Execution of "Land Plant Mini-Lab"

1 week prior to Lab: distribute "Land Plant homework assignment".

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<u>Day 1</u>: Once the students are in class, they should show their plants (and tell us what they are). Next they should sort them into the five major land plant groups (stations). Since most students will arrive with examples of angiosperms, it is good to have additional examples from the other major groups. You may be able to get these from your greenhouse staff or from the woods near your home or university. As a group, label all the specimens. It may be good to have some taxonomic keys or plant (picture) guides for this step.

Once the stations are established, the students will follow the protocol as developed in the FMN. Once the morphological data have been entered into Table 2, the students should create the corresponding datafile and infer the phylogeny in Mesquite.

I had a more senior student do a small demonstration with the students using Mesquite. The students can follow along on their computers. (In my course, we had students work in pairs to enter the data table and infer the phylogeny in Mesquite).

The students printed the phylogeny and took it home with them. There they labeled the trees with the morphological transitions.

<u>Day 2:</u> The second day of class, I collected the phylogenies with the reconstructed morphological transitions labeled. (Everyone's tree was correctly labeled). From the internet, I had found 5 other land plant phylogenies. I printed these and hung them on different spots on the walls. I gave each student a small pack of sticky notes. On these notes, they wrote down comments on the different phylogenies and evaluated them. Comments concerned what they liked and disliked about the phylogenies. Then as a group we discussed the what made the figures more or less useful/interesting and how different representations of the same underlying tree (information) can lead to a different emphasis or message.