Asterids comprise a major angiosperm clade consisting of more than 100,000 species. As eudicots, they possess triaperturate pollen. Asterids share a common ancestor with the rosids that evolved from the basal eudicot grade. Like those of the rosids, asterid flowers are tetra- or pentamerous. In contrast to the rosids, there is a strong tendency in asterid flowers towards fusion of sepals and petals, epipetalous stamens and a reduction in stamen number to as many as or fewer than the petals. We will survey the asterids this semester in three parts due to the large number of taxa we wish to study.

I. Asterids Part 1

A. Families to Know on Sight

1. Lamiaceae or Labiatae (mint family) - p. 799

Summary: Aromatic herbs with quadrangular stems and opposite leaves, small to large bilabiate corollas, and schizocarpic fruits of 4 nutlets.

Generalized Flora Formula: \( Ca^5[Co^5, \text{bilabiate} A^{2+2}, \text{epipetalous}] G^{[2]}, \text{gynobasic style}, \text{fl strongly irregular} \)

2. Solanaceae (nightshade family) - p. 844

Summary: Poisonous (various parts when ingested) herbs, shrubs or vines with simple to compound leaves, salverform to rotate corollas, and berry (like a chili or tomato) or capsular (e.g., jimsonweed, tobacco) fruits.

Generalized Flora Formula: \( Ca^5[Co^5, \text{salverform or rotate} A^5, \text{epipetalous, connivent anthers}] G^{[2]}, \text{fl regular} \)

B. Genera to Know (you can write your own key to genera)

Plantaginaceae – p. 782

1) Plantago
2) Veronica

Lamiaceae – p. 799

3) Glechoma
4) Lamium
5) Mentha
6) Nepeta
7) Ocimum

C. Solanaceae – p. 844

8) Petunia
9) Physalis
10) Solanum
11) Capsicum

D. Scrophulariaceae – p. 827

12) Buddleja

C. Economic Botany

1. Solanaceae (the nightshade family) with many important members: Solanum includes tomato, potato, and eggplant; Capsicum includes the chili peppers; Physalis includes ground-cherries and tomatillo; Petunia is famous for its garden flowers.

2. Lamiaceae (the mint family) with many important herbs and ornamentals: Mentha is the mint genus; Ocimum basilicum is basil; Origanum vulgare is oregano; Nepeta cataria is catnip; Lavandula angustifolia is lavender; Monarda includes bergamont; Rosmarinus officinalis is rosemary; Thymus vulgaris is thyme.