CHAPTER XXXI.

FIELD PLANTS.

Dandelion.

TARAXACUM OFFICINALE WEBER. (a).

SYNONYMS—Taraxacum taraxacum (L.) Karst: (a) Taraxacum densleonis Desf.

DRUG NAME—Taraxacum.

OTHER COMMON NAMES—Blow-ball, cankerwort, doonhead, clock, fortune-teller, horse gowan, Irish daisy, yellow gowan, one-o'clock.

HABITAT AND RANGE—With the exception, possibly, of a few localities in the South, the dandelion is at home almost everywhere in the United States, being a familar weed in meadows and waste places, and especially in lawns. It has been naturalized in this country from Europe and is distributed as a weed in all civilized parts of the world.

Dandelion (Taraxacum Officinale).

DESCRIPTION OF PLANT—It is hardly necessary to give a description of the dandelion, as almost every one is familiar with the coarsely toothed, smooth, shining green leaves, the golden-yellow flowers which open in the morning and only in fair weather, and the round fluffy seed heads of this only too plentiful weed of the lawns. In spring the young, tender leaves are much sought after by the colored market women about Washington, who collect them by the basketful and sell them for greens and salad.

Dandelion is a perennial belonging to the chicory family (Cichoriaceae) and is in flower practically throughout the year. The entire plant contains a white milky juice.

DESCRIPTION OF ROOT—The dandelion has a large, thick and fleshy taproot, sometimes measuring 20 inches in length. In commerce, dandelion root is usually found in pieces 3 to 6 inches long, dark brown on the outside and strongly wrinkled lengthwise. It breaks with a short fracture and shows the thick whitish bark marked with circles of milk ducts and a thin woody center, which is yellow and porous. It is practically without odor and has a bitter taste.

COLLECTIONS AND USES—Late in summer and in fall the milky juice becomes thicker and the bitterness increases and this is the time to collect dandelion root. It should be carefully washed and thoroughly dried. Dandelion roots lose considerably in drying, weighing less than half as much as the f resh roots. The dried root should not be kept too long, as drying diminishes its medicinal activity. It is official in the United States Pharmacoepia.

Dandelion is used as a tonic in diseases of the liver and in dyspepsia.

IMPORTS AND PRICES—Most of the dandelion root found on the market is collected in central Europe. There has been an unusually large demand for dandelion root during the season of 1907 and according to the weekly records contained in “the Oil, Paint and Drug Reporter” the imports entered at the port of New York from January 1, 1907, to the end of May amounted to about 47,000 pounds. The price ranges from 4 to 10 cents a pound.

Soapwort.

SAPONARIA OFFICINALIS

OTHER COMMON NAMES—Saponaria, saponary, common soapwort, bouncing-bet, soaproot, bruisewort, Boston pink, chimney-pink, crow-soap, hedge-pink, old maid's pink, fuller's herb, lady-by-the-gate, London-pride, latherwort, mock-gilliflower, scourwort, sheepweed, sweet-betty, wild sweet-william, woods-phlox, world's wonder.

HABITAT AND RANGE—By one or another of its many common names this plant, naturalized from Europe, is known almost everywhere, occurring along roadsides and in waste places.

DESCRIPTION OF PLANT—Soapwort is a rather pretty herbacious

perennial, 1 to 2 feet high, and belonging to the pink family (Silenaceae.) Its smooth, stout and erect stem is leafy and sparingly branched, the leaves ovate, 2 to 3 inches long, smooth, prominently ribbed, and pointed at the apex. The bright looking, crowded clusters of pink (or in shady localities whitish) flowers appear from about June until far along in September. The five petals of the corolla are furnished with long "claws" or, in other words, they are narrowly lengthened toward the base and inserted within the tubular and pale green calyx. The seed capsule is oblong and one-celled.

DESCRIPTION of ROOT—Soapwort spreads by means of its stolons, or underground runners. But the roots, which are rather long are the parts employed in medicine. These are cylindrical, tapering toward the apex, more or less branched, and wrinkled lengthwise. The whitish wood is covered with a brownish red, rather thick bark and the roots break with a short, smooth fracture. It is at first sweetish, bitter, and mucilaginous, followed by a persistently acrid taste, but it has no odor.

COLLECTION, PRICES AND USES—As already indicated, the roots without the runners, should be collected either in spring or autumn. With water they form a lather, like soap, whence the common names soapwort, soaproot, latherwort, etc., are derived. The price ranges from 5 to 10 cents a pound. The roots are employed in medicine for their tonic, alterative and diaphoretic properties. The leaves are also used.

Burdock.

ARCTIUM LAPPA L.

SYNONYM—Lappa major Gaertn.

DRUG NAME—Lappa.

OTHER COMMON NAMES—Cockle-button, cuckold-dock, beggar's-buttons, hurrbur, stick-buttons, hardock, bardane.

HABITAT AND RANGE—Burdock, one of our most common weeds, was introduced from the Old World. It grows along road sides, in fields, pastures and waste places, being very abundant in the Eastern and Central States and in some scattered localities in the West.

DESCRIPTION OF PLANT—Farmers are only too well acquainted with this coarse, unsightly weed. During the first year of its growth this plant, which is a biennial belonging to the aster family (Asteraceae), produces only a rosette of large, thin leaves from a long, tapering root. In the second year a round, fleshy, and branched stem is produced, the plant when full grown measuring from 3 to 7 feet in height. This stem is branched, grooved, and hairy, bearing very large leaves, the lower ones often measuring 18 inches in length. The leaves are placed alternately on the stem, on long, solid, deeply furrowed leafstalks; they are thin in texture, smooth on the upper surface, pale and woolly underneath; usually heart shaped, but sometimes roundish or oval, with even, wavy, or toothed margins.

Arctium Lappa.

The flowers are not produced until the second year, appearing from July until frost. Burdock flowers are purple, in small, clustered heads armed with hooked tips, and the spiny burs thus formed are a great

pest, attaching themselves to clothing and to the wool and hair of animals. Burdock is a prolific seed producer, one plant bearing as many as 40,000 seeds.

Burdock (Arctium Lappa), Flowering Branch and Root.

DESCRIPTION OF ROOTSTOCK—Burdock has a large, fleshy taproot, which when dry becomes scaly and wrinkled lengthwise and has a blackish brown or grayish brown color on the outside, hard, breaking with a short, somewhat fleshy fracture, and showing the yellowish wood with a whitish spongy center. Sometimes there is a small, white, silky tuft at the top of the root, which is formed by the remains of the bases of the leafstalks. The odor of the root is' weak and unpleasant, the taste mucilaginous, sweetish and somewhat bitter.

While the root is met with in commerce in its entire state, it is more frequently in broken pieces or in lengthwise slices, the edges of which are turned inward. The roots of other species of Arctium are also employed.

COLLECTION, PRICES AND USES—Burdock root is official, and the United States Pharmacopoeia directs that it be collected from plants of the first year's growth, either of Arctium lappa or of other species of Arctium. As Burdock has a rather large, fleshy root, it is difficult to dry and is apt to become moldy, and for this reason it is better to slice the root lengthwise, which will facilitate the drying process. The price ranges from 5 to 10 cents a pound. The best root is said to come from Belgium, where great care is exercised in its collection and curing.

Burdock root is used as an alterative in blood and skin diseases. The seeds and fresh leaves are also used medicinally to a limited extent.

Yellow Dock.

RUMEX CRISPUS L.

OTHER COMMON NAMES—Rumex, curled dock, narrow dock, sour dock.

HABITAT AND RANGE—This troublesome weed, introduced from Europe, is now found thruout the United States, occurring in cultivated as well as in waste ground, among rubbish heaps and along the road side.

DESCRIPTION OF PLANT—Yellow Dock is a perennial plant belonging to the buckwheat. family (Polygonaceae), and has a deep, spindle shaped root, from which arises an erect, angular and furrowed stem, attaining a height of from 2 to 4 feet. The stem is branched near the top and leafy, bearing' numerous long dense clusters formed by drooping groups of inconspicuous green flowers placed in circles around the stem. The flowers are produced from June to August, and the fruits which follow are in the form of small triangular nuts, like the grain of buckwheat, to which family the dock belongs. So long as the fruits are green and immature they can scarcely be distinguished from the flowers, but as they ripen the clusters take on a rusty brown color. The leaves of the yellow dock are lance

Yellow Dock (Rumex Crispus), First Year's Growth.

Broad-Leaved Dock (Rumex Obtusifolius), Leaf, Fruiting Spike and Root.

shaped, acute, with the margins strongly waved and crisped, the lower long-stalked leaves being blunt or heart shaped at the base from 6 to 8 inches in length, while those nearer the top are narrower and shorter, only 3 to 6 inches in length, short stemmed or stemless.

The broad-leaved dock (Rumex obtusifolius L.), is known also as bitter dock, common dock, blunt-leaved dock, and butter-dock, is a very common weed found in waste places from the New England States to Oregon and south to Florida and Texas It grows to about the same height as the yellow dock, to which it bears a close resemblance, differing principally in its more robust habit of growth. The stem is stouter than in yellow dock and the leaves, which likewise are wavy along the margin, are much broader and longer. The green flowers appear from June to August and are in rather long, open clusters, the groups rather loose and far apart.

DESCRIPTION OF ROOTS—Yellow Dock root is large and fleshy, usually from 8 to 12 inches long, tapering or spindle shaped, with few or no rootlets. When dry it is usually twisted and prominently wrinkled, the rather thick, dark, reddish brown bark marked with small scars. The inside of the root is whitish at first, becoming yellowish. The fracture is short, but shows some splintery fibers. The root, as it occurs in commerce, is either entire or occasionally split lengthwise.

The darker colored root of the broad-leaved dock has a number of

smaller branches near the crown and more rootlets. Dock roots have but a very faint odor and a bitter, astringent taste.

COLLECTION, PRICES AND USES—The roots should be collected in late summer or autumn, after the fruiting tops have turned brown, then washed, either left entire or split lengthwise into halves or quarters and carefully dried. Yellow Dock root ranges from 4 to 6 cents a pound.

In the United States Pharmacopoeia of 1890 “the roots of Rumex crispus and of some other species of Rumex” were official and both of the above-named species are used, but the Yellow Dock (Rumex crispus) is the species most commonly employed in medicine. The docks are largely used for purifying the blood and in the treatment of skin diseases.

The young root leaves of both of the species mentioned are sometimes used in Spring as pot herbs.

CHAPTER XXXII

DRY SOIL PLANTS.

Stillingia.

STILLINGIA SYLVATICA L.

DRUG NAME - Stillingia.

OTHER COMMON NAMES—Queen's-delight, queen's root, silverleaf, nettle-potato.

HABITAT AND RANGE—Ths plant is found in dry, sandy soil and in pine barrens from Maryland to Florida west to Kansas and Texas.

DESCRIPTION OF PLANT—Like most of the other members of the Spurge family (Euphorbiaceae), stillingia also contains a milky juice. This indigenous, herbaceous perennial is about 1 to 3 feet in height, bright green and somewhat fleshy, with crowded leaves of a somewhat leathery texture. The leaves are practically stemless and vary greatly in form, from lance shaped, oblong, to oval and elliptical, round toothed or saw toothed. The pale yellow flowers, which appear from April to October, are borne in a dense terminal spike and consist of two kinds, male and female, the male flowers arranged in dense clusters around the upper part of the stalk and the female flowers occurring at the base of the spike. The seeds are contained in a roundish 3-lobed capsule.

Stillingia (Stillingia Sylvatica), Upper Portion of Plant and Part of Spike Showing Male Plant.

DESCRIPTION OF ROOT—Stillingia consists of somewhat cylindrical or slenderly spindle shaped roots from 6 inches to a foot in length,

slightly branched, the yellowish white, porous wood covered with a rather thick, reddish brown, wrinkled bark, the whole breaking with a fibrous fracture. As found in commerce, stillingia is usually in short transverse sections, the ends of the sections pinkish and fuzzy with numerous fine, silky bast fibres, and the bark showing scattered yellowish brown resin cells and milk ducts. It has a peculiar unpleasant odor, and a bitter acrid and pungent taste.

COLLECTION, PRICES AND USES—Stillingia root is collected late in autumn or early in spring, usually cut into short, transverse sections and dried. The price ranges from 3 to 5 cents a pound.

This root, which is official in the United States Pharmacopoeia, has been a popular drug in the South for more than a century and is employed principally as an alterative,

American Colombo.

FRASERA CAROLINENSIS Walt.

SYNONYM—Frasera walteri Michx.

American Colombo (Frasera Carolinensis), Leaves, Flowers and Seed Pods.

OTHER COMMON NAMES—Frasera, meadowpride, pyramid-flower, pyramid-plant, Indian lettuce, yellow gentian, ground-century.

HABIT AND RANGE—American Colombo occurs in dry soil from the western part of New York to Wisconsin, south to Georgia and Kentucky.

DESCRIPTION OF PLANT—During the first and second year of the growth of this plant only the root leaves are produced. These are generally somewhat rounded at the summit, narrowed toward the base, and larger than the stem leaves, which develop in

the third year. The leaves are deep green and produced mostly in whorls of four, the stem leaves being 3 to 6 inches in length and oblong or lance shaped. In the third year the stem is developed and the flowers are produced from June to August. The stem is stout, erect, cylindrical, and 3 to 8 feet in height. The flowers of American Colombo are borne in large terminal, handsome pyramidal clusters, sometimes 2 feet in length, and are greenish yellow or yellowish white, dotted with brown purple. They are slender stemmed, about I inch across, with a wheel shaped, 4-parted corolla, The seeds are contained in a much compressed capsule. American Colombo is an indigenous perennial and belongs to the gentian family (Gentianaceae.)

DESCRIPTION OF ROOT—The root is long, horizontal, spindle shaped, yellow, and wrinkled. In the fresh state it is fleshy and quite heavy. The American Colombo root of commerce, formerly in transverse slices, now generally occurs in lengthwise slices. The outside is yellowish or pale orange and the inside spongy and pale yellow. The taste is bitter. American Colombo root resembles the official gentian root in taste and odor, and the uses are also similar.

COLLECTION, PRICES AND USES—The proper time for collecting American Colombo root is in the autumn of the second year or in March or April of the third year. It is generally cut into lengthwise slices before drying. The price of American Colombo root ranges from 3 to 5 cents a pound.

The dried root, which was official in the United States Pharmacopoeia from 1820 to 1880, is used as a simple tonic. in the fresh state the root possesses emetic and cathartic properties.

Couch-Grass.

AGROPYRON REPENS (L.) Beauv.

SYNONYM—Triticum repens L.

DRUG NAME—Triticum.

OTHER COMMON NAMES—Dog-grass, quick-grass, quackgrass, quitch-grass, quake-grass, scutchgrass, twitch-grass, witch-grass, wheatgrass, crepping wheatgrass, devil's-grass, durfa-grass, Durfee-grass, Dutch-grass, Fin's-grass, Chandler's grass.

HABITAT AND RANGE—Like many of our weeds, couch-grass was introduced from Europe, and is now one of the worst pests the farmer has to contend with, taking possession of the cultivated ground and crowding out valuable crops. it occurs most abundantly from Maine to Maryland, westward to Minnesota and Minnesota, and is spreading on farms on the Pacific slope, but is rather sparingly distributed in the South.

Couch-Grass (Agropyron Repens).

DESCRIPTION OF PLANT—Counch-grass is rather coarse, 1 to 3 feet high, and when -in flower very much resemble rye or beardless wheat. Several round, smooth, hollow stems, thickened at the joints, are produced from the long, creeping, jointed rootstock. The stems bear 5 to 7 leaves from 3 to 12 inches long, rough on the upper surface and smooth beneath, while the long, cleft leaf sheaths are smooth. The solitary terminal flowering heads or spikes are compresses, and consist of two rows of spikelets on a wavy and flattened axis. These heads are produced from July to September. Couch Grass belongs to the grass family (Poaceae.)

DESCRIPTION OF ROOTSTOCK—The pale yellow, smooth rootstock is long, tough and jointed, creeping along underneath the ground, and pushing in every direction. As found in the stores, it consists of short, angular pieces, from oneeighth to one-fourth of an inch long, of a shining straw color, and hollow. These pieces are odorless, but have a somewhat sweetish taste.

COLLECTION, PRICES AND USES—Couch-Grass, which is official in the United States Pharmacopoeia, should be collected in spring, carefully cleaned, and the rootlets removed. The rootstock (not rootlets) is then cut into short pieces about two-fifths of an inch in length, for which purpose an ordinary feed-cutting machine may be used, and thoroughly dried.

Couch-Grass is usually destroyed by plowing up and burning, for if any of the joints are permitted to remain in the soil new plants will be

produced. But, instead of burning, the rootstocks may be saved and prepared for the drug market in the manner above stated. The prices range from 3 to 5 cents a pound. At present Couch-Grass is collected chiefly in Europe.

A fluid extract is prepared from Couch-Grass, which is used in affections of the kidney and bladder.

Echinacea.

ECHINACEA ANGUSTIFOLIA (DC).

SYNONYM—Brauneria angustifolia DC. Heller

OTHER COMMON NAMES—Pale-purple coneflower, Sampson-root, niggerhead (in Kansas.)

HABITAT AND RANGE—Echinacea is found in scattered patches in rich prairie soil or sandy soil from Alabama to Texas and northwestward, being most abundant in Kansas and Nebraska. Tho not growing wild in the Eastern States, it has succeeded well under cultivation in the testing gardens of the Department of Agriculture at Washington, D. C.

DESCRIPTION OF PLANT—This native herbaceous perennial, belonging to the aster family (Asteraceae), grows to a height of from 2 to 3 feet. It sends up a rather stout bristlyhairy stem, bearing thick rough-hairy leaves, which are broadly lance shaped or linear lance shaped, entire, 3 to 8 inches long, narrowed at each end, and strongly three nerved. The lower leaves have slender stems, but as they approach the top of the plant the stems become shorter and some of the upper leaves are stemless.

The flower heads appearing from July to October, are very pretty, and

the plant would do well as an ornamental in gardens. The flowers remain on the plant for a long time, and the color varies from whitish rose to pale purple. The head consists of ray flowers and disk flowers, the former constituting the "petals" surrounding the disk, and the disk itself being composed of small, tubular, greenish yellow flowers. When the flowers first appear the disk is flattened or really concave, but as the flowering progresses it becomes conical in shape. The brown fruiting heads are conical, chaffy, stiff and wiry.

DESCRIPTION OF ROOT—Echinacea has a thick, blackish root, which in commerce occurs in cylindrical pieces of varying length and thickness. The dried root is grayish brown on the outside, the bark wrinkled lengthwise and sometimes spirally twisted. It breaks with a short, weak fracture, showing yellow or greenish yellow wood edges, which give the impression that the wood is decayed.

The odor is scarcely perceptible and the taste is mildly aromatic, afterwards becoming acrid and inducing a flow of saliva.

COLLECTION, PRICES AND USES—The root of Echinacea is collected in autumn and brings from 20 to. 30 cents a pound. It is said that Echinacea varies greatly in quality due chiefly to the locality in which. it grows. According to J. U. Lloyd, the best quality comes from the prairie lands of Nebraska and that from marshy places is inferior.

Echinacea is said to be an alterative and to promote perspiration and induce a flow of saliva. The Indians used the freshly scraped roots for the cure of snake bites.

Aletris.

ALETRIS FARINOSA L.

OTHER COMMON NAMES—Stargrass, blazingstar, mealy starwort, starwort, unicorn-root, true unicorn-root, unicorn-plant, unicorn's-horn, colic-root, devil's-bit, ague-grass, agueroot, aloe-root, crow-corn, huskwort.

A glance at these common names will show many that have been applied to other plants, especially to Chamaelirium, with which Aletris is so much confused. In order to guard against this confusion as much as possible, it is best not to use the common names of this plant at all,

referring to it only by its generic name, Aletris.

HABITAT AND RANGE—Aletris occurs in dry, generally sandy soil, from Maine to Minnesota, Florida and Tennessee.

Aletris farinosa.

DESCRIPTION OF PLANT—As stated under Chamaelirium, this plant is often confused. with the former by collectors and others, although there seems to be no good reason why this should be so. The plants do not resemble each other except in habit of growth, and the trouble undoubtedly arose from a confusion of the somewhat similar common names of the plants, as, for instance, "stargrass" and "starwort."

Aletris may be at once distinguished by the grasslike leaves, which spread out on the ground in the form of a star, and by the slender spikes of rough, mealy flowers.

This native perennial, belonging to the Lily family (Liliaceae), is an erect, slender herb, $1^1/_2$ to 3 feet tall, with basal leaves only. These leaves are grasslike, from 2 to 6 inches long, and have a yellowish green or willow-green color. As already stated, they surround the base of the stem in the form of a star. Instead of stem leaves, there are very small, leaflike bracts placed at some distance apart on the stem. From May to July the erect flowering spike, from 4 to 12 inches long, is produced, bearing white, urn-shaped flowers, sometimes tinged with yellow at the apex, and having a rough, wrinkled and mealy appearance. The seed capsule is ovoid, opening by three halves, and containing many seeds. When the flowers in the spike are still in bud, there is a suggestion of resemblance to the female spike of Chamaelirium with its fruit half formed.

Several other species are recognized by botanists, namely, Aletris Aurea Walt., A. lutea Small, and A. obovata Nash, but aside from the flowers,

which in aurea and lutea are yellow, and slight variations in form, such as a more contracted perianth, the differences are not so pronounced that the plants would require a detailed description here. They have undoubtedly been collected with Aletris farinosa for years, and are sufficiently like it to be readily recognized.

DESCRIPTION OF ROOTSTOCK—Not only have the plants of Aletris and Chamaelirium been confused, but the rootstocks as well. There is, however, no resemblance between them.

Aletris has a horizontal rootstock from one-half to $1^1/_2$ inches in length, rough and scaly, and almost completely hidden by the fibrous roots and remains of the basal leaves. Upon close examination the scars of former leaf stems may be seen along the upper surface. The rootlets are from 2 to 10 inches in length, those of recent growth whitish and covered with several layers of epidermis which gradually peel off, and the older rootlets of the rootstock showing this epidermis already scaled off, leaving only the hard, brown, woody center. The rootstock in commerce almost invariably shows at one end a tuft of the remains of the basal leaves, which do not lose their green color. It is grayish brown outside, whitish within, and breaks with a mealy fracture. It has no odor, and a starchy taste, followed by some acridity, but no bitterness.

COLLECTION, PRICES AND USES—Aletris should be collected in autumn, and there is no reason why collectors should make the common mistake of confusing Aletris with Chamaelirium. By comparing the description of Aletris with that of Chamaelirium, it will be seen that there is scarcely any resemblance. Aletris ranges from 30 to 40 cents a pound.

As indicated under Chamaelirium, the medicinal properties have also been considered the same in both plants, but Aletris is now regarded of value chiefly in digestive troubles. Aletris was official in the United States Pharmacopoeia from 1820 to 1870.

Wild Indigo.

BAPTISIA TINCTORIA (L.) R. Br.

OTHER COMMON NAMES—Baptisia, indigo-weed, yellow indigo, American indigo, yellow broom, indigo-broom, cloverbroom, broom-

clover, horsefly-weed, shoofly, rattlebush.

HABITAT AND RANGE—This native herb grows on dry, poor land, and is found from Maine to Minnesota, south to Florida and Louisiana.

DESCRIPTION OF PLANT—Many who have been brought up in the country will recognize in the wild indigo the plant so frequently used by farmers, especially in Virginia and Maryland, to keep flies away from horses, bunches of it being fastened to the harness for this purpose.

Wild Indigo (Baptisia Tinctoris) Branch Showing Flowers and Seed Pods.

Wild Indigo grows about 2 to 3 feet in height and the cloverlike blossoms and leaves will show at once that it belongs to the same family as the common clover, namely, the pea family (Fabaceae.) It is an erect, much-branched, very leafy plant of compact growth, the 3-leaved, bluish green foliage somewhat resembling clover leaves. The flowers, as already stated, are like common clover flowers-that is, not like clover heads, but the single flowers composing these; they are bright yellow, about one-half inch in length and are produced in numerous clusters which appear from June to September. The seed pods, on stalks longer than the calyx, are nearly globular or ovoid and are tipped with an awl shaped style.

Another species, said to possess properties similar to those of Baptisia tinctoria and substituted for it, is B. alba R. Br., called the white wild indigo. This plant has white flowers and is found in the Southern States and on the plains of the Western States.

DESCRIPTION OF ROOT—Wild Indigo has a thick, knotty crown or head, with several stem scars, and a round, fleshy root, sending out cylindrical branches and rootlets almost 2 feet in length. The white

woody interior is covered with a thick, dark brown bark, rather scaly or dotted with small, wartlike excrescences. The root breaks with a tough, fibrous fracture. There is a scarcely perceptible odor and the taste, which resides chiefly in the bark, is nauseous, bitter and acrid.

COLLECTION, PRICES AND USES—The root of Wild Indigo is collected in autumn, and brings from 4 to 8 cents a pound.

Large doses of Wild Indigo are emetic and cathartic and may prove dangerous. It also has stimulant, astringent and antiseptic properties, and is used as a local application to sores, ulcers, etc.

The herb is sometimes employed like the root and the entire plant was official from 1830 to 1840.

In some sections the young, tender shoots are used for greens, like those of pokeweed, but great care must be exercised to gather them before they are too far advanced in growth, as otherwise bad results will follow.

A blue coloring matter has been prepared from the plant and used as a substitute for indigo, to which, however, it is very much inferior.

Pleurisy-Root.

ASCLEPIAS TUBEROSA L.

DRUG NAME—Asclepias.

OTHER COMMON NAMES—Butterfly weed, Canada-root, Indian-posy, orange-root, orange swallowwort, tuberroot whiteroot, windroot, yellow or orange milkweed.

HABITAT AND RANGE—Pleurisy-Root flourishes in the open or in the pine woods, in dry, sandy or gravelly soil, usually along the banks of streams. Its range extends from Ontario and Maine to Minnesota, south to Florida, Texas and Arizona, but it is found in greatest abundance in the South.

DESCRIPTION OF PLANT—This is a very showy and ornamental perennial plant, indigenous to this country, and belonging to the milkweed family (Asclepiadaceae) ; it is erect and rather stiff in habit, but with brilliant heads of bright orange-colored flowers that attract

attention from afar.

PLEURISY ROOT.

The stems are rather stout, erect, hairy, about 1 to 2 feet in height, sometimes branched near the top, and bearing a thick growth of leaves. These are either stemless or borne on short stems, are somewhat rough to the touch, 2 to 6 inches long, lance shaped or oblong, the apex either sharp pointed or blunt, with a narrow, rounded or heart shaped base. The flower beads, borne at the ends of the stem and branches, consist of numerous, oddly shaped orange colored flowers. The corolla is composed of five segments, which are reflexed or turned back and the crown has five erect or spreading "hoods," within each of which is a slender incurved horn. The plant is in flower for some time, usually from June to September, followed late in the fall by pods, which are from 4 to 5 inches long, green, tinged with red, finely hairy on the outside, and containing the seeds with their long, silky hairs. Unlike the other mildweeds, the Pleurisy Root contains little or no milky juice.

DESCRIPTION OF ROOT—The root of this plant is large, white and fleshy, spindle shaped, branching. As found in commerce it consists of lengthwise or crosswise pieces from 1 to 6 inches in length and about three-fourths of an inch in thickness. It is wrinkled lengthwise and also transversely and has a knotty head. The thin bark is orange brown and the wood yellowish, with white rays. It has no odor and a somewhat bitter, acrid taste.

COLLECTION, PRICES AND USES—The root, which is usually

found rather deep in the soil, is collected in autumn, cut into transverse or lengthwise slices and dried. The price ranges from 6 to 10 cents a pound.

Pleurisy Root was much esteemed by the Indians, has long been used in domestic practice, and is official in the United States Pharmacopoeia. It is used in disordered digestion and in affections of the lungs, in the last-named instance to promote expectoration, relieve pains in the chest, and induce easier breathing. It is also useful in producing perspiration.

OTHER SPECIES—Besides the official Pleurisy Root there are two other species of Asclepias which are employed to some extent for the same purposes, namely, the common milkweed and the swamp-milkweed.

The common milkweed (Asclepias syriaca L.) is a perennial, native in fields and waste places from Canada to North Carolina and Kansas. It has a stout, usually simple stem 3 to 5 feet in height and oblong or oval leaves, smooth on the upper surface and densely hairy beneath. The flowers, similar in form to those of Asclepias tuberosa, are pinkish purple and appear from June to August, followed by erect pods 3 to 5 inches long, woolly with matted hair and covered with prickles and borne on recurved stems. The plant contains an abundance of milky juice.

The root of the common milkweed is from 1 to 6 feet long, cylindrical and finely wrinkled. The short branches and scars left by former stems give the root a round, knotty appearance. The bark is thick, grayish brown and the inside white, the root breaking with a short, splintery fracture. Common milkweed root has a very bitter taste, but no odor.

It is collected in autumn and cut into transverse slices before drying. Common milkweed ranges from 6 to 8 cents a pound.

Swamp-milkweed (Asclepias incarnata L.) is a native perennial herb found in swamps from Canada to Tennessee and Kansas. The slender stem, leafy to the top, is 1 to 2 feet in height, branched above, the leaves lance shaped or oblong lance shaped. The flowers, also similar to those of tuberosa, appear from July to September, and are flesh colored or rose colored. The pods are 2 to 31 inches long, erect, and very sparingly hairy.

The root of the swamp-milkweed, which is also collected in autumn, is not quite an inch in length, hard and knotty, with several light brown rootlets. The tough white wood, which has a thick, central pith, is covered with a thin, yellowish brown bark. It is practically without odor, and the taste, sweetish at first, finally becomes bitter. This root brings about 3 cents a pound.

CHAPTER XXXIII.

RICH SOIL PLANTS.

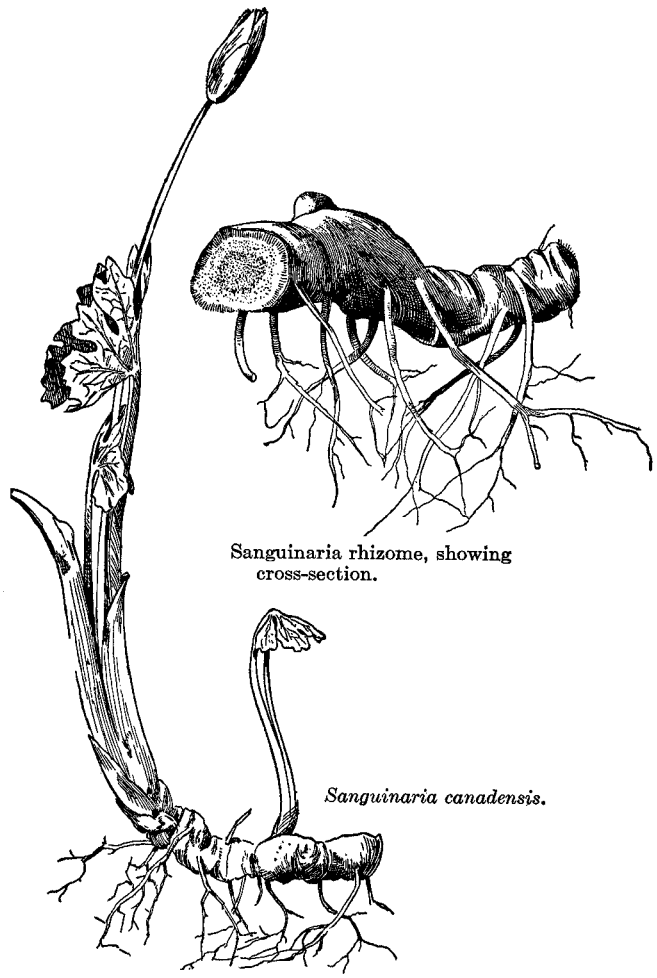
Bloodroot.

SANGUINARIA CANADENSIS L.

DRUG NAME—Sanguinaria.

OTHER COMMON NAMES—Redroot, red puccoon, red Indian-paint, puccoon-root, coonroot, white puccoon, pauson, snakebite, sweet-slumber, tetterwort, tumeric.

HABITAT AND RANGE—Bloodroot is found in rich, open woods from Canada south to Florida and west to Arkansas and Nebraska.



Sanguinaria rhizome, showing cross-section.

Sanguinaria canadensis.

DESCRIPTION OF PLANT—This indigenous plant is among the earliest of our spring flowers, the waxy-white blossom, enfolded by the grayish green leaf, usually making its appearance early in April. The stem and root contain a bloodred juice. Bloodroot is a perennial and belongs to the same family as the opium poppy, the Papaveraceae. Each bud on the thick, horizontal rootstock produces but a single leaf and a flowering scape, reaching about 6 inches in height. The plant is smooth and both stem and leaves, especially when young, present a grayish green appearance, being covered with a "bloom" such as is found on some fruits. The leaves are palmately 5 to 9 lobed, the lobes either cleft at the apex or

having a wavy margin, and are borne on leaf stems about 5 to 14 inches long. After the plants have ceased flowering the leaves, at first only 3 inches long and 4 to 5 inches broad, continue to expand until they are about 4 to 7 inches long and 6 to 12 inches broad. The under side of the leaf is paler than the upper side and shows prominent veins. The flower measures about 1 inch across, is white, rather waxlike in appearance, with numerous golden-yellow stamens in the center. The petals soon fall off, and the oblong, narrow seed pod develops, attaining a length of about an inch.

DESCRIPTION OF ROOTSTOCK—When dug out of the ground Bloodroot is rather thick, round and fleshy, slightly curved at the ends, and contains a quantity of blood-red juice. It is from 1 to 4 inches in length, from one-half to 1 inch in thickness, externally reddish brown, internally a bright red blood color, and produces many thick, orange colored rootlets.

The rootstock shrinks considerably in drying, the outside turning dark brown and the inside orange-red or yellowish with numerous small red dots, and it breaks with a short, sharp fracture. It has but a slight odor and the taste is bitter and acrid and very persistent. The powdered root causes sneezing.

COLLECTION, PRICES AND USE—The rootstock should be collected in autumn, after the leaves have died, and after curing, it should be stored in a dry place, as it rapidly deteriorates if allowed to become moist. Age also impairs its activity. The price paid to collectors for this root ranges from about 5 to 10 cents per pound.

Bloodroot was well known to the American Indians, who used the red juice as a dye for skins and baskets and for painting their faces and bodies. It is official in the United States Pharmacopoeia and is used as a tonic, alterative, stimulant and emetic.

Pinkroot.

SPIGELIA MARILANDICA L.

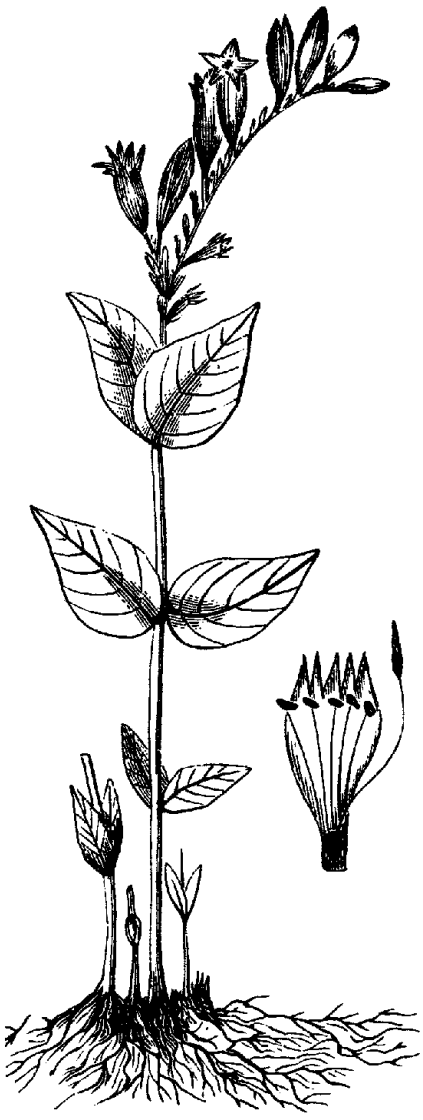
DRUG NAME—Spigelia.

OTHER COMMON NAMES—Carolina pinkroot, pinkroot, Carolina pink, Maryland pink, Indian pink, starbloom, wormgrass, wormweed,

American wormroot.

HABITAT AND RANGE—This pretty little plant is found in rich woods from New Jersey to Florida, west to Texas and Wisconsin, but occurring principally in the Southern States. It is fast disappearing, however from its native haunts.

DESCRIPTION OF PLANT—Pinkroot belongs to the same family as the yellow jasmine, namely, the Logania family (Loganiaceae), noted for its poisonous species. It is a native perennial herb, with simple, erect stem 6 inches to 11 feet high, nearly smooth. The leaves are stemless, generally ovate, pointed at the apex and rounded or narrowed at the base; they are from 2 to 4 inches long, one-half to 2 inches wide, smooth on the upper surface, and only slightly hairy on the veins an the lower surface. The rather showy flowers are produced from May to July in a terminal one-sided spike; they are from 1 to 2 inches in length, somewhat tube shaped, narrowed below, slightly inflated toward the center, and again narrowed or contracted toward the top, terminating in five lance shaped lobes; the flowers are very showy, with their brilliant coloring-bright scarlet on the outside, and the inside of the tube, and the lobes a bright yellow. The seed capsule is double, consisting of two globular portions more or less united, and containing numerous seeds.



Spigelia marylandica.

DESCRIPTION OF ROOTSTOCK—The rootstock is rather small, from 1 to 2 inches in length and about one-sixteenth of an inch in thickness. It is somewhat crooked or bent, dark brown, with a roughened appearance of the upper surface caused by cup shaped scars, the remains of former annual stems. The lower surface and the sides have numerous long, finely branched, lighter colored roots, which are rather brittle. Pinkroot has a pleasant, aromatic odor, and the taste

is described as sweetish, bitter and pungent.

COLLECTION, PRICES AND USES—Pinkroot is collected after the flowering period. It is said to be scarce, and was reported as becoming scarce as long ago as 1830. The price paid to collectors ranges from 25 to 40 cents a pound.

The roots of other plants, notably those of the East Tennessee pinkroot (Ruellia ciliosa Pursh), are often found mixed with the true Pinkroot, and the Ruellia ciliosa is even substituted for it. This adulteration or substitution probably accounts for the inertness which has sometimes been attributed to the true Pinkroot and which has caused it to fall into more or less disuse. It has long been known that the true Pinkroot was adulterated, but this adulteration was supposed to be caused by the admixture of Carolina phlox (Phlox carolina L., now known as Phlox ovata L.), but this is said now to be no part of the substitution.

The rootstock of Ruellia ciliosa is larger and not as dark as that of the Maryland pinkroot and has fewer and coarser roots, from which the bark readily separates, leaving the whitish wood exposed.

Pinkroot was long known by the Indians, and its properties were made known to physicians by them. It is official in the United States Pharmacopoeia and is used principally as an anthelmintic.

Indian-Physic.

GILLENIA TRIFOLIATA (L.) Britton.

SYNONYM—Porteranthus trifoliatus

OTHER COMMON NAMES—Gilenia, bowman's-root, false ipecac, western dropwort, Indian-hippo.

HABITAT AND RANGE—Indian-Physic is native in rich woods from New York to Michigan, south to Georgia and Missouri.

DESCRIPTION OF PLANT—The reddish stems of this slender, graceful perennial of the rose family (Rosaceae) are about 2 to 3 feet high, several erect and branched stems being produced from the same root. The leaves are almost stemless and trifoliate; that is, composed of three leaflets. They are ovate or lanceolate, 2 to 3 inches long, narrowed

at the base, smooth and toothed. The nodding, white pinkish flowers are few, produced in loose terminal clusters from May to July. The five petals are long, narrowed or tapering toward the base, white or pinkish, and inserted in the tubular, somewhat bell shaped, red tinged calyx. The seed pods are slightly hairy.

At the base of the leaf stems are small leaflike parts, called stipules, which in this species are very small, linear and entire. In the following species, which is very similar to trifoliatus and collected with it, the stipules, however, are so much larger that they form a prominent character, which has given rise to its specific name, stipulatus to this plant, the common names of Porteranthus trifoliatus are also used for P. stipulatus. The roots of both species are collected and used for the same purpose.

DESCRIPTION OF ROOTS—The root Porteranthus trifoliatus is thick and knotty, with many smoothish, reddish brown rootlets, the latter in drying becoming wrinkled Iengthwise and showing a few transverse fissures or breaks in the bark, and the interior white and woody. There is practically no odor and the woody portion is tasteless, but the bark, which is readily separable, is bitter, increasing the flow of saliva.

Porteranthus stipulatus has a larger, more knotty root, with rootlets that are more wavy, constricted Or marked with numerous transverse rings, and the bark fissured or breaking from the white woody portion at frequent intervals.

COLLECTION, PRICES AND USES—The roots of both species are collected in autumn. The prices range from 2 to 4 cents a pound.

Indian-Physic or bowman's root, as these names imply, was a popular

remedy with the Indians, who used it as an emetic. From them the white settlers learned of its properties and it is still used for its emetic action. This drug was at one time official in the United States Pharmacopoeia, from 1820 to 1880. Its action is said to resemble that of ipecac.

Wild Sarsaparilla.

ARALIA NUDICAULIS L.

OTHER COMMON NAMES—False sarsaparilla, Virginia sarsaparilla, American sarsaparilla, small spikenard, rabbit's root, shotbush, wild licorice.

HABITAT AND RANGE—Wild Sarsaparilla grows in rich, moist woods from Newfoundland west to Manitoba and south to North Carolina and Missouri.

DESCRIPTION OF PLANT—This native herbaceous perennial, belonging to the ginseng family (Araliaceae), produces a single, long-stalked leaf and flowering stalk from a very short stem, both surrounded or sheathed at the base by thin, dry scales. The leafstalk is about 12 inches long divided at the top into three parts, each division bearing five oval, toothed leaflets from 2 to, 5 inches long, the veins on the lower surface sometimes hairy.

The naked flowering stalk bears three spreading clusters of small, greenish flowers, each cluster consisting of from 12 to 30 flowers produced from May to June, followed later in the season by purplish black roundish berries, about the size of the common elderberries.

DESCRIPTION OF ROOTSTOCK—Wild Sarsaparilla rootstock has a very fragrant, aromatic odor. Rabbits are said to be very fond of it, whence one of the common names, “rabbit's root,” is derived. The rootstock is rather long, horizontally creeping, somewhat twisted, and yellowish brown on the out side. The taste is warm and aromatic. The dried rootstock is brownish, gray and wrinkled lengthwise on the outside, about one-fourth of an inch in thickness, the inside, whitish with a spongy pith. The taste is sweetish and somewhat aromatic.

COLLECTION, PRICES AND USES—The root of Wild Sarsaparilla is collected in autumn, and brings from 5 to 8 cents a pound.

This has long been a popular remedy, both among the Indians and domestic practice, and was official in the United States Pharmacopoeia from 1820 to 1880. Its use is that of an alterative, stimulant and diaphoretic and in this it resembles the official sarsaparilla obtained from tropical America.

SIMILAR SPECIES—The American spikehead (Aralia racemosa L.), known also as spignet, spiceberry, Indian-root, petty-morrel, life-of-man and old-man's-root, is employed like Aralia nudicaulis. It is distinguished from this by its taller, herbaceous habit, its much-branched stem from 3 to 6 feet high and very large leaves consisting of thin, oval, heart shaped, double saw-toothed leaflets. The small, greenish flowers are arranged in numerous clusters, instead of only three as in nudicaulis and also appear somewhat later, namely, from July to August. The berries are roundish, reddish brown, or dark purple.

The rootstock is shorter than that of nudicaulis and much thicker, with prominent stem scars, and furnished with, numerous, very

long, rather thin roots. The odor and taste are stronger than in nudicaulis. It is also collected in autumn, and brings from 4 to 8 cents a pound.

The American spikenard occurs in similar situations as nudicaulis, but its range extends somewhat farther South, Georgia being given as the Southern limit.

The California spikenard (Aralia californica Wats.) may be used for the same purpose as the other species. The plant is larger than Aralia racemosa, but otherwise is very much like it. The root is also larger than that of A. racemosa.

CHAPTER XXXIV.

MEDICINAL HERBS.

American Angelica.

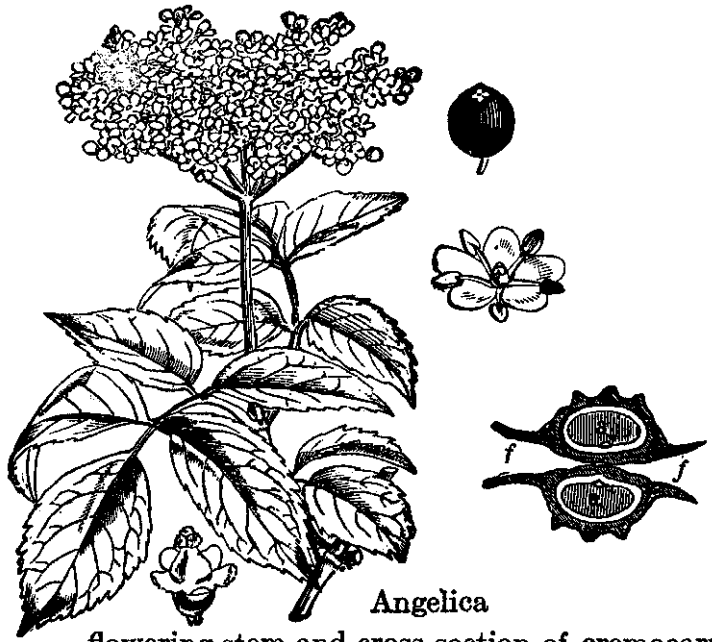
ANGELICA ATROPURPUREA L.

SYNONYM—Archangelica atropurpurea Hoffn.

OTHER COMMON NAMES—Angelica, purple-stemmed angelica, great angelica, high angelicam, purple angelica, masterwort.

HABITAT AND RANGE—American Angelica is a native herb, common in swamps and damp places from Labrador to Delaware and west to Minnesota.

DESCRIPTION OF PLANT—This strong-scented, tall, stout perennial reaches a height of from 4 to 6 feet, with a smooth, dark purple, hollow stem 1 to 2 inches in diameter. The leaves are divided into three parts, each of which is again divided into threes; the rather thin segments are oval or ovate, somewhat acute, sharply toothed and sometimes deeply cut, and about 2 inches long. The lower leaves sometimes measure 2 feet in width, while the upper ones are smaller, but all have very broad, expanded stalks. The greenish white flowers are produced from June to July in somewhat roundish, many-rayed umbels or heads, which sometimes are 8 to 10 inches in diameter. The fruits are smooth, compressed and broadly oval. American Angelica root is branched, from 3 to 6 inches long, and less



Angelica
flowering stem and cross-section of cremocarp: *a*, the seed; *f*, the 2-ribbed wings (mericarps).

than an inch in diameter. The outside is light, brownish gray, with deep furrows, and the inside nearly white, the whole breaking with a short fracture and the thick bark showing fine resin dots. It has an aromatic odor, and the taste at first is sweetish and spicy, -afterwards bitter. The fresh root is said to possess poisonous properties.

The root of the European or garden angelica (Angelica officinalis Moench) supplies much of the angelica root of commerce. This is native in northern Europe and is very widely cultivated, especially in Germany, for the root.

COLLECTION, PRICES AND USES—The root is dug in autumn and carefully dried. Care is also necessary in preserving the root, as it is very liable to the attacks of insects. American Angelica root ranges from 6 to 10 cents a pound.

American Angelica root, which was official in the United States Pharmacopoeia from 1820 to 1860 is used as an aromatic, tonic, stimulant, carminative, diuretic and diaphoretic. In large doses it acts as an emetic.

The seeds are also employed medicinally.

Comfrey.

SYMPHYTUM OFFICINALE

OTHER COMMON NAMES—Symphytum, healing herb, knitback, ass-ear, backwort, blackwort, bruisewort, gumplant, slippery-root.

HABITAT AND RANGE—Comfrey Is naturalized from Europe and occurs in waste places from Newfoundland to Minnesota, south to Maryland.

DESCRIPTION OF PLANT—Th is coarse, rough, hairy, perennial herb is from 2 to 3 feet high, erect and branched, with thick, rough leaves, the lower ones ovate lance shaped, 3 to 10 inches long, pointed at the apex, and narrowed at the base into margined stems. The uppermost leaves are lance-shaped, smaller and stemless. Comfrey is in flower from June to August, the purplish or dirty white, tubular, bell shaped flowers numerous and borne in dense terminal clusters. The nutlets which follow are brown, shining and somewhat wrinkled.

Comfrey belongs to the borage family (Boraginaceae.)

DESCRIPTION OF ROOT—Comfrey has a large, deep, spindle-shaped root, thick and fleshy at the top, white inside and covered with a thin, blackish brown bark. The dried root is hard, black and very deeply and roughly wrinkled, breaking with a smooth, white, waxy fracture. As it occurs in commerce it is in pieces ranging from about an inch to several inches in length, only about one-fourth of an inch in thickness, and usually considerably bent. It has a very mucilaginous, somewhat sweetish and astringent taste, but no odor.

COLLECTION, PRICES AND USES—The -root is dug in autumn, or sometimes in early spring. Comfrey root when first dug is very fleshy and juicy, but about four-fifths of its weight is lost in drying. The price ranges from 4 to 8 cents a pound,

The mucilaginous character of Comfrey root renders it useful in coughs and diarrheal complaints, Its action is demulcent and slightly astringent. The leaves are also used to some extent.

Elecampane.

INULA HELENIUM L.

OTHER COMMON NAMES—Inula, inul, horseheal, elf-dock, elfwort, horse-elder, scabwort, yellow starwort, velvet dock, wild sunflower.

HABITAT AND RANGE—This perennial herb has been naturalized

from Europe, and is found along the roadsides and in fields and damp pastures from Nova Scotia to North Carolina, westward to Missouri and Minnesota. It is a native also in Asia,

DESCRIPTION OF PLANT—When in flower elecampane resembles the sunflower on a small scale. Like the sunflower, it is a member of the aster family (Asteraceae). It is a rough plant, growing from 3 to 6 feet in height, but producing during the first year only root leaves, which attain considerable size. In the following season the stout densely hairy stem develops, attaining a height of from 3 to 6 feet.

The leaves are broadly oblong in form, toothed, the upper surface rough and the under side densely soft-hairy. The basal or root leaves are borne on long sterns, and are from 10 to 20 inches long and 4 to 8 inches wide, while the upper leaves are smaller and stemless or clasping.

About July to September the terminal flowerheads are 'produced, either singly or a few together. As already stated, these flower heads look very much like small sunflowers, 2 to 4 inches broad, and consist of long, narrow, yellow rays, 3 toothed at the apex, and the disk also is yellow.

DESCRIPTION OF ROOT—Elecampane has a large, long, branching root, pale yellow on the outside and whitish and fleshy within. When dry the outside turns a grayish brown or dark brown, and is generally finely wrinkled lengthwise. As found in commerce, elecampane is usually in transverse or lengthwise slices, light Yellow or grayish and fleshy internally, dotted with numerous shining resin cells, and with overlapping brown or wrinkled bark. These slices become flexible in damp weather and tough but when they are dry they break with a

short fracture. The root has at first a strongly aromatic odor, which has been described by some as resembling a violet odor, but this diminished in drying. The taste is aromatic, bitterish and pungent.

COLLECTION, PRICES, AND USES—The best time for collecting elecampane is in the fall of the second year. If collected later than that the roots are apt to be stringy and woody, Owing to the interlacing habit of the rootlets, much dirt adheres to the root, but it should be well cleaned, cut into transvers e or lengthwise slices, and carefully dried in the shade. Collectors receive from 3 to 5 cents a pound for this root.

Elecampane, which was official in the United States Pharmacopeia of 1890, is much used in affections of the respiratory organs, in digestive and liver disorders, catarrhal discharges and skin diseases.

Queen-of-the-Meadow.

EUPAPTORIUM PURPUREUM.

OTHER COMMON NAMES—Gravelroot, Indian gravelroot. joe-pye-weed, purple boneset, tall boneset, kidneyroot, king-of-the-meadow, marsh-milkweed, motherwort, niggerweed, quillwort, slunkweed, trumpetweed.


Joe-Pye Weed - Eupatorium purpureum

HABITAT AND RANGE—This common native perennial herb occurs in low grounds and dry woods and meadows from Canada to Florida and Texas.

DESCRIPTION OF PLANT—The stout, erect, green or purple stem of this plant grows from 3 to 10 feet in height and is usually smooth, simple or branched at the- top. The thin, veiny leaves are 4 to 12 inches long, 1 to 3 inches wide, ovate or ovate lance shaped, sharp pointed, toothed and placed around the stem in whorls of three to six. While the upper surface of the leaves is smooth, there is

usually a slight hairiness along the veins on the lower surface, otherwise smooth. Toward the latter part of the summer and in early fall queen-of-the-meadow is in flower, producing 5 to 15 flowered pink or purplish heads, all aggregated in large cornpound clusters which present a rather showy appearance. This plant belongs to the aster family (Asteraceae).

Another species which is collected with this and for similar purposes, and by some regarded as only a variety, is the spotted boneset or spotted joe-pye-weed (Eupatorium maculatum L.) This is very similar to E. purpureum, but it does not grow so tall, is rough-hairy and has the stem spotted with purple. The thicker leaves are coarsely toothed and in whorls of three to five and the flower clusters are flattened at the top rather than elongated as in E. purpureum.

It is found in moist soil from New York to Kentucky, westward to Kansas, New Mexico, Minnesota, and as far up as British Columbia.

DESCRIPTION OF ROOT—Queen-of -meadow root, as it occurs in commerce, is blackish and woody, furnished with numerous long dark-brown fibers, which are furrowed or wrinkled lengthwise and whitish within. It has a bitter, aromatic and astringent taste.

COLLECTION, PRICES AND USES—The root is collected in autumn and is used for its astringent and diuretic properties. It was official in the United States Pharmacoepia from 1820 to 1840. The price ranges from $2^1/_2$ to 4 cents a pound.

CHAPTER XXXV.

MEDICINAL SHRUBS.

Hydrangea.

HYDRANGEA ARBORESCENS L.

OTHER COMMON NAMES—Wild hydrangea, seven-barks.

HABITAT AND RANGE—Hydrangea frequents rocky river banks and ravines from the southern part of New York to Florida, and westward to Iowa and Missouri, being especially abundant in the valley of the Delaware and southward.

DESCRIPTION OF PLANT—Hydrangea is an indigenous shrub, 5 to 6 feet or more in height, with weak twigs, slender leaf sterns and thin leaves. It belongs to the hydrangea family (Hydrangeaceae). The leaves are oval or sometimes heart shaped, 3 to 6 inches long, sharply toothed, green on both sides, the upper smooth and the lower sometimes hairy. The shrub is in flower from Julie to July, producing loose, branching terminal heads of small, greenish white flowers, followed by membranous, usually 2-celled capsules, which contain numerous seeds. Sometimes hydrangea will flower a second time early in fall.

A peculiar characteristic of this shrub and one that has given rise to the common name “seven-barks”, is the peeling off of the stem bark, which

comes off in several successive layers of thin, different colored bark.

DESCRIPTION OF ROOT—The root is roughly branched and when first taken from the ground is very juicy, but after drying it becomes hard. The smooth white and tough wood is covered with a thin, pale-yellow or light-brown bark, which readily scales off. The wood is tasteless, but the bark has a pleasant aromatic taste, becoming somewhat pungent.

COLLECTION, PRICES AND USES—Hydrangea root is collected in autumn and as it becomes very tough after drying and difficult to bruise it is best to cut the root in short transverse pieces while it is fresh and still juicy and dry it in this way. The price ranges from 2 to 7 cents a pound.

Hydrangea has diuretic properties and is said to have been much used by the Cherokees and early settlers in calculous complaints.

Oregon Grape.

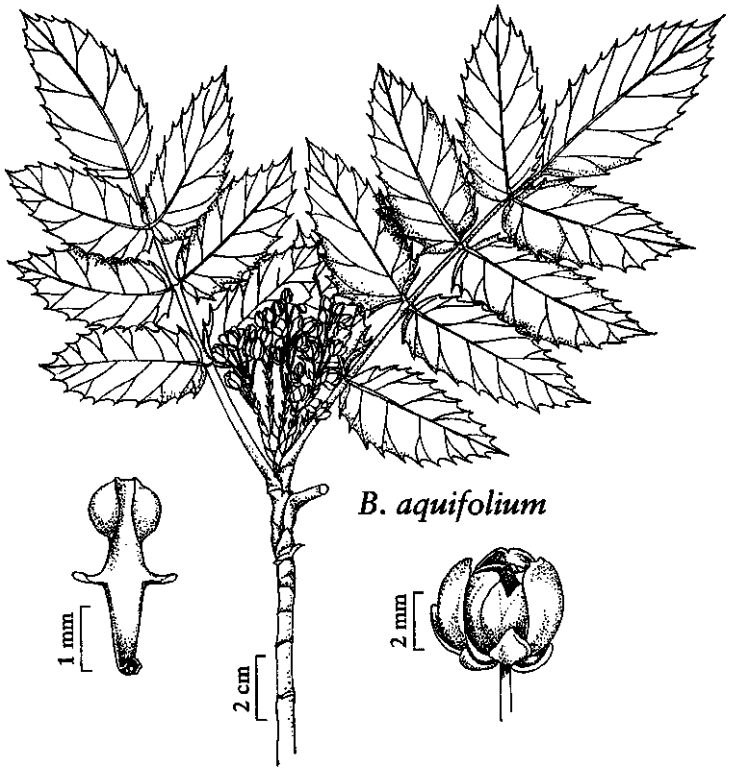
BERBERIS AQUIFOLIUM PURS.

DRUG NAME—Berberis.

OTHER COMMON NAMES—Rocky Mountain grape, holly-leaved barberry, California barberry, trailing Mahonia.

HABITAT AND RANGE —This shrub is native in Woods in rich soil among rocks from Colorado to the Pacific Ocean, but is especially abundant in Oregon and northern California

DESCRIPTION OF PLANT—Oregon grape is a low-growing shrub, resembling somewhat the familiar Christmas holly of the Eastern states, and, in fact, was first designated as “mountain-holly” by members of the Lewis and- Clark expedition on their way through the western country. It belongs to the barberry family (Berberidaceae), and grows about 2 to 6 feet in height, the branches sometimes trailing. The leaves consist of from 5 to 9 leaflets, borne in pairs, with an odd leaflet at the summit. They are from 2 to 3 inches long and about 1 inch wide, evergreen, thick, leathery, oblong or oblong ovate in outline, smooth and shining above. the margins provided with thorny spines or teeth. The numerous small yellow flowers appear in April or May and are borne in erect,



clustered heads. The fruit consists of a cluster of blue or bluish purple berries, having a pleasant taste, and each containing from three to nine seeds.

OTHER SPECIES—While Berberis aquifolium is generally designated as the source of Oregon grape root, other species of Berberis are met with in the market under the name grape root, and their use is sanctioned by the United States Pharmacopoeia.

The species most commonly collected with Berberis aquifolium is B. nervosa Pursh, which is also found in woods from California northward to Oregon and Washington. This is 9 to 17 inches in height, with a conspicuously jointed stem and 11 to 17 bright-green leaflets.

Another species of Berberis, B. pinnata Lag., attains a height of from a few inches to a feet, with from 5 to 9, but sometimes more, leaflets, which are shining above and paler beneath. This resembles aquifolium very closely and is often mistaken for it, but it is said that it has not been used by the medical profession, unless in local practice. The root also is about the same size as that of aquifolium, while the root of nervosa is smaller.

Some works speak of Berberis repens Lindl. as another species often collected with aquifolium, but in the latest botanical manuals no such species is recognized, B. repens being given simply as a synonym for B. aquifolium.

DESCRIPTION OF ROOTSTOCK—The rootstock and roots of Oregon grape are more or less knotty, in irregular pieces of varying

lengths, and about an inch or less in diameter, with brownish bark and hard and tough yellow wood, showing a small pith and narrow rays. Oregon grape root has a very bitter taste and very slight odor.

COLLECTION, PRICES AND USES—Oregon grape root is collected in autumn and brings from 10 to 12 cents a pound. The bark should not be removed from the rootstocks, as the Pharmacopoeia directs that such roots be rejected.

This root has long been used in domestic practice thruout the West as a tonic and blood purifier and is now official in the United States Pharmacopoeia.

The berries are used in making preserves and cooling drinks.