# 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 |