

Department of Biology Newsletter

March 18, 2019

UNIVERSITY OF VICTORIA

Baum and Juanes Labs: A shark washed up on the beach



Every aspiring young marine biologist dreams of working with sharks, so when my wife Sarah and I were sitting on the couch on the evening of February 8, and she proclaimed: “A shark washed up on the beach in North Saanich... do you want to go see it?”, I had my gumboots on and field kit ready to go within minutes. Upon arrival at Coles Bay Regional Park, we made our way down to the beach, flashlight in hand. It was dark and waves lapped on the shore as we scanned the edges of the water. The beam from our flashlight found a single glowing green eye in the distance. We had found the shark. We identified the recently deceased shark as *Hexanchus griseus*, the bluntnose sixgill. We took photos and a quick length

measurement - it was roughly 4 meters long. It was difficult to sex the large shark because of scavenging, but we suspected it to be a pregnant female based on the swollen belly. We went home and I immediately began contacting the people and agencies needed to facilitate a proper necropsy. I contacted the Department of Fisheries and Oceans (DFO) to get permission for our lab to head the investigation. While waiting for DFO approval, I went back to the site to talk with media and the public. While we were chatting about the shark, a woman lifted the shark’s pelvic fin and asked: “does this look like a birth canal?” Sure enough, the head of a shark pup could be seen inside the mother’s cloaca. With a small tug, the deceased pup came free; proving the pregnant mother theory true. The pup was brought back to the lab at the University of Victoria (UVic) for further analysis. When permission to conduct the necropsy was granted, our lab swung into action. As a research assistant in the Fisheries, Ecology, and Marine Conservation Lab at UVic, I work with a number of experts. Julia Baum and Francis Juanes supervise many Marine Ecology graduate students in a shared workspace. We learned that someone had removed the head of the shark from the site.



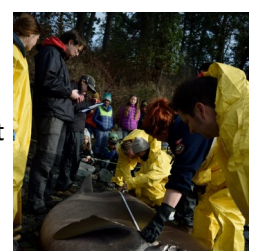
We had hoped to gain accurate length measurements, and collect the brain and eyes for further analysis, so were disappointed but undeterred... thankfully we had a rough length measurement from the initial visit to the shark two nights before. The Baum/Juanes lab team arrived at the beach and we got to work collecting samples while answering questions and sharing information with the public. It was an incredible opportunity to demonstrate science in action and for visitors to the beach who were keen to

learn more about sharks in the Salish Sea. In a few hours, 72 pups total were collected and kilograms of tissue samples were on ice. With the necropsy behind us, the work was just beginning. The next day, we all met back at the lab to organize analyses. With help from volunteers, we collected data and prepared samples including pup measurements for the DFO; tissue samples for stable isotope, fatty acid, and microplastic analysis; inspecting the mother’s gastrointestinal tract for prey and parasites; and clipping fins for DNA samples. There is still plenty to be done: samples to send, data to analyse, and papers to write; but if all of this results in new information about sixgill sharks (spoiler alert: it will), then we have done our jobs as scientists. We cannot say definitively what the cause of the mother sharks death was, and it is sad to have lost her and all her pups, but we are making the best of it by contributing scientific information about this largely unknown deep-water shark.

(By Brian Timmer, Research Assistant, Juanes lab, Biology, UVic)

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Biology Seminars, Everyone Welcome!

Biology



Dr. Patrick Walter

Adjunct Associate
Professor, Biology, UVic
and Children's Hospital,
Oakland, CA

"Treating Thalassemia and Neurodegeneration with iron chelators: why the biology of iron is important to human health"

Friday, March 15, 2019
at 3:30 pm in MSB 150

Biology



Mr. Shawn Stebbins

President and CEO
Archipelago Marine
Research, Biology
Alumnus (BSc 1984)

"My Career Path to a Canadian Archipelago"

Friday, March 22, 2019
at 3:30 pm in MSB 150

Biology



Dr. Maarten Voordouw

Assistant Professor,
Department of Veterinary
Microbiology, University of
Saskatchewan

"Lyme borreliosis and the ecology of a multiple-strain tick-borne pathogen"

Friday, March 29, 2019
at 3:30 pm in MSB 150

Calendar

Important Dates :

Friday, March 1

Friday, April 5

Monday, April 8

Friday, March 1

Friday, April 5

Friday, April 19

Monday, April 22

Saturday, April 27

Senate meets

Senate meets. Last day of classes for all faculties

Examinations begin for all faculties
second term courses without penalty

Senate meets

Senate meets. Last day of classes for all faculties

Good Friday

Easter Monday

Examinations end for all faculties. End of Winter Session



Biology Oral Examinations

Jacob Weil

MSc oral examination

Monday, March 25, 2019

9:00 am

CLE B017

Title: "Variability in the energy density of prey and its consequences for growth in juvenile Chinook Salmon"

Supervisor: Dr. Francis Juanes



Kennedy Boateng

PhD oral examination

Thursday, April 18, 2019

9:30 am

ECS 130

Title: "Red alder (*Alnus rubra*) defense mechanism against western tent caterpillar (*Malacosoma Californicum*) defoliation"

Supervisors: Drs. Barbara Hawkins and Peter Constabel

Biology Announcements

Biology Co-op

Welcome to Emma Edmunds, the new Biology and Earth and Ocean Sciences Co-op Assistant. The BIOL and EOSC co-op office is located in Cunningham room 105. Please stop by to say hello and introduce yourself.

Publications



[“Flipping for Food: The Use of a Methane Seep by Tanner Crabs \(*Chionoecetes Tanneri*\)”](#) Sarah Seabrook,

Fabio C. De Leo and Andrew R. Thurber

Journal: *Frontiers in Marine Science*, February 19, 2019

[“Size and shape matter: A preliminary analysis of microplastic sampling technique in seawater studies with implications for ecological risk assessment”](#) Garth A. Covernton, Christopher M. Pearce, Helen J. Gurney-Smith, Stephen G. Chastain, Peter S. Ross, John F. Dower, Sarah E. Dudas

Journal: *Science of The Total Environment*, June 1, 2019

[Retinal direction selectivity in the absence of asymmetric starburst amacrine cell responses](#)

Laura Hanson, Santhosh Sethuramanujam, Geoff deRosenroll, Varsha Jain, Gautam B Awatramani

Journal: *eLIFE*, February 4, 2019

Ideafest 2019



Tremendous trees: Glover greenhouse tour

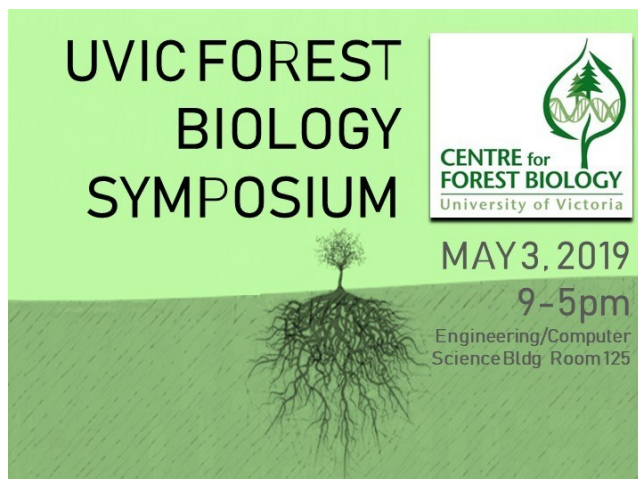


Forest Biology was thrilled to run another successful event through Ideafest, promoted by an [article in the Times Colonist](#). This year the centre hosted a tour of the Glover Greenhouse with about 140 folks, including students, community members and even a cycling group. Groups of 35 guests rotated through four stations lead by researchers and grad students while FORB staff and students managed the crowd. How rewarding to demonstrate innovative research to such a positive and receptive audience!

Inconvenient truths: Why do we reject scientific findings?

Even when the science is clear, the decision to accept scientific findings varies significantly depending on the subject. What makes us open to accept certain findings yet reluctant to accept others – like climate change, or the benefits of vaccination? Dr. Julia Baum and other UVic scientists shared their experiences of communicating with the public on controversial topics and led a discussion on how to improve the way we talk about science.

Forest Biology Symposium



The 2019 UVic Forest Biology symposium will be held at the University of Victoria on Friday, May 3, from 9:00 am to 5:00 pm in ECS 125.

Keynote speakers will include Dr. Jörg-Peter Schnitzler from the German Research Center for Environmental Health (Helmholtz Zentrum München) and Dr. Melanie Jones from the University of British Columbia - Okanagan.

Call for abstracts: Please submit your 200-word abstract for a presentation or a poster to forestbiology@uvic.ca by March 29. Registration is free and everyone is welcome. Those who wish to attend should RSVP to forestbiology@uvic.ca.

UVic Ecology Club

Ecology Club

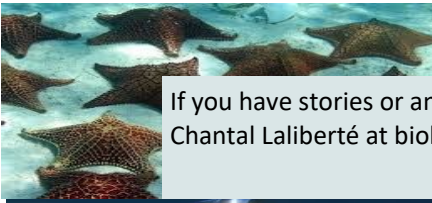
A club ran by graduate students to help connect people across disciplines. There are many departments with an ecological component and this club aims to facilitate inter-disciplinary connections and opportunities.

What Ecology Club does:

- *Hosts seminars weekly on a broad spectrum of hot topics
- *Facilitates social events throughout the school year including writing retreats
- *Supports across campus communications
- *Builds an on-line library of resources and content

If you are interested in ecology, don't hesitate to connect with the Ecology Club by joining their [list serve](#).

To learn more [click here](#).



If you have stories or announcements that would like to share for the Biology newsletter, please email Chantal Laliberté at biology@uvic.ca or Laura Alcaraz-Sehn at bioclerk@uvic.ca.



Café Scientifique

The Café Scientifique Series

Informal [talks](#) given in a relaxed setting such as a café. These talks are designed to engage the public in learning about recent research in science. The talks, which are given by experts in the field, provide an opportunity to stimulate discussion around some of the most exciting topics in modern science.

Place: Hermann's Jazz Club (753 View Street)

Doors open: 5:00pm

Event starts: 6:30 pm

March 19, 2019

["The Developing Brain: A Shapeshifting Powerhouse"](#)

by MD, PhD Candidate, Juan C. Sanchez-Arias,
Division of Medical Sciences



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