

Guide to the Medicinal Plant Garden at the Indiana Medical History Museum

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Disclaimer

“Demonstration - Not Prescription”

The purpose of the Medicinal Plant Garden at the Indiana Medical History Museum is to demonstrate some of the plants that have been the source of medicines in the past and in the present in order to share interesting historical information. In providing this garden and related written materials and presentations, the museum and Purdue Master Gardeners do not intend to endorse the use of current herbal remedies.

Individuals should consult with their health care professionals and make their own informed decisions before taking any medicine, herbal or otherwise. Herbal remedies can have serious side effects and can interact with other medicines.

Medicinal plants can be toxic. Do not pick or ingest any part of the plants in the garden.

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About the Indiana Medical History Museum

The Indiana Medical History Museum is dedicated to preserving the heritage of the healing arts in Indiana. Through its exhibits and publications, the museum educates the public concerning health care in Indiana, particularly during the nineteenth and first half of the twentieth centuries. Museum programming also focuses on the life sciences and health careers.

The IMHM is located in the old West Side area of Indianapolis, occupying part of the 160 acre campus of the former Central State Hospital that was a hospital for patients with psychiatric and other mental disorders from 1848-1994. The main building of the museum is the Old Pathology Building of Central State Hospital. It is listed in the National Register of Historic Places and has been identified as an official project of “Save America’s Treasures” by the National Trust for Historic Preservation.

This outstanding building was designed by the well-known architect Adolph Scherrer and built under the supervision of the hospital superintendent Dr. George Edenharter. It was dedicated in 1896 as a state-of-the-art research and education facility enabling hospital physicians to apply scientific methods in their study of mental diseases. This unique structure survives intact with its original amphitheater, library, and laboratory furnishings. Tours of the museum bring to life the era of early medical research, education, and practice.

The IMHM has restored a smaller adjacent building as the site of a doctor’s office exhibit that interprets a typical rural physician’s practice of the mid-20th century, exploring the transition from the healthcare of the 1800s to the era of modern medicine. The exhibit contents comprise the intact office of Dr. Marion Scheetz of Lewisville, Indiana. The artifacts were donated by his descendants, and the display was made possible in part by a grant from the Indiana Academy of Family Physicians.

The Medicinal Plant Garden was added to the grounds on the south side of the Old Pathology Building, beginning in 2003. It is the project of a group of Purdue Master Gardeners of Marion County who designed and installed and continue to maintain the garden. Garden supplies, plants, and gardening labor all have been donated to the museum. Free public tours of the garden are offered on Saturdays, June through September. Group tours and presentations related to the garden can be arranged.

The museum buildings are open to the public 10 am to 4 pm, Thursday through Saturday and at other times by appointment. The last hourly tour begins at 3:00 pm. Groups of ten or more should make tour arrangements by contacting the museum. Admission is \$10 for adults, \$9 for seniors, \$5 for university students with a valid ID, \$3 for students 18 years old and under, and free for

children under 5 years old. Visit or contact the museum at 3045 West Vermont Street, (317) 635-7329, Edenharter@imhm.org, and www.imhm.org.

The Indiana Medical History Museum is a private, nonprofit organization. It is not part of any State, historical, medical, or pharmaceutical organization. The museum is made possible by memberships, donations and grants that help preserve the historical artifacts of Indiana's past. All donations in support of the museum and garden are welcome. The IMHM is tax exempt under section 501(c)(3) of the Internal Revenue Code.

Brief History of Central State Hospital and the Indiana Medical History Museum

- 1848 Indiana Hospital for the Insane opened – 5 patients
- 1889 Name changed to Central Indiana Hospital for the Insane
- 1896 Opening of separate Pathological Department building for the education and scientific study of disease Architect – Adolph Scherrer
- 1903 (IU School of Medicine was established – two years of study in Bloomington)
- 1910 Flexner Report revolutionized medical education in the US and Canada
- 1926 Name changed to Central State Hospital
- 1930s Many of the outdated laboratory facilities in the Pathological Department no longer used
- 1956 Last year that IU SOM medical students had neurology and psychiatry classes in the amphitheater – because of the opening of LaRue Carter Hospital at IUSOM
- 1969 Non-profit organization formed to preserve the building: Dr. Charles Bonsett, Dr. John Keating, Dr. Dwight Schuster, Dr. William Sholty, and Mrs. Donald (Dorothy) White; known as Indiana Medical History Foundation
- 1972 IMHM's Old Pathology Building (OPB) added to the National Register of Historic Places and to the Historic American Buildings Survey
- 1985 Name of Indiana Medical History Foundation changed to "Indiana Medical History Museum"
- 1986 Indiana State Legislature provided IMHM with a 99-year lease for the OPB and 5.24 acres
- 1994 Central State Hospital closes
- 1995 The pathology building at Bellevue State Hospital (New York) was razed, leaving OPB as the last free-standing pathology building of its kind
- 2001 OPB designated in White House and National Trust's "Save America's Treasures" program
- 2003 Addition of Medicinal Plant Garden
- 2004 City of Indianapolis purchased CSH from State
- 2005 Doctor's Office Exhibit opens - Indiana Academy of Family Physicians sponsorship

Introduction to the Medicinal Plant Garden

In this modern era of urban civilization, many of us have lost touch with nature. We no longer have the intimate knowledge of plants and their uses that our ancestors had acquired through centuries of trial and error. When we want a cure for our headache or fever, we go not to the meadow and woodland but to the drugstore.

The Medicinal Plant Garden of the Indiana Medical History Museum offers the opportunity to remember that plants were the original source of most medicines. Many of the miracle drugs of today are molecules or variations on compounds that were originally available from plant medicines. For example, Bayer Aspirin (acetyl-salicylic acid) had its beginnings in 1897 from a compound that occurs naturally in the herbaceous perennial European meadowsweet.

In recent decades, in the United States people have had an increasing interest in using herbal remedies. A wide variety of herbal preparations are available over the counter at most pharmacies and grocery stores. It is important to treat these substances with care. Just because a product is “natural” does not mean that it is safe. As with our modern drugs, herbal medicines can have undesired serious side effects as well as potential beneficial effects. For example, an individual taking feverfew (*Tanacetum parthenium*) for migraine headaches may not realize that it acts as an anticoagulant and could result in bleeding complications if surgery is needed. When asked by the doctor, “What medicines are you taking?” one always should include any herbal remedies or tonics taken regularly in the answer.

In this country, the efficacy and strength of commercial herbal preparations is not controlled by governmental regulations at this time. They are considered to be food supplements rather than drugs. The potency of herbal remedies in stores is difficult to predict. Studies even show that some products on the market have no active ingredient present. By contrast, in Europe, Germany’s Commission E carefully studies and makes recommendations about herbal medicines, and products available there are standardized and regulated. Of course, the amount of active compounds in a plant’s flower, leaf, bark, or root will vary with the cultivar, the soil, the weather, the time of year, the time in the plant’s life cycle at harvest, and the way in which the plant is dried, preserved, or processed.

Some of the most beautiful medicinal plants are quite poisonous. Examples include foxglove (digitoxin), autumn crocus (colchicine), castor bean (ricin), mayapple (podophyllotoxin), and lily of the valley (digitalis-like cardiac glycoside). **Remember that many of the plants we have included in this garden can be toxic if misused.**

The garden now features over 100 species of herbaceous plants, vines, shrubs and trees. This guidebook offers interesting information about the plants in the garden, presented alphabetically according to their most-used common name. The information includes the common name, *scientific name*, (*previous scientific name*), a brief description of the plant's main medicinal uses and history, indication of where it began as a native plant, and the parts of the plant that are or were used medicinally. Alphabetical lists of common and scientific names appear at the end. More extensive information about some of the plants is available in the museum.

Common Name

Scientific name (previous Scientific name)

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Native to this place Parts used medicinally

Plants in the Medicinal Plant Garden

Absinthe

Artemisia absinthium

Like the other ‘wormwoods,’ this plant was useful in getting rid of intestinal worms and other parasites. Used in the home, it discouraged pests like gnats, moths and bedbugs. It was a key ingredient in green anise-flavored absinthe drink, a powerful (90-140 proof) alcoholic and addictive drink nicknamed “the green fairy” because of its reputed psychoactive powers. Although the effects were at one time thought to be due to the toxin thujone in wormwood, it is likely that the very high percentages of alcohol in the drink, if consumed undiluted, were more to blame. The drink was especially associated with the bohemian artists in Paris in the late 1800s. Absinthism involved alcoholism combined with seizures, hallucinations and delirium. Today absinthe liquor does not contain thujone, but in Europe it may contain marijuana.

Europe

Leaves, stems, flowers

Agrimony

Agrimonia eupatoria

Various parts of the plant contain tannins that made it a useful astringent for bleeding, diarrhea and inflammations. Yellow dye can be made from the stems and leaves. The plant is also called sticklewort because its seed pods have hairs that make it stick to skin and clothing. Some think the leaves smell like lemons or apricots. The plant was used in ancient Greece, and its name may derive from *Argemone*, the Greek word for “plant that heals the eye.” *Eupator* means “of noble father” and was an epithet adopted by several rulers, including Mithridates VI (120-63 CBE) also known as Eupator Dionysius. A related plant *Agrimonia pilosa* is used in traditional Chinese medicine.

Europe

Leaves, stems, flowers

Alfalfa

Medicago sativa

In Arabia this plant was called *al-fac-facah*, meaning “the father of all food” and leading to the current English common name alfalfa. This plant, which looks similar to clover, was used by healers in ancient China and India. It was planted in America (Georgia) in 1736 and used by settlers to treat ulcers and other digestive problems. While traditional uses have not been proven to be effective, recent research indicates that alfalfa may help lower cholesterol and absorb carcinogens in the intestines. The seeds contain two chemicals that may promote menstruation, and alfalfa seeds should not be consumed during pregnancy. Excessive ingestion of alfalfa seeds may lead to low blood cell counts (pancytopenia).

Middle East

Aerial parts, Germinating seeds

Aloe vera

Aloe barbadensis

This plant may be named from the Arabic word *alloe*, which means “bitter and shiny substance.” Aloe has been used medicinally for centuries, especially to soothe and aid the healing of burns. Aloe extract may be useful in other skin lesions, such as psoriasis. Research shows that one of its active ingredients is bradykinase, which is a protease inhibitor that relieves pain and decreases swelling and redness. Another component germanium is a fast-acting pain killer. Aloe gel taken internally is a powerful purgative. Aloe grows better as a houseplant than it does out in gardens in Indiana.

Africa, West Indies

Leaves

Alum root*Heuchera americana*

The mineral called alum is a hydrated form of potassium aluminum sulfate, used in water purification, pickling, dyeing cloth, tanning leather and as a deodorant and an astringent for cuts and canker sores.

The plant alum root is also called coral bells. The root of this plant harvested in autumn has astringent properties and can be used as an alum substitute. It was used for bleeding wounds, vaginal discharges, diarrheas and hemorrhoids. Internal use may damage the kidneys and liver.

America

Roots

American skullcap*Scutellaria lateriflora*

The aerial parts of this plant were widely used as a sedative to calm the nervous system, serving as a “nervine” or nerve tonic. It was recommended for a wide variety of states, such as hysteria, convulsions, insomnia, delirium tremens, and pre-menstrual tension. Cherokees used skullcap to stimulate the uterus – promoting menses or expelling the placenta after childbirth. The plant also reportedly had hypotensive and anti-spasmodic effects. Modern herbalists also recommend skullcap for anorexia nervosa and fibromyalgia; however, few studies have been done to show evidence that the plant has significant medicinal effects. The belief that it could cure rabies (it doesn’t) led to the common name “mad-dog skullcap.”

America

Aerial parts

American spikenard*Aralia racemosa*

This woodland herbaceous plant has aromatic roots often referred to as having a balsamic or licorice-like scent and flavor. It was used to treat chronic coughs with pharyngeal or pulmonary secretions. Spikenard root tea was given to aid and shorten labor in childbirth and used as an analgesic for backaches and other painful conditions.

The plant is sometimes called false sarsaparilla because it was used to make a flavorful root beer (but not the flavor of today’s American root beer). The drink called sarsaparilla in the USA was usually made from sassafras root bark and birch. The original sarsaparilla drink was made from *Smilax ornata* (previously *Smilax regelii*) that is a vine native to Oceania, South America and Europe that was considered traditionally to be a cure-all.

America

Roots

Angelica*Angelica sinensis, A. archangelica*

Chinese angelica (*A. sinensis*), known as dang gui and Dong quai, in combination with other herbs has been used in the Orient for centuries to treat gynecologic problems and a variety of other ailments. Recent studies of its effectiveness have shown mixed results. Chinese angelica may stimulate formation of blood clots. European angelica (*A. archangelica*) was associated with witchcraft and magic. Drinking “angelica water” or “the King’s Excellent Recipe for the Plague,” which was made from squeezing the root of this plant and mixing the juice with nutmeg and treacle, was a popular though ineffective protection against the plague in the 1600s. The plant was used in Europe and America to treat respiratory diseases, as were a variety of other hollow-stemmed plants. Colonists also used the plant as an abortifacient. Currently European angelica has been recommended for dyspepsia and loss of appetite. Recent studies indicate that compounds in European angelica act as calcium channel blockers – similar to verapamil used to treat high blood pressure, angina and arrhythmias. The roots and seeds of *A. archangelica* are used as flavoring for Benedictine and Chartreuse liquors, gin, and vermouth. Caution: the sap and oil of angelica left on the skin may cause severe photodermatitis – ulcerated skin lesions after exposure to sunlight (photodermatitis).

Asia, Europe

Roots; Roots and Aerial parts

Arborvitae tree*Thuja occidentalis*

The arborvitae tree also is sometimes called Tree of life or Northern white cedar. These upright evergreen trees are members of the botanical cypress family. The scale-like leaves gathered in summer produced a medicine that Native Americans used for fever, cough, headache, rheumatism, and other ailments. The leaves contain vitamin C, and tea made from them was the cure that saved Jacques Cartier's men from certain and terrible death due to scurvy in the winter of their expedition in 1535-36. Arborvitae has been used for bronchitis, cystitis, and several other conditions as well. Research has shown antiviral activity against warts and polyps and possible anti-neoplastic activity against uterine cancer. The heartwood of these trees is light weight and decay resistant, and it was used to make the ribs of canoes.

America

Leaves

Arnica*Arnica chamissonis* and other species

The Greek word *arnakis* means "lambskin," and the leaves of some arnica plants, which grow in a basal rosette, are downy soft. Both Europeans (using *A. montana*) and Native Americans (using *A. latifolia*, *A. cordifolia*) used arnica flower preparations externally for sprains and muscle aches. Arnica is too toxic to be taken internally and should not be used even on cut or abraded skin.

America, Europe, Central Asia, Siberia

Flowers

Autumn crocus*Colchicum autumnale*

There are two kinds of fall blooming crocus. The smaller *Crocus sativus* botanically is a true crocus, a member of the iris family and the source of the spice saffron, which consists of the dried stigmas of the flowers. *Colchicum autumnale* is a larger crocus-like flower that blooms in the fall and is a member of the Colchicaceae family. (It was previously in Liliaceae). This plant sends up its flower long after its leaves have faded away in early summer, a trait leading to another common name for the plant - naked lady. The modern medicine colchicine is an effective treatment for gout but can also be a deadly poison. It decreases the inflammatory response of tissues to uric acid crystals and inhibits the deposition of crystals in tissue, thereby decreasing the severe pain of acute attacks of gout. In Europe, colchicine also is approved for prophylaxis of familial Mediterranean fever. All parts of *C. autumnale* are poisonous, and toxic doses result in a condition similar to acute arsenic poisoning.

Europe

Flowers, seeds, tubers

Aztec sweet herb*Phyla dulcis* (*Lippia dulcis*)

The Aztec Classic Codex of 1552 recommended the root as a treatment for cough, and the leaves do have demulcent, expectorant qualities. The dried leaves contain hernandulcin, a sesquiterpene compound stated to be 1000 times sweeter than refined sucrose. But, the leaves should not be used as sweetener because they also contain camphor, which makes this herb quite toxic. Tea made from the leaves has been used externally on cuts and abrasions and as a mouthwash to fight gum disease and tooth decay.

Mexico

Leaves

Bacopa*Bacopa monnieri*

The plant also is called Brahmi in honor of the Hindu god Brahma. Bacopa has been used in Ayurvedic medicine for 1400 years to improve memory and thinking and reduce anxiety. Its main effect appears to be due to its anti-oxidation properties and to the promotion of communication between neurons by increasing the cell nerve endings (dendrites) that receive stimuli from other cells. Bacopa may upset the stomach, but otherwise, it appears to have few side effects and to be non-addictive. It has potential for treatment of brain diseases like dementia and epilepsy.

India, Australia, Europe, Africa, America Entire plant

Baikal skullcap*Scutellaria baicalensis*

Also known as Chinese skullcap or Huang Qin, the root is used to treat a wide variety of conditions, including respiratory infections and inflammations. Other uses include improving brain function, lowering blood pressure and cholesterol, diuresis, and improving digestion. Baicalin, a component in the root, has antifungal actions and may be antiviral as well. Baikal also has been used for skin disorders and whitening the skin.

Siberia Roots

Balloon flower*Platycodon grandiflorus*

Robert Fortune, who is best known for introducing tea plants from China to India, sent the roots of the balloon flower plant from China to the Horticultural Society of London at Chiswick, England in 1844. In traditional Chinese medicine since at least 100 AD, the bitter platycodon root (Jie Geng) has been used in combination with other herbs for a variety of conditions, but especially as a phlegm-loosener for lung and throat ailments and for the treatment of abscesses. Young dried roots also were used as a source of dietary starch after being blanched to remove the bitter saponin that is the plant's medicinal component.

Asia Roots

Barrenwort*Epimedium species*

Other names for this plant include Horny goat weed and Yin Yang Huo. In traditional Chinese medicine, preparations of barrenwort have been used for many ailments and also to promote sexual desire in both sexes. The plant contains icariin, which works in a way similar to the constituents in modern drugs for erectile dysfunction. And, like these drugs, barrenwort also lowers blood pressure. It also appears to decrease blood clotting. In landscaping, the plant is an attractive groundcover with delicate flowers in early spring and is especially valued because it will thrive in dry shade where lawns and other plants struggle or fail.

China Leaves, stems, flowers

Basil*Ocimum basilicum*

The leaves of sweet basil are used in cooking to make pesto and flavor many dishes. Medicinally, the leaves of sweet and other basils have been used to treat indigestion and skin conditions. In India and Thailand, basil seeds are used to calm mucosal membranes, providing relief for mucous discharges, diarrhea, and coughs. Seeds and leaves eaten as a source of bulk fiber have been used for constipation and to prevent rapid rise in blood sugar after meals. The presence of the carcinogen estragole in basil is a concern, and the herb is not approved for medicinal use by Germany's Commission E. Medicinal basil should not be used by pregnant women. See also, Tulsi (Holy basil).

Mediterranean, Asia Leaves, seeds

Bear's breeches*Acanthus mollis*

A paste made from acanthus was used externally to help realign dislocated joints. Burns also have been treated with crushed leaves, and the famous herbalist Nicholas Culpeper (1616-1654) wrote that acanthus “fetcheth out the fire, and healeth it without a scar.” It was also taken internally to soothe the mucosa of the alimentary and urinary tracts. The plant leaves were the inspiration for the design of the flared capitals on Corinthian columns.

Mediterranean

Leaves, roots

Bee balm*Monarda didyma, M. fistulosa*

The bee balms are members of the mint family of plants and have aromatic leaves and square stems. The Oswego Indians of New York taught the colonists how to use *Monarda didyma* (bee balm, also known as scarlet bee balm, Oswego tea and bergamot) to make a pungent tea that could treat colic, stomach ache, intestinal worms and several other conditions. A weaker version of the drink became used commonly after the Boston Tea Party. Both the tea and the plant were known as “Oswego tea.” Seeds of the plant were sent from Philadelphia to England in about 1744, where it was introduced and used as a substitute for tea from Asia. It then spread to continental Europe where it was sometimes called “Indian nettle.” Like thyme, Monardas contain the active antiseptic ingredient thymol, and the plants were used to make antiseptic wash for cutaneous and oral inflammation. There are several garden varieties of *M. didyma*, and these plants have red, pink, or purple flowers. A different bee balm *M. fistulosa* (Wild bergamot) is taller and has lavender colored flowers. The genus *Monarda* is named for a Spanish physician, Nicolas Bautista Monardes, who studied New World plants that were brought back to Spain in the 16th century, though he himself never traveled to America. *Monarda* plants are not the source of oil of bergamot, which actually comes from an Asian citrus tree now largely cultivated in Italy.

America

Aerial parts

Bellwort*Uvularia grandiflora*

Three different species of *Uvularia* were used by Native American tribes for medicinal purposes, such as the treatment of pain in solar plexus (probably pleurisy) and salves for sore muscles. Infusions of root were used as a wash for sore eyes. Bellwort root poultices were put on boils, ulcers, wounds and broken bones. The plant, sometimes called fairy bells, is a perennial plant of woodland settings.

America

Roots

Bethroot*Trillium erectum*

This is one of the Indiana native woodland trilliums that bloom in the spring. Like all trilliums, the plant has three leaves and three petals. The Beth root flower is red. The underground rhizome contains steroidal saponins, and this was one of the first plants used by Russell Marker to make semi-synthetic progesterone in the research that led to the first birth control pills. Native Americans gave the plant to children for a variety of conditions and also used it to treat tumors. Some tribes used the plant for difficult menstrual periods and to help with childbirth, and the plant is also known as Birthroot.

America

Rhizome

Black cohosh*Actaea racemosa (Cimicifuga racemosa)*

Recent research has confirmed that the black roots of this perennial woodland plant contain substances with estrogenic, anti-inflammatory, sedative, and hypoglycemic effects. Other common names were black snakeroot and bugbane. It was used by Native Americans traditionally to treat “female ailments,” and is marketed today not only for treatment of menstrual cramps, premenstrual syndrome (PMS), and symptoms of menopause but also for rheumatic problems and as a remedy for high blood pressure. In the 1850s, it was one of America’s most valuable indigenous medicinal plants, and its popularity continued into the twentieth century. Toxic effects from overdose can be severe and include tremors, slowed heart rate, and dizziness. Blue cohosh (*Caulophyllum thalictroides*) is a different plant that was used mainly for “female problems” and epilepsy. It also can have severe toxic side effects.

America

Roots

Black haw shrub*Viburnum prunifolium*

This deciduous shrub is native to the American woodlands. The bark of the branches and roots contains many active compounds, including coumarin and salicin that have anticoagulant and aspirin-like qualities, respectively. The plant’s medicinal use is mainly related to its strong anti-spasmodic properties, and another common name was cramp-bark. Native Americans and doctors used it to abate heavy or painful menstrual bleeding and threatened miscarriage. It is reported that slave owners used to force female slaves to take Black haw to prevent them from inducing abortions by ingesting cotton root teas. Black haw was also used for cramping conditions of the intestine, bile ducts, and bladder and for seizure disorders. As a smooth muscle relaxant, it may help in asthma and hypertension by opening airways and peripheral blood vessels.

America

Bark, root bark

Blackberry lily*Iris domestica (Belamcanda chinensis)*

Blackberry “lily” actually is a member of the iris family. Its common name comes from the prominent clusters of black seeds that stay on the end of the stalks long after the flowers have faded and the plant has gone dormant. Another common name “leopard flower” derives from the spotted appearance of the petals. The rhizomes of this plant are the Chinese herbal substance She Gan. In traditional Chinese medicine, it is used for asthma, croup, swelling and pain in the throat, and several other conditions. In the 2000s, laboratory studies have shown that blackberry lily extract has some activity against the cells of prostate cancer, as well as anti-fungal and anti-viral activity. Seeds of the plant were brought from Asia to Europe by Jesuit priests in the 1730s. The plant found its way to America in the early 1800s.

Asia

Rhizomes

Black-eyed Susan*Rudbeckia hirta* and other *Rudbeckia* species

Rudbeckia is a biennial or short-lived perennial. The daisy-like composite flowers have bright yellow ray petals surrounding a prominent dark brown or black center. Another common name is ox-eye daisy. Native Americans used tea made from the roots to expel worms and treat colds. Juice of the root was a treatment for earache, and a wash was used externally to soothe sores, swellings and snakebite. The genus name of the plant honors one of the teachers of Carl Linnaeus, Olaus Rudbeck who was professor of botany at the University of Uppsala. Some individuals have a contact sensitivity to the plant.

America

Roots

Blazing star, Gay-feather*Liatris spicata*

Liatris spicata and a number of other *Liatris* species send up tall feathery spikes of purple or white flowers in the summer. Tests on members of this genus have shown anti-cancer properties. In Europe, liatris is used for gynecologic problems and as a diuretic and a gargle for sore throat. "America's first botanist," John Bartram of Philadelphia, included liatris in his 1751 compendium, calling it "throatwort" and noting that chewing the tuber could cure sore throat. An older common name "colic root" came from its use for gastrointestinal complaints.

America

Roots

Bloodflower*Asclepias curassavica**See Milkweeds***Bloodroot***Sanguinaria canadensis*

Sanguis is the Latin word for blood, and cutting across the root of this spring-blooming woodland plant results in bright red bloodlike fluid oozing from the surface. The roots and rhizomes were used to treat joint problems, fevers, and sore throats, as well as cutaneous cancers. The alkaloid called sanguinarine in the plant is toxic to the heart and stimulant to the uterus if ingested, but it once was included as an ingredient in mouthwash and toothpaste (Viadent). More recent studies show that it may be useful in decreasing the formation of dental plaque; however, unfortunately its use also is associated with an increased incidence of the precancerous oral lesions known as leukoplakia.

North America

Rhizomes

Blue false indigo*Baptisia australis*

Native Americans used hot root tea as an emetic and purgative and cold tea to prevent vomiting. They also applied the root directly to ease toothache. A poultice of false indigo had anti-inflammatory effects. Studies show that this plant may prove to be an immune system stimulant. Cherokee Indians and early settlers used this native plant to make blue dye. *Bapto* is the Greek word for dye. The name "false indigo" distinguished it from true indigo (*Indigofera tinctoria*), a plant native to India that was cultivated in the West Indies and colonial South Carolina as a source of blue dye made from its fermented leaflets and branches. *Baptisia australis* was named the "Perennial Plant of the Year 2010" by the Perennial Plant Association.

America

Roots

Boneset*Eupatorium perfoliatum*

Boneset probably got its name because of its ability to ease the severe muscle and skeletal pains of some febrile diseases and because Native Americans used poultices of the plant to help heal broken bones. The stem of the boneset grows through (perforates) the fused pairs of leaves that surround the stems, hence the species name *Eupatorium perfoliatum*. Native Americans and pioneers both used a tea made of the aerial parts of the dried plant to treat febrile diseases, including influenza, colds and malaria. The pioneers of Indiana gathered large bundles and dried them for use through the winter. This herbal reduces fever by inducing sweating, and the plant was also called sweating plant and feverwort. Boneset was listed in the *US Pharmacopoeia* and *US Dispensatory* for decades as the standard treatment for influenza. Use of boneset in large doses may damage the liver and kidneys or lead to internal hemorrhage.

America

Aerial parts

Borage*Borago officinalis*¹

Native to the Mediterranean, this pretty blue-flowered herb is widely cultivated. It was used as a poultice or infusion externally for inflamed or sore skin. Flowers were eaten in salads or dropped in wine to drive away melancholy, but internal use may be unsafe. Borage seed oil has been used for rheumatism and PMS. Borage seed has a very high concentration of the essential fatty acid gamma linoleic acid (GLA), which is involved in sensitivity to the hormone prolactin (see also evening primrose). In the Middle Ages, borage flowers and leaves were added to wine that was drunk to dispel melancholy. The herbalist Gerard wrote that borage was good “for the comfort of the hart, for driving away of sorrowe, and increasing the joie of the minde.”

Mediterranean

Aerial parts, seeds

Butterfly weed, Pleurisy root*Asclepias tuberosa*See *Milkweeds***Calendula, Pot marigold***Calendula officinalis*

This annual plant has many medicinal uses. The bright yellow-orange flowers are harvested when in bloom. They contain active ingredients with antiseptic and astringent properties and are used on the skin for rashes, wounds, fungal infections, diaper rash, sore nipples, and varicose veins. Fresh flowers can be rubbed on the skin to relief insect stings. Calendula flower tea is taken internally for inflammations of the alimentary tract, to promote menstruation, and as a cleansing detoxifying herbal tonic. Calendula, which is known as pot marigold, should not be confused with the more common garden marigolds, which are annual plants of a different genus – *Tagetes*.

Europe, Mediterranean

Flowers

Castor bean*Ricinus communis*

Good old castor oil is made from the pretty spotted beans of this large exotic-looking annual plant. The seeds' oil is almost colorless and without a strong odor, but it has a highly nauseating disagreeable taste. Castor oil was widely used as a laxative in acute, temporary constipation, especially in children and the elderly. (Note: The children's laxative called Fletcher's Castoria is made from senna, not castor bean.) A topical ointment of castor oil also was used for leprosy, ringworm, and itching skin lesions. The oil had many other uses, such as making soap, artificial rubber and leather, candles, furniture polish, and cleaning solution for oil paintings. In ancient Greece and Egypt the plant was valued for its oil for lamps and unguents. The seeds contain a very powerful poison (ricin), but ricin is water soluble and is not present in processed castor bean oil. Ricin is a potent cytotoxin, and when ingested it quickly damages the cells lining the gastrointestinal tract resulting in abdominal pain, vomiting, and often bloody diarrhea, followed by dehydration, hypotension and loss of renal function. Death or recovery is expected in 3-5 days. Castor bean plants in the garden should not be allowed to flower or set seeds when children are present and likely to be attracted to the pretty beans because a single chewed bean can be fatal. Also, children should not be allowed to play with necklaces or bracelets made from the spotted beans.

Africa, India

Seeds

¹ *Many of the plants in the garden have a scientific species name ending in “*officinalis*” or “*officinale*.” This indicates that the plant was the specific one in a Genus that would be found “in the office” of the physician, apothecary, or pharmacist.

Catalpa tree*Catalpa bignonioides*

Some of the largest trees on the museum grounds are catalpas, recognizable by their coarsely grooved bark, heart shaped leaves, and long cigar-like seed pods. There are two species. *C. speciosa* (known as western catalpa, northern catalpa, and hardy catalpa) has a taller, narrower, rectangular overall appearance and is not medicinal. *C. bignonioides* (known as eastern catalpa, southern catalpa, American catalpa, Indian bean tree, and fish bait tree) has a more rounded shape and has been used medicinally. Its catalpa leaves were used as poultice for wounds, and tea made from seeds treated bronchitis and asthma. Tea made from the bark had antiseptic, laxative, and sedative properties. Plus, it was used to expel intestinal worms and as a snakebite antidote. Other species of catalpa in China also were used as medicine for worm infestations.

America

Bark, seeds, leaves

Catnip, Catmint*Nepeta cataria*

The leaf and flower of this plant contain a compound that causes euphoria in cats. Trappers used catnip as bait when going after bobcats and mountain lions. Traditionally, as a medicine it was used for “obstruction of the womb,” and weak catnip tea was a remedy to soothe a colicky baby. Catnip induces sweating and can bring down the fever of colds and flu. It has been used to treat digestive tract problems, including use as an ointment for hemorrhoids. Catnip should not be taken during pregnancy.

Europe

Aerial parts

Cayenne peppers*Capsicum annuum and C. frutescens*

Medicinal capsaicin is present in the perennial Tabasco pepper, chili pepper plants (*C. frutescens*) and also in annual chili pepper, paprika, bell pepper plants (*C. annuum*). Many of the peppers were native to tropical America and were introduced to Europe in the 1400s. Capsaicin-containing topical preparations are used as analgesics for muscle spasms and arthritis. They may be useful as neuritic pain relievers in conditions such as shingles, post-herpetic neuralgia, trigeminal neuralgia, and possibly diabetic neuropathy. The mechanism of action is not yet determined, though it may be related to temporary depletion of neurotransmitters in nerve endings. Taken internally, capsaicin increases circulation and may stimulate blood flow to the hands and feet.

Tropical America

Fruits

Chamomile

The nomenclature of chamomile is somewhat confusing. Roman chamomile (*Anthemis nobilis* or *Chamaemelum nobile*), also known as English chamomile or garden chamomile, is a slow growing perennial plant. German chamomile (*Matricaria chamomilla*, *M. recutita*), also known both as genuine chamomile and false chamomile by different parties, is an annual plant. Both were brought from Europe by the pioneers and used to treat “female problems.” A weak tea was drunk to settle the stomach and improve a variety of intestinal complaints. Ancient Egyptians used chamomile’s power to reduce fevers in malaria. Chamomile tea has excellent calming, relaxing qualities and can be used to alleviate stress-related problems. It has some pain relieving properties and has been used for menstrual pain and to ease contractions during childbirth. It also has antibacterial, antifungal, antihistaminic, antiseptic and anti-inflammatory properties. Greeks called it “ground apple” because of its scent, and Spaniards called it “little apple” and used it to flavor sherry. Chamomile also has been used as a hair rinse for blond hair.

Europe

Flowers

Chaste tree*Vitex agnus-castus*

The great ancient herbalist Dioscorides wrote *De Materia Medica* in about 77 CE. In it, he described how using the plant could promote lactation and menstruation and decrease inflammation of the uterus. Nearly 2000 years later, herbalists in Europe still use *Vitex agnus-castus* as an herb to regulate menstrual cycles. Its plant compounds have progesterone-like effects. The plant has not been used much in the United States until recently. Vitex is also known as “the chaste tree” from a reported historical use of vitex berries being chewed by monks as an aid in celibacy. The berries are thought to have an anti-androgenic effect. The aerial parts of chaste tree often do not survive the cold winter this far north, but the plant regrows from the roots each spring and makes a good ornamental shrub that blooms all summer with fairly showy panicles of blue flowers.

Europe, Africa, Asia

Berries, leaves

Chrysanthemum*Chrysanthemum morifolium*

This is known in Chinese medicine as Ju Hua, and chrysanthemums were cultivated in Asia for thousands of years before being introduced to Europe. Yellow flower tea is used for headaches, dizziness, sore throat, blurred vision and other ailments. It is said to reduce blood pressure and increase the coronary artery blood flow. Pyrethrum insecticide is derived from the pulverized flowers of *Chrysanthemum cinerariaefolium*. It interferes with the nervous system of all insects and decreases the ability of mosquitoes to bite.

Chrysos is the Greek word for gold.

Asia

Flowers

Clematis*Clematis montana* and other *Clematis* species

There are more than 300 or so species of clematis worldwide, and different parts of the plants have been used for many ailments, especially for inflammations and tumors. In Africa, it was used for eczema. In North America it was also used (in very small amounts to avoid toxicity) for infections of the skin as well as for migraine-type headaches, nervous disorders, uterine pain, venereal diseases (urethritis and inflammation of the testes). *Clematis montana* (grown here) is native to mountainous areas of Asia, and studies have shown anti-viral and anti-tumor properties of a lectin derived from this plant.

Asia, Europe, America, Africa

Leaves and roots

Columbine*Aquilegia vulgaris*, *A. canadensis*

Crushed seeds were used to get rid of external parasites, such as head lice. This plant was previously used as an astringent and diuretic. Its use is not recommended now because it has toxic properties when taken internally. *Columba* is the Latin word for “dove,” and *aquila* is Latin for “eagle.” The unusual flowers dangling on their delicate, almost invisible stems must have reminded people of birds in flight.

America, Europe

Leaves, roots, seeds

Comfrey*Symphytum officinale*

Other common names for comfrey include boneset and knitbone. Comfrey leaf and root poultices have been used for 24 centuries to promote healing of bruised tissues and broken bones. In some instances, pulverized comfrey root was packed around a fracture site and allowed to set like a plaster cast. Others report boiling or pounding the leaves to release mucilaginous substance, soaking cloth in the water, and wrapping it around a fracture to dry and set like a cast. The wound healing effect of comfrey is due to a substance called allantoin, which stimulates cell proliferation in wound healing and in regenerating peripheral nerves. Comfrey tea was taken internally for a variety of conditions; however, comfrey products intended for internal consumption have been banned in the U.S. and Europe because toxic alkaloids (especially in the root) can severely damage the liver by causing hepatic veno-occlusive disease. Some believe comfrey intended for external use should be banned as well.

Europe

Leaves, roots

Common milkweed*Asclepias syriaca**See Milkweeds***Coriander/Cilantro***Coriandrum sativum*

In cooking, the leaves of this plant are known as cilantro, and the round seeds are called coriander. The name comes from the Greek word *koris*, which means “bug” or “bedbug,” supposedly because the unpleasant smell of crushed unripe seeds was reminiscent of squashed bugs. When the seeds mature and dry they develop a good flavor and are used in many cuisines, especially in Indian curries. In England, coriander is grown as a flavoring for gin. Medicinally, the seeds have been used as a diuretic, a remedy for intestinal cramps, and as an appetite and digestion enhancer. Paste made from the seeds has been used on sores in the mouth and on the skin. As yet, no bona fide medical value has been proven scientifically.

Mediterranean

Seeds

Corn*Zea mays*

Freshly picked and dried soft threads of the female flower (corn silks) have been used as a remedy to sooth irritations of the urinary tract, such as urethritis, cystitis, and bladder stones. Components in the silks do have some diuretic properties. They also have been folk remedies for bed-wetting. The daily ingestion of grits (corn meal porridge) may lower blood cholesterol levels. Cornstarch as a paste or added to bath water can sooth itchy skin conditions. Now grown world-wide, corn (also called maize) was first domesticated from a wild grass over 7,000 years ago in Mexico and Central America.

America

Corn silks, fruits

Culver’s root*Veronicastrum virginicum*

This perennial plant is native to American moist meadows. Indians, and later physicians, used the dried and aged root to make tea that was a gentle laxative and “stimulant for the liver,” promoting the flow of bile. It was also diuretic and induced sweating. The fresh root is stated to be “violently laxative.”

America

Roots

Daylily*Heemerocallis fulva* and other species

Daylilies get their name from the fact that each large colorful bloom on the stalk lasts only one day. These plants are native to Asia and have been used in traditional Chinese medicine for centuries. The roots and young shoots were given as a pain reliever and as a remedy for edema, difficult urination, mastitis, breast cancer, and other ailments. Fresh leaves may act as a “stress-reliever,” but they also may cause toxic reaction with diarrhea and/or hallucinations. It has been stated that juice of the roots is an antidote for arsenic poisoning. While the plant is edible, the roots and shoots should not be consumed in large amounts over a long time. Daylilies are toxic when eaten by cats and cows, due to a neurotoxin causing paralysis and blindness.

Asia, Europe

Roots, rhizomes

Dill*Anethum graveolens*

In cooking, dill is a useful spice that loses its flavor when overcooked. As a medicine, dill seeds and leaves were used to aid digestion and relieve intestinal cramps and flatulence. “Gripe water” or dill water was given to soothe babies with the colic. The plant name may come from the Saxon word *dilla*, which means “lull.” Dill was used to promote lactation, but there is no scientific evidence that it actually has that effect. Dill was known as *anethon* in ancient Greece, and in the Middle Ages it was used by magicians as a charm against witchcraft.

Europe, Asia

Leaves, seeds

Dogwood tree*Cornus florida*

Like redbud, the dogwood is a small showy woodland tree and popular landscape plant. And, its bark and roots also have astringent properties and were made into medicines in the form of teas, tinctures, and poultices. In the Civil War, dogwood was used as a cinchona quinine substitute for malarial fever and diarrhea. Dogwood twigs were crushed by chewing to make a brushy end and then used as a toothbrush to clean the teeth. Dogwood berries soaked in brandy made a bitter tonic for the digestive tract. Other uses of dogwood are for treatment of headache and fatigue.

America

Roots, bark, berries

Elderberry*Sambucus* species

In European folklore, this shrub was inhabited mythically by ‘the Elder Mother’ and so was rarely cut down. Its flowers and berries have been used to treat colds and flu. They are mildly diuretic and induce sweating. Infusions of flowers have been used to “enhance” the lining of the nose and throat, decreasing the effects of allergies, ear infections, and asthma. Various Native American peoples had many medicinal uses for elderberry, using bark (infusions) as an emetic and laxative, flowers (infusions) to induce sweating and bring down fevers, and berries (as salve) for burns. Very recent studies have shown that extract of elderberry may significantly reduce the symptoms of acute influenza. Any berries should be cooked before ingestion, because raw berries may cause a cyanide-like poisoning. The hollow stems of this plant were used by many cultures to make flutes, whistles, spouts, tubes to blow air on fires and other devices.

Europe

Flowers, berries

Elecampane*Inula helenium*

By legend, Helen of Troy was holding this plant when she went off with Paris, ergo the species name *I. helenium*. Or, perhaps it was named for the island Helena where it was known to grow abundantly. The plant has been used at least since Roman times to treat lung problems in humans and horses. The root contains a mucilaginous substance, inulin, that is useful in relieving coughs by soothing the bronchial linings. Inulin was first isolated from the plant in Germany in 1804. Another plant component called alantolactone shows some action against the bacillus that causes tuberculosis according to German research in 1999, and it had been investigated as a possible treatment for TB. Inula extract has proven useful in treating the nausea and vomiting brought on by chemotherapy.

Europe, Asia

Roots, rhizomes

Eucalyptus*Eucalyptus globulus* and other species

Eucalyptus oil (eucalyptol) extracted from the leaves of this plant helps open up respiratory passages in colds, bronchitis, and other respiratory conditions. It also is antiseptic and has been used externally as a treatment for sores and ulcers and as a gargle for sore throats. In its native Australia, the plant grows as a tree that can reach heights of greater than 400 feet, but in our garden it does not survive the cold of winter. For the first several years, the plant has round leaves closely applied to the stems. Later the leaves are long and thin and hang down from the stems. Koalas eat a diet consisting almost completely of eucalyptus leaves. They are one of the few species that can digest the leaves, which contain several toxic compounds.

Australia

Leaves

European meadowseet*Filipendula ulmaria* (*Spiraea ulmaria*)

Hippocrates had recommended powdered willow bark for relief of pain and fever in the 4th century BC. The active substance in willow (*Salix* species) can also be obtained from a few other plants. In Europe, a tea made from the dried flowers of European meadowsweet (*Spiraea ulmaria*) had been used to treat arthritis and other painful conditions. Salicin was extracted from this plant in 1828, converted into salicylic acid and used to treat colds, malaria, and arthritis. Salicylic acid was anti-inflammatory, soothed pain, and reduced fever but was very irritating to the gastric lining. In 1853, a French chemist was the first to buffer the caustic effects of salicylic acid with sodium and acetyl chloride, producing acetyl-salicylic acid. A chemist at Friedrich Bayer & Co. in Germany came up with a new process for that acetylation, and that process was patented in 1897. Bayer's acetyl-salicylic acid was named Aspirin: "A" for acetyl, "spirin" for the European meadowsweet that was used as the source of salicin, honoring the plant's scientific genus name, which at the time was *Spiraea*. Botanists later changed the scientific name of the plant to *Filipendula ulmaria*. Bayer & Co. lost its trademark for Aspirin after World War I, but the company continues to advertise Bayer Aspirin as the only "genuine aspirin." Another common name for this plant is European queen of the meadow, and there is a related plant that is native to America called American queen of the prairie – *Filipendula rubra* (American queen of the meadow is a name used for Joe Pye weed). The American filipendula is taller and has pink rather than white flowers. Some Native American tribes used it for "heart trouble."

Europe

Aerial parts

Evening primrose*Oenothera biennis*

Indians used this indigenous plant for a variety of ailments. Native American women chewed seeds of evening primrose to relieve premenstrual syndrome (PMS). Research has shown that one active ingredient of the seed oil is gamma-linolenic acid (GLA), an essential fatty acid required for the production of prostaglandins. Deficiency of GLA causes abnormal sensitivity to the hormone prolactin, which may contribute to PMS. Evening primrose may prove to be a very important medicinal plant. Studies have shown some effectiveness in treating eczema, in decreasing use of NSAIDs in rheumatoid arthritis patients, and in delaying the development of diabetic neuropathy. Studies of its use in cancer, hypercholesterolemia, peptic ulcers, ADHD, and other conditions are underway. This herbal remedy should not be taken by patients with epilepsy. The garden plant commonly sold as evening primrose is shorter and has similar but showier flowers, and, though pretty, is often an aggressive spreader that is very difficult to get rid of once established.

America

Seeds, leaves, stems, flowers

False Solomon's seal*Maianthemum racemosum (Smilacina racemosa)*

This is a plant of North American woodlands. Various Native American tribes used all parts of the plant. Leaf tea was a contraceptive. Smoke from burning the roots was used to treat insanity and to quiet a crying child. Powdered dried root stopped external bleeding, rashes, and itch. The round fruits of the plant were taken by settlers to prevent scurvy, and they were sometimes called scurvy berries. The famous English herbalist John Gerard (1545-1612) recommended stamped roots in wine as an internal medicine for persons with broken bones – “as touching the knitting of bones ...there is not another herb to be found comparable.”

Solomon's seal (*Polygonatum biflorum*) is a similar native woodland plant that also had some medicinal uses, especially as a treatment for bruises, swellings, and inflammations. *Polygonatum multiflorum* is a similar plant native to Europe and Asia. Gerard wrote, “The roots of Solomon's Seal, stamped while it is fresh and greene and applied, taketh away in one night or two at the most, any bruise, blacke or blew spots gotten by fals or women's wilfulness in stumbling upin their hastie husband's fists, or such like.” [That was meant to be funny, I suppose. KH]

America

Roots, leaves, berries

Fennel*Foeniculum vulgare*

Fennel is a feathery aromatic perennial plant native to the Mediterranean area. It was introduced into North America by Spanish priests who grew it in their mission gardens. The seed was used to promote lactation in nursing mothers. Fennel seed (like caraway and anise seed) tea also was useful for the treatment of indigestion, relieving bloating and stomach pain. Fennel also has been used as an eyewash for conjunctivitis and sore eyes. Fennel seed in large amounts is a strong uterine stimulant, and therapeutic fennel should not be used in pregnancy.

Mediterranean Europe and Africa

Seeds

Ferns

Various species

In many parts of the world, a wide variety of ferns have been used as medicines for wounds and inflammations, headaches and epilepsy, bronchitis and asthma, and other conditions. In this garden, ferns are represented by the Lady fern (*Athyrium filix-femina*). The roots and stems of this particular fern were used for menstrual problems, the pain of childbirth, and increasing the flow of milk, but were used also to get rid of intestinal worms and to increase the flow of urine.

Feverfew*Tanacetum parthenium*

This plant originated in southeastern Europe and was brought to North America for its medicinal qualities. As its name implies, the flowers and leaves are able to make a fever go away (“it maketh a fever fugitive”), and the pioneers used feverfew tea to relieve fever, colds, and headache. The herb may help in arthritis. Feverfew is especially useful in treating and preventing migraine headaches. Although some recommend migraine sufferers eat a “feverfew sandwich” (two fresh leaves wrapped in a piece of bread) daily as a means of preventing migraine headaches, eating fresh leaves can cause mouth sores. Using capsules or pills may be preferable. The plant has been used since ancient times to promote menstruation, in difficult births, and to expel the afterbirth. Feverfew does have strong stimulant effects on the uterus and should not be used during pregnancy. It should not be taken by patients being treated with warfarin or other “blood thinners,” because it also interferes with coagulation.

Europe

Leaves

Fig Tree*Ficus carica and F. religiosa*

Adam and Eve may have used fig leaves to cover their new shame, but the latex in the leaves also has been used externally for pain, insect bites and warts. The fruit is useful for constipation, and roasted fruit pulp has been used to treat swellings and abscesses. Mixed with *Inula helenium*, fig can help soothe coughs and bronchitis. The bark and leaves of a different fig known as Peepal (*Ficus religiosa*), which is native to India, was used variously for diarrhea, constipation, asthma, and boils. The Peepal fig tree is the one associated with the enlightenment of Buddha, and it is sacred to Buddhists and Hindus.

Asia

Leaves, fruits

Flax, Linseed*Linum usitatissimum*

Flax has been grown widely for so many centuries that no one is sure where the plant originated, though some believe it was a cultivated form derived from the wild species *Linum bienne* (pale flax). The stems of flax produce long tough but supple fibers that are woven into linen, such as that mentioned in the Bible, found in ancient Egyptian tombs, and used for the white sails in Homer’s *Odyssey*. The seeds of flax have been used medicinally in several ways. Oil expressed from the seeds has been a laxative, an additive in cough medicines, used externally for burns, and combined with honey to remove complexion spots from the face. The seeds contain a higher level of omega-3 fatty acids than do other plants. Some studies indicate that daily consumption of flax seed can lower serum levels of total cholesterol and low density lipoproteins (bad cholesterol). Flax seeds also contain a lignan (SDG) that may prove to have anti-cancer, anti-viral, and antibiotic properties. There was a law in the time of Charlemagne that all Romans must eat flaxseed in order to stay healthy. Linseed oil also has many non-medicinal uses, such as in the manufacture of linoleum, paint, varnish, soap, and ink.

Uncertain

Seeds

Foxglove*Digitalis purpurea* and *D. lanata*

These beautiful garden plants are biennial or short-lived perennials. They are grown commercially in Europe and India and harvested late in the fall, then dried in the shade so that sunlight and excess moisture does not diminish the medicinal content. The leaves of digitalis plants are the source of the cardiac glycosides digoxin and digitoxin, which help the heart beat become stronger, slower, and more regular. The plant also acts as a diuretic, decreasing the volume of fluid in the blood. Ingestion of the plant and overdose of the drug can be fatal. English physician William Withering generally is credited with the discovery in the late 1700s that digitalis could successfully treat congestive heart failure (known at the time as dropsy), a miserable and often fatal condition that resulted in severe swelling of the body and edema in the lungs.

Europe

Leaves

Garlic*Allium sativum*

In some studies, garlic appeared to reduce cholesterol (LDL) and blood pressure (possibly through diuresis) and reduce atherosclerotic plaque; however, more recent studies show it to be ineffective in lowering cholesterol in patients with moderately high hypercholesterolemia. Garlic's active components allicin, S-allyl cysteine, and diallyl sulfide may be potent inhibitors of the initiation of carcinogenesis. Studies have shown decreased risk of stomach and colon cancer in patients ingesting fresh or cooked garlic cloves (but not commercial garlic tablets or powders). Allicin also reduces clotting, and this may cause problems in some people, especially if surgery is needed. Allicin has antibacterial and antifungal effects, and garlic poultices were used to disinfect wounds in WW I, and garlic was used during WW II when antibiotics were not available.

Asia

Bulbs

Ginkgo tree*Ginkgo biloba*

Ginkgo is thought to be the most ancient tree still living on earth, with evidence of ginkgo leaves in fossils that are at least 200 million years old. It is native to Asia and has long been used in Chinese medicine. The female trees produce fruit containing seeds (called "nuts") that are used for asthma, wheezing, and urinary problems. In modern landscaping the female trees are avoided because ripe and rotting fruits produce an odor that most people find disgusting. The primary medicinal compound of ginkgo comes from its fan shaped leaves. There is controversy about whether *Ginkgo biloba* improves memory and helps in Alzheimer disease. Double-blinded studies have come down on both sides of the issue. The ginkgolides from the leaves do improve circulation in the brain and peripherally. They also are antagonistic to platelet activating factor (PAF), which is implicated in asthma, transplant rejection, inflammation, and other conditions. Because ginkgo interferes with platelets, chronic use may lead to bruising or bleeding. Individuals should stop taking ginkgo if surgery is planned, and the recommended dose of ginkgo should not be exceeded.

Asia

Leaves, Seeds

Golden ragwort*Packera aurea (Senecio aureus)*

This native perennial plant has rounded basal leaves that are green in the winter in Indiana when few other plants are. In the spring the plant sends up a stalk with purple buds that open to golden yellow flowers. The plant is also known as golden groundsel, squaw weed, and life root. Native Americans and settlers both used leaf tea to treat delayed menses, labor pains, complications of childbirth, and symptoms of menopause. It was one of the ingredients in the famous Lydia Pinkham's herbal tonic. The plant contains pyrrolizidine alkaloids that are highly toxic to the liver, and it should never be taken internally, but some herbalists recommend its use as a douche.

America

Roots, Leaves

Goldenrod*Solidago species*

This tall perennial plant makes beautiful golden meadows in the late summer. It has an unwarranted reputation. In fact, since its pollen is too heavy to be spread by wind, it rarely causes allergies itself but blooms at the same time as ragweed, the true prime culprit in hay fever. Native Americans and Chinese both used goldenrod for wound healing, and the genus name comes from Latin *solida* "whole" and *ago* "to make." Goldenrod leaf tea was a common beverage in the American Revolution. Stronger preparations from leaves and flowers have been used for a wide variety of ailments, including sore throats and kidney stones. Goldenrod remedies cause allergic reactions in some individuals. Goldenrod contains a natural rubber, and with the help of George Washington Carver, Thomas Edison developed a goldenrod variety that produced 12% rubber intended for use in Model-T tires, but goldenrod rubber never caught on.

America, Europe, Asia

Aerial parts

Grape vine*Vitis vinifera*

Grape vines can live to be hundreds of years old. The astringent qualities of the leaves and grape seeds were thought to be useful in treating diarrhea, excessive uterine hemorrhage, varicose veins, and hemorrhoids. In 1652, the famous herbalist Culpeper said that rubbing the ashes of burnt grape vine on the teeth would make them "white as snow." Sap from the vine has been used as an eye lotion, and raisins (dried and seedless grapes) have a laxative action. Modern pharmacology indicates that the antioxidant effects of procyanidins in grape seed extract are anti-atherosclerotic and anti-carcinogenic. Grape seed extract has been shown to decrease abdominal pain and vomiting in chronic or relapsing pancreatitis. Oligomers in grape seed also inhibit the enzymatic breakdown of collagen and promote collagen cross-linkages. Red grapes have an antioxidant effect because their skins contain resveratrol, which also is found in peanuts, blueberries and some other plants.

Europe, Asia

Leaves, Fruits, Seeds, Sap

Hawthorn tree*Crataegus monogyna* and other species

This small to medium sized tree with thorns typically grew in a hedge, also known as a "haw." Traditionally this plant was used to increase the flow of urine and eliminate kidney stones. Since the late 19th century, an extract of hawthorn flowers and berries has been used to increase the action of the heart muscle and improve congestive heart failure and other cardiovascular conditions. The active constituents of the berries have been shown to dilate coronary blood vessels and reduce peripheral resistance in the circulatory system. This leads to increased cardiac output and lowered blood pressure. The effects of hawthorn occur only after the herbal remedy has been taken for some time. Taking both hawthorn and digitalis preparations may lead to serious toxicity. Asian medicinal hawthorn (*C. pinnatifida*) is known as Shan Zha and is used to improve circulation and digestion.

Europe, Asia

Flowers, Berries, Leaves

Hellebore*Helleborus niger* and other species

Hellebores send up pretty flowers very early in the spring (Lenten Rose) and even in the winter (Christmas rose). The two plants look similar, but the latter one, which is *H. niger*, is the one that is both medicinal and poisonous.² *H. niger* is also known as black hellebore because its roots are so dark. This plant stimulates the heart like digitalis but is even more toxic. It also causes diarrhea, and the roots can cause contact blisters. Even so, at one time, this dangerous plant was used to treat abnormal mental states and intestinal parasites. It was also an early weapon of biological warfare. During the First Sacred War (595-585 BC), black hellebore was added to the water supply for the city of Kirra, near Delphi, in Greece. This act of terrorism actually was perpetrated by an ancestor of Hippocrates, and some think the familial shame of it led to his “do no harm” creed. Now some work is being done on using *H. niger* and *H. foetidus* in tumor therapy, rheumatism, dementia and anxiety/depression.

Europe

Rhizomes

Hop vine*Humulus lupulus*

The seed packets (strobiles) of the female plant contain compounds that are sedative and useful in treating insomnia, restlessness, and anxiety. They also contain a bitter principle that relieves indigestion and improves appetite. The well-known bitter taste of beer is due to hops. Beginning in the ninth century, adding hops to the brewing process gave beer clarity, flavor, and a longer shelf life. This was a marked departure from the traditional process of malt fermentation. The antibiotic effect of hops caused only yeast to remain as the main fermenting agent in the process. The use of hops in beer making was banned in England until the 16th century in an effort to protect against changing the nature of English ales. Harvesting hops can be dangerous because small hairs on the strobiles can become dislodged and irritate the eyes. Collectors also may suffer dermatitis, cardiac disturbance, and breathlessness. Hops sedatives should not be used in pregnancy or by patients with estrogen-dependant breast cancer.

Europe

Female flowers and seeds (Strobiles)

Horehound*Marrubium vulgare*

This plant has a long history of medicinal uses. The Egyptians called the plant “Seed of Horus,” Horus being the god of sky and light and the son of Osiris and Isis, and this is likely the source of the English common name for the plant. Since ancient times, it has been used for gastrointestinal complaints, cough, and other lung ailments. Culpeper wrote, “It helpeth to expectorate tough phlegm from the chest...” In large doses, horehound is a gentle purgative and eliminates intestinal worms. Horehound candy is made by boiling fresh or dried leaves, and then cooking sugar into the strained water and letting the mixture cool and harden. *Marrubium vulgare* is sometimes known as White horehound. Black horehound (*Ballota nigra*) is an unrelated malodorous plant.

Europe, Asia

Leaves, Aerial parts

² The hellebores in this garden are Lenten rose.

Horseradish*Amoracia rusticana*

The large white tapered root has a very strong flavor and gives a rush of heat that goes straight up into the nose and sinuses, making it useful in colds and other congestions of the sinuses. One of its older common names was “stingnose.” The plant has been used at least since the time of the ancient Egyptians. It was rubbed on arthritic joints to relieve pain and pressed against the forehead to relieve headache. Horseradish tea was used to promote urine production. The root has antibacterial and anti-fungal properties and has been used on infected wounds, though blistering of the skin can occur. In the garden the plant is a very aggressive spreader and is better grown in a container than in the ground.

Europe, Western Asia

Roots, leaves

Hyssop*Hyssopus officinalis*

Hyssop is mentioned in the Bible ten times in the Old Testament and two times in the New Testament; however, scholars think that the texts were referring to a type of oregano rather than to *Hyssopus officinalis*. In any case, the leaves and blue flowers of what we know today as hyssop have been used to treat colds, cough, and bronchitis because of their expectorant qualities. The plant also was used to promote menstruation and as a poultice for wounds and nascent cold sores. Hyssop may lower the threshold for seizures in children.

Mediterranean

Leaves, Flowers

Jewelweed*Impatiens pallida, I. capensis*

The aerial parts of this plant are famous for relieving the itching of poison ivy dermatitis. Jewelweed is a native of North America and grows wild in moist soils along creek beds. The plant has unusual yellow (*I. pallida*) or orange (*I. capensis*) flowers that dangle downward from the stems. When the seeds are ripe and the pod is touched, the seeds go flying outward for several feet. This characteristic leads to another common name for the plant - “touch-me-not.” A different type of jewelweed in Asia (*I. balsamina*) is also used topically as an anti-pruritic remedy and also to sooth rheumatism, bruises, and swelling.

North America, Asia

Aerial parts

Joe Pye weed*Eutrochium purpureum (Eupatorium purpureum)*

This native plant with a purplish stem was named after Joe Pye, an Indian medicine man in New England who touted it as a cure for typhus. The whole plant brewed into teas or stronger infusions was used for a variety of febrile diseases. The plant also was known as “gravel root,” and the roots were dug up in autumn and used to increase urine flow, thereby treating urinary stones, cystitis, enlarged prostate, and other genitourinary problems. It also was a treatment for gout and rheumatism. This plant is one of our giant native perennials, growing up to nine feet tall and producing large clusters of small pink flowers in late summer. The blossoms are often covered with butterflies and bees. Another name for the Joe Pye plant is American queen of the meadow. (American queen of the prairie is a name used for a different plant *Filipendula rubra*.)

America

Entire plant, roots

Juniper*Juniperus communis*

The pea-sized berries (fleshy cones) of the juniper tree/shrub take several years to ripen and turn blue. In the past, ripe juniper berries have been used to treat indigestion, urinary tract problems, and a wide variety of other conditions. Juniper oil baths and rubs were soothing for rheumatic patients. Recent studies have shown that *Juniperus chinensis* extract has anti-tumor effects in mice and that *Juniperus communis* has an anti-mycobacterial effect that may make it useful in tuberculosis, but that it is not effective in fighting dental plaque. Juniper berries have been used to flavor gin since the Dutch invented that drink, which was originally called “Holland’s Geneva.” Juniper berries from some species other than *J. communis* are poisonous. New growth on junipers is needle shaped and sharp, but older parts of the plant have non-sharp, scale-like leaves.

Europe, Northern Asia and America Berries

Ladybells*Adenophora species*

The example of ladybells in the garden is *Adenophora liliifolia*, but many other species of *Adenophora* have been used medicinally, especially in Chinese medicine. *A. remotiflora* and *verticulata* have been used as antidotes to poisoning and poison bites. *A. stricta* is a stimulant for the respiratory and cardiac systems and has been used to treat tuberculosis, chronic bronchitis, and dry cough. Though they produce pretty flowers, some ladybells can spread aggressively in the garden.

Europe, Asia Minor Roots, Rhizomes

Lady’s mantle*Alchemilla vulgaris*

This perennial grows in the Northern Hemisphere, even above the Arctic Circle and in high altitude mountain ranges. The “lady” referred to in the name is the Virgin Mary, and the scalloped edge of the leaf was thought to be reminiscent of Mary’s mantle (cloak). The plant is noted for collecting sparkling drops of dew in the furrows of its leaves. The Genus name, *Alchemilla*, from the word “alchemy” may refer to the plant appearing to change that collected water into diamonds, or it may refer to the use of the plant in magic. Medicinally, the plant was used for its astringent properties, treating bleeding such as excessive menstrual flow, diarrhea, and inflamed wounds. In Germany, Commission E approves the use of Lady’s mantle for mild diarrhea.

Europe Aerial parts, Roots

Lamb’s ear*Stachys species*

The soft fuzzy leaves of this *Stachys byzantina* actually do look like a lamb’s ears. It is also known as Woolly betony and Silver carpet. A related plant *Stachys officinalis* was revered as a panacea in ancient times and medieval Europe, though this plant was called one called betony, and the nomenclature of the several “betony” plants is very confusing. In any case, the leaves of *Stachys* have been used as bandages. They have natural antiseptic and analgesic properties and are thought to promote clotting of blood. Various Native American tribes also used other *Stachys* species for a wide variety of ailments.

Turkey, Iran, Caucasus Leaves

Lavender*Lavandula angustifolia* and other species

Lavender is native to France and the Western Mediterranean area. It was an important herbal medicine in the Middle Ages, and the Pilgrims brought it to North America to treat headache, apoplexy, and epilepsy, among other conditions. The essential oil of the flowers is useful as a first aid remedy. It is antiseptic and relieves pain and inflammation on burns, stings, and wounds. Lavender is best known for its calming and soothing effect and is somewhat helpful in insomnia, irritability, headache, colic, and some types of asthma. The name comes from *lavare*, the Latin word for “to wash.” Lavender added to bath water can relieve muscle tension, calm the nervous system, and promote a good night’s sleep.

Europe, Mediterranean

Flowers

Lemon balm*Melissa officinalis*

The lemon scented leaves of this member of the mint family have long been valued as a tonic to raise the spirits. Culpeper in 1652 wrote that it “causeth the mind and heart to be merry.” Lemon balm has been used for insomnia and may diminish palpitations and stomach complaints related to nervousness and panic. Its anti-thyroid properties may account for its calming effect. It has been used to treat oral and genital herpes and help prevent outbreaks of more sores. It was brought from Europe and used in the colonial period as both medicine and flavoring. Thomas Jefferson grew it in his gardens at Monticello.

Mediterranean Europe and Africa, Western Asia

Aerial parts

Licorice*Glycyrrhiza glabra*

The glycyrrhizic compound in roots is said to be 50 times sweeter than sugar. Licorice was a medical plant of ancient Greece, and it has been used for centuries in traditional Chinese medicine and Ayurvedic medicine. The plant is widely used and studied in Europe where it is available with the active compound glycyrrhizin or as deglycyrrhized licorice (DGL). Among its many uses is relieving arthritis and other inflammatory conditions. Reportedly, it stimulates adrenal gland secretion and slows the metabolic breakdown of steroid hormones. Glycyrrhin also boosts levels of interferon, contains powerful antioxidants, is anti-viral, and has some phytoestrogenic actions. DGL promotes the production of mucus in the stomach and esophagus and is used to protect the digestive tract from ulceration by gastric acid. Licorice interferes with several prescription medicines, and chronic ingestion of licorice root causes serious complications. Licorice has not been a popular herbal remedy in the United States, and much of the licorice candy here is flavored with anise instead of with true licorice.

Europe, Asia

Rhizomes, Roots

Lily of the valley*Convallaria majalis*

This plant contains cardiac glycosides with an effect similar to digitalis, but the compounds are milder than digitalis and are cleared from the body more quickly. Even so, lily of the valley should never be ingested or used except under professional care. This herbal reportedly increases blood flow to the heart; makes the heart’s beat slower, more regular, and more powerful; causes diuresis and lowers blood pressure. It was used to treat soldiers exposed to poison mustard gas. Legend says that Apollo gave this plant as a gift to the Greek god of healing Asclepius.

Europe

Flowers, Leaves, Rhizomes

Lion's tail, Wild Dagga*Leonotis leonurus*

This unusual plant is native to South Africa. The local tribes used the plant as a calming and dream-enhancing substance for medicine and ritual. Although one other common name is Cape hemp, the plant is not related chemically or botanically to marijuana. Lion's tail also has been used for painful conditions like arthritis, as a purgative and vermifuge to get rid of worms, and as a folk remedy for diabetes. Like other members of the Mint family, the stems are square and the flowers come off at intervals hugging the stems. Unlike most mints, this plant flowers very late in the growing season (October here), and the flowers are large and bright orange. The plant will not survive the winter in Zone 5.

South Africa

Aerial parts, Roots

Lobelia*Lobelia* species

Several species of lobelia have been used for medicinal purposes. *Lobelia inflata* (also known as Indian tobacco, pukeweed, and vomit wort) was and still is used for many purposes, including as a "nervine relaxant," emetic, sweat inducer, diuretic, and expectorant. Lobelia plants share some characteristics with tobacco plants (*Nicotiana*) and have been used in smoking cessation regimens. Big blue lobelia was named *L. siphilitica* in the mistaken belief that it was an effective treatment for venereal disease. The Asian lobelia *L. chinensis* is one of the fundamental herbs (Ban Bian Lian) in traditional Chinese medicine. It is used as a remedy for poisonous snakebites and used alone or in combination with other herbs for many ailments. The species is named in honor of the great Flemish botanist Matthias de L'Obel (1528-1616).

America, Asia

Aerial parts

Lovage*Levisticum officinalis, L. canadense*

This tall perennial plant starts growing very early in the spring. It has been used for digestive complaints such as flatulence, colic, and indigestion. Commission E approves lovage for use in urinary tract problems because of its antibacterial and diuretic properties. In America in the South, lovage was also known as "angelico" and was prized by African-Americans as an aphrodisiac, a tonic, and a good-luck charm. Another folk name for this angelico was "boarhog root," reportedly because it smells like a wet hog. Lovage (angelico) somewhat resembles true angelica but is in a different Genus. Lovage reportedly promotes menstruation and relieves menstrual pain. It should not be taken in pregnancy.

Mediterranean, America

Leaves, Seeds, Roots

Lungwort*Pulmonaria officinalis*

In the past, European healers believed that the appearance of a plant gave a sign of what it should be used for in healing - this was called the "Doctrine of Signatures." For example, the spots on the leaves of this plant reminded healers of the spots in diseased lungs (tuberculosis or bronchopneumonia), so they called the plant lungwort (*Pulmonaria*) and used it to treat lung ailments. Native Americans had the same idea, referred to as the "Law of Similars." Lungwort also was used as a topical astringent for wounds and hemorrhoids. A totally different plant "lung moss" (*Lobaria pulmonaria*) is also a medicinal plant (lichen) and is sometimes called "lungwort."

Europe

Leaves

Marigold*Tagetes patula* and other species

Marigolds are popular and commonly seen annual garden plants that have an interesting medicinal history. *Tagetes lucida*, *T. erecta*, and *T. patula* were important herbs in traditional Aztec medicine and were used ritualistically as sacred herbs offered to Tlaloc, the god of rain who made all things grow. Aztec physicians used marigolds to treat conditions that they thought were due to “excessive cold” influences in the body, such as edema, local swellings, cough with phlegm, and fever with chills. Marigold was given as “bitter water” to drink or rubbed on the skin. It also was used as incense and blown into the face of sacrificial victims. *Tagetes lucida* also was used ritualistically by Mayans and other peoples of Mexico.

Americas

Leaves, Flowers

Mayapple*Podophyllum peltatum*

In the spring, mayapples appear in woodland areas as patches of shiny-leaved umbrella-like plants that are two to three feet tall. A single white flower blooms under the umbrella and becomes an apple-like fruit that is poisonous until fully ripe. Actually, the entire plant is poisonous, except for its ripened fruit. Historically, the Cherokee, Delaware and Iroquois all used mayapple root as a laxative. Mayapple plants contain the poisonous substance podophyllotoxin that has been used to treat warts and genital warts. Podophyllotoxin also is the compound used for the production of some anti-cancer drugs (etoposide, teniposide, etopophos for cancers of the lung and testis and childhood acute leukemia) as well as remedies being used or tested for psoriasis, malaria, and rheumatoid arthritis. Mayapple also is known as American mandrake.

America

Root, Rhizome, Leaves

Milkweeds*Asclepias syriaca* (Common milkweed, Silkweed)*Asclepias tuberosa* (Butterfly weed, Pleurisy root)*Asclepias curassavica* (Bloodflower, Cancerillo)

Most of the milkweeds have a milky sap in their stem that is quite toxic to heart action but was sometimes used externally to treat conditions like warts and ringworm. Native Americans gathered the root of the common milkweed plant to make a tea that was used as a laxative and as a diuretic treatment for kidney stones and dropsy (edema due to heart failure). An infusion of the root was a treatment for respiratory diseases, leading to another name “pleurisy root.” The Common milkweed has spherical clusters of small pink flowers. Butterfly weed, which is also known as pleurisy root, is a milkweed with large clusters of small orange flowers. A third medicinal milkweed is bloodflower. It has clustered yellow and red flowers, and its root also was used for scrofula and as an emetic and laxative. A preparation of bloodflower also was an abortifacient.

America

Roots

Here is more interesting information related to the milkweeds – genus *Asclepias*.

The name of this genus is in honor of Asclepius (Asklepios; known to Romans as Aesculapius), who was the Greek god of healing. By legend, he was snatched from his mother’s womb by a jealous Apollo and sent to be raised by the centaur Chiron, who taught him all medicinal knowledge. Asclepius was such a good healer that he even brought a dead man back to life. This act enraged Zeus, who killed Asclepius with a thunderbolt but later felt remorse and gave him status as a deity. For many centuries, beginning in the fifth century BC, at Asclepion temples of healing built in his honor, all comers were treated with a mixture of ritual, herbal medicines, and sometimes surgery.

Asclepius had several sons, two of whom were physicians at the siege of Troy. He also had several daughters, including the goddess of universal cures, Panacea (as in our word panacea), and the goddess of health and cleanliness, Hygieia (as in hygiene). In statuary, Asclepius is shown holding a healing staff with a single coiled serpent (the snake being a symbol of renewed life).

Until very recently, the traditional Hippocratic Oath taken by all students of medicine and new physicians began, “I swear by Apollo the Healer, by Asclepius, by Hygieia, by Panacea, and by all the Gods and Goddesses, making them my witnesses, that I will carry out, according to my ability and judgment, this oath and this indenture.” And, in times past, medical diplomas or licenses sometimes featured pictures of Asclepius and his daughters.



From the Indiana State Physician License of Dr. Marion Scheetz, 1936

Another important thing about the milkweeds is that they are the critical host plant for the larvae of monarch butterflies. The adult butterfly can sip nectar from various plants, but the eggs must be laid on the leaves of milkweeds so that the growing larvae can get the nourishment they need. The monarch butterflies can ingest the toxic “milk” in the milkweed plant without harm to themselves. Then that toxin in their bodies protects them from being eaten by birds and other predators that learn quickly that eating monarchs will make them sick.



Mint*Mentha* species

Both peppermint (*Mentha x piperita*) and spearmint (*Mentha spicata*) were brought from Europe and have escaped cultivation. Mint's important quality is its ability to aid in digestion, increasing the flow of gastric juices and bile and relieving flatulence, bloating, and colic. Herbal mint tea may decrease morning sickness. Menthol vapors help open nasal passages. Mint lotion applied externally can relieve pain and headache. Peppermint should not be given to young children, and peppermint oil should not be taken internally. The name comes from *mente*, the Latin word for "thought." Bundles and garlands of mint reportedly were worn to help clear and sharpen the mind. Mint becomes very invasive in the garden, and it is wise to grow it only in containers.

Europe, Africa

Leaves

Motherwort*Leonurus cardiaca*

Traditionally in Europe, motherwort, as its name implies, was given for "female weaknesses and disorders." It was used to treat hysteria, palpitations, fainting, tremors, and to induce a "quiet passivity of the mind." Culpeper wrote about motherwort that "there is no better herb to drive melancholy vapours from the heart, to strengthen and make the mind cheerful, blithe and merry..." Germany's Commission E approves it for thyroid dysfunction and nervous heart complaints. In traditional Chinese medicine, different motherwort species (*L. sibiricus* and *L. heterophyllus*) known as Yi Mu Cao were used to regulate menses and increase urine flow to reduce swelling from edema.

Europe, Asia

Aerial parts

Mullein*Verbascum thapsus* and other species

Common mullein is a biennial plant that is also known as bunny's ears, feltwort, and flannel leaf. First, the plant grows as a rosette of fuzzy, puffy basal leaves that often measure a foot or more in length. In its second year, it sends up a dramatic six foot stalk of small yellow flowers. Root preparations were widely used for respiratory problems. A tincture made of the root in the first year's growth was given for cystitis and urinary incontinence. The crushed leaves were treatment for bruises, sprains, and rashes (including diaper rash). Oil in which the flowers were allowed to soak was a remedy for earache and hemorrhoids. The name mullein comes from the Middle English word *moleyne* (Latin *mollis*), meaning "soft" – no doubt, a reference to the leaves. Another name for the plant is Quaker rouge, because rubbing a leaf on the cheeks brings a blush to the skin without using official makeup. Romans and other people through the ages dipped the tall stalks in oil and used them as torches. The flowers contain the insecticidal compound rotenone, and cooled flower tea can be used in the garden as a pesticide; however, it is highly toxic to aquatic wildlife and should not be allowed to contaminate streams or ponds.

Europe, Asia, Africa

Flowers, Leaves, Roots

New England aster*Symphotrichum novae-angliae* (*Aster novi-angliae*)

This beautiful perennial plant blooms profusely in late summer and fall. Root tea was used by Native American tribes to treat fever and diarrhea. Asters also were remedies for headache and insanity. The smoke and smudge of burning aster plants was used to revive someone who had fainted. More recently, the plant has been considered a mild sedative and relaxant and has been used topically to treat sumac-induced dermatitis. Flowers have been reported to have a calming effect on the mind and lungs. According to legend, an old squaw turned two Indian girls into Aster and Goldenrod.

America

Roots, Flowers

New Jersey tea*Ceanothus americanus* and other species

The roots of this small shrub are reddish, and another name for the plant is redroot. The leaves were used as a tea substitute, especially during the American Revolution. Various Native American tribes used root preparations to wash injured legs and feet or to soothe pain from a sore tooth. They used it as both a laxative and as a treatment for diarrhea. Some tribes used the root as an abortifacient. Roots and powdered bark, sometimes mixed with lobelia, were used for venereal sores. Modern herbalists recommend redroot for lymphatic disorders and some other ailments.

America

Root, Bark

Oregano, Wild marjoram*Origanum vulgare*

Oregano was brought to North America from Europe and cultivated by New England settlers for its medicinal as well as culinary uses. Oregano stimulates the flow of bile and can decrease flatulence. Oregano was used to treat tonsillitis and respiratory conditions, and oregano oil has been shown to have antibacterial, anti-fungal, and anti-parasitic effects. Diluted oregano oil was a traditional cure for toothache. Internal use of the essential oil is not recommended. This herbal medicine promotes menstruation and should not be taken during pregnancy.

Asia, Europe, Africa

Aerial parts

Parsley*Petroselinum crispum*

Crispy parsley is a well known and nutritious culinary herb. The leaves have a high content of vitamins A, C, and E, as well as breath-freshening chlorophyll, bone-strengthening fluorine, and minerals. Parsley seeds and root have diuretic properties and have been used to treat high blood pressure, cystitis, gout, and other forms of arthritis. It is approved by Germany's Commission E for urinary infections and stones. In ancient Greece, parsley was associated with death, and wreaths of parsley were placed on graves. Parsley is a strong uterine stimulant, and its seeds and root should not be taken during pregnancy or by individuals with kidney disease.

Mediterranean

Seeds, Leaves

Partridge berry, Squaw vine*Mitchella repens*

Colonists observed the use of this low growing evergreen herb by Native American women and called the plant Squaw vine. Many tribes used it prepared as a salve for sore and cracked nipples of nursing mothers and as a medicine taken internally to hasten childbirth, ease labor pains, regulate menses, and ease cramps. It can act as an abortifacient and should not be used by pregnant women, except in labor.

America

Aerial parts, Berries

Passion flower vine, Maypop*Passiflora incarnata* and other species

The aerial parts of this plant are valued for their tranquilizing and anti-spasmodic effects. It was long used by Incas and other Native Americans and today is recommended by herbalists for insomnia and anxiety. The elaborate structure of the flower was thought to be symbolic of the Passion of Christ, ergo the name. The vine also is known as maypop. The plant was dropped from the U.S. *National Formulary* in 1936, and it was banned as a sleep aid by the FDA in 1978; however, Commission E in Germany approves use of passion flower for nervousness and insomnia. Passion flower extract may prove helpful in treating general anxiety disorder. A related plant ornamental plant *Passiflora caerulea* contains cyanide.

Americas

Aerial parts, Flowers

Peony*Paeonia officinalis* and other species

Various species of peony are used medicinally. *Paeonia officinalis*, which was native to European areas, has some antispasmodic and sedative effects. From the time of Hippocrates it was recommended as a treatment for epilepsy. It also was used to stimulate the uterus to bleed in menstruation and to expel the placenta in childbirth. The plant name is in honor of Paeon, who was the physician of the Olympian gods. In Chinese medicine, for centuries white peony (*Paeonia lactiflora*, *P. albiflora*) was used to correct gynecologic conditions, ease pain, and nourish the blood. Along with three other herbs (rehmania, chuan xiong, and Chinese angelica), white peony is a key ingredient in the female tonic called “four thing soup.”

Europe, Asia

Roots, Bark, Seeds, Flowers

Periwinkle*Catharanthus roseus*; *Vinca minor*

There are two different periwinkles. The aerial parts of the common garden plant known as “lesser periwinkle” (*Vinca minor*) has unproven medicinal value but was used as an astringent and taken to improve circulation and brain function. A different plant with a similar flower that originally was native to Madagascar (Madagascar periwinkle) has true medicinal value. It was the source of the important chemotherapeutic agents vincristine and vinblastine, which are used against Hodgkin’s disease, other lymphomas and leukemias, and other solid cancers. These agents destroy cancer cells by damaging their DNA. It is of local interest that in 1979, Eli Lilly & Co. brought out vinblastine under the trade name “Eldisine.” Originally placed in the genus *Vinca* as *Vinca rosea*, Madagascar periwinkle was later reclassified as *Catharanthus roseus*. Madagascar periwinkle extracts also have been used in other conditions as tranquilizer, hypotensive, and coagulant agents and to lower blood sugar in diabetes mellitus.

Madagascar; Europe

Leaves; Aerial parts, Roots

Poppy*Papaver somniferum*; *P. orientale*

These two poppy plants have similar looking flowers, but they are otherwise quite different. *Papaver orientale* is a popular perennial garden plant. It has only mild medicinal properties: the petals can induce sweating and help reduce fevers. *P. somniferum* on the other hand, is the source of the very powerful drug opium and its derivatives such as morphine, codeine, and heroin. Opiates are strong pain killers under tight legal control because they also cause euphoria and are widely abused and very addictive. Morphine was an important cough suppressant in the 1800s, when the number one cause of mortality and morbidity was tuberculosis and other pulmonary conditions. The Bayer Company actually developed heroin as a modification of morphine in the hope that it could suppress coughs without being addictive. Raw opium is harvested from the unripened flower pods after the petals have dropped. Opium poppies are annual plants – living only one year and coming up from seed each spring. Most of the legal opium is grown and produced in Australia, India, and Turkey. Much of the illegal opium comes from Afghanistan, Burma, and Colombia. Poppy seeds are edible and commonly used in curries and in and on baked goods, such as bagels. The poppy seeds do not contain morphine or codeine, but if the seeds have not been well cleaned they may have some residue of opiates on their surface – enough to result in a positive drug test. (It is unlawful to grow opium poppies for opium production in the USA, and to avoid potential liability they have been removed from this demonstration garden.)

Pot marigold – see *Calendula*

Purple Coneflower*Echinacea angustifolia, E. purpurea*

The flower of echinacea is one of the most beautiful in the medicinal plant garden. The active components in this plant have anti-inflammatory and immune-stimulant properties. In addition to having these cortisone-like effects, Echinacea also is bactericidal and insecticidal. The plant is indigenous to the central plains of North America and was used by many Native American tribes for a variety of ailments. Now, echinacea is one of the top selling herbal remedy in the United States. The roots and sometimes the flowers are used to prevent and treat colds and the flu, and to treat yeast infections, herpes, acne, insect bites, and other inflammatory diseases. Some studies show that echinacea decreases the symptoms in acute colds and flu when taken after onset of symptoms, though it does not protect against catching a cold or flu when taken on a long term basis. A 1999 *Consumer Reports* study showed up to 500% variation in the amount of active compounds among over the counter herbal echinacea products in the USA, with marked variation even among pills in the same bottle. Echinacea should not be used by transplant patients or by those with autoimmune diseases.

America

Roots, Aerial parts

Purple hyacinth bean*Lablab purpureus*

This rapidly growing vine is mainly a food source, but the beans must be cooked with several changes of water or they produce a kind of cyanide poisoning. The plant also has been used to treat diarrhea, vomiting, leucorrhea and gonorrhoea. Chronic ingestion of beans may lower cholesterol.

India, Africa

Beans, Flowers

Queen Anne's lace, Wild carrot*Daucus carota*

This actually beautiful biennial “weed,” also known as Wild carrot, originated in Afghanistan but was cultivated around the world because of its many uses. The root is rich in beta-carotene, a precursor of vitamin A, and the consumption of the wild carrot helped prevent the most common cause of blindness in the world – vitamin A deficiency. The leaves and seeds have diuretic qualities. The plant also is bactericidal, a hypotensive agent, and especially effective in expelling intestinal worms. At one time the seeds were used as a morning-after contraceptive, and in some animal studies the seeds have prevented implantation of the embryo. Studies in China show inhibition of progesterone production by seed oil. The plant should not be used during pregnancy. It is extremely important not to confuse this plant with its deadly look-a-like poison hemlock, which is widespread throughout the USA.

Afghanistan

Roots, Leaves, Seeds

Queen of the meadow – See European meadowsweet and Joe Pye weed.

Queen of the prairie*Filipendula rubra*

The tannin-containing roots of this plant were used by Native Americans to treat diarrhea, dysentery, and bleeding. The root was used in “love potions” and for physical heart trouble, as well. Like its sister-plant European meadowsweet (*Filipendula ulmaria*, also known as queen of the meadow), it contains compounds with aspirin-like anti-inflammatory, anti-pyretic, and pain-relieving effects.

America

Root and leaves

Redbud tree*Cercis canadensis*

Redbud trees grow wild in southern Indiana woodlands and are a popular landscape plant because of their small size and beautiful reddish-purple flowers in early spring - flowers that were eaten fresh or pickled by Indians. The inner bark of the redbud tree was used to make an astringent tea for the treatment of dysentery and other diarrheas, and this use was promoted by the Eclectic physicians. Redbud also was a folk remedy for leukemia. No modern research indicating medicinal qualities of redbud was found. The redbud trees in the garden show the characteristic heart shaped leaves of this plant.

America

Bark

Rose*Rosa species*

Of the many species of roses, those most used medicinally were *Rosa gallica*, *R. centifolia*, and *R. canina*. The petals of deep red roses of the first two (*R. gallica* & *R. centifolia*) were thought to be the most powerful. Types of preparations made from the dried petals included essential oils (known as rose attar or otto), rose-water, infusions, syrups, honeys, and vinegars. Rose petal preparations have been used for sores in the mouth and throat, hemorrhages, cough, depression and stress. Rose water was used as lotion for the eyes. Compresses soaked in rose vinegar were applied to relieve headache induced by the hot sun. Rose petal preparations are also used as ingredients to make other medicines more palatable. Rose hips (seed pods), which are quite large in *R. canina*, contain a high level of vitamin C (as well as vitamins A, B, E, and K) and have been used to prevent scurvy. The hips and seeds also have been used as a diuretic and mild laxative.

Persia

Petals, Hips

Rosemary*Rosmarinus officinalis*

For centuries, the essence of rosemary has been inhaled to concentrate the mind and strengthen the memory. It may increase circulation to the head and may help with migraine headaches. The whole herb contains powerful anti-oxidants. Several compounds in rosemary (diterpenes) are being studied for possible neuronal protection and inhibition of neuronal cell death in Alzheimer's disease and Parkinson's disease. Commission E in Germany approves the use of rosemary for blood pressure problems, dyspepsia, poor appetite, and rheumatism. In many cultures, "rosemary is for remembrance," and it is used in wedding and funeral ceremonial practices.

Mediterranean

Leaves

Saffron crocus*Crocus sativa*

The saffron crocus blooms in the fall instead of the spring. The stigmas, which are the tips of the female part of each flower, are gathered and dried and used as the very expensive spice called saffron, something that gives mild flavoring and a beautiful yellow color to rice and other foods. Saffron has been cultivated in Iran, India, and Greece since at least 2000 BC. Traditionally, it was used as an analgesic, aphrodisiac, and treatment for various mental diseases. Recent studies indicate it has potential to improve the eye in macular degeneration. The petals of the saffron crocus have been used to treat depression.

Southwest Asia

Stigmas

Sage*Salvia officinalis*

The name of this plant's genus is from the Latin word *salvare*, meaning "to cure." Sage is native to southern Europe, and ancients believed sage was related to longevity and immortality. An Italian aphorism in the 10th century stated, "Why should a man die while sage grows in his garden?" The Chinese also were impressed by this herb and traded fine green tea for sage at a four to one rate. Sage was brought to Indiana by the pioneers who used sage tea for colds and upset stomachs. The plant also was very important as a meat preserver in sausage. Current uses of sage include as a gargle for sore throat, canker sores, and sore gums. Fresh leaves can be applied to insect stings and bites. And, sage is used as a remedy for irregular menses, symptoms of menopause, and herpes infections.

Modern studies indicate that sage has acetylcholinesterase inhibitor properties and may have potential in treating Alzheimer's disease. Acetylcholine is one of the neurotransmitter molecules that "carries messages" from one neuron to another in the brain. Acetylcholinesterase breaks down the acetylcholine, so inhibiting the former could result in more 'messengers' being present and transmitted activity in the brain. Sage has been studied for usefulness not only in dementia but also in diabetes mellitus, obesity, cholesterol control, and cancer. English herbalists of the 1500s recognized sage as "good for the head and brain, and quickeneth the nerves and memory."

Mediterranean

Leaves

Sassafras tree*Sassafras albidum*

Sassafras grows to be medium-sized trees and form little groves by sending up new trunks from the spreading root system. Sassafras had many medicinal uses for the Native Americans. The bark and root are very aromatic, and sassafras was used to flavor toothpaste, chewing gum, Cajun gumbo file, and other products. It is now known that oil of sassafras contains safrole, a compound that can cause liver damage and induce malignant tumors in lab animals. Sassafras oil contains a precursor of amphetamine-like substances and has been reported to cause serious toxic reactions. Now, in the USA, retail sassafras products have had the dangerous safrole removed, but even so consumption of large amounts of sassafras is not recommended. In colonial times a great deal of sassafras was shipped to London, where it was promoted as a cure for syphilis and was an extremely valuable cargo. Indiana pioneers took sassafras tea as a general tonic in the spring to "thin the blood." Tea was also used for rheumatism and fevers. The tiger swallowtail butterfly lays her eggs on sassafras trees, so that the larvae will have the right food when they hatch. The tree is easily recognized by its three forms of ovoid, mitten-like leaves all on the same branch (sometimes called "knife, fork, and spoon" leaves).

America

Bark, Roots

Skullcap – See Baikal skullcap and American skullcap**Solomon's seal***Polygonatum biflorum, P. multiflorum*

See False Solomon's seal

Sorrel and Dock*Rumex* species

The genus *Rumex* comprises sorrels and docks. Various species of these plants have a sour taste and astringent properties, and they have been used as cleansing tonics, laxatives, and treatments for skin problems. Sheep sorrel (*R. acetosella*) was one of four ingredients in “essiac,” an herbal anti-cancer mixture that was popular in the 1920s. Twenty-first century lab tests of essiac show some *in vitro* anti-cancer effects. French sorrel (*R. scutatus*) has a more lemony taste and is the main ingredient in sorrel soup. The leaves of sorrels contain small amounts of oxalate. Dock leaves contain higher amounts of oxalate (as do rhubarb leaves) and should not be eaten because oxalate poisoning and renal failure can result. Several types of large perennial weedy dock plants have been used as medicinal herbs, especially for skin conditions. For example, crushed leaves were laid on hives and pounded root on cuts. The plant was also the source of a “blood purifier,” a tonic for arthritis and liver complaints, and a laxative. Wood sorrel (*Oxalis acetosella*) is in a different genus that is characterized by clover-like leaves, but it also contains oxalate and has the typical sour taste of sorrels.

Europe, America

Roots, leaves

Soy bean*Glycine max*

This annual plant, which is indigenous to Asia and widely cultivated here in the Midwest, is the source of many soy-based products, including glycerin, linoleum, paint, soaps, ink, varnish, biofuel and other petroleum and rubber substitutes. Medicinally, soy contains isoflavones that are phytoestrogens that weakly mimic the effects of human estrogen. This makes them potentially useful in combating the symptoms of menopause and protecting against osteoporosis. In spite of its phytoestrogenic characteristic, there is some evidence that consumption of soy, especially early in life, can inhibit the development and growth of estrogen-sensitive cancers such as some breast, ovary, and prostate cancers. The compound genistein from soy has been shown to inhibit the growth of new blood vessels that supply tumors. Soy can interfere with the effectiveness of chemotherapy with tamoxifen, and soy and tamoxifen should not be used concurrently. Studies indicate that consumption of low fat soy products (25 grams of soy a day) may lower serum cholesterol. However, all that said, at this time everything about the medicinal properties of soy remains controversial and needs further study.

Asia

Beans

Spicebush*Lindera benzoin*

Indians and settlers used the berries, twigs, and bark of this shrub for many ailments. A diaphoretic decoction of bark was used especially for typhoid and other fevers and for expelling intestinal worms. In the 1890s, Parke Davis sold spicebush preparations for use as “an exhilarant and refrigerant.” The benzoin that is used medically generally comes from the gum of *Styrax benzoin*, which is a different plant that is native to South America.

America

Bark, Twigs, Berries

Squaw vine – See Partridge berry

St. John's wort*Hypericum perforatum*

The bright yellow flowers of this plant open around the time of St. John's Day, June 24, which was changed from the day honoring Balder, the Norse god of light, as the Christian transformation of Europe took place. Traditionally it was thought that the plant could chase away darkness, gloom, and the devil, and it was used to cure melancholy, hysteria, and madness. St. John's wort in oil has a cicatrizing effect on wounds and was used externally to treat burns and battle injuries in the Civil War, the Crusades, and ancient Greece and Rome. The herbal extract taken internally has proven useful in treating mild to moderate (but not severe) depression. It may also have antiviral activity against viruses that have an envelope, for example herpes and hepatitis B virus. The plant increases sensitivity to light and may help with seasonal affective disorder (SAD). Cautions in the use of this herbal include severe photosensitivity of the skin in some individuals and interaction with other medications. "Wort" is an old English word for "plant."

Europe

Flowers

Sunflower*Helianthus annuus*

Helios is Greek for "sun," and this sunny plant has one of the most useful flowers ever. It was cultivated in North America long before the arrival of Europeans. The seeds were, and still are widely used as a source of food and oil. The plant was useful as a tobacco and coffee substitute, a means to control flies, and material to make cordage. Yellow dye was made from the petals. Various Native American tribes used different parts of the plant to treat lung problems, rheumatism, spider bites, and gastrointestinal worms. Among other things, sunflower oil was a lubricating laxative.

America

Roots, Stems, Flowers, Seeds

Sweet Annie, Sweet wormwood*Artemisia annua*

Leaves gathered before the plant is in flower were used by settlers to make tea for the treatment of colds, flu, malarial fever, dysentery, and diarrhea. The plant is indigenous to Asia, and it has been used for centuries in Chinese medicine, where it is known as Qing Hao. This herbal medicine was much in the news in the early 2000s when studies proved that a compound from this plant was an effective therapy for malaria, even in cases that were resistant to treatment with quinine or chloroquine. The extracted compound of the leaves is called artemisinin. The WHO recommends ACT (meaning "artemisinin-based combination therapy") for treatment of malaria. More recently, scientists are exploring artemisinin's anti-cancer effects. Experiments have included attaching artemisinin to the iron-carrying molecule transferrin, which tricks cancer cells into taking up the transferrin-artemisinin complex. Once inside, it acts to release free radicals and kill the cells. The Greek goddess Artemis was the daughter of Zeus and twin sister of Apollo. She protected against evil and disease. Several *Artemisia* plants were used for menstrual problems and childbirth and to induce abortion. As the name implies, the *Artemisia* wormwoods also were effective at getting rid of intestinal parasites.

Asia

Leaves

Tansy*Tanacetum vulgare*

Tansy is a strong smelling herb that was used as an insect repellent and preservative. Before refrigeration, both coffins and meat storage containers were sometimes packed with tansy to prevent decay. Medicinally, tansy was used to expel intestinal worms and to induce abortion. Tansy is very toxic and should not be ingested. Even external use to rid patients of scabies and lice can lead to toxic effects and should be avoided, especially by pregnant women. More recent studies have explored the use of tansy compounds against the genital herpes virus.

Europe, Asia

Flowers

Thyme*Thymus officinalis, T. vulgaris*

Thyme is yet another plant that was brought from southern Europe for its medicinal and culinary qualities. The famous English herbalist of the 17th century, Nicholas Culpeper, wrote that thyme was “a notable strengthener of the lungs ...neither is there a better remedy growing for that disease in children which they commonly call chin-cough [whooping cough].” Today, Germany’s Commission E approves of using thyme for cough and bronchitis. The oil from the plant is antiseptic, antifungal, and anti-parasitic – therefore useful for athlete’s foot, ringworm, scabies, and lice. An infusion made from thyme leaves has been used as a general tonic, and research in Scotland has suggested that thyme is antioxidant and does support the body’s normal function and counteract the effects of aging. The essential oil should not be taken internally.

Europe

Aerial parts

Tulip tree*Liriodendron tulipifera*

The flowers of this tree resemble those of spring-flowering tulip bulbs. The inner bark of the roots and trunk were made into teas and used as tonics to increase appetite, calm the nervous system, and promote less painful function of the uterus. The Cherokees used tulip tree for many medical conditions, including getting rid of intestinal worms and applying it to fractured limbs. The tulip tree is the State Tree of Indiana. It grows more quickly than oaks and often reaches 150 feet in height. The trunk of the tulip tree grows very straight, and the wood was used for dugout canoes and is still the wood of choice for making organ pipes. The tulip tree is not a member of the poplar family and should not be called a tulip poplar.

America

Bark

Tulsi, Holy basil*Ocimum tenuiflorum (previously O. sanctum)*

All of the *Ocimum* plants have a strong fragrance, but the scent of *O. tenuiflorum* is very strong and perhaps less pleasant to many people than that of the other basil. Also known as holy basil, tulsi means ‘incomparable.’ This is a sacred herb that honors Lakshmi, wife of Vishnu, the preserver of life. It is found and revered in many Hindu temples and family homes, and a leaf may be eaten every day to preserve well-being. In Ayurvedic medicine, tulsi is used for various conditions, including skin lesions, insect bites, mouth ulcers, fevers, coughs and colds among others. It also is taken as a stress-reducer. Research has shown that tulsi can lower blood sugar and blood pressure.

Asia (esp. India)

Leaves

Valerian*Valeriana officinalis*

At various times since ancient Greece, this herbal has been used as a diuretic, antidote to poison, pain reliever, decongestant, and cure-all. Today it is used for its calming effect, which is due to valepotriate compounds that are present, especially in the roots. As the roots dry, they develop an unpleasant odor that has been compared to the smell of carrion or dirty socks. The ancient Greek herbalist Dioscorides called the plant “phu,” and some believe he was referring to the smell. It was listed in the *US Pharmacopeia* and in *the National Formulary* until 1950, and it was used as a treatment for panic attacks, nervous tension, and insomnia. There is controversy over whether valerian is addictive, but it is advised that it should not be used for more than a few weeks at a time because toxicity, including paralysis, may develop. Valerian reportedly is a top selling sedative in Europe. Valerian plant is highly attractive to both cats and rats.

Europe, Asia

Roots, Rhizomes

Vervain*Verbena officinalis*

Verbena officinalis was called “the sacred herb” by Dioscorides in the 1st century AD. Throughout history it has been used as a panacea with tonic, restorative, anti-anxiety, anti-stress properties. Other uses were for migraine headache and to improve absorption of nutrients in the digestive tract. Research has shown some estrogenic and progesterone-like actions, and the herb has been used as a uterine stimulant and to promote milk production. Cardiac patients and pregnant women should avoid taking vervain.

Europe, Africa, Asia

Aerial parts

Vinca -- See Periwinkle**White snakeroot***Ageratina altissima (previously Eupatorium rugosum)*

Although a few Native American tribes used white snakeroot for a variety of conditions, the plant is poisonous and not generally considered to be therapeutic. It is included in the Medicinal Plant Garden because of its historical importance. In the early 1800s in the Midwest, many settlers who drank milk from cows with “trembles” became very ill and often died of a condition called “the slows” or “milk sickness.” This was the mysterious condition that caused the death of Abraham Lincoln’s mother, Nancy Hanks Lincoln, in 1818 in Spencer County in southern Indiana. As populations increased and cows were kept fenced in pastures and couldn’t wander into the woods, the incidence of milk sickness declined precipitously. The solution of the mystery of milk sickness was that cows that ate white snakeroot ingested a poison that was passed on in the milk. The solution was officially completed with the identification of the toxin tremetol in 1927. Although, based on a tip from a Native American woman, pioneer doctor Dr. Anna Pierce Hobbs Bixby had taught her patients to get rid of white snakeroot plants back in about 1828, she was not credited with figuring out the problem of milk sickness. White snakeroot is quite similar in appearance and grows in the same areas as the very useful plant boneset (*Eupatorium perfoliatum*).

America

Wild ginger*Asarum canadense*

This low-growing woodland plant has characteristic heart shaped leaves hiding a dark maroon bell-shaped flower. Native Americans used the root for many medicinal purposes, especially for digestive tract complaints, colds, fever, and sore throat. The component aristolochic acid has some anti-tumor effect. Leaves were put on wounds as a poultice, and studies show that a substance in the leaves does have some antibiotic activity. The root also was used as a flavoring in cooking, when true ginger from the tropics was not readily available.

America

Roots, Leaves

Wild quinine*Parthenium integrifolium*

The famous anti-malarial drug quinine comes from the bark of the Peruvian cinchona tree, now also cultivated on farms in Africa, India and Java. The herbaceous wild quinine of North America was used as a cinchona quinine substitute. Though it did not actually contain the quinine alkaloid, it had been useful in easing periodic fevers. Some Native American tribes used a paste made from mashed leaves to treat burns and root tea for dysentery.

North America

Leaves and roots

Wild tobacco*Nicotiana rustica, N. tabacum*

N. rustica is known as “true tobacco” or “wild tobacco.” *N. tabacum* does not occur in nature but is a cultivated plant thought to be a hybrid of three naturally occurring *Nicotiana* species. Tobacco is included in the Medicinal Plant Garden because historically at one time it was considered to be a “holy herb” and “God’s remedy” – miraculously useful for healing ulcers, polyps, catarrh, and all sorts of other conditions. Tobacco species originated in tropical and subtropical Americas, but there is evidence that cultivation of tobacco in North America was established as early as the first century BC. The plant was used for ritual and healing by many Native American tribes. The leaves of tobacco have been applied fresh to heal wounds but more often were dried and then smoked or otherwise inhaled (or blown into the rectum). It is now known that the plant contains nicotine, which binds to acetylcholine receptors and activates several neurochemical pathways. It also contains many other chemicals that are carcinogenic or otherwise toxic to the human body. When Europeans were discovering all sorts of plants from the New World, in 1560 the French ambassador to the Spanish court in Lisbon became particularly interested in tobacco and introduced the seeds and plant to the French court. Tobacco became associated with his name, Jean Nicot de Villemain, resulting in the genus name *Nicotiana*.

America

Leaves

Wild yam vine*Dioscorea villosa*

Native Americans made wild yam root tea to ease labor pains and relieve morning sickness. European settlers used the plant for rheumatism, muscle spasms, and intestinal disorders - leading to its being called “colic root.” Dioscin in the roots of this species breaks down to diosgenin, and that can be pharmaceutically converted to sex hormones. Using the Mexican wild yam (*Dioscorea mexicana*) for the substrate in its huge root made it possible to manufacture progesterone-containing birth control pills at a reasonable cost prior to 1970, when progesterone could be made synthetically. “The Pill” first came to the market as the drug Enovid and was introduced in 1960. Dioscin also made possible the manufacture of corticosteroid hormones with anti-inflammatory properties. The plant compound is not converted to hormones in the body.

America

Tubers, Roots

Wintergreen*Gaultheria procumbens*

This plant is also known as teaberry and checkerberry. It actually is a very low-growing shrub with woody stems and pretty red fruits (berries). The oil distilled from wintergreen leaves contains methyl salicylates and has properties like salicylic acid or aspirin, but its use internally is limited by caustic damage to the stomach lining. Oil of wintergreen was used externally for rheumatism, sprains, and other aches; however, the oil could cause caustic problems on the skin. Leaves were used to flavor teas or as a substitute for tea from the East. Wintergreen oil in small amounts was used to flavor toothpaste, candies and chewing gum.

America

Leaves

Witch hazel*Hamamelis virginiana*

This plant is a shrub or small tree native to North American woodlands. The leaves and the bark of young twigs are used to make witch hazel lotion preparations. These contain tannins and flavonoids and are used externally to soothe and tighten skin and shrink distended blood vessels. It is recommended for bruises, bites, stings, sunburn, and muscular stiffness. The name probably comes from the fact that when a new well was needed, branches of witch hazel were used by dowsers to find water underground, a process known as “witching water.” Another suggestion is that the spontaneous popping sound made by the seed pods opening in the woods made folks think that witches were about. Native Americans took witch hazel steam baths for relief of feverish colds, heavy phlegm, and coughing.

America

Leaves, Twig bark

Woad*Isatis tinctoria*

Woad is an interesting biennial or perennial plant. Although it has abundant clusters of tiny bright yellow flowers in the early spring, its main use was as the source of a blue dye that is made from the leaves. Before indigo became available from the Far East, dyer’s woad had been cultivated for centuries in Europe for textile use. Woad reportedly exhausts the soil like tobacco plants do and cannot be grown in the same place for long, so Queen Elizabeth I protected England’s agricultural land by greatly restricting the amount of land that could be sown with seeds of woad. Both woad and plant-derived indigo eventually were largely replaced by synthetic dyes, but, ironically, because woad produces a biodegradable dye, it may become widely used again in modern inks. In Chinese medicine, the root of woad (Ban Lan Gen) is considered to be a strong agent with anti-bacterial and anti-viral medicines and is used to treat mumps, measles, flu, sore throats, other febrile diseases, and various other conditions. Medicine made of dried leaves of woad is known as Da Qing Le. The leaves contain very high levels of glucobrassicin, a substance also is in broccoli, that may give that plant cancer-preventive qualities. It should be noted, however, that woad is not edible. The compound indirubin in woad interferes with cell division and has shown promise as a treatment for certain leukemias. Woad also has been used as a treatment for plaque psoriasis.

Asia

Roots, Leaves

Yarrow*Achillea millefolium*

Yarrow is an ancient healing plant. According to legend, Achilles was given the gift of yarrow before the battle of Troy to help heal the wounds of his soldiers. According to Homer’s *Iliad*, it was the powdered root of yarrow that was effective, but most herbal texts today refer to using the aerial parts rather than the root. The leaves of yarrow applied externally do stanch the flow of hemorrhage and aid in wound healing. Old names for the plant include wound-wort, knight’s milfoil, stanchweed, and *herba militaris*. Yarrow flower tea has been used as an expectorant, analgesic, and sweat-inducing medicine to treat colds and flu. Yarrow has been used as a mild sedative and to relieve smooth muscle cramping in the intestines and uterus. Its effect of smooth muscle relaxation may also account for yarrow being used to lower blood pressure. Rubbing fresh yarrow leaves on the skin can serve as a mosquito repellent, but it also may cause dermatitis in some individuals. Yarrow is aggressive in the garden but is easier to control than mint. The native form has a white flower; however, various beautiful colorful cultivars have been developed for gardeners.

Europe, Asia, America

Leaves, Flowers

Yew*Taxus brevifolia*, and other species

For Druids, the yew tree was sacred. It often was planted in Christian graveyards as a symbol of immortality. In the late 1950s, the National Cancer Institute and the US Department of Agriculture undertook a search for new cures in the plant and animal kingdoms, testing 30,000 compounds for potential use. In the 1960s, as part of that work, a cytotoxic compound was found in the bark of the Pacific yew (*Taxus brevifolia*). It was named paclitaxel and, after clinical testing in the 1970s, it was brought to market as Taxol and became an important chemotherapeutic agent for cancer of the breast and other solid tumors. The compound stops cell division by interfering with intracellular microtubules and triggering a form of cell death called apoptosis. Unfortunately, *T. brevifolia* is a very slow growing tree with a limited geographic distribution area in the Pacific Northwest. Fortunately, a related compound that can be turned into semi-synthetic Taxol in the laboratory, is also present in the common yew *T. baccata* and other species of yew. All parts of the yews are toxic, and children should be taught not to be tempted to eat the red berries.

America, Europe

Bark

Yucca*Yucca filamentosa* and other species

Common names for this plant include Adam's needle, Spanish bayonet, amole, soapweed, and the Joshua tree. The plant leaves and root were used in poultices and baths to relief inflammation and sprains as well as various skin lesions. The root is rich in saponins, and Native Americans used yucca root as soap and as a shampoo to make hair clean and strong and to cure scalp conditions. Navajo and Hopi Indians used yucca ceremonially for its "magical" power to cleanse and purify. Indians also used the leaves and seed pods as dyes. Yucca also is used in beverages to cause foam (as in root beer). Saponin compounds from *Yucca filamentosa* are being investigated as treatment for the parasitic disease leishmaniasis, and they are also studied for use in arthritis. The *PDR for Herbal Medicines* listed yucca as being used for liver and gallbladder disorders.

America

Leaves, Roots

Additional Important Plants and Their Medicines

Belladonna *Atropa belladonna* **Atropine, scopolamine**
Leaves, Roots Native to Europe and Middle East
Use: Dilate pupils, CPR, motion sickness
Acts on parasympathetic nervous system

Cascara sagrada *Frangula purshiana* **Cascara**
Bark Native to Northwest America
Use: previously a laxative, banned by US FDA in 2002
Stimulates intestinal peristalsis

Cinchona *Cinchona officinale* **Quinine, quinidine**
Bark Native to South America
Use: anti-malarial, anti-pyretic;
relieves muscle spasms and leg cramps, cardiac depressant

Coca *Erythroxylum coca* **Cocaine**
Leaves Native to South American Andes
Use: anesthetic, euphoric; in Coca-Cola (1885-1904)
Blocks sodium channels in neurons; binds to dopamine receptors in brain

Curare *Chondrodendron tomentosum* **Tubocurarine**
Leaves, Roots Native to South American Amazon Basin
Use: muscle relaxant adjunct in anesthesia; treatment for tetanus
Interferes with acetylcholine stimulation of muscle contraction

Ephedra *Ephedra sinica* **Ephedrine**
Stems Native to deserts in China
Use: cold and allergy medicines; now outlawed weight loss energy booster “fen-phen”
Action like amphetamines

Ginger *Zingiber officinale* **Ginger**
Rhizomes Native to Asia
Use: anti-nausea, digestive stimulant

Jaborandi *Pilocarpus pennatifolius* **Pilocarpine**
Leaves Native to South & Central America
Use: glaucoma, xerostomia, sweat test for cystic fibrosis
Acts as a muscarinic receptor agonist in the parasympathetic nervous system

Marijuana, Hemp *Cannabis sativa, C. indica* **Cannabis, THC**
Flowers, Seeds, other parts Native to central & western Asia
Use: now outlawed sedative, analgesic, antispasmodic, psychoactive
anti-nausea and appetite stimulant in patients on chemotherapy
lower intra-ocular pressure in glaucoma
Binds to various receptors in brain and body

Opium poppy *Papaver Somniferum* **Morphine, codeine,
heroin, papaverine**
Fruits, Seeds Southwest Asia
Use: pain killer, cough suppressant; muscle relaxant
Binds to opioid receptors, endorphin receptors

Psyllium *Plantago psyllium* **Psyllium**
Seeds, Husks Native to Mediterranean, Middle East
Use: laxative, lowers cholesterol and blood sugar
Prevents absorption

Types of Medicinal Preparations

- Compress: Cloth soaked in a cool infusion or decoction and applied externally
- Crude herbs: Herb dried and chopped
- Decoction: Herbal bark or root boiled in liquid, usually 10-50 minutes
- Elixir: A remedy made of the “drug,” alcohol, water, and sugar
- Infusion: Herbal flowers, stems, or leaves covered with lightly boiled water and allowed to steep
Steeping for 5-10 minutes produces herbal tea. Some reserve the term infusion for liquids that steep longer and are stronger.
- Oil: Herb placed in vegetable oil with a small amount of vinegar and allowed to sit for weeks in a warm place; applied externally
Oils may become contaminated by bacterial or fungal growth.
- Essential Oils: Concentrated volatile aromatic oils distilled from herbs
Use of undiluted essentials oils can be dangerous!
Essential oils should be diluted first and used only externally.
Essential oils should not be used or inhaled by children.
- Ointment: Crushed herbs simmered in melted petroleum jelly for several minutes then cooled; or tincture added to commercial lotion; applied externally
- Powder: Ground up crude herbs
- Poultice: Fresh herbs moistened or boiled briefly and applied externally, often wrapped in muslin or cheesecloth to make them more manageable
- Tea: See infusion
- Tincture: Herbal extract steeped in alcohol (or warmed cider vinegar or wine vinegar) for two days to six weeks; strongest and longest-lasting preparation, often good for three years
- Tonic: A remedy that stimulates, refreshes, invigorates, restores

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Database of Medicinal Plants (Rao)

<http://www.vedamsbooks.com/medicina.html>
Book list for Medicinal Plants of India

www.ipni.org
The International Plant Names Index

Thanks to Our Donors and Volunteers!

The Medicinal Plant Garden is made possible by the volunteer work of a group of Purdue Master Gardeners³ of Marion County and by contributions from many individuals, organizations, and local businesses.

All expenses related to the garden have been donated. Many thanks to all who have contributed plants, gardening materials, financial support, and gardening volunteer hours.

Special thanks to the following members of the core group of Master Gardeners who have donated their labor and expertise as gardeners and garden guides for tours:

Patricia Angotti
Arlene Bow
Jean Bradford
Karen Bumb Lauer
Robert Catus
Catherine Corbin
Louise Earlywine
Debby Falls
Linda Furuness
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Kathleen Hull

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Teresa Trierweiler
Judy Turner
Shirley Ulicni
Carole Van Dusen
Betty Wagner
Kelda Walsh
Sue Zordan

For more information about the garden, contact Kathleen Hull at hullk@ccrtc.com or through the museum at 317 365-7329 or shalter@imhm.org

³ The work of Purdue Master Gardeners in Marion County is made possible by the Purdue Extension-Marion County. For information about becoming a Purdue Master Gardener, go to www.IndyMG.org or contact the Extension Office at 317-275-9305.

Directions to the Medicinal Plant Garden at the Indiana Medical History Museum's Old Pathology Building:

From downtown Indianapolis, drive west on West Washington Street (about a mile past the zoo); turn north on Warman Avenue; turn west on Vermont Street and proceed to the museum gate (3045 W. Vermont).



The Indiana Medical History Museum is a private, nonprofit organization. It is not part of any State, historical, medical, or pharmaceutical organization. Memberships and donations help preserve the historical artifacts of Indiana's past. **All donations in support of the museum and garden are welcome. Thank you for your support.**

Special Tours and Lectures

To arrange guided tours of the garden or lectures related to the garden, please contact Kathleen Hull, MD at hullk@crtc.com or through the IMHM at 317-635-7329 or shalter@imhm.org

Lecture Topics:

Medicinal Plants of Indiana Pioneers
Indiana Wildflowers and Their Medicinal Uses
Female Complaints in the Garden (plants used by women)
Five Modern Miracle Drugs that Come from Plants
Creating "The Pill"

Garden Plant List – Common Names & Scientific Names

Trees and Shrubs:

Arborvitae, *Thuja occidentalis*
Black haw, *Viburnum prunifolium*
Catalpa, *Catalpa bignonioides*
Chaste tree, *Vitex agnus-castus*
Dogwood, *Cornus florida*
Elderberry, *Sambucus nigra*
Eucalyptus, *Eucalyptus globulus*
Fig, *Ficus carica*
Ginkgo, *Ginkgo biloba*
Hawthorn, *Crataegus* species
Juniper, *Juniperus communis*
New Jersey tea, *Ceanothus americanus*
Redbud, *Cercis canadensis*
Rose, *Rosa canina* and *Rosa gallica*
Sassafras, *Sassafras albidum*
Spicebush, *Lindera benzoin*
Tulip tree, *Liriodendron tulipifera*
Witch hazel, *Hamamelis virginiana*
Yew, *Taxus* species

Climbing Vines:

Clematis, *Clematis montana*
Grape vine, *Vitis vinifera*
Hop vine, *Humulus lupulus*
Passion flower, Maypop, *Passiflora incarnata*
Purple hyacinth bean, *Lablab*
Wild yam, *Dioscorea villosa*

Herbaceous Plants:

Absinthe, *Artemisia absinthium*
Agrimony, *Agrimonia eupatoria*
Alfalfa, *Medicago sativa*
Aloe vera, *Aloe barbadensis*
Alum root, *Heuchera Americana*
American skullcap, *Scutellaria lateriflora*
American spikenard, *Aralia racemosa*
Angelica, *Angelica archangelica* and *sinensis*
Arnica, *Arnica chamissonis*, *A. montana*
Autumn crocus, *Colchicum autumnale*
Aztec sweet herb, *Phyla dulcis*
Bacopa, *Bacopa monniera*
Baikal skullcap, *Scutellaria baicalensis*
Balloon flower, *Platycodon grandiflorus*
Barrenwort, *Epimedium* species
Basil, *Ocimum basilicum*
Bear's breeches, *Acanthus mollis*
Bee balm, Oswego tea, *Monarda fistulosa*, *M. didyma*
Bellwort, *Uvularia grandiflora*
Beth root, *Trillium erectum*
Black cohosh, *Actaea racemosa*
Blackberry lily, *Iris domestica*
Black-eyed Susan, *Rudbeckia* species
Blazing star, Gay-feather, *Liatriis spicata*
Bloodflower, *Asclepias curassavica*
Bloodroot, *Sanguinaria canadensis*
Blue false indigo, *Baptisia australis*
Boneset, *Eupatorium perfoliatum*
Borage, *Boragio officinalis*

Butterfly weed, Pleurisy root, *Asclepias tuberosa*
 Calendula, Pot marigold, *Calendula officinalis*
 Castor bean, *Ricinus communis*
 Catnip, *Nepeta cataria*
 Cayenne and red pepper, *Capsicum frutescens*, *C. annuum*
 Chamomile, *Anthemis nobilis* and *Matricaria (Chamaemelum) chamomilla*
 Chrysanthemum, *Chrysanthemum morifolium*
 Columbine, *Aquilegia vulgaris*, *A. canadensis*
 Comfrey, *Symphytum officinale*
 Common milkweed, *Asclepias syriaca*
 Coriander/Cilantro, *Coriandrum sativum*
 Corn, *Zea mays*
 Culver's root, *Veronicastrum virginicum*
 Daylily, *Hemerocallis* species
 Dill, *Anethum graveolens*
 Elecampane, *Inula helenium*
 European meadowsweet, Queen of the meadow, *Filipendula ulmaria*
 Evening primrose, *Oenothera biennis*
 False Solomon's seal, *Maianthemum racemosa*
 Fennel, *Foeniculum vulgare*
 Ferns, eg., Lady fern, *Athyrium filix-femina* and other species
 Feverfew, *Tanacetum parthenium*
 Flax, *Linum usitatissimum*
 Foxglove, *Digitalis purpureum*, *D. lanata*
 Garlic, *Allium sativum*
 Golden ragwort, *Packera aurea*
 Goldenrod, *Solidago* species
 Hellebore, *Helleborus* species
 Horehound, *Marrubium vulgare*
 Horseradish, *Amoracia rusticana*
 Hyssop, *Hyssopus officinalis*
 Jewelweed, *Impatiens* species
 Joe Pye weed, *Eutrochium purpureum*
 Ladybells, *Adenophora* species
 Lady's mantle, *Alchemilla vulgaris*
 Lamb's ear, *Stachys byzantine*
 Lavender, *Lavandula angustifolia*
 Lemon balm, *Melissa officinalis*
 Licorice, *Glycyrrhiza glabra*
 Lily of the valley, *Convallaria majalis*
 Lion's tail, *Leonotis leonurus*
 Lobelia, *Lobelia* species
 Lovage, *Levisticum officinalis*
 Lungwort, *Pulmonaria officinalis*
 Marigold, *Tagetes* species
 Mayapple, *Podophyllum peltatum*
 Mint, *Mentha* species
 Motherwort, *Leonurus cardiaca*
 Mullein, *Verbascum thapsus*
 New England aster, *Symphyotrichum novae-angliae*
 Oregano, *Origanum vulgare*
 Parsley, *Petroselinium crispum*
 Partridge berry, Squaw vine, *Mitchella repens*
 Peony, *Paeonia* species
 Periwinkle, *Catharanthus roseus* and *Vinca minor*
 Poppy, *Papaver somniferum*, *P. orientale*
 Purple coneflower, *Echinacea purpurea*
 Queen Anne's lace, Wild carrot, *Daucus carota*
 Queen of the prairie, *Filipendula rubra*
 Rose, *Rosa* species
 Rosemary, *Rosmarinus officinalis*
 Saffron crocus, *Crocus sativa*

Sage, *Salvia officinalis*
 Solomon's seal, *Polygonatum biflorum*, *P. multiflorum*
 Sorrel and Dock, *Rumex* species
 Soy bean, *Glycine max*
 St. John's wort, *Hypericum perforatum*
 Sunflower, *Helianthus annuus*
 Sweet Annie, Sweet wormwood, *Artemisia annua*
 Tansy, *Tanacetum vulgare*
 Thyme, *Thymus officinalis*, *T. vulgaris*
 Tulsi, *Ocimum tenuiflorum* (*O. sanctum*)
 Valerian, *Valeriana officinalis*
 Vervain, *Verbena officinalis*
 White snakeroot, *Ageratina altissima*
 Wild ginger, *Asarum canadense*
 Wild quinine, *Parthenium integrifolium*
 Wild tobacco, *Nicotiana rustica*
 Wintergreen, *Gaultheria procumbens*
 Woad, *Isatis tinctoria*
 Yarrow, *Achillea millefolium*
 Yucca, *Yucca* species

Garden Plant List – Scientific Names & Common Names

Trees and Shrubs:

Catalpa bignonioides, Catalpa
Ceanothus americanus, New Jersey tea
Cercis canadensis, Redbud
Cornus florida, Dogwood
Crataegus species, Hawthorn
Eucalyptus globulus, Eucalyptus
Ficus carica, Fig
Ginkgo biloba, Ginkgo
Hamamelis virginiana, Witch hazel
Juniperus communis, Juniper
Lindera benzoin, Spicebush
Liriodendron tulipifera, Tulip tree
Rosa canina and *R. gallica*, Rose
Sambucus nigra, Elderberry
Sassafras albidum, Sassafras
Taxus species, Yew
Thuja occidentalis, Arborvitae
Viburnum prunifolium, Black haw
Vitex agnus-castus, Chaste tree

Climbing Vines:

Clematis montana, Clematis
Dioscorea villosa, Wild yam
Humulus lupulus, Hop vine
 Lablab, Purple hyacinth bean
Passiflora incarnata, Passion flower, Maypop
Vitis vinifera, Grape vine

Herbaceous Plants:

Acanthus mollis, Bear's breeches
Achillea millefolium, Yarrow
Actaea racemosa, Black cohosh
Adenophora species, Ladybells
Ageratina altissima, White snakeroot
Agrimonia eupatoria, Agrimony
Alchemilla vulgaris, Lady's mantle

Allium sativum, Garlic
Allium schoenoprasum, Chives
Aloe barbadensis, Aloe vera
Amoracia rusticana, Horseradish
Angelica archangelica and *sinensis*, Angelica
Anthemis nobilis and *Matricaria* (*Chamaemelum*) *chamomilla*, Chamomile
Anethum graveolens, Dill
Arnica chamissonis, *A. montana*, Arnica
Aralia racemosa, American spikenard
Artemisia absinthium, Absinthe
Artemisia annua, Sweet Annie, Sweet wormwood
Aquilegia vulgaris, *A. Canadensis*, Columbine
Asarum canadense, Wild ginger
Asclepias curassavica, Bloodflower
Asclepias syriaca, Common milkweed
Asclepias tuberosa, Butterfly weed, Pleurisy root
Athyrium filix-femina, Lady fern
Bacopa monniera, Bacopa
Baptisia australis, Blue false indigo
Borago officinalis, Borage
Calendula officinalis, Calendula, Pot marigold
Capsicum annuum and *frutescens*, Cayenne, red pepper
Catharanthus roseus, Periwinkle
Chrysanthemum moriflorum, Chrysanthemum
Colchicum autumnale, Autumn crocus
Convallaria majalis, Lily of the valley
Coriandrum sativum, Coriander/Cilantro
Crocus sativa, Saffron crocus
Daucus carota, Queen Anne's lace, Wild carrot
Digitalis purpureum, *D. lanata*, Foxglove
Echinacea purpurea, Purple coneflower
Epimedium species, Barrenwort
Eucalyptus globulus, Eucalyptus
Eupatorium perfoliatum, Boneset
Eupatorium rugosum, White snakeroot
Eutrochium purpureum, Joe Pye weed
Filipendula rubra, Queen of the prairie
Filipendula ulmaria, European meadowsweet, Queen of the meadow
Foeniculum vulgare, Fennel
Gaultheria procumbens, Wintergreen
Glycine max, Soy bean
Glycyrrhiza glabra, Licorice
Helianthus annuus, Sunflower
Helleborus species, Hellebores
Hemerocallis species, Daylily
Heuchera americana, Alum root
Hypericum perforatum, St. John's wort
Hyssopus officinalis, Hyssop
Impatiens pallida and *capensis*, Jewelweed
Inula helenium, Elecampane
Iris domestica, Blackberry lily
Isatis tinctoria, Woad
Lavandula angustifolia, Lavender
Leonotis leonurus, Lion's tail, Wild Dagga
Leonurus cardiaca, Motherwort
Levisticum officinalis, Lovage
Liatris spicata, Blazing star, Gay-feather
Linum usitatissimum, Flax
Lobelia species, Lobelia
Maianthemum racemosa, False Solomon's seal
Marrubium vulgare, Horehound
Medicago sativa, Alfalfa

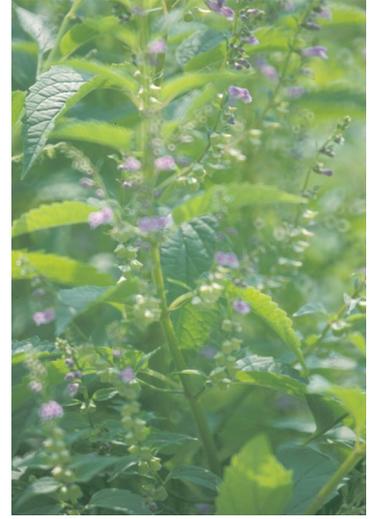
Melissa officinalis, Lemon balm
Mentha species, Mint
Mitchella repens, Partridge berry, Squaw vine
Monarda fistulosa, *M. didyma*, Bee balm
Nepeta cataria, Catnip
Nicotiana rustica, Wild tobacco
Ocimum basilicum, Basil
Ocimum tenuiflorum (*O. sanctum*), Tulsi, Holy basil
Oenothera biennis, Evening primrose
Origanum vulgare, Oregano
Packera aurea, Golden ragwort
Paeonia species, Peony
Papaver somniferum, *P. orientale*, Poppy
Parthenium integrifolium, Wild quinine
Petroselinium crispum, Parsley
Phyla dulcis, Aztec sweet herb
Platycodon grandiflorus, Balloon flower
Podophyllum peltatum, Mayapple
Polygonatum biflorum, *P. multiflorum*, Solomon's seal
Pulmonaria officinalis, Lungwort
Ricinus communis, Castor bean
Rosa species, Rose
Rosmarinus officinalis, Rosemary
Rudbeckia species., Black-eyed Susan
Rumex species, Sorrel and Dock
Salvia officinalis, Sage
Sambucus nigra, Elderberry
Sanguinaria canadensis, Bloodroot
Scutellaria baicalensis, Baikal skullcap
Scutellaria lateriflora, American skullcap
Solidago species, Goldenrod
Stachys byzantine, Lamb's ear
Symphotrichum novae-angliae, New England aster
Symphytum officinale, Comfrey
Tagetes species, Marigold
Tanacetum parthenium, Feverfew
Tanacetum vulgare, Tansy
Thymus officinalis, *T. vulgaris*, Thyme
Trillium erectum, Beth root
Uvularia grandiflorum, Bellwort
Valeriana officinalis, Valerian
Verbascum thapsus, Mullein
Verbena officinalis, Vervain
Veronicastrum virginicum, Culver's root
Yucca species, Yucca
Zea mays, Corn



Alfalfa



Aloe vera



American skullcap



Angelica



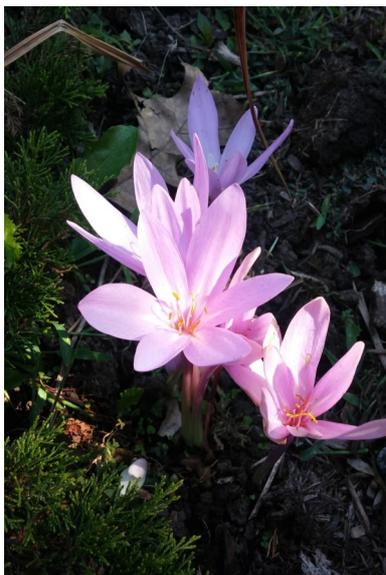
Arborvitae



Arnica



Asclepius, Greek god of healing



Autumn crocus



Aztec sweet herb



Bacopa



Baikal skullcap



Balloon flower



Barrenwort



Basil



Bear's breeches



Bee balm



Bellwort



Black cohosh



Black haw



Blackberry lily



Black-eyed Susan



Blazing star



Bloodflower



Bloodroot



Blue false indigo



Boneset



Borage



Butterfly weed



Calendula



Castor bean



Catalpa



Catnip



Cayenne pepper



Chamomile



Chaste tree



Columbine



Comfrey



Common milkweed



Coriander/Cilantro



Corn



Daylily



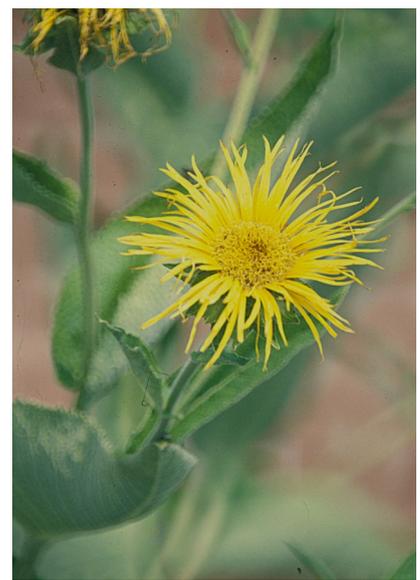
Dill



Dogwood



Elderberry



Elecampane



European meadowsweet



Evening primrose



Fennel



Feverfew



Flax



Foxglove



Garlic



Ginkgo



Golden ragwort



Goldenrod



Grape vine



Hellebore



Hop vine



Horehound



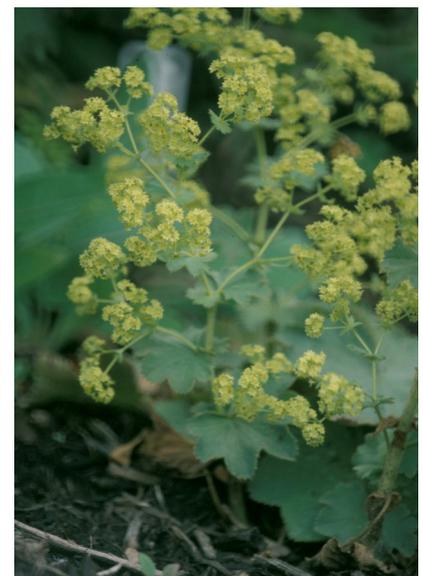
Hyssop



Joe Pye weed



Ladybells



Lady's mantle



Lavender



Lemon balm



Licorice



Lily of the valley



Lion's tail



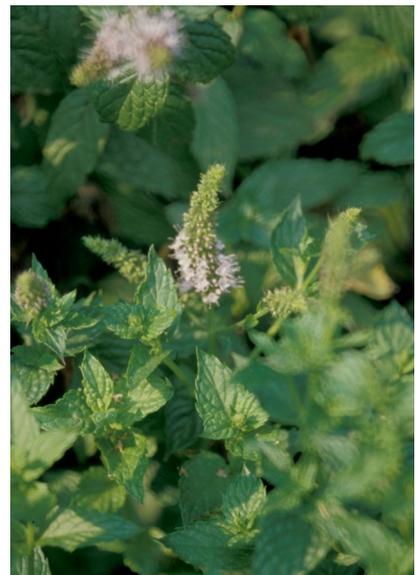
Lovage



Lungwort



Mayapple



Mint



Motherwort



Mullein



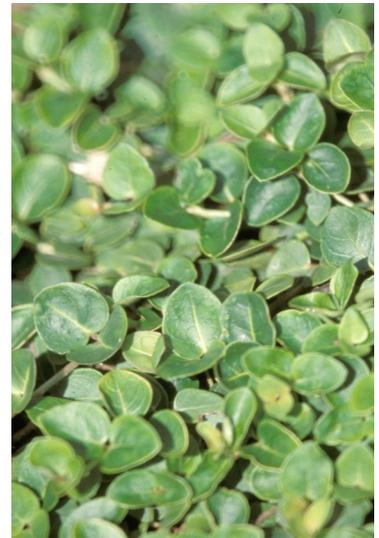
New England aster



Oregano



Parsley



Partridge berry



Passion flower



Peony



Periwinkle



Purple coneflower



Queen Anne's lace



Queen of the prairie



Redbud



Rose



Rosemary



Saffron crocus



Sage



Sassafras



Soy bean



Spicebush



St. John's wort



Sunflower



Sweet Annie



Thyme



Tulip tree



Valerian



Vervain



Wild quinine



Wild tobacco



Wild yam vine



Wintergreen



Witch hazel



Woad



Yarrow



Yew



Yucca



The garden includes trees, shrubs, vines, perennials and annuals—all with interesting medicinal stories to tell.



All the plants in this bed were used for treating ailments in the respiratory tract.



In the second year, most of the plants that overwhelmed their neighbors the first year were moved to a new bed, appropriately called “the tall garden.”



The garden in early spring, 2016.