations, membership, and earned income, the museum's financial health stayed strong throughout the fiscal year. Funding received and collected continues to support the museum in becoming a leader in the use of biological collections in public outreach, education, and exhibits thus inspiring people to understand and value their connection with the natural world and to live and act in ways that promote its sustainability.

Community gathering place

Through the strategic direction and operational oversight provided by the leadership of the Beaty Biodiversity Museum, the organization has made considerable strides towards becoming a community resource and gathering place to promote life-long learning and engagement in biodiversity.

Evan Hilchey

Administrative Manager

Clare Cullen

Interim Administrative Manager

Katherine Ransom

Nancy Zhang

Elsome Tsui

Ranjeet Kang

Front Counter Clerks

Through the support of the Faculty of Science, grants, donations, membership and earned income, the museum's financial health stayed strong in fiscal year 2014–2015.

Budget

in thousands of dollars

Faculty of Science Allocation	804	
Grants, Donations, and Memberships	21	
Earned Income	176	
Carry Forward FY 2013–2014	15	

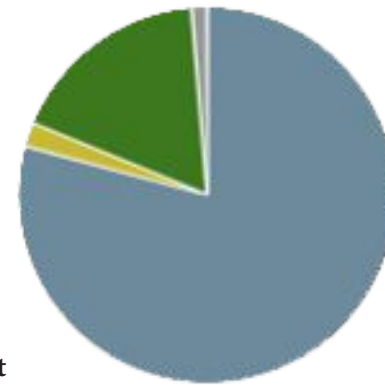
Expenses

Human Resources	982	
Operations	33	
Research and Collections	25	

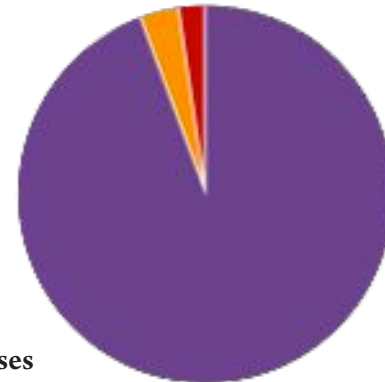
Endowment Interest

Education and Outreach	10	
Exhibits and Design	10	
Marketing, Communications, and Events	15	
Special Projects	11	
Operational Supplies and Expenses	25	
Unused Portion	7	

Budget



Expenses



Endowment Interest



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SOME OF THE FACULTY,
CURATORS, STAFF, AND STUDENTS
OF THE BEATY BIODIVERSITY MUSEUM



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