

Bryophyte Detectives (Mission “Bryo”): Answers and hints!

If you are stumped, pun intended..... More clues and answers can be found below!

Have you ever been a detective? To identify small plants such as mosses and liverworts it helps to use your detective skills. By the end of this detective activity, you will learn more about some species and this PhD project.

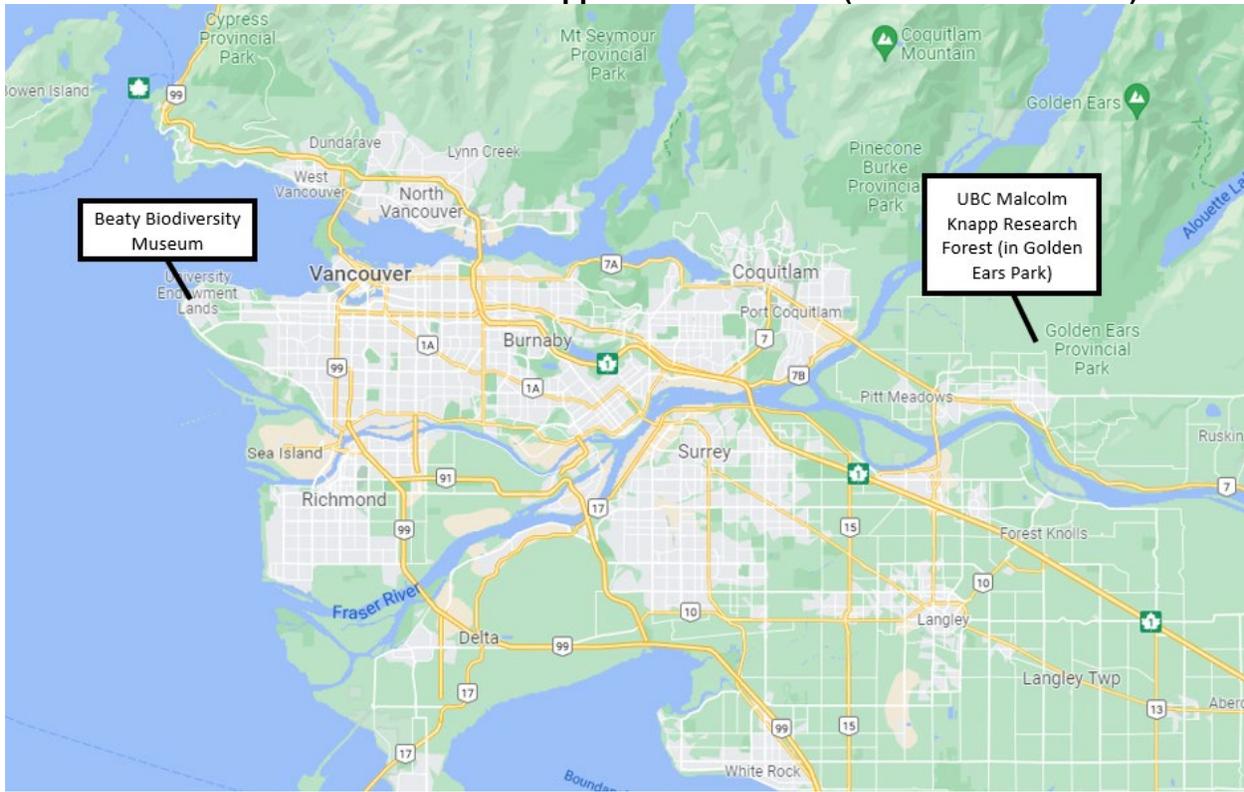
Laura collected these three mosses somewhere in the Lower Mainland.

1. Where did these bryophytes come from?

It is in a Pacific Northwest rainforest, but where and what specific name?

- Clue # 1: 49.263532, -122.5754148
- Clue # 2: The following would help find the location: 49.263532, -122.5754148 (type them into google maps!)
- Clue # 3: See latitude and longitude:
https://en.wikipedia.org/wiki/Module:Location_map/data/Canada_Vancouver_Downtown/doc
- Clue # 4: Scrambled answer:
ppaKn esarcheR roestF IcolmaM CBU

Name of the location: UBC Malcolm Knapp Research Forest (in Golden Ears Park)



*Laura Super, Harshavardhini Karthikeyan, Josh Yang
Lessons Ecology and Evolution FUNDamentals (LEEF) 2022
Nature Club January 8, 2022
Bryophyte Detectives: ANSWER GUIDE*

2. Similar to many other organisms, bryophytes of particular species are often found in particular habitats. Which habitats were these bryophytes collected in and why?

This PhD research is looking at how plants, associated organisms, and their environment are interconnected like an ecosystem.

- Clue # 1: At the base of the tree seedlings what might that be? It starts with “g” and ends with “d”!
- Clue # 2: Which one seems out of place? Tree top, tree branches, tree trunk, and ground.

Answer: Ground



3. Now we have the *background* information for the scene of the bryophytes investigation (“Mission Bryo”)! There are many species of bryophytes found in her research, but let’s use the links and videos to identify these three:

- **Species 1:**
Clue # 1: Latin name please!
Clue # 2: Common name: Step moss
Clue # 3: See links!

Answer: *Hylocomium splendens*

<https://www.inaturalist.org/observations/102800251>

<https://www.youtube.com/watch?v=4Yd3P9T5QCc>



- **Species 2:**

Clue #1: Latin name please!

Clue # 2: It is lanky and potentially cranky....

Clue # 3: See links!

[https://en.wikipedia.org/wiki/Rhytidiadelphus_loreus#/media/File:Rhytidiadelphus_loreus_\(b,_144712-474717\)_5586.JPG](https://en.wikipedia.org/wiki/Rhytidiadelphus_loreus#/media/File:Rhytidiadelphus_loreus_(b,_144712-474717)_5586.JPG)

Answer: *Rhytidiadelphus loreus*

<https://www.inaturalist.org/observations/103027695>



- **Species 3:**

Clue # 1: Latin name please!

Clue # 2: Dusky and forks anyone?

Clue # 3: See links!

Answer: *Dicranum fuscescens*

<https://www.inaturalist.org/observations/100821152>

<https://en.wikipedia.org/wiki/Dicranum>

<https://bryophyteportal.org/portal/collections/individual/index.php?occid=4584046>



Image on iNaturalist (see above)

Thank you for being good sporophytes (sports!) Please email Laura Super at phytobiomeresearch@gmail.com if you have more questions about bryophytes or phytobiome research! Check out the Phytobiome Research Working Group (and other offshoots like PhytoRCLASS here: <https://blogs.ubc.ca/phytorclass/>).