

An overview of the lineages of the flowering plants

Flowering Plants - Angiosperms

Basal Angiosperms – three lineages

Magnoliids

Monocots

Basal Monocots

Core Monocots

Commelinid Monocots

Eudicots

Basal Eudicots

Core Eudicots

Superrosids

Saxifragales

Rosids

Fabids [also called eurosids I]

Malvids [also called eurosids II]

Core Eudicots

Superasterids

Santalales

Caryophyllales

Asterids

Cornales

Ericales

Lamiids [also called euasterids I]

Campanulids [also called euasterids II]

Notes for the following pages

Lineages that have common food plants are shown **in this font**. Families with names in **bold font** are major sources of food in the US.

() hold names of food plants

{ } hold names of non-food plants of interest

[] hold plant features and other comments

This list is not exhaustive. It concentrates on plants grown or eaten in the USA. Many food plants used in countries outside the USA are omitted. The non-food plant listings small samples that are meant to help you understand the families. You are encouraged to find more information about angiosperm families on your own.

Name endings for Linneaeen ranks

Orders end in -ales

Families end in -aceae

Subfamilies end in -oideae

Tribes end in -eae

Angiosperms, the flowering plants – emphasizing food plants

Basal Angiosperms

Amborellales – the earliest branch of flowering plants, a shrub native to New Caledonia –
Amborella

Nymphaeales – Nymphaeaceae, the water lily family {pond lily}

Austrobaileyales - Schisandraceae (star anise – *Illicium verum*) {wild sarsaparilla, star vine –
Schisandra; Japanese kudsuru – *Kudsuru*; anise tree [poisonous] – *Illicium parvaflorum*}

Magnoliids

Piperales

Piperaceae, the black pepper family (black pepper, kava – *Piper*) {*Peperomia*
houseplants}

Aristolochiaceae, the Dutchman’s pipe family {little brown jugs, wild ginger – *Asarum*}

Magnoliales

Myristicaceae, the nutmeg family (nutmeg, mace – *Myristica fragrans*)

Magnoliaceae, the magnolia family {magnolias – *Magnolia*; tulip tree – *Liriodendron*}

Annonaceae, the custard apple family (paw-paw – *Asimina*; soursop – *Annona*)

Laurales

Calycanthaceae {*Calycanthus* – Carolina spicebush, eastern sweetshrub}

Lauraceae, the laurel family (bay leaves – *Laurus*; avocado – *Persea*; cinnamon –
Cinnamomum) {spice bush – *Lindera*; *Sassafras*}

Monocots

Basal Monocots

Acorales – Acoraceae, the sweet flag family

Alismatales

Araceae, the arum and duckweed family (taro – *Colocasia esculenta*) {duckweed;
Anthurium; *Pothos*; *Dieffenbachia*; skunk cabbage}

Alismataceae, the water plantain family (duck potato, arrowhead – *Sagittaria*)

Zosteraceae, the eel grass family

Potamogetonaceae, the pondweed family

Core Monocots

Dioscoreales

Dioscoreaceae, the tropical yam family (tropical yam, air potato – Dioscoreaceae)

Nattheciaceae, the colic-root family

Pandanales

Cyclanthaceae {Panama hat plant – *Carludovica*}

Pandanaceae, the screw “palm” family {tropical palm-like trees – *Pandanus*}

Liliales

Melanthiaceae, the trillium family

Alstroemeriaceae, the alstroemeria family

Colchicaceae, the colchicum family {autumn crocus – *Colchicum*}

Smilacaceae, the catbrier family [has tendrils and thorns]

Liliaceae, the lily family {tulips, lilies, fritillarias}

Asparagales

Orchidaceae, the orchid family (*Vanilla*)

Iridaceae, the iris family [has three stamens] (saffron crocus - *Crocus sativus*) {*Iris*,
Gladiolus, *Crocus*}

Asphodelaceae, the asphodel family

Asphodeloideae, the aloe subfamily

Hemerocallioideae, the daylily and New Zealand flax family

Amaryllidaceae, the amaryllis family

Agapanthoideae, the agapanthus subfamily

Allioideae, the onion subfamily (onion, leeks, garlic, chives – *Allium*)

Amaryllidoideae, the amaryllis subfamily {amaryllis, daffodil}

Asparagaceae, the asparagus family

Agavoideae, the agave and hosta subfamily (agave syrup – *Agave*)

Scilloideae, the hyacinth subfamily

Asparagoideae, the asparagus subfamily (asparagus – *Asparagus officinalis*)

Nolinoideae, the sansevieria subfamily {*Dracaena*, lily-of-the-valley}

Commelinid Monocots

Arecales

Arecaceae or Palmae, the palm family (dates – *Phoenix dactylifera*; coconuts -
Cocos nucifera; palm oil - *Elaeis*)

Commelinales

Commelinaceae, the dayflower family

Pontederiaceae, the water hyacinth family

Haemodoraceae, the kangaroo paw family

Zingiberales [secondary veins are parallel with each other, but not to the midvein]

Strelitziaceae, the bird of paradise family

Heliconiaceae, the heliconia family

Musaceae, the banana family (bananas – *Musa*)

Cannaceae, the canna family

Marantaceae, the prayer plant family (arrowroot – *Maranta arundinacea*)

Costaceae, the costus family

Zingiberaceae, the ginger family (ginger – *Zingiber*; turmeric – *Curcuma*;
cardamom – *Amomum*, *Elettaria*)

Poales

Typhaceae, the cattail family

Bromeliaceae, the bromeliad family (pineapple – *Ananas comosus*)

Xyridaceae, the yellow-eyed grass family

Juncaceae, the rush family

Cyperaceae, the sedge family (water chestnut – *Eleocharis dulcis*) {papyrus}

Poaceae or Gramineae, the grass and bamboo family (oats – *Avena*; barley – *Hordeum*; rice – *Oryza*; wild rice – *Zizania*; rye – *Secale*; wheat – *Triticum*; corn – *Zea mays*; sugarcane – *Saccharum*; bamboo shoots from several genera, others)

Minor taxon – probable sister to eudicots

Ceratophyllales

Ceratophyllaceae {aquarium plants: coontail, hornwort – *Ceratophyllum*}

Eudicots [also called tricolpates, from the three openings of the pollen]

Basal Eudicots

Ranunculales

Papaveraceae, the poppy family (poppy seeds – *Papaver*)

Fumarioideae, the fumitory subfamily {bleeding heart, squirrel corn}

Menispermaceae, the moonseed family

Berberidaceae, the barberry family {mayapple, twinleaf}

Ranunculaceae, the buttercup family {columbine,

Proteales

Nelumbonaceae, the lotus family (lotus root, lotus seeds – *Nelumbo*)

Platanaceae, the plane tree family

Proteaceae, the protea family (macadamia nuts – *Macadamia*)

Buxales

Buxaceae, the boxwood family

Core Eudicots - Superrosids

Saxifragales

Paeoniaceae, the peony family

Altingiaceae, the sweet gum family

Cercidiphyllaceae, the katsura tree family

Hamamelidaceae, the witch hazel family

Grossulariaceae, the currant and gooseberry family (currant, gooseberry – *Ribes*)

Saxifragaceae, the saxifrage family

Crassulaceae, the stonecrop or crassula family {jade plant}

Haloragaceae, the water-milfoil family

Rosids

Vitales

Vitaceae, the grape family (grapes – *Vitis*)

Fabids (Eurosids I)

Zygophyllales

Zygophyllaceae, the creosote bush or caltrops family

NITROGEN-FIXING CLADE (nitrogen-fixing lineages marked*)

Fabales*

Fabaceae* or Leguminosae* – the legume family

Basal lineages: Subfamily Cercidideae, the redbud and orchid tree subfamily
Caesalpinioideae), the caesalpinia subfamily { *Caesalpinia**5% }

Mimosoid clade (*92%) the mimosa and acacia lineage { gum arabic }

Detarioideae, the tamarind subfamily (tamarind – *Tamarindus*)

Faboideae (*97%), **the bean and pea subfamily** (beans – *Phaseolus*; peas –
Pisum; garbanzo bean, chick-pea – *Cicer*; soybean – *Glycine*; lentils – *Lens*;
peanut – *Arachnis*; carob – *Ceratonia*; jicama – *Pachyrhizus*)

Polygalaceae, the milkwort family

Rosales

Rosaceae*, **the rose family** (apples – *Malus*; pears – *Pyrus*; cherries, peaches, plums,
almonds – *Prunus*; strawberries – *Fragaria*; blackberries, raspberries – *Rubus*)

Elaeagnaceae*, the Russian olive family (buffalo berry – *Shepherdia*)

Rhamnaceae*, the buckthorn family (jujube – *Ziziphus*)

Ulmaceae, the elm family

Cannabaceae, the hemp family { marijuana – *Cannabis*; hops – *Humulus* }

Moraceae, **the fig and mulberry family** (figs – *Ficus carica*; mulberry – *Morus*;
breadfruit, jackfruit – *Artocarpus*)

Urticaceae, the nettle family

Fagales

Fagaceae, **the oak family** (chestnut – *Castanea*)

Myricaceae*, the wax myrtle family

Juglandaceae, **the walnut family** (walnut – *Juglans*; pecan, hickory – *Carya*)

Casuarinaceae* the casuarina or Australian “pine” family

Betulaceae*, **the birch and alder family** (hazelnut, filbert – *Corylus*)

Cucurbitales* [Families of this order that are nitrogen-fixers – Coriariaceae and Datisceae.]

Begoniaceae, the begonia family

Cucurbitaceae, **the cucumber, squash, and gourd family** (squashes, pumpkin –
Cucurbita; watermelon – *Citrullus vulgaris*; cucumber, other melons – *Cucumis*)

[end of nitrogen-fixing clade]

Celastrales

Celastraceae, the bittersweet family

Oxalidales

Oxalidaceae, the oxalis family (star fruit – *Averrhoa*; oca – *Oxalis tuberosa*)

Cephalotaceae, the Australian pitcher plant family

Malpighiales

Rhizophoraceae, the red mangrove family

Erythroxylaceae, the cocaine family

Malpighiaceae, the Barbados cherry family (acerola - *Malpighia*)

Passifloraceae, the passionflower family (passion fruit, maypops – *Passiflora*)

Salicaceae, the willow and cottonwood family

Violaceae, the violet family

Euphorbiaceae, the spurge family (cassava, tapioca – *Manihot esculenta*)

{ poinsettia, castor oil plant, rubber tree }

Linaceae, the flax family

Clusiaceae or Guttiferae, the garcinia family (mangosteen)

Hypericaceae, the St. John's wort family { pineweed }

Malvids (Eurosids II)

Geraniales

Geraniaceae, the geranium family

Myrtales

Combretaceae, the white mangrove family (tropical almond – *Terminalia*)

Lythraceae, the loosestrife family (pomegranate – *Punica granatum*)

Onagraceae, the evening primrose and fuchsia family

Myrtaceae, the myrtle and guava family (guava – *Psidium*; pineapple guava (feijoa) – *Acca*; allspice – *Pimenta*; clove – *Syzygium*)

Sapindales

Burseraceae, the frankincense and myrrh family

Anacardiaceae, the mango and poisonwood family (cashew nut – *Anacardium*; mango – *Mangifera*; pistachio nut – *Pistacia*) { sumac, poison ivy, poison oak }

Sapindaceae, the maple, horse chestnut, and soapberry family

Dodonaeoideae, the hopbush and velvet-fruit subfamily

Hippocastanoideae, the maple and horse chestnut subfamily (maple sugar, maple syrup – *Acer saccharum*)

Sapindoideae, the soapberry subfamily (lychee, longan, rambutan, several other tropical fruits)

Rutaceae, the citrus and rue family (orange, lemon, lime, grapefruit, etc. – *Citrus*)

Simaroubaceae, the tree-of-heaven family { *Ailanthus* }

Meliaceae, the mahogany and neem family

Malvales

Malvaceae – the cotton and hibiscus family

Byttnerioideae, the chocolate subfamily (chocolate – *Theobroma*)

Sterculioideae, the flame tree subfamily

Tilioideae tribe, the linden and basswood tree family

Malvoideae, the cotton and hibiscus (okra – *Abelmoschus*; hibiscus tea)

Bombacoideae, the baobab subfamily (durian fruit – *Durio*)

Thymelaeaceae, the daphne family

Bixaceae, the lipstick tree family (annatto – *Bixa*)

Cistaceae, the rock-rose family

Brassicales

Tropaeolaceae, the nasturtium family

Caricaceae, the papaya family (papaya – *Carica*)

Capparaceae, the caper family (capers – *Capparis*)

Cleomaceae, the spider-flower family

Brassicaceae or Cruciferae, the mustard family (cabbage, kale, broccoli, cauliflower, turnip, rutabaga, canola, collards, bok choy, mustard seed – *Brassica*; radish – *Raphanus*; horseradish – *Amoracia*; arugula – *Eruca*; wasabi – *Wasabia*)

Core Eudicots - Superasterids

Santalales

Santalaceae, the sandalwood and Christmas mistletoe family

Loranthaceae, the showy mistletoe family [Southern Hemisphere]

Caryophyllales

Droseraceae, the sundew and flytrap family

Nepenthaceae, the Asian pitcher plant family

Tamaricaceae, the tamarix family

Plumbaginaceae, the statice family

Polygonaceae, the knotweed family (buckwheat – *Fagopyrum*; rhubarb – *Rheum*; sorrel – *Rumex*; sea grape – *Coccoloba*)

Simmondsiaceae, the jojoba family

Caryophyllaceae, the pink or carnation family

Amaranthaceae, the amaranth and goosefoot family (beets, chard, sugar beet – *Beta*; spinach – *Spinacia*; quinoa, lamb's quarter – *Chenopodium*; amaranth seeds and leaves – *Amaranthus*)

Aizoaceae, the iceplant family (New Zealand spinach – *Tetragonia*) {living stones – *Lithops*}

Phytolaccaceae, the pokeweed family (pokeweed – *Phytolacca*. NOTE: poisonous unless properly cooked)

Nyctaginaceae, the four-o'clock family {*Bougainvillea*}

Montiaceae, the miner's lettuce family

Portulacaceae, the purslane family (purslane – *Portulaca*)

Cactaceae, the cactus family (cactus pads and fruits of several species are eaten)

Asterids

Cornales

Cornaceae, the dogwood family (Cornelian-cherry – *Cornus*)

Hydrangeaceae, the hydrangea family

Loasaceae, the stick-leaf family

Nyssaceae, the tupelo family {tupelo trees – *Nyssa*; handkerchief tree – *Davidia*}

Ericales

Balsaminaceae, the impatiens family

Fouquieriaceae, the ocotillo family {boojum tree}

Polemoniaceae, the phlox family

Sapotaceae, the shea tree family (chicle, sapodilla)

Lecythidaceae, the Brazil nut family (Brazil nut – *Betholletia*)

Ebenaceae, the ebony and persimmon family (persimmons – *Diospyros*)

Primulaceae

 Primuloideae, the primrose subfamily

 Myrsinoideae, the pimpernel and cyclamen subfamily

Theaceae, the tea and camellia family (black and green tea – *Camellia sinensis*)

Sarraceniaceae, the N. American pitcher plant family

Styracaceae, the silverbell and snowbell family

Actinidiaceae, the kiwi fruit family (kiwi fruit, Chinese gooseberry – *Actinidia*)

Ericaceae, the heather and heath family

 Pyroloideae, the wintergreen subfamily

 Ericoideae, the rhododendron and heather subfamily

 Monotropoideae, the Indian pipes subfamily

 Vaccinioideae, the blueberry and cranberry family (cranberry, blueberry, bilberry, lingonberry, huckleberry – *Vaccinium*; huckleberry - *Gaylussacia*)

Lamiids (Euasterids I)

Gentianales

Rubiaceae, the madder and coffee family (coffee – *Coffea*) { *Gardenia*, *Ixora*, *Pentas*, quinine, partridge berry, bluets }

Gentianaceae, the gentian family

Loganiaceae, the pinkroot family { Indian pink, strychnine }

Gelsemiaceae, the jessamine family

Apocynaceae, the dogbane family

Apocynoideae, the dogbane and oleander subfamily

Asclepiadoideae, the milkweed and carrion flower subfamily

Rauvolfioideae, the bluestar and periwinkle subfamily

Boraginales

Boraginaceae, the forget-me-not family { waterleaf, hound's tongue, lungwort }

Heliotropiaceae, the heliotrope family

Solanales

Convolvulaceae, the morning glory and bindweed family (sweet potato, also called “yam” in the US – *Ipomoea batatas*) { dodder }

Solanaceae, the nightshade family (tomato – *Solanum lycopersicum*; potato – *Solanum tuberosa*; eggplant – *Solanum melongena*; tomatillo – *Physalis*; chili and bell peppers – *Capsicum annuum*) { tobacco, petunia, jimsonweed }

Lamiales

Oleaceae, the olive family (olives – *Olea europaea*) { lilacs, forsythia, ash trees }

Gesneriaceae, the African violet family { Cape primrose, gloxinia }

Plantaginaceae, the ribwort or snapdragon family

Scrophulariaceae, the figwort family { mullein, bacopa, butterfly bush, twinspur }

Martyniaceae, the devil's claw family

Paulowniaceae, the empress tree family

Pedaliaceae, the sesame family (sesame seeds – *Sesamum indicum*)

Lamiaceae or Labiatae, the mint family (basil – *Ocimum basilicum*; mints – *Mentha*; rosemary – *Rosmarinus officinalis*; sage – *Salvia officinalis*; savory – *Satureja*; marjoram – *Origanum majorana*; oregano – *Origanum vulgare*; thyme – *Thymus vulgaris*; lavender – *Lavendula*)

Phrymaceae, the monkey flower family

Orobanchaceae, the broomrape family { Indian paintbrush, witchweed }

Plantaginaceae, the snapdragon family { turtle head, penstemons, foxglove, plantain }

Lentibulariaceae, the bladderwort family

Acanthaceae, the acanthus family { black mangrove, bear's breech, black-eyed Susan vine }

Bignoniaceae, the trumpet vine family { crossvine, catalpa tree, jacaranda tree }

Verbenaceae, the vervain family { lantana, mock vervain, frogfruit, verbena }

Campanulids (Euasterids II)

Aquifoliales

Aquifoliaceae, the holly family (yerba maté, yaupon – *Ilex*)

Asterales

Campanulaceae, the bellflower family

 Campanuloideae, the bellflower subfamily

 Lobelioideae, the lobelia subfamily

Menyanthaceae, the bogbean family {floatingheart}

Goodeniaceae, the scaevola family

Asteraceae or Compositae

 Mutisioideae – gerbera subfamily

Carduoideae, the thistle subfamily

Cynareae, the thistle tribe (artichoke – *Cynara*; safflower oil - *Carthamus*)

Cichorioideae, the chicory subfamily

 Arctotideae, the African daisy tribe

Cichorieae, the lettuce tribe (lettuce – *Lactuca sativa*; chicory, endive, radicchio, escarole – *Chicorium*; dandelion – *Taraxacum officinale*; salsify – *Tragopogon*)

 Vernonieae, the vernonia or ironwood tribe

Asteroideae, the aster subfamily

 Anthemideae, the anthemis tribe (tarragon – *Artemisia*; chamomile tea – *Chamaemelum nobile*)

 Astereae, the aster tribe

 Calenduleae, the calendula tribe

 Coreopsideae, the bidens tribe

 Eupatorieae, the gayfeather tribe (stevia sweetener – *Stevia rebaudiana*)

 Gnaphalieae, the pussytoes tribe

 Helenieae, the helenium tribe

Heliantheae, the sunflower tribe (sunflower seeds, oil – *Helianthus annuus*; Jerusalem artichoke - *Helianthus tuberosus*)

 Inuleae, the camphor weed tribe

 Madieae, the tarweed and silversword tribe

 Senecioneae, the senecio tribe

 Tageteae, the marigold tribe

Dipsacales

Adoxaceae, the elderberry family (elderberry – *Sambucus*)

Caprifoliaceae, the honeysuckle family

Caprifolioideae, the honeysuckle subfamily (sweetberry – *Lonicera caerulea*)

Dipsacoideae, the pincushion flower subfamily

Linnaeoideae, the twinflower subfamily

Valerianoideae, the valerian subfamily (corn salad – *Valerianella locusta*)

Apiales

Pittosporaceae, the pittosporum family

Araliaceae, the aralia and ivy family (ginseng – *Panax*)

Apiaceae or Umbelliferae, the carrot and parsley family

Saniculoideae, the sanicula subfamily {snakeroot}

Apioideae, the celery subfamily (carrot – *Daucus carota*; parsnip – *Pastinaca sativa*; celery – *Apium graveolens*; dill – *Anethum graveolens*; parsley – *Petroselinum crispum*; coriander, cilantro – *Coriandrum sativum*; fennel – *Foeniculum vulgare*; cumin – *Cuminum cyminum*; caraway – *Carum carvi*; chervil – *Anthriscus cerefolium*)

Resources:

FOOD PLANTS

vanWyck, Ben-Erik. 2005. *Food Plants of the World*. Timber Press.

Vaughan, J. G. and C. A. Geissler. 2009. *The New Oxford Book of Food Plants*. 2nd edition. Oxford University Press.

The Illustrated Encyclopedia of Fruits, Vegetables, & Herbs (2017). Chartwell Books. This volume has the genus and species names of food plants, but it gives the families for only a few. It provides the history, some botanical information, and the culinary uses of plants from around the world. Note that it is exactly the same book as the 2008 publication from National Geographic, *Edible: An Illustrated Guide to the World's Food Plants*. The publication originated in Australia and uses British terms for the plants. For example, American corn is listed as maize.

ANGIOSPERM PHYLOGENY

Stevens, P.F. (2001 onwards). Angiosperm Phylogeny Website. Version 12, July 2012 [and more or less continuously updated since]. <http://www.mobot.org/MOBOT/research/APweb/> (Accessed August 2019)

Wikipedia articles on the various orders, families and genera.

Judd, Walter S., Christopher Campbell, Elizabeth A. Kellogg, Peter F. Stevens, and Michael J. Donoghue. 2016. *Plant Systematics: A Phylogenetic Approach*. 4th edition. Sinauer Associates, Inc.