BIOL 325 – Plants Systematics
Fall 2012

Lab 12 - Pteridophytes, part 2 (non-fern pteridophytes), and Gymnosperms, part 1

I. Families to Know on Sight (no keying allowed for lab quizzes or final)

1. Equisetaceae

   Minimum Diagnostics: Rhizomatous herbs with hollow, ribbed, silicaceous green stems; Leaves minute & inconspicuous, fused, in whorls at nodes; branches (if any) whorled or opposite; sporangia in strobilus borne terminally on aerial stem.

2. Lycopodiaceae

   Minimum Diagnostics: Stoloniferous herbs with numerous spirally arranged microphylls and dichotomously branched stems; sporangia in terminal strobili or in the axils of leaves.

3. Pinaceae

   Minimum Diagnostics: Resinous, monoecious trees or shrubs with needle-like leaves; bark not fibrous; cones elongate with flat seed-scales with free subtending bract, and 2 large, unilaterally winged, wind-dispersed seeds.

II. Genera to Know (you can write your own key to genera and use on lab final)

A. Equisetaceae
1. *Equisetum*

B. Lycopodiaceae
2. *Diphasiastrum*
3. *Huperzia*
4. *Lycopodium*

C. Ginkgoaceae
5. *Ginkgo*

D. Pinaceae
6. *Abies*
7. *Cedrus*
8. *Larix*
9. *Picea*
10. *Pinus*
11. *Pseudotsuga*
12. *Tsuga*

III. Economic Notes

Ginkgo is an important ornamental tree, particularly in urban areas where it can tolerate the harsh conditions of compacted soil and sidewalk planting. Ginkgo leaf extract or ground up leaves comprise a popular herbal supplement thought to increase blood flow to the brain and therefore clarity of thought. Many members of the Pinaceae are valued ornamentals and many are important in the lumber or timber industry (e.g., most lumber comes from species of *Pinus* or *Pseudotsuga*).