# BIOL 301 – Plant Taxonomy

**THE TAXONOMIC HIERARCHY**

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| **Taxonomic Category** | **Example (taxon)** |
| Domain | Eukarya = all eukaryotic organisms |
| Kingdom  | Plantae, also Metaphyta = all plants  |
| Division (phylum)  | Magnoli**ophyta** = all angiosperms (**note** standard suffix) |
| Class  | Lili**opsida** = all monocots |
| Subclass | Lili**idae** = related orders (Asparagales, Liliales, etc) |
| Order | Asparag**ales** = related families (Orchidaceae, Iridaceae, etc) |
| Family | Orchid**aceae** = related genera (*Platanthera*, *Spiranthes*, etc) |
| Genus | *Platanthera* = related species (*P*. *ciliaris*, *P*. *integra*, etc) |
| Specific name/epithet | *ciliaris* = one species |

**MAJOR PLANT DIVISIONS**

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| **Group** | **1st Evolved** | **Divisions** | **~ # of species** |
| Bryophytes | ~ 425 mya | Bryophyta = the mosses |  10,000 |
|  |  | Hepatophyta = the liverworts |  6,500 |
|  |  | Anthocerophyta = the hornworts |  100 |
| Ferns and allies | ~ 400 mya | Pterophyta = ferns  |  12,000 |
|  |  | Lycophyta = club mosses |  1,000 |
|  |  | Sphenophyta = horsetails |  15 |
|  |  | Psilophyta = whiskferns |  10 |
| Gymnosperms | ~ 360 mya | Coniferophyta = conifers such as pines and cedars |  550 |
|  |  | Cycadophyta = cycads and sago palms |  100 |
|  |  | Gnetophyta = gnetums |  70 |
|  |  | Ginkgophyta = ginkgo |  1 |
| Angiosperms | ~ 142 mya | Anthophyta = flowering plants (2 classes = monocots and eudicots + 2 emerging classes – paleoherbs and magnoliids) | 250,000 |