BIOL 325 – Plants Systematics
Fall 2012

Lab 03 - Ranunculids, Proteids, & Caryophyllids

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

A. Ranunculids

1. Ranunculaceae

   Minimum Diagnostics: Herbs to vines with simple, lobed, to dissected leaves with sheathing base with membranous margins; Perianth poorly differentiated, of variable merosity; Stamens many; Carpels several to many and free - often on a convex receptacle.

B. Caryophyllids

2. Polygonaceae

   Minimum Diagnostics: Herbs or vines (shrubs to small trees) with simple leaves and ocreae; nodes swollen, stems jointed in appearance.; Flowers small, fruit a trigonal or lens-shaped nut surrounded by persistent perianth.

3. Cactaceae

   Minimum Diagnostics: Stem-succulent herbs to shrubs lacking leaves with expanded blades; axillary buds (areoles) with clustered spines; Flowers large, showy, with many spirally arranged tepals, many stamens, and inferior ovary with areoles on the surface.

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

A. Ranunculids

Ranunculaceae
- *1. Ranunculus*
- *2. Clematis*

Berberidaceae
- *3. Berberis*
- *4. Podophyllum*

B. Proteids

Platanaceae
- *5. Platanus*

C. Caryophyllids

Polygonaceae
- *6. Persicaria*
- *7. Rumex*

Amaranthaceae
- *8. Chenopodium*

Cactaceae
- *9. Opuntia*
- *10. Cylindropuntia*
- *11. Cereus* (sensu lato)

Phytolaccaceae
- *12. Phytolacca*

III. Some Economic Botany

- Some important edible members include prickly-pear (Cactaceae), poppy seeds (Papaveraceae), rhubarb and buckwheat (Polygonaceae), beets, quinoa and spinach (Amaranthaceae).

- Cactaceae includes 1600 species, all of which are cultivated here or there and greater than 99% are protected through the Convention on the International Trade in Endangered Species (CITES; www.cites.org).