

LAURACEAE

Laurel family

1. **Trees or shrubs** (occasionally vines, including the parasitic vine *Cassytha*)
2. **Ethereal (aromatic) oils** present'
3. **Leaves simple** (occasionally lobed), **alternate** and spiral, **entire**, pinnate.
4. **Flowers** bisexual or unisexual (then dioecious), **actinomorphic**, usually small; **tepals usually 6**; stamens 3-12 (in whorls of 3); **anthers opening by 2-4 flaps**; **one carpel** with single ovule; ovary superior
5. **Fruit a drupe**, or occasionally a one-seeded berry
6. 50 genera; 2500 species
7. Examples: *Cinnamomum* (cinnamon), *Laurus* (laurel; bay leaves) *Persea* (avocado), *Sassafras*, *Umbellularia* (California bay)

Notes:

HAMAMELIDACEAE

Witch Hazel family

1. **Shrubs or trees**
2. **Stellate hairs**
3. **Leaves simple, alternate, entire** to serrate; venation pinnate or palmate
4. **Flowers bisexual or unisexual** (then monoecious), **actinomorphic**, showy or inconspicuous; **sepals 4 or 5; petals 4 or 5 or lacking; stamens 4 or 5, alternating with staminodes**, or numerous; **anthers usually opening by two flaps; carpels 2, partially connate; ovary half-inferior to inferior**; styles distinct; ovules 1 to several per carpel.
5. **Fruit a capsule with woody exocarp** and bony endocarp
6. 25 genera; 80 species
7. Examples: *Corylopsis* (winter hazel), *Hamamelis* (witch hazel), *Fothergilla*, *Parrotia*

Notes:

GERANIACEAE

Geranium family

1. **Herbs to subshrubs**
2. Hairs usually simple, glandular with **aromatic oils**
3. **Leaves alternate or opposite, palmately veined**, simple, lobed or compound
4. **Flowers bisexual, actinomorphic or zygomorphic; sepals 5; petals 5; stamens (5-) 10-15; carpels 5, connate; ovary superior**, with axile placentation, and **persistent, sterile column in center that elongates after the flower is pollinated**; style one; ovules 2 per locule
5. **Fruit a schizocarp** with 5 one-seeded segments that separate from the central column, often opening from the base.
6. 7 genera; 750 species
7. Examples: *Geranium*, *Pelargonium* (the cultivated 'geraniums'), *Erodium* (storksbill)

Notes:

EUPHORBIACEAE

Spurge family

1. **Herbs, shrubs, small trees; some succulent and cactus-like**
2. **Milky latex** often present (poisonous)
3. **Leaves alternate, simple, lobed or compound**, entire to serrate, with pinnate or palmate venation; stipules present
4. **Inflorescence often highly modified, forming pseudanthium** (false flower) called 'cyathium' in *Euphorbia*
5. **Flowers unisexual** (plants dioecious or monoecious), **actinomorphic**, often inconspicuous; sepals usually 5, petals 5, or often absent; stamens 1 to many; **carpels 3, connate; ovary 3-lobed, superior**, with axile placentation; **styles 3, entire or bifid** to several times divided; ovules 1-2 per locule
6. **Fruit a schizocarp** with 3 segments (mericarps) dehiscent from a persistent central column
7. 307 genera; 6900 species
8. Examples: *Euphorbia* (spurge, poinsettia), *Croton*, *Hevea* (rubber), *Manihot* (cassava, manioc, yuca)

Notes:

CORNACEAE

Dogwood family

1. **Trees or shrubs**
2. Hairs often Y or T-shaped
3. **Leaves simple, opposite** (rarely alternate), **entire** (sometimes serrate), with **pinnate** to +/- palmate venation; **secondary veins usually arching from base to tip and elastic** (dogwood 'test'); no stipules
4. **Inflorescences terminal often with enlarged showy bracts**
5. **Flowers bisexual or unisexual** (dioecious or monoecious), actinomorphic; **sepals 4** (sometimes 5), often simply small teeth or lacking; **petals 4** (sometimes 5); **stamens 4-10**; carpels 2 or 3, connate; **ovary inferior** with axile placentation; stigma capitate, lobed or elongate; ovules 1 per locule; nectary disk on top of ovary
6. **Fruit a 1 to few-seeded drupe**
7. 13 genera; 130 species
8. Examples: *Cornus* (dogwood), *Davidia* (dove tree), *Nyssa* (tupelo)

Notes:

APOCYNACEAE

Dogbane/Milkweed family

1. **Trees, shrubs, lianas, vines, herbs; sometimes succulent**
2. **Milky latex** often present
3. **Leaves usually opposite** (sometimes alternate or whorled), entire, pinnate; stipules lacking or small
4. **Flowers bisexual, actinomorphic**; sepals usually 5, connate; **petals usually 5, connate**, often with a corona at apex of tube, with **lobes contorted** (twisted) or imbricate (overlapping) in bud; **stamens 5, epipetalous**; filaments short, sometimes connate; **anthers often highly modified, distinct or variously connate in a ring and adnate to the style** (former Asclepiadaceae); **pollen loosely sticking together by means of viscin, or even tightly massed into 'pollinia' for dispersal together** (former Asclepiadaceae); in the latter case, structures ('translators') connect pollinia from adjacent anthers; **carpels 2, connate by styles, but ovaries usually distinct; apical portion of style expanded and highly modified**; ovules 2-many
5. **Fruits of paired follicles**, berries or drupes; seeds flattened often with tuft of hairs
6. 355 genera; 3700 species
7. Examples: *Asclepias* (milkweeds), *Hoya*, *Vinca* (periwinkle), *Catharanthus* (Madagascar periwinkle), *Nerium* (oleander), *Plumeria* (frangipani), *Stapelia* (carrion flower)

Notes:

OLEACEAE

Olive family

1. **Trees, shrubs, lianas**; buds on stems 2-several and superposed.
2. **Leaves opposite, simple, pinnately compound, or trifoliolate**, entire to serrate, with **pinnate venation**; stipules absent
3. **Flowers bisexual** (rarely unisexual, then dioecious), **actinomorphic**; sepals 4, connate (rarely lacking), **petals 4** (rarely more numerous or lacking), **connate**; **stamens 2, epipetalous**; **carpels two, connate**; **ovary superior**, with axile placentation; stigma 2-lobed or capitate; ovules usually 2 per locule; nectar disk often present
4. **Fruit a capsule, samara, berry, or drupe**, often one seeded
5. 25 genera; 600 species
6. Examples: *Jasminum* (jasmine), *Forsythia*, *Fraxinus* (ash), *Ligustrum* (privet), *Syringa* (lilacs), *Olea* (olive)

Notes:

BROMELIACEAE

Bromeliad family

1. **Herbs, usually epiphytic**
2. **Hairs as water-absorbing peltate scales**, or occasionally stellate
3. **Leaves alternate, often forming water ‘tanks’ at leaf base**, simple, entire to sharply serrate, with parallel venation, water storage tissue, **sheathing leaf bases**; stipules absent
4. **Flowers bisexual, actinomorphic; sepals 3**, free or connate; **petals 3**, free or connate, often with paired appendages at base; **stamens 6**; filaments free or connate, sometimes epipetalous; **carpels 3, connate; ovary superior to inferior**, with axile placentation; **stigmas 3, usually spirally twisted**; ovules numerous
5. **Fruit a capsule or berry**; seeds often winged or with tuft of hair
6. 51 genera; 1520 species
7. Examples: *Ananas* (pineapple), *Guzmania*, *Tillandsia* (spanish moss), *Vriesia*

Notes:

ARECACEAE

Palm family

1. **Trees or shrubs with unbranched trunks**; occasionally rhizomatous; apex of stem with large apical meristem
2. **Leaves alternate**, simple and entire, but **usually splitting in a pinnate or palmate fashion to appear deeply lobed or compound**; plicate in bud; stipules lacking
3. Inflorescences often compound, terminal or lateral
4. **Flowers bisexual or unisexual** (dioecious or monoecious), **actinomorphic**; **sepals 3** free to connate; **petals 3** free to connate; **stamens 3 or 6 or many**; filaments free or connate, may be epipetalous; **carpels 3** (occasionally more), **often appearing to be one through abortion, free to connate**; **ovary superior**; **ovules 1 per locule**
5. **Fruit a drupe**
6. 200 genera; 2780 species
7. Examples: *Cocos* (coconut palm), *Phoenix* (date palm), *Roystonea* (royal palm), *Washingtonia* (California fan palm)

Notes: