**Lab: Moss**

*Examination of the First Plants to Make it to Land*

**Background**:

**Bryophytes** include the familiar **mosses** (*Phylum Bryophyta*) plus two other phyla: the **liverworts** (*P. Hepatophyta*) and **hornworts** (*P. Anthocerophyta*).

* These plants lack any clearly differentiated tissues to transport water, nutrients and metabolites around the plant body. Although this severely limits their size, **nonvascular plants** still dominate some habitats, particularly moist temperate or cold environments. Root-like **rhizoids** provide anchorage but do not conduct water. Mosses absorb water like sponges, but can also dry out and become dormant.

**Pre-Lab**:

1. Define

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| **Rhizoids**: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Similar to: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in other plants**Phyllids: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Similar to: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in other plants**Seta: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Similar to: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in other plants**Sporangium capsule**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Similar to: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in other plants |

1. Question:

Why can we not just call them roots, leaves, and stems?

**Lab:**

Station 1: Water storage in Sphagnum, a moss



Conclusion about moss’s ability to hold water over time\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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►Station 2: Draw a single piece of moss

Draw at 1X

 1. Obtain a clump of moss, isolate a single individual from the clump using forceps, and examine it under the dissecting scope.

2. Carefully draw the plant, labeling the following structures: **rhizoids**, **phyllids**, **seta** and **sporangium capsule**.

► Post Lab Questions

**Bryophyta**:

What are these commonly known as?

Where do they live?

What adaptations allow them to have advanced to this environment?

How can they get away with not being vascular?

|  |  |
| --- | --- |
| **Where they live** | **Shape** |
|  |  |

How do they hold water?

How do they reproduce and why does it rely on water?