Convolvulaceae - morning-glory family

*Ipomoea purpurea* 
Morning-glory: cultivated

Flowers strongly funnelform with plicate corolla tube (with fold lines). Fruit usually capsular.

CA 5  CO (5)  A 5  G (2)

Convolvulaceae - morning-glory family

*Convolvulus - bindweed*

Largely tropical family of 55 genera and nearly 2000 spp. Twining herbs with alternate leaves.

*Convolvulus arvensis* 
Field bindweed
Note: no floral bracts

*Calystegia sepium* 
Hedge bindweed
Note: 2 large bracts below calyx

*Cuscuta* spp. - dodder

*Cuscuta (Cuscutaceae)* is actually part of the Convolvulaceae!

- Twining habit (for support) has gone one step further and species are now parasitic (support = food = water; no chlorophyll)

Convolvulaceae - morning-glory family
Cuscutaceae - dodder family

Cuscuta gronovii
Common dodder

Cuscuta glomerata
Rope dodder

Boraginaceae - borage family

Widely distributed, large family of alternate leaved plants. Typically hairy. Typically possess helicoid or scrospioid cymes = compound monochasium. Many are poisonous or used medicinally.

Mertensia virginica - Eastern bluebells

Boraginaceae - borage family

CA (5)  CO (5)  A 5  G (2)

Gynobasic style: not terminal style which is usual in plants; this feature is shared with the mint family (Lamiaceae) which is not related

Myosotis - forget me not

2 carpels each with 2 ovules are separated at maturity and each further separated into 1 ovuled compartment

Fruit typically 4 nutlets

Boraginaceae - borage family

Myosotis - forget me not

Echium vulgare
Blueweed, viper’s bugloss
adventive
**Boraginaceae - borage family**

*Hackelia virginiana*
Beggar’s-lice

*Mathosia scorpioides*
Common forget-me-not

*Lithospermum canescens*
Hoary puccoon

*Lithospermum incisum*
Fringed puccoon

*Mertensia virginica*
Eastern bluebells

Botany 401 final field exam plant!
Hydrophyllaceae - waterleaf family

Similar to Boraginaceae with distinctive hairs and now placed within it.
Style terminal, not gynobasic; leaves compound or lobed and “water-marked”

Hydrophyllum virginianum - Common waterleaf
Botany 401 final field exam plant!

Oleaceae - olive family

- Woody plants, opposite leaves
- 4 merous actinomorphic or regular flowers

Syringa vulgaris - Lilac cultivated

Oleaceae - olive family

- Woody plants, opposite leaves
- 4 merous actinomorphic or regular flowers

Forsythia suspensa - Goldenbell, forsythia introduced

Ligustrum vulgare - European privet planted, invasive

Oleaceae - olive family

- Ashes have compound leaves, other genera are simple
- Ashes have diamond-shaped furrows on the bark
- Ashes are unisexual, other genera are bisexual

Fraxinus pennsylvanica - Red, green ash

Male flowers
Female flowers
Oleaceae - ash family

- Ashes have 1-seeded samaras
- Note opposite, compound leaves and furrowed bark

Fraxinus americana
White ash

Lamiaceae - mint family

- Strong odors (mint, peppermint, sage, rosemary)
- Squarish stems with opposite leaves
- Flowers in verticels = clustered flowers at a node

Lamiaceae - mint family

- Strongly 2-lipped corolla with 4 or 2 stamens inserted
- Bilabiate — family is called Labiatae
Lamiaceae - mint family

CA (5) CO (2+3) A 4.2 G (5)

- 2 carpels but gynobasic as in Boraginaceae
- 4 nutlets

Glechoma hederacea - creeping charlie
Naturalized and invasive

Leonurus cardiaca - motherwort, naturalized
Cardiac glycosides such as leonuridin

Lycopus americanus
Water horehound

Lycopus uniflorus
Water horehound
Lamiaceae - mint family

Monarda punctata - horsemint, spotted bee-balm

Monarda fistulosa - bee-balm, wild bergamot

Lamiaceae - mint family

Nepeta cataria - catnip

Prunella vulgaris - selfheal

Lamiaceae - mint family

Scutellaria parvula - skullcap

Salvia - sage (ornamental)

Verbenaceae - vervain family

Verbena hastata - Blue vervain

• Like Lamiaceae
• Squarish stems with opposite, serrate leaves
• Inflorrescence often spike-like
• Flowers with terminal style, not lipped
• Fruits usually nutlets (but not gynobasic) or drupes

CA (5)  CO (5)  A 4  G (2)
**Verbenaceae - vervain family**

*Verbena stricta* - Hoary vervain

*Phyla lanceolata* - Fogfruit

*Phyma leptostachya* - Lopseed