

Some notes on the final lab report

This report should consist of two parts. Both parts will use the characteristics you observed during the various laboratory exercises. These include leaves, twigs, [bark], wood, flowers, pollen grains, and fruits. Remember, that you can fill in some missing data from the web. In both parts, please provide some explicit justification for the conclusions you draw.

Part 1 Relative coherence of higher level taxa

Basically, in this part you are assessing whether Cronquist's classification or the APG (Angiosperm Phylogeny Group) one presents more coherent major groupings within the flowering plants. That is, which set of groupings has less variation within the groupings and more difference between them based on the morphological features you studied. For each group, you should summarize the range of variation in each feature among the examples that you studied. This might be done in some (fairly loosely) tabular form. Then answer the question about whether, overall, the Cronquist or the APG classification is more coherent for (better summarizes) these features.

In looking back at the “Reference classifications” handout, I noticed that Magnolianae and magnoliids are not, in fact, identical for the plants you examined, so you should include these groups as well. Therefore, the groups to be compared are:

Cronquist: Magnolianae, Hamamelidanae, Rosanae, Dillenianae, Asteranae [5 groups]

APG: magnoliids, “basal eudicots” (basal eudicots + basal rosids), rosids (eurosid Ia + Ib + II), and asterids (basal asterids + euasterids I + II) [4 groups]

Part 2 Assignment of disputed taxa

In this part you are deciding whether certain families (or groups of families) fit better in the place they are assigned in the Cronquist system or in that of the APG, based on the characters you examined. Thus, does each disputed family more closely resemble (have more in common with) the taxa you examined that are closest to it in the Cronquist system or in the APG one?

<u>Disputed families</u>	Closest orders (or families) for comparison	
	Cronquist	APG
Trochodendraceae	Magnoliales	Proteales & Saxifragales
Platanaceae	Fagales	Proteales & Saxifragales
Celtidaceae, Ulmaceae & Moraceae	Fagales	Rosaceae
Cornaceae	Sapindales & Rosales	Gentianales & Lamiales
Ebenaceae & Ericaceae	Malvales & Violales	Gentianales & Lamiales