

Lab 02 - Nymphaeids & Magnoliids

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

A. Nymphaeids

1. Nymphaeaceae

Minimum Diagnostics: Aquatic herbs with floating, cordate, hastate or peltate blades; Flowers large, showy, solitary & scapose, with many spirally arranged parts and poor differentiation between organ classes; Fruit a spongy berry or spongy, irregularly dehiscent capsule.

B. Magnoliids

2. Magnoliaceae

Minimum Diagnostics: Trees/Shrubs with circular, stipular scars at nodes; Flowers large, showy, solitary, with many spirally arranged parts on elongate receptacle; Parts generally spicy, aromatic; Fruit an aggregate of follicles or samaras.

3. Lauraceae

Minimum Diagnostics: Trees/shrubs with strongly aromatic bark and leaves; Flowers small, whorlar, 3-merous, with yellow-green or white tepals and valvate anthers; Fruit a single seeded berry or drupe.

4. Piperaceae

Minimum Diagnostics: Herbs, small trees or lianas with peppery aroma; Flowers minute, reduced, perianth absent, in narrow spadix; Fruit small 1-seed drupe with aromatic mesocarp.

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

A. Nymphaeids

Nymphaeaceae

1. *Nymphaea*

2. *Nuphar*

Cabombaceae

3. *Brasenia*

B. Magnoliids

Magnoliaceae

4. *Magnolia*

5. *Liriodendron*

Annonaceae

6. *Asimina*

Lauraceae

7. *Lindera*

8. *Sassafras*

Piperaceae

9. *Peperomia*

III. Some Economic Botany

- Nymphaeids are all aquatic. Many, such as water-lilies, are of great horticultural import.
- Magnoliids characterized by special ethereal oil cells in most parts, and these oils are responsible for many of our spices.
- From Lauraceae, commercially important spices or fruit from *Cinnamomum* (cinnamon), *Laurus* (bay laurel), & *Persea* (avocado). *Sassafras* still important today, but nowhere near its import during the colonial period when it was the first large export from colonial America.
- From Piperaceae, important spice black and white pepper (*Piper nigrum*).