

Flowers
of
Field, Hill
and
Swamp



Caroline A. Creevey



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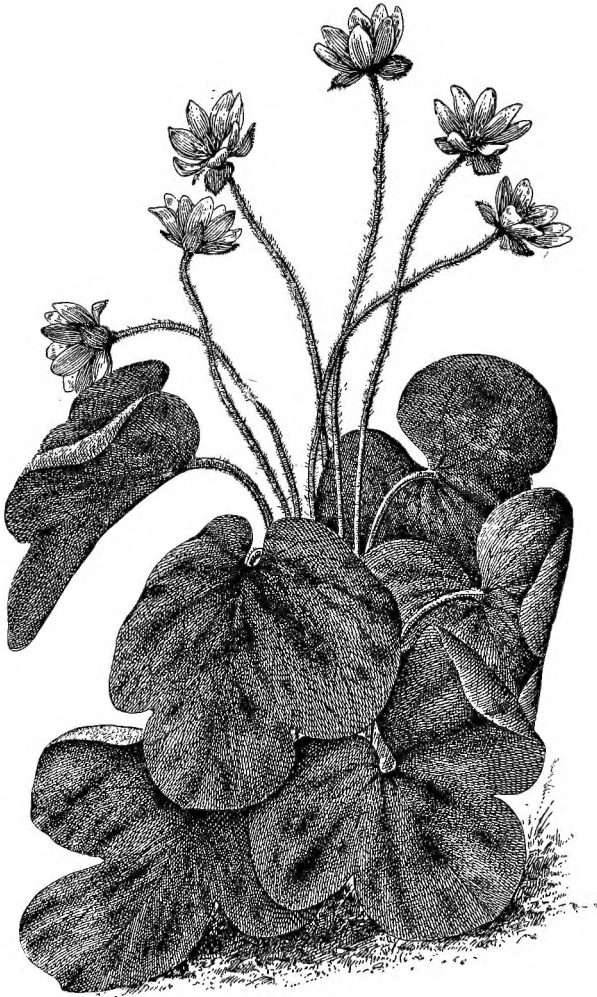
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Flowers of field, hill, and swamp;



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LIVER-LEAF (*Hepatica triloba*)

(See page 304)

FLOWERS
OF
FIELD, HILL, AND SWAMP

BY
CAROLINE A. CREEVEY
AUTHOR OF "RECREATIONS IN BOTANY"

ILLUSTRATED
BY BENJAMIN LANDER

*"To him who in the love of Nature holds
Communion with her visible forms, she speaks
A various language"*

BRYANT'S "Thanatopsis"



NEW YORK AND LONDON
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BY THE SAME AUTHOR.

RECREATIONS IN BOTANY. Illustrated. Post
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The book teems with instruction. . . . All who wish to begin botanical studies will find its pages attractive avenues along which to travel. Its information is concisely and accurately expressed, its illustrations are truly helpful, and its range of treatment comprehensive.
—*N Y. Observer.*

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INTRODUCTION

A GROUPING of plants upon the natural basis of environment, including soil, shade, moisture, etc., has long seemed to me possible. This book is the outcome of that thought. The influence of surroundings is especially noticeable in the vegetable world. A plant born to wet soil will not flourish in dry. One adapted to open fields will not bury its seeds in the cool mould of deep woods. Or if it survives a change of locality, its type is changed, and in this way it is quite possible for new varieties to arise.

For this reason, if the soil be changed an army of new seeds will spring up. Weeds follow the trail of the farmer's plough. The felling of forest trees destroys shade-loving plants, giving room to those which prefer sunshine and drier ground. Wherever a new road is introduced, certain wayside plants will appear along the border. Some plants are called "fire-weeds," from their tendency to cover burnt-over districts. Whether the seeds of foreign plants lie always in the soil, responding to the touch of different conditions, has not been satisfactorily determined. The "alternation of crops," which farmers find so profitable to their soil and harvests, may have its suggestive prototype in nature.

On the other hand, there are some plants which, democratic and Bohemian in their nature, refuse to be restricted, and drop their seeds with equal success in sand or mould. Where

shall I place such "Wandering Jews" as the dandelion and whiteweed? I can only allow them their vagaries, giving them a place outside the pale of law-abiding plants, among weeds.

A plant whose encroachment upon our fields and roadsides has fallen within general observation is the Alsike clover (*Trifolium hybridum*)—a rose-tinted, more generous copy of the common white clover. Sometimes in certain localities this pretty clover will spring up everywhere. An explanation which seems plausible is that seeds are dropped from hay-wagons which pass along the country roads—seeds not only of the Alsike clover, but of other flowers.

The multiplicity of books in recent years on flowers, birds, insects, etc., shows an extraordinary revival of interest in such subjects. Especially are works on plants called for, with the aid of which our common flowers may be recognized by those who have neither time nor the wish to analyze them by dissecting their minuter parts. And with the pleasure of recognition it is not difficult to become acquainted with facts in their life-history and manner of growth. The sundew, for example, becomes invested with peculiar interest once we know that its red, hairy stems and leaves are traps for the imprisonment of small insects on which this plant makes its normal diet. The beautiful colors and strange shapes of orchids are devices for securing visits from insects which make themselves useful as pollen-carriers. Homely, cleistogamous blossoms of other plants are special devices for self-fertilization. Certain plants cannot bear too great radiation of heat and moisture from their leaf-surfaces at night. They therefore fold their leaves together, greatly diminishing the exposed surface. Such "sleeping" plants are in every doorway. In fact, many strange stories are told constantly all around us if our ears are only attuned to listen. Few people dream of the number of plants which grow in their immediate neighborhood. In going a short half-mile from the railway

station to a friend's house, forty-one different flowers were gathered.

This book is designed to enable any one to identify any flower by its habitat, its usual place of growth. The only botanical knowledge required is that contained in the glossary at the end of the book. Even to those who are accustomed to botanical study, it is hoped that old truths in new dress may not be unwelcome.

Flowering plants of the Atlantic seaboard, New England, the Middle States, as far south as Florida, are described. It is interesting to note the wide latitudinal range of some plants along the entire Atlantic coast. As the climate grows warmer the flowers ascend to the mountains of the Southern States, and New England vegetation reappears two thousand feet high in Virginia.

The first six chapters of this book group flowers usually found on (I.) Banks of Streams; (II.) in Swamps; (III.) near the Seacoast; (IV.) in Water; (V.) in Low Meadows; (VI.) along Waysides and in Dry Fields. Chapter VII. includes Weeds. Chapter VIII. brings together plants which originally were cultivated and, escaping from gardens, have become wild. Chapter IX. describes those found in Rocky, Wooded Hill-sides; X., those in Open, Dry Woods; XI., those of Deep, Cool, Moist Woods. Plants found everywhere in Sandy and Sterile Soil form Chapter XII. Vines compose the XIIIth, Shrubs the XIVth chapters.

Because it was necessary to adopt some method, the order of families and genera as given in *Gray's Manual of Botany* (edition 1890) has been followed. This is not, however, the natural order, which by the law of evolution or progressive development places the simplest first, the most complex last. Thus monocotyledones, such as lilies and orchids, should begin the list; the simplest forms of dicotyledones, like the lizard's-tail, which is destitute of calyx and corolla, coming

next ; higher orders following ; the most complex, the composites, coming last. But these gradations are not visible in the flowers themselves, a lily appearing to be a nobler plant than a daisy. And it seemed to me advisable in a popular work to keep to the familiar order of Gray's choosing, till the natural order has generally superseded the old arrangement in works on botany. Where possible, English names have been given to plants. The spelling, use of capitals, compound words, Latin or Greek botanical names, are given according to the latest authorities. Initials and abbreviations of authors' or botanists' names affixed to the names of flowers are omitted, as being of no interest to popular readers. The accents over Latin names are placed over the accented syllables. The grave accent signifies a long vowel ; the acute a short vowel.

In the descriptions of species, the color of the flower is first given, then the shape, size, and outline of leaves, and the time of blossoming are indicated. These are three obvious tests which can be applied to any plant. The second paragraph describes the flower, fruit, height of plant, inflorescence, etc. In the separate chapter indexes, the color of each species is mentioned. If it is desired to identify a flower, after determining by its locality the chapter to which it should be referred, select through the index those descriptions which agree in color, and further apply the tests which appear in the first paragraph, then those in the second. A rapid reading will determine whether the flower in hand agrees or not with the description in the text.

I wish to mention the realistic and artistic drawings from natural flowers with which the text is illustrated, and which will aid in identifying species. They were drawn by Mr. Benjamin Lander, the eminent painter-etcher of New York, whose art productions are so well known in this country and Europe.

Trees are omitted from this book, also grasses, sedges, rushes, and pond weeds, together with non-flowering plants, such as horse-tails and ferns.

CHAPTER I

RIVER BANKS—BROOKS—RUNNING STREAMS

To an observant person nothing is more evident than the change of plant life, often abrupt, with change of soil. For miles along the dusty road the same daisies and asters repeat themselves. Then an unusually verdant spot, with specifically different growths, appears, and unerringly indicates wetter soil, a spring, a running brook, or a river. In its wake its own beloved flowers tread, hugging its banks, refusing to stray back into the drier fields or woods. The banks of streams are often marshy, with overflowing and stagnant water. The dividing line, therefore, between vegetation peculiar to river banks and swamp plants is sometimes difficult to trace. A flower of wet soil not found in this chapter should be sought in the next.

Says Thoreau, "Rivers and lakes are the great protectors of plants against the aggression of the forest, by their annual rise and fall, keeping open a narrow strip where these more delicate plants have light and space in which to grow."

RIVER BANKS—BROOKS—RUNNING STREAMS

1. Small-flowered Crowfoot

Ranunculus abortivus (a little frog, referring to the aquatic habits of some species).—*Family*, Crowfoot. *Color*, pale yellow. *Leaves*, from the root, of 2 kinds, all with long petioles. Those appearing first, roundish, kidney-shaped, with rounded teeth; the later are 3-lobed. Stem-leaves divided mostly into threes, the divisions toothed. *Time*, April to June.

Sepals, 5, turned back. *Petals*, 5, inconspicuous, shorter than the sepals. *Flower*, small, on a smooth, erect, and branching stem, growing 2 feet high or less.

It is fond of wet places, near small streams.

2. Wild Monkshood

Aconitum uncinatum.—*Family*, Crowfoot. *Color*, blue-purple. *Leaves*, with petioles, 3 to 5-lobed, coarsely toothed. *Time*, all summer.

Sepals, 5, irregular; 1, the upper, shaped like a helmet or hood. *Petals*, 2, small, standing on long claws and hidden under the hood of the sepal. *Pistils*, 3 to 5.

The singular flowers are showy, the "helmet" being prominent, obtusely rounded above. They hang loosely from the summits of weak, often climbing stems. A native of Virginia, found northward as far as New Jersey. It loves the banks of small streams. The aconitum of our pharmacies is *A. napellus*. All the species are highly poisonous.

3. Worm-seed Mustard

Erysimum cheiranthoides.—*Family*, Mustard. *Color*, yellow. *Leaves*, alternate, entire, lance-shaped. No stipules. *Time*, June to August.

The mustard family is composed of herbs, with a pungent, watery, never poisonous juice; flower sepals and petals in fours, the latter equal and spreading; stamens, 6, 2 being shorter than the other 4. Stigmas, 2. Pod, two-celled; when long, narrow, and roundish, called a *silique*, and when very short, a *silicle*. Flowers in terminal racemes. The leaves are simple, opposite or alternate, in many species much dissected.

The cabbage, cauliflower, turnip, and horse-radish belong to this family. Many of the species are originally from Europe, and have become common weeds with us.

This species has a four-sided, long pod, with a mid-rib on each of its four valves. Flowers small, on slender, diverging stems. Minute, split hairs, as seen through the microscope, cover the plant and give it a roughish appearance. 1 to 2 feet high.

4. Cut-leaved Toothwort

Dentaria laciniata.—*Family*, Mustard. *Color*, pale purple or nearly white. *Leaves*, in 2 or 3 whorls, on the stem, 3 in each whorl, long-petioled, each leaf 3-parted, into linear or lance-shaped leaflets, which are irregularly and deeply toothed. Similar root leaves, or none. *Time*, April, May, as early as March in the South. 10 to 15 inches high.

A short raceme of flowers terminates the unbranched stem. A pretty species, with graceful foliage, found from New England to Minnesota and southward.

5. Great St.-John's-wort

Hypericum Áscyron.—*Family*, St.-John's-wort. *Color*, yellow. *Leaves*, opposite, dotted, 3 to 5 inches long, clasping or sessile. *Time*, July. *Height*, 2 to 5 feet.



JEWEL-WEED. BALSAM. TOUCH-ME-NOT. (*Impatiens pallida.*)
(See page 6)

Sepals and *petals*, each 5. Many *stamens*, 5 *styles*, and a 5-celled red *pod*.

This is one of the tallest of the St. John's-worts, reaching 5 feet, bearing large, showy blossoms, 2 inches across, and large pods. Flowers, in cymose bunches. The dots in the leaves can best be seen by holding them to the light.

6. Jewel-weed. Balsam. Touch-me-not

Impatiens pallida. — *Family*, Geranium. *Color*, yellow, somewhat spotted with brown. *Leaves*, alternate, oval, with petioles, toothed. *Time*, July–September.

Flower, irregular. *Calyx*, yellowish, like a corolla, of 4 *sepals*. One of the sepals forms a broad sac ending in a curved spur, which is the prominent feature of the flower. *Petals*, 2, each 2-lobed. *Stamens*, 5. *Pod*, 5-valved.

When ripe, the pod bursts, each valve curling upward and throwing the seeds to some distance. The plant bears also smaller and more fertile flowers, which are fertilized in the bud. The larger ones seldom bear fruit. A similar species is deeper yellow, more spotted, with a longer, narrower sac and spur (*I. fulva*). The two are often found growing together. This plant loves wet soil, along roadsides, near running streams, or springs, or in wet dells, where it masses itself. It is sometimes quite tall, 4 to 6 feet.

Scarcely any plant by its numerous common names proves itself dearer to the common people. Lady's eardrops, silver-leaf, touch-me-not, lady's slipper, refer to the pendent blossom, or the silvery appearance of the leaf when held under water, or the seeming touchiness of the pod, which, when ripe, goes off with the slightest handling.

7. Ditch Stone-crop

Pénthorum sedoides. — *Family*, Orpine. *Color*, greenish. *Leaves*, scattered, lance-shaped, pointed, not fleshy. *Time*, July to October.

Sepals, 5, green or greenish yellow. No *petals*. *Stamens*, 10. *Pistils*, 5. $\frac{1}{2}$ to 2 feet high.

The fruit is made up of the 5 united pistils, and is at length a capsule with 5 beaks. The flowers grow on the upper side of a leafless stem, the terminal blossoming first.

8. *Tillaea*

Tillaea simplex.—*Family*, Orpine. *Color*, greenish white. *Leaves*, on the stem, opposite; at the root, clustered, entire, fleshy. *Time*, summer.

A symmetrical flower; *petals*, *sepals*, *stamens*, and *pistils*, 3 or 4.

A queer little mud-loving plant. The tiny 2-inch-high stem bears very small, single flowers in the leaf-axils.

9. Meadow Parsnip

Thaspium barbinode.—*Family*, Parsley. *Color*, yellow. *Leaves*, twice or thrice compound, alternate; those near the base less divided than those higher up on the stem. Leaflets, long, narrow, somewhat ovate, coarsely toothed. *Time*, May June.

The flowers of plants belonging to this family grow in *umbels* which are frequently compound, forming *umbellets*. They possess oil-tubes—minute canals running lengthwise of the fruit—containing aromatic oil, which can only be seen with a strong microscope.

The style and its stigma develop in advance of the stamens, thus preventing self-fertilization. Insects carry the pollen of one flower to the stigma of another, both of which happen to be ripe at the same time.

The stems are generally hollow.

• The plants vary in size and color, but nearly all have the umbel form of blossom and the compound leaves. The flowers are so minute they are difficult to study. A professional botanist said that he had found life too short to spend over the parsleys.

The fruit is single-seeded, like the familiar fennel and caraway-

seeds, which our grandmothers used to take to church in order to while away the long minutes of dreary sermons.

The vegetables parsnip, carrot, celery, and parsley are useful members of this family. Here, too, belong the anise and cumin, though not the mint, whose tithing has stood for punctilious observance of unimportant "matters of the law" ever since the days of the Pharisees.

Many of the roots and seeds of parsleys, when wild, are very poisonous, and acquaintance with them is desirable for this if for no other reason than that one may warn children and ignorant persons against them. None is poisonous to touch.

The meadow parsnip is tall, with yellow umbels of flowers and rather large seeds. Soft, fine hairs grow along the joints of the stem and among the flowers. 2 to 4 feet high.

10. Great Angelica

Angélica atropurpurea.—*Family*, Parsley. *Color*, greenish white. *Leaves*, large, twice or thrice compound; leaflets very sharply serrate. *Time*, June, into July.

The stem of this plant is stout and smooth, 4 to 6 feet tall, of a deep purple color. Although coarse and large, it possesses a certain virile attractiveness.

11. Northern Bedstraw

Galium boreale.—*Family*, Madder. *Color*, white. *Leaves*, narrow, lance-shaped, in whorls of fours, three-nerved. *Time*, July.

Corolla, 4-parted and wheel-shaped. 4 *stamens*. 2 *styles*, and a twin, round, somewhat bristly or smoothish fruit. *Flowers*, small, compact, paniced. *Stems*, square, smooth. 1 to 2 feet high.

All the galiums are weak-stemmed plants; some rough; others, like this, smooth. All have leaves in whorls and small flowers, white or purplish, in cymes or cymose panicles. All have the twin fruit, which separates, when ripe, into two one-seeded carpels.

THE COMPOSITE FAMILY

The largest of all the botanical families is the Composite. It contains one-tenth of all the known species of flowering plants, one-eighth of which are indigenous to North America. The Composites were called compound flowers by older botanists. They are, in reality, many small flowers united in a close head, called a *disk*, upon a flat or conical *receptacle*, either with or without petal-like *rays*, and all surrounded by an *involucre* of calyx-like leaves. The disk of the daisy contains from two hundred to five hundred *florets*. Examined under the magnifying-glass, each floret is seen to have its own tiny calyx, whose tube is joined to the one-celled ovary containing a single dry achene for a seed. The top of the calyx takes different forms, and is of assistance in classifying the flower. In the daisy it is cut off abruptly; in the chicory, it is cup-shaped; in the sunflower, a pair of rabbit-like ears; in the sneezeweed, five scales; in thistles, tufts of hairs; in the dandelion, such tufts raised on a long handle, etc. These developments of the calyx-top are called *pappus*. A single bract grows outside the calyx, called *chaff*. The corolla is tubular, with five points at the summit. The five stamens form a ring with their anthers, which open on the inside and discharge their pollen upon a pistil yet unripe. This, with its two-cleft style, as it grows, carries the pollen with it, and the visiting insect collects it on its body and conducts it to another flower, whose pistil is ripe, bringing about cross-fertilization.

This great family is divided into two series—*Tubulifloræ*, or tubular flowers, and *Ligulifloræ*, or strap-shaped flowers. In the first series all the flowers of the disk are tubular. In many, but not all of these, there are ray-flowers arranged along the margin, which, upon examination, will be found to contain a pistil only, or neither pistil nor stamens. The daisy is an example of *tubulifloræ*.

The *ligulifloræ* have strap-shaped, flat corollas in the disk-

flowers and no ray-flowers. The dandelion is an example. A glance will determine to which of these divisions a Composite belongs. There are nearly a hundred genera, and many more species, of Composites. The superficial features, as leaves, size, color, etc., will be given here, and the microscopic study of pappus, chaff, etc., will be relegated to the specialist.

GOLDEN-RODS

Golden-rods need no general description. They are as well known, common, and admired as daisies. As the blue hepatica is the sign of coming spring, so the golden-rod predicts the fall. During the early summer, green stems arising from the perennial roots spring up everywhere. No ground is so hard and dry as to forbid them. Towards the last of July and first of August, flecks of yellow appear on the tips of the branches. These spread downward, till, by September, the fields are aflame. This plant is one of bright, generous bloom. Sometimes it is tall and straight—a poplar among flowers, a rod of gold. Again it is a graceful, falling fountain of color, or a long, wavy, showy, pampas-like plume. Graceful or stiff, it is a flower to be proud of—a truly national flower, strictly indigenous. We may understand its worth when we try to imagine what our fields, roadsides, and woods would be if bereft of golden-rods. Certainly our American autumn would lose one chief element of beauty.

The golden-rods cannot be cultivated—at least, florists have been successful with only a few species out of the hundred or so growing in North America. Forty-two species, with several varieties, are classified in Gray's botany (ed. 1890) as found east of the Mississippi. They have no common names, except as we translate their botanical titles. They belong to the genus *Solidago*. Their leaves are generally sessile, long, and narrow. The flowers have rays, and all grow together in racemes or corymbs, or in clusters along the stem.



LANCE-LEAVED GOLDEN-ROD (*Solidago lanceolata*)

(See page 12)

All are yellow except *bicolor*, a white species found on the edges of dry woods. Our roadsides are lined with them. They are communistic, or found singly. They are weeds, of course, but not troublesome like wild carrot and daisy. I never heard a farmer exclaim against the golden-rod, while I have seen his wife's vases and fireplaces filled with its masses of yellow bloom.

“ A worthless plant, a flaunting weed !
 Abundant splendors are too cheap ;
 Neighbor, not so ! unless, indeed,
 You would from heaven the sunsets sweep,
 And count as mean the common day.
 Meseems the world has not so much
 Superfluous beauty that we may
 Blight anything with scornful touch.

“ In times long past the harebell's grace
 I blent with this resplendent spray ;
 And one I loved would lean her face
 Toward their contrasted hues, and say,
 ‘ The sun-like gold, the heavenly blue,
 I know not which delights me most !
 Sacred are both, dear heart, to you :
 They lit your feet from earth's dim coast.”

LUCY LARCOM.

12. Lance-leaved Golden-rod

Solidàgo lanceolàta is one of the two species whose flower-heads are massed in flat corymbs. The leaves have 3 or 4 veins reaching the entire length of the leaf. The veins and edges of the leaf are rough to the touch ; largest leaves, 4 or 5 inches long. 2 to 3 feet high.

13. Great Ragweed

Ambròsia trifida. — *Family*, Composite. *Color*, green. *Leaves*, with margined petioles, quite large and 3-divided. *Time*, summer.

This tall growth resembles the smaller, well-known weed of the dooryard. It reaches the height of 12 feet, but is usually about 6. The stem is coarse and hairy. Flowers in greenish panicles, looking like, as a child once said, flower candelabra.

14. Ten-rayed Sunflower

Heliánthus decapétalus.—*Family*, Composite. *Color*, rays and disk, yellow. *Leaves*, thin, ovate, pointed at apex, broader at base, with margined petioles, coarsely toothed. *Height*, 2 to 5 feet. Number of *rays*, about 10. *Blossom*, not large. The green involucre scales project beyond the flower rays. *Smooth-stemmed*, branching.

Most of the sunflowers are perennials. The tall, garden sunflower, *H. annuus*, is an exception. It is an annual, cultivated extensively, not only for the sake of its broad, bright flowers, but also for its seed, which is fed to chickens, parrots, and tame squirrels. New and pretty varieties of the cultivated sunflower are constantly being introduced, from the great "Oscar Wilde" to small, button-like blossoms.

Of the wild sunflowers, which bring a late brightness into the copses and fields, there are 22 species given by Gray.

15. Autumn Sneezeweed

Helènium autumnàle.—*Family*, Composite. *Color*, yellow. *Leaves*, toothed, oblong to lance-shaped, alternate, following downward on the stem below insertion. *Time*, August to September.

Both ray and disk flowers present the rays from 3 to 5 cleft. The plant is erect, 1 to 6 feet, and in general appearance like a sunflower, but the blossom is smaller, being about half an inch across. Branches and broad stem are angled and smooth. Heads of flowers single, or a few in corymb-like clusters. The ray-flowers bear pistils.

16. Coltsfoot

Tussilago Fáfara.—*Family*, Composite. *Color*, yellow. *Leaves*, of two sorts, the earlier, accompanying the flower, merely scales. These are followed by angled or toothed leaves, with heart-shaped bases, woolly when young. *Time*, spring.

A low plant, springing from a rootstock. The small flowers have both disk and ray flowers, the former sterile, the latter, in three or four rows, fertile. The plant is used as a cough remedy. Dr. Gray says, "thoroughly wild."

17. Cardinal Flower

Lobelia cardinális.—*Family*, Lobelia. *Color*, deep, velvety red. *Leaves*, alternate, 2 or 3 inches long, ovate to lance-shaped, toothed; among the flowers, bract-like. *Time*, August.

Flowers in a raceme. The *calyx* is divided into 5 long, narrow points, united below. The *corolla*, a long and narrow tube, breaks above and spreads into 5 divisions. Three of these are more united and stand apart from the other two, which, one on each side, are quite narrow. Through a split down the entire length of the corolla the stamens stand, tall and stiff, their red filaments and blue-gray anthers united into a tube. The anthers are slightly fringed with white. Over-topping all, peeping through the stamens' tube, and hanging down, is the red double stigma, tipping a long style. There is a touch of brown on the base of the middle petal lobes, otherwise the color of the flower is an intense, vivid scarlet. 2 to 4 feet high.

This queenly flower is fortunately quite common. It loves the shady banks of rivers, crouching under bridges. Or it comes out boldly and rears its splendid spikes on broad and sunny banks, where the cows come to drink, among bur-reeds, sagittarias, tall rushes, and brookweeds. It cannot hide, if it would, any more than the scarlet tanager can conceal itself in the trees. It is a



CARDINAL FLOWER (*Lobelia cardinalis*)

flower clothed with stateliness as well as beauty, and if quickly placed in water will keep fresh for many days.

It is pleasant to think that this is one of our own plants, it being strictly indigenous to America.

18. Water-Lobelia

Lobelia Dortmanna.—*Family*, Lobelia. *Color*, pale blue to whitish. *Leaves*, fleshy, all clustered at the root, hollow-stemmed, long, and narrow. *Time*, summer.

Smooth and slender stemmed, from 1 to 4 feet high. A few pale-blue flowers are arranged along the simple stem.

Often growing in water, or upon the wet banks.

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L. Canbyi is a plant found in New Jersey and southward. *Stem*, straight, 1 to 2 feet tall, bearing deep-blue flowers about half an inch long on short pedicels in a loose raceme. Corolla bearded inside.

20. Brookweed. Water Pimpernel

Sámolus Valerúndi.—*Family*, Primrose. *Color*, white. *Leaves*, alternate, entire, broader above, narrower at the base. *Time*, summer and early fall.

A delicate white flower in racemes on slender, smooth stems. Round pods form below and the blossoms continue above. The monopetalous corolla is a tiny bell divided into fives, with 5 stamens standing in the clefts. Plant about 6 or 8 inches tall.

Found growing on the edge of, or quite in, water, throughout the United States.

21. Forget-me-not

Myosòtis láxa.—*Family*, Borage. *Color*, light blue. *Leaves*, small, pointed, broader at base, sessile. *Time*, June, July.

Corolla, salver-shaped. *Stamens*, 5.



BROOKWEED. WATER PIMPERNEL. (*Samolus Valerandi*.)

Every one knows the little forget-me-nots, and where to find them in the wet, grassy banks of brooks.

“The sweet forget-me-nots
That grow for happy lovers.”

TENNYSON.

They nestle modestly among mosses and galiums, peeping with mild eyes around clumps of onoclea fern. The flowers bloom in long, thin, leafless spikes. The stems and leaves, when rubbed upward, are somewhat rough.

The cultivated forget-me-not is *M. palustris*, and is found sometimes wild, escaped from cultivation.

Those who have seen the blue forget-me-not in shady, wet places in Europe, with its large, bright-blue corolla and its full spike of blossoms, will say that we do not know this flower. Our blossoms are few and scanty, buds and fruit occupying the most of the flowering raceme.

There is a white species (*M. verna*) with bristly calyx and stem. The flower of this is very small, and it prefers dry ground.

22. Water Speedwell

Verónica Anagallis.—*Family*, Figwort. *Color*, pale blue, lined with darker blue. *Leaves*, opposite, entire, or serrate, acute, narrow. Base clasping, heart-shaped. *Time*, summer.

Corolla, 4-parted and spreading, wheel-shaped. *Calyx*, 4-parted. *Stamens*, 2.

The small, delicate flowers grow in spikes, which start from the axils of the upper leaves, and are thus in pairs.

A plant whose stem creeps and roots along the earth, with the tip and flowering branches standing erect. American Brooklime (*V. Americana*) differs in having petioled leaves.

23. Mudwort

Limosèlla aquática, var. *tenuifolia*.—*Family*, Figwort. *Color*, white or purplish. *Leaves*, fleshy, thread-like, in clusters, at the base of the flowering stem.



SPEARMINT (*Mentha viridis*)

(See page 20)

Corolla and *calyx* 5-divided, open, spreading.

The flowers are single on naked stems. The plants grow in mud, lying flat, except the flower-stems, which are erect. Very small, found on wet, muddy river banks. Leaves like fleshy pine needles.

24. *Herpèstis amplexicaùlis*

Family, Figwort. *Color*, blue. *Leaves*, clasping the stem, egg-shaped, opposite, entire, giving forth a pleasant fragrance when crushed. *Time*, summer.

Calyx, 5-parted, the upper sepal heart-shaped. *Corolla*, 2-lipped, the upper lip notched, the under 3-lobed. *Stamens*, 4. *Style*, 2-parted at the top.

Low and creeping, rather fleshy plants, with single small flowers in the leaf-axils. Growing around ponds in pine barrens in New Jersey, to Louisiana.

25. Fog-fruit

Líppia lanceolàta.—*Family*, Vervain. *Color*, bluish white. *Leaves*, broad at apex, inverted lance-shaped, toothed above the middle. *Time*, July to September.

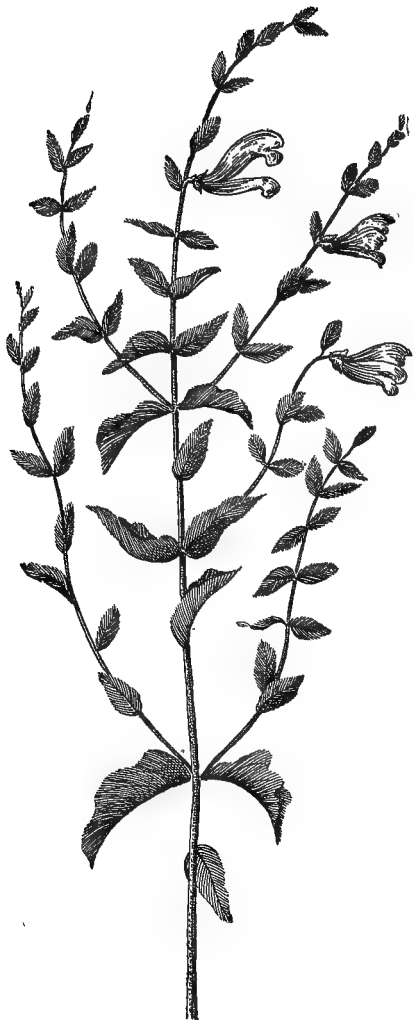
Calyx and *corolla*, 2-lipped. The upper corolla-lobe notched; the lower, large, 3-divided. The single flower is surrounded by a close circle of roughish bracts. Flower-stalk long, slender, springing from the leaf-axils.

A creeping plant, with range from Pennsylvania southward and westward.

26. Spearmint

Méntha víridis.—*Family*, Mint. *Color*, pale blue. *Leaves*, oblong, toothed. *Time*, summer.

The Mint family is large and important. It includes 136 genera and 2600 species. The general characteristics of the family are square stems, opposite or whorled leaves, a fragrance given out by numerous oily glands, and a fruit of four achene-like nut-



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MAD-DOG SKULL-CAP (*Scutellaria galericulata*)

(See page 24)

lets, 1 in each of 4 visibly distinct divisions of the ovary, from the centre of which arises the style. The corolla is a tube with 2 lips, each lip, or sometimes the upper one only, divided into lobes. A square-stemmed, herbaceous plant, with the well-known minty odor and the 4-lobed ovary, is quickly relegated to this family.

Many of the housekeeper's best flavorings—lavender, marjoram, thyme, sage, rosemary—belong here, as well as the horehound, catnip, pennyroyal, and peppermint which used to hang drying in our grandmothers' attics, the most prized belongings of the home pharmacy. Whether the drugs which have superseded these simple herb drinks are, on the whole, more conducive to long life is a question for life-insurance companies to consider.

Spearmint makes the mint-sauce used with meats. Its leaves are wrinkled, serrate, short-stemmed or sessile. Flowers small, crowded around the stems in whorls.

27. Peppermint

(*M. piperita*) has leaves broader, darker green, purple-veined, with narrower spikes of flowers. Sometimes the stem is hairy and purplish. Corolla purple, and calyx streaked with purple.

28. Water-mint

(*M. aquatica*) is a somewhat hairy species, with the flowers more compactly arranged, tending to heads rather than spikes.

29. Wild Mint

(*M. Canadensis*) has more of the pennyroyal than mint odor.

Leaves, upper ones, lance-shaped.

30. Mad-dog Skullcap

Scutellaria lateriflora.—*Family*, Mint. *Color*, light blue. *Leaves*, ovate, lance-shaped, much toothed, pointed, round at base. *Time*, summer.



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WATER-PLANTAIN (*Alisma plantago*)
(See page 26)

The genus skullcap may be known by its hooded calyx. The upper sepal enlarged, concave, helmet-shaped, makes a singular appendage. By pressing it open the 4 seed-like nutlets at its base are disclosed.

This species is a smooth-stemmed plant, with small ($\frac{1}{4}$ -inch-long) flowers, forming terminal and axillary, one-sided racemes, an inch or two long, pretty and delicate. The common name indicates that it was considered a cure for hydrophobia. 1 to 2 feet high.

31

S. galericulata may often be found growing near the other, with much larger flowers and much the same habit of growth. The blue corolla is nearly an inch long. Leaves heart-shaped at base. 1 to 2 feet high.

32. Mild Water-pepper or Smartweed

Polygonum hydropiperoides (many-kneed, alluding to jointed stem).—*Family*, Buckwheat. *Color*, pale pink, sometimes almost white. *Leaves*, narrow and lance-shaped, surrounding the stem with slender, hairy sheaths. *Time*, summer.

Several species of the smartweeds grow in wet places, in or near running water or stagnant pools.

Slender, erect spikes, 2 inches long, of pale-pink flowers, and hairy, bristly, fringed sheaths mark this species. If tasted, the juice is acid and pungent. 1 to 3 feet high.

33

Common Smartweed (*P. hydropiper*) has a lower growth, with smooth, dotted, narrow leaves, and greenish flowers in nodding spikes. 8 inches to 2 feet high.

34

Water Smartweed (*P. acre*) is taller, with limit of 5 feet. It has larger and longer leaves, with white or purplish flowers in stiff, upright spikes. From the base of the stem, which rests upon the ground, rootlets spring.



ARROW-HEAD (*Sagittaria variabilis*)
(See page 26)

35. Great Solomon's Seal

Polygonatum giganteum.—*Family*, Lily-of-the-Valley. *Color*, greenish yellow. *Leaves*, clasping or sessile, many-nerved, broad. *Time*, June.

A late species and tall. Its best growth is from 5 to 7 feet. The stem is stout, bearing leaves and flowers above, naked below. Rootstock creeping, broad. Flowers roundish, bell-shaped, producing blue-black berries in September. Not so common as the smaller Solomon's Seal.

36. Sweet Flag

Acorus Calamus.—*Family*, Arum. *Color*, yellowish green. *Leaves*, ribbon-like, sharp on both edges. *Time*, June.

Every boy knows that sweet-flag root is good to eat, especially when boiled, cut in slices, and dried in sugar. It is the creeping rootstock which is edible.

The flowers are borne on a *spadix* which emerges from one side of a leaf-like scape. They consist of stamens and pistils, with 6 sepals. The scape is much prolonged beyond the flowers, and answers to the *spathe* in our jack-in-the-pulpit.

37. Water-plantain

Alisma Plantago.—*Family*, Arum. *Color*, white, sometimes light pink. *Leaves*, all from the root, resembling common plantain, broad, with petioles, smooth, many-nerved, often heart-shaped at base. *Time*, July-September.

A plant growing sometimes in water, more often in mud on banks, and especially in the soft, boggy ground made by cows in their passing to and from water. 6 inches to 2 feet high.

The minute flowers grow in a pretty, spreading, compound panicle.

38. Arrow-head

Sagittaria variabilis (Sagitta, an arrow, from shape of leaves).—*Family*, Water-plantain. *Color*, white. *Leaves*, on

long petioles, strongly arrow-shaped, with deep, pointed lobes. *Time*, July, August.

Flowers in whorls of 3 about the leafless scape. The upper whorls are staminate, with 3 large, rounded white petals and numerous stamens. The lower one or two whorls are of smaller, inconspicuous, and fertile flowers, with 3 sepals. 18 inches to 3 feet high.

A familiar plant, noticeable quite as much for its handsome dark-green arrow-shaped leaves, as for its pretty spike of broad white blossoms. Sometimes it grows entirely in water. More often it stands up on the wet banks of slowly moving streams. There are many species and varieties of *Sagittaria*, marked by variability of leaves, some of which lose the arrow-shape and become long and narrow.

39. Lungwort. Virginia Cowslips

Merténsia Virgínica.—*Family*, Borage. *Color*, deep-blue. *Leaves*, alternate, entire, quite veiny. Those near the root 5 or 6 inches long, with petioles. *Time*, May.

Corolla, trumpet-shaped, about 1 inch long. *Calyx*, short, deeply 5-parted. *Stamens*, 5, inserted on the calyx-tube, with somewhat arrow-shaped anthers. Flowers in loose panicles or clusters, the lower ones with leafy bracts, all on slender pedicels. 1 to 2 feet high.

New York to South Carolina and westward. Often cultivated.

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CHAPTER II

SWAMPS, BOGS, AND MARSHES

*“Where will-o'-the-wisps and glowworms shine
In bulrush and in brake ;
Where waving mosses shroud the pine,
And the cedar grows, and the poisonous vine
Is spotted like the snake.”*

LONGFELLOW.

"Hope and the future for me are not in lawns and cultivated fields, not in towns and cities, but in the impervious and quaking swamps. When, formerly, I have analyzed my partiality for some farm which I had contemplated purchasing, I have frequently found that I was attracted solely by a few square rods of impermeable and unfathomable bog—a natural sink in one corner of it. That was the jewel which dazzled me. I derive more of my subsistence from the swamps which surround my native town than from the cultivated gardens in the village. There are no richer parterres to my eyes than the dense beds of dwarf andromeda (Cassandra calyculata) which cover these tender places on the earth's surface. Botany cannot go farther than tell me the names of the shrubs which grow there—the high blueberry, panicled andromeda, lamb-kill, azalea, and rhodora—all standing in the quaking sphagnum. . . . Why not put my house, my parlor, behind this plot instead of behind that meagre assemblage of curiosities, that poor apology for Nature and Art which I call my front yard?"

From Thoreau's "Excursions."

SWAMPS, BOGS, AND MARSHES

1. Marsh Marigold

Caltha palústris.—*Family*, Crowfoot. *Color*, yellow. *Leaves*, mostly from the root. A few on the flower stems. All large, rounded, or kidney-shaped on fleshy petioles. *Time*, April, May.

Petals, none. *Calyx*, petal-like, of 5 to 9 golden-yellow, broad, roundish sepals. *Stamens*, many. *Pistils*, 5 to 10, making many-seeded pods. 1 to 2 feet high.

Low, small, thickish herbs, among our earliest flowers to appear. The stems are furrowed and hollow. Under the incorrect name of cowslips, these plants are eaten as "greens." The dish is wholesome and agreeable. The true cowslip is a species of primrose. *Caltha* means golden cup—a suitable name for this bright, pretty flower that borders our marshes with gold.

2. Water Plantain Spearwort

Ranúnculus ámbigens.—*Family*, Crowfoot. *Color*, deep yellow. *Leaves*, 4 to 5 inches long, narrow or oblong, alternate, distantly toothed, on long, half-clasping stems. *Time*, June to August.

Sepals, 5, very small. *Petals*, small, 5 to 7, less than $\frac{1}{2}$ inch long. They fall easily. *Stamens*, indefinite. *Pistils*, numerous in a small round head.

A smooth plant, 1 to 2 feet high, sometimes with roots spring-

ing from the lower joints. The resemblance of the spearworts to buttercups indicates the near kinship of these flowers.

3

R. pusillus is a small, weak-stemmed plant, growing from 6 to 20 inches high. *Flowers*, minute, with yellowish petals. *Leaves* small, $\frac{1}{2}$ inch long, roundish or heart-shaped, the upper ones inclining to lance-shaped.

This modest spearwort will escape our notice, hidden under larger and more aggressive growths, unless we are determined to find every treasure which the marshy ground contains.

4. Spreading Globe-flower

Tróllius lúxus.—*Family*, Crowfoot. *Color*, white or greenish yellow. *Leaves*, alternate, palmately divided. *Time*, May.

Sepals, 5 to 6, petal-like, with a whitish or yellowish color. *Petals*, small, numerous, shorter than the many stamens, indented near the base. *Fruit*, several sessile pods. *Flowers*, single, terminal, about 2 inches across, not globe-shaped, as its name implies. Stems weak, slender, 1 to 2 feet long.

5. Three-leaved Gold-thread

Cóptis trifólia ("to cut," alluding to the divided leaves).—*Family*, Crowfoot. *Color*, white. *Leaves*, from the root, 3-lobed, the leaflets sharply toothed, shining, evergreen. *Time*, May. *Height*, 3 to 5 inches.

Sepals, 5 to 7, falling early. *Petals*, same number, club-shaped, small, brought together, and hollow at apex. *Stamens*, numerous. *Pistils*, 3 to 7, stalked. *Flowers* on leafless scapes, not conspicuous.

The beauty of the plant lies in the leaves, which nestle among bog-mosses, and are bright and shining the summer through. The "gold-thread" appears when we dig up the root and find it composed of long, yellow fibres.



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MARSH MARIGOLD (*Caltha palustris*)

(See page 31)

6. Umbrella-leaf

Diphylleia cymosa.—*Family*, Barberry. *Color*, white. *Leaf*, 1, very large, 1 to 2 feet across, 2-cleft, the general outline round, the thick stalk attached to the centre underneath. No flowers attend this leaf. When the flowers appear, 2 smaller leaves grow alternately on the stem, also 2-cleft, with stalks attached near their margins. All with rounded and toothed lobes. A singular, smooth plant, found on the mountains of Virginia and southward. 1 to 2 feet high.

Sepals, petals, and stamens, 6. *Fruit*, round, blue berries. Rootstocks thick, sending up each year a flower-stalk or a large leaf. The *flowers* grow in flat clusters. May, June!

7. Pitcher-plant. Sidesaddle-flower. Huntsman's-cup

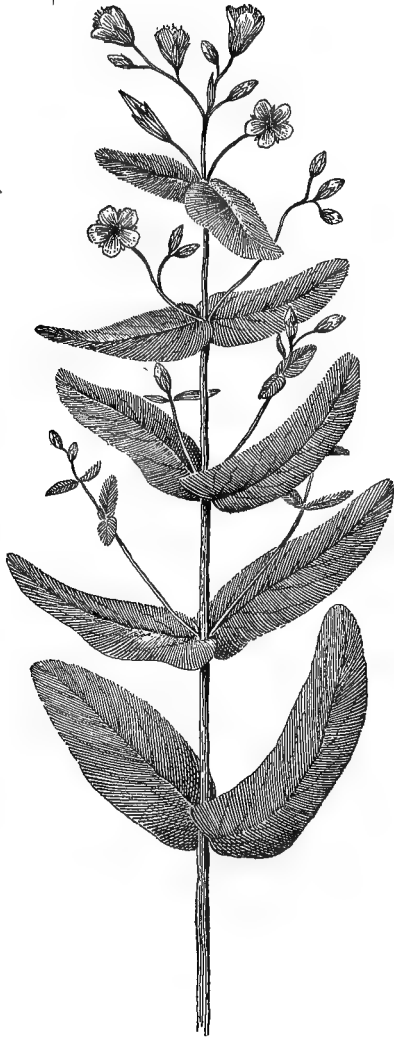
Sarracenia purpurea.—*Family*, Pitcher-plant. *Color*, purple, pink, or greenish yellow. *Leaves*, from the root, hollow, pitcher-shaped, hooded, striped with purple. *Time*, June.

Sepals, 5, colored, with 3 bractlets underneath. *Petals*, 5, arched, broad above, narrow below, fiddle-shaped. *Stamens*, numerous. *Flowers*, single, nodding on scapes about 1 to 2 feet tall.

A large round *ovary* in the middle of the flower is tipped with a greenish yellow style, expanded into a 5-rayed, umbrella-shaped body, terminating in hooked *stigmas*.

The hollow leaves hold water, in which insects are drowned. Bristles pointing downward on the inner surface prevent an insect which has crawled in from escaping. The leaves are usually purple-veined.

I have found this plant in great numbers, from the most tiny to very large, in marshy land by the side of railroads. Taken up by the roots and placed in water it makes a veranda ornament that will keep fresh a long time.



MARSH ST. JOHN'S-WORT (*Elodes campanulata*)

(See page 38)

The pitcher-plant is carnivorous, the drowned insects being digested and appropriated as food.

In Virginia and southward a larger pitcher-plant is found, with leaves sometimes 3 feet long. It is *Trumpets* (*Sarracenia flava*), with a large, drooping, yellow flower. The *Darlingtonia* of California is the only other member of this order in the United States.

8. Marsh-cress

Nasturtium palustre.—*Family*, Mustard. *Color*, yellowish. *Leaves*, alternate, pinnately cleft or parted, the upper being slashed or cut into very fine pieces, the lower divided or cleft. *Time*, summer.

Sepals, 4. *Petals*, 4, very minute. Plant, 1 to 4 feet high.

As in all this family, the leaves are pungent to the taste. The name *nasturtium* means "twisted nose," alluding to the effect on the nose of the pungent leaves when eaten.

9. Table Water-cress

N. officinale.—*Family*, Mustard. *Color*, white. *Leaves*, alternate, pinnately divided, with a large round lobe terminating the mid-rib. *Time*, May, June.

Sepals, 4. *Petals*, 4, twice the length of the sepals. *Pods*, short, on spreading pedicles.

A plant known over all Europe, and to the Pacific coast in our own country. After flowering, the leaves become bitter, and are not good eating. It is cultivated in wet ditches.

10. Swamp Starwort or Marsh Chickweed

Stellaria uliginosa.—*Family*, Pink. *Color*, white. *Leaves*, lance-shaped. *Time*, summer.

Sepals and petals, 4 or 5. *Stamens*, twice as many. *Styles*, 3. *Flowers*, in sessile, broad, flat clusters.

This is not a common plant. It may be distinguished by the prolongation of the stem beyond the flowers, leaving the cyme of blossoms lateral instead of terminal, as in other chickweeds. It is weak-stemmed, reclining. 6 to 16 inches long.



Hypericum mutilum
(See page 38)

11. Short-stalked Chickweed

Cerastium nutans.—*Family*, Pink. *Color*, white. *Leaves*, lance-shaped to oblong. *Time*, May to July.

Sepals and *petals*, 5, the latter divided. Small *flowers*, borne on long peduncles. The plant sends up straight, slender stems, much branched, 18 inches high, or less. The large pods curve upward at the apex.

12. Marsh St. John's-wort

Elodes campanulata.—*Family*, St. John's-wort. *Color*, pink. *Leaves*, opposite, dotted, broad, blunt, not tapering at either end, almost clasping around the stem, pale green, entire. *Time*, July, August.

Sepals and *petals*, 5. *Stamens*, 9, every 3 stamens separated by yellow glands.

A common plant, found in cranberry bogs and swamps, the stem simple or profusely branching, about a foot high.

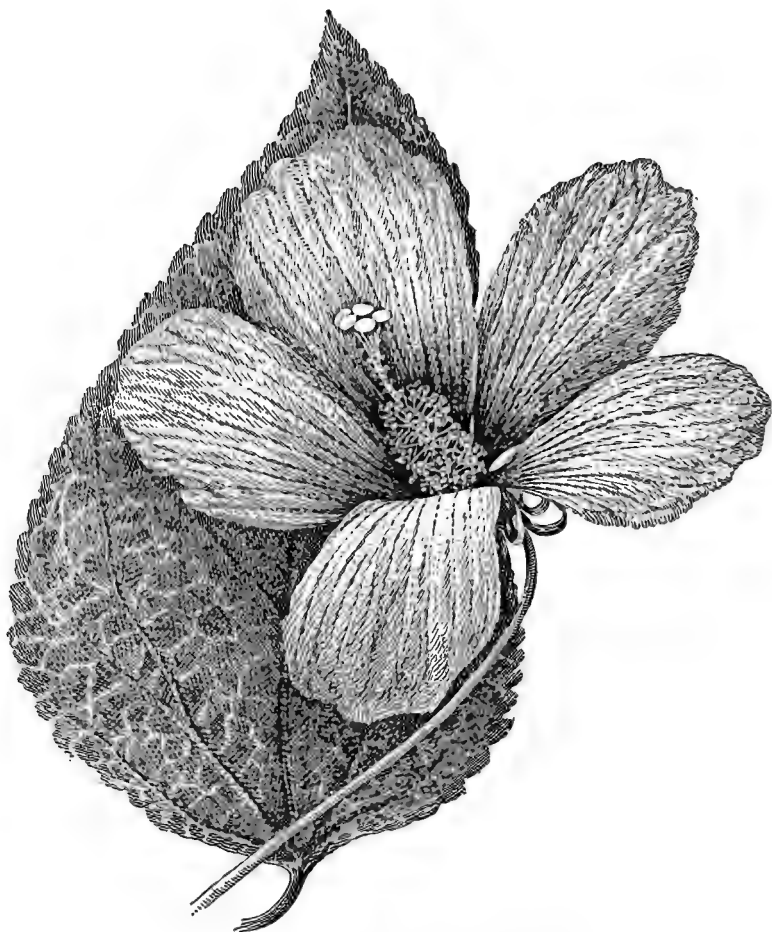
The pretty pink flowers, less than half an inch broad, grow often singly or in pairs, or sometimes in clusters in the leaf-axils or terminating the branch. They quickly fade, and deep-red pods take their place. Late in the season the stems and leaves turn a dark crimson.

13

Hypêricum mûtilum is a plant of the marshes, with opposite, spreading, 5-nerved leaves; few small, yellow blossoms on leafy branches; weak in stem, 6 to 20 inches high.

14. Marsh-mallow

Althêa officinàlis (to cure, in allusion to healing properties).—*Family*, Mallow. *Color*, pale rose. *Leaves*, alternate, broad, petioled, ovate or heart-shaped, palmately veined, covered with velvety down. *Time*, August and September. *Salt marshes*.



ROSE-MALLOW (*Hibiscus Moscheutos*)

(See page 40)

Sepals, 5, united at base. Outside are 6 to 9 long, narrow, green bractlets. *Corolla* of 5 petals about 1 inch across. *Stamens*, many, united at their base. *Pistils* form a ring around a central axis.

Plant bushy, leafy, 2 to 4 feet high. Its root, full of mucilage, is used by confectioners for marsh-mallows.

15. Rose-mallow

Hibiscus Moscheutos.—*Family*, Mallow. *Color*, rose, or sometimes white. *Leaves*, alternate, pointed, toothed, the lower 3-divided, smooth above, softly downy beneath. *Time*, August.

Calyx, 5-divided, surrounded by bracts. *Corolla* of 5 petals, measuring 6 inches across, bell-shaped, withering at the close of one day. *Stamens* united into a long column. *Pod*, 5-celled, many-seeded.

Taller than the preceding, and flowers larger and richer in color. In August the Newark meadows to far down on the New Jersey coast, also the dunes of Long Island, are crimsoned with this splendid flower. The bushes form dense, hedge-like borders; or grow in clumps back from the edge of the water. *Height*, 4 to 8 feet.

A smaller plant belonging to this family, also found in marshes along the coast, is *Kosteletzkya Virginica*, with flowers of rose color, 2 inches across. The plant is from 2 to 4 feet high, rough, hairy. The leaves are halberd and heart shaped.

H. Syriacus is the althaea of our gardens. It is a tall, tree-like shrub, with pointed and cut leaves. The flower is large, rose-color or white, with brown spots.

16. Yellow Flax

Linum striatum.—*Family*, Flax. *Color*, yellow. *Leaves*, opposite below, alternate above; oblong, rather broad. They are joined to the stem with four sharp angles. *Time*, summer.

Sepals, short, 5. *Petals*, *stamens*, and *pistils*, 5. A perfect



MOSS MILKWORT (*Polygala sanguinea*)

(See page 143)

and symmetrical flower. *Stamens* united at base. *Stipules*, none, but often glands in their place.

Flowers, small, rather crowded on viscid, clustered stems, creeping at base. They last only a day, and produce a roundish, brown pod. 1 to 2 feet high.

Linum means a thread. Flax is an Anglo-Saxon word, signifying to plait or weave. The use of flax for linen cloth, cordage, etc., is as ancient as are the Egyptian mummies, many of which were wrapped in fine linen. Of its history we read that "in the Temple of Minerva at Lindus there was kept a linen corselet of fine workmanship, which had been worn by Amasis, an Egyptian king who reigned 600 years before Christ, each thread of which was composed of 360 filaments."

The flax used in making Brussels lace sells for from \$5 to \$9 per ton.

17. Moss Milkwort

Polýgala cruciata ("much milk," an inappropriate name).—*Family*, Milkwort. *Color*, pink or greenish. *Leaves*, in whorls of fours, on angled stems, long, narrow. *Time*, late summer.

Sepals, 5, 3 green, and 2, colored like petals, called wings, larger than the others. *Petals*, 3, of unequal size. *Stamens*, 6 or 8.

Flowers massed in clover-like heads or spikes on low plants. When found growing together they have a moss-like appearance. 4 to 15 inches high.

18

P. brevifolia is slenderer, with scattered, narrow leaves. Its flowers are much like the above. Stem shorter and slenderer.

19

P. lutea is a pretty species, with yellow heads of blossoms, common in New Jersey and southward. 6 to 12 inches high. All these grow in swamps.



SILVERWEED (*Potentilla Anserina*)

(See page. 44)

20. Marsh-fivefinger, Purple Cinquefoil

Potentilla palustris.—*Family*, Rose. *Color*, dark purple. *Leaves*, pinnate, with 5 to 7 oblong, toothed leaflets, light green above, downy beneath. *Time*, summer.

Calyx, open, 1 inch broad, 5-cleft, purple inside; bractlets between the divisions. *Corolla*, of 5 purple petals, shorter than the calyx. *Stamens*, numerous.

Fruit, of several achenes in a roundish head on a large and spongy receptacle. *Flowers*, few, clustered in a flat cyme from a smooth stem which roots at the base.

21. Silverweed

P. Anserina.—*Family*, Rose. *Color*, yellow. *Leaves*, all from root, pinnate, with 7 to 21 toothed leaflets, and smaller ones between, dark green above, silky white beneath. *Time*, June to September.

Calyx and *corolla*, 5-divided. Five bractlets, often cut, lie between the sepals. *Stamens* and *fruit*, like the last.

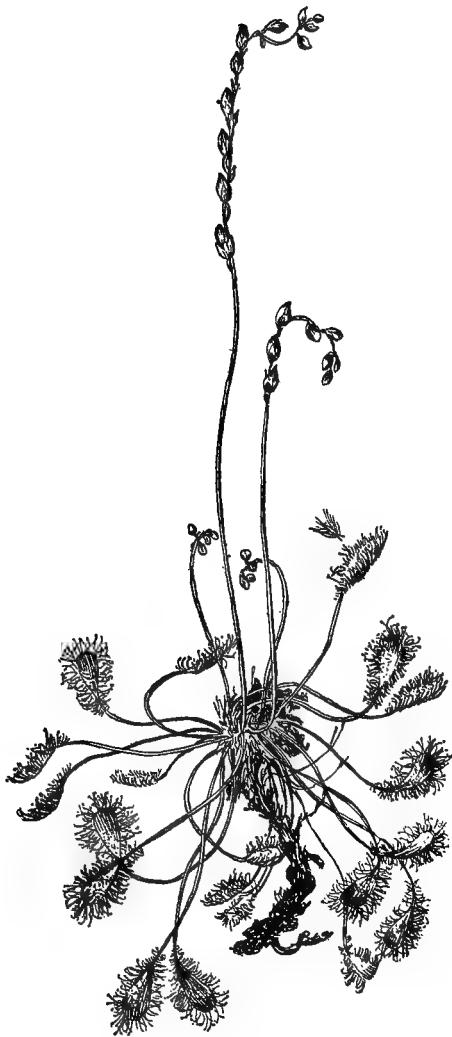
The broad, open, yellow flower grows on a scape from a bed of beautifully cut, handsomely colored leaves which are green above, conspicuously white beneath. Like a strawberry plant, the silverweed spreads by jointed runners. Along the dunes bordering Long Island bays I have found this pretty potentilla, its leaves lapping the water. 2 or 3 feet long.

22. Shrubby Cinquefoil

(*P. fruticosa*) is another member of this group, growing in marshy places; tall, 1 to 4 feet high, with pinnate leaves, a woody, much-branched stem, and yellow flowers terminal on the branches.

23. Swamp Saxifrage

Saxifraga Pennsylvanica ("rock-breakers," because some species grow in clefts of rocks).—*Family*, Saxifrage. *Color*,



SPATULATE-LEAVED SUNDEW (*Drosera intermedia*)

(See page 48)

greenish, sometimes reddish. *Leaves*, large, 4 to 8 inches long, obscurely toothed, upon short and broad petioles. *Time*, May, June.

Calyx, 5-parted, its lobes recurved. *Petals*, 5, greenish. *Stamens*, 10. *Styles*, 2. *Flowers*, small, in a clustered, spreading panicle or cyme.

For this genus, a large growth, 1 to 2 feet high. Rather common, and not pretty.

24. Golden Saxifrage. Water Carpet

Chrysosplenium Americánum.—*Family*, Saxifrage. *Color*, greenish and yellowish, or purplish. *Leaves*, mostly opposite, small, thick, round or heart-shaped, slightly lobed. *Time*, April, May.

Petals, none. *Calyx*, with 4 or 5 lobes, green outside, yellow within. *Stamens*, 8 to 10, on a large disk. *Styles*, 2. *Flowers*, small, scattered, with short stalks or none, in leafy clusters. Stems 3 to 8 inches long.

The true plant stems lie along the ground. The name is misleading, for yellow is not the predominant color of the flower.

25. Mermaid-weed

Proserpinàca palústris.—*Family*, Water-milfoil. *Color*, greenish. *Leaves*, lance-shaped, alternate, sharply toothed. When the lower are under water they are cut into comb-like divisions. *Time*, summer.

Calyx, tubular, 3-sided, its border 3-divided; no petals. *Stamens* and *stigmas*, 2. *Fruit*, angled. *Flowers*, small, inconspicuous, 1 to 4, sessile in the axils. *Stems*, low, creeping at base. 8 to 20 inches high.

New England to Florida and westward.

26. Round-leaved Sundew

Droséra rotundifólia.—*Family*, Sundew. *Color*, white.



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DEER-GRASS. MEADOW-BEAUTY. (*Rhexia Virginica.*)

(See page 48)

Leaves, clustered at the root, round or oblong, on long stems, glandular, hairy. *Time*, July, August.

Petals, *sepals*, and *stamens*, 5, or sometimes 6. *Styles*, 3 to 5, so deeply divided as to seem like twice the number.

Flowers are borne on prolonged leafless stems, on one side. They open only in sunshine, and must be pressed for the herbarium as soon as gathered. The curious leaves resemble in shape a long-handled frying-pan. They are covered with reddish hairs tipped with purple glands. 4 to 10 inches high.

Our pretty, bejewelled bog-herb is carnivorous. It craves animal food, and employs wily means for obtaining it. An insect alighting upon the open leaves instantly arouses the glands to activity, as food in the stomach excites the gastric juices. Red tentacles close upon and hold fast the prisoner, pouring the contents of the glands upon it, and the process of digestion and absorption begins at once. Only very small insects can thus be entrapped, because of the smallness of the leaves.

A cranberry marsh near my summer cottage on Long Island is almost carpeted with this sundew, so as to give it a reddish hue. The young leaves are rolled up, like ferns, from apex to base.

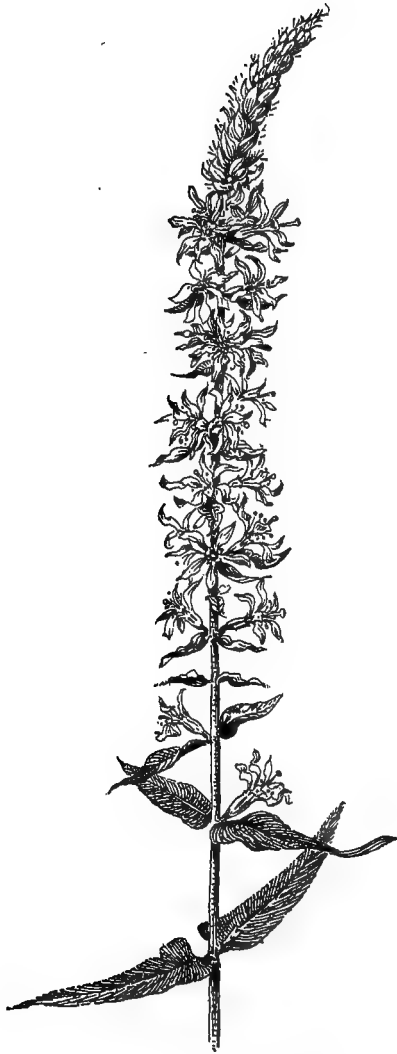
27. Spatulate-leaved Sunderd

D. intermedia (variety, *Americana*) has white flowers also, and oblong rather than round leaves, with leaf-stalks from which the glandular hairs are wanting. It is rarer than the last, and also grows in bogs, or even in water. 3 to 8 inches high.

28. Deer-grass. Meadow-beauty

Rhèxia Virgínica.—*Family*, Melastoma. *Color*, deep rose-pink. *Leaves*, opposite, stemless, lance-shaped, pointed, bristly around the edges. *Time*, August.

Calyx tube, long and narrow, 4-divided, purplish and hairy outside at the top. *Petals*, 4, joined to the rim of the calyx tube. *Stamens*, 8, large, prominent. The anthers open by a hole in the top. They bear a tiny spur where they are joined to the filaments.



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PURPLE-SPIKED LOOSESTRIFE (*Lythrum Salicaria*)

(See page 50)

As the petals take slight hold and drop soon after flowering, and almost as soon as plucked, the flower then appears, from its large stamens, to be yellow. *Style and stigma*, 1.

The *stem* is square, with distinct angles. Flowers, single or several, in loose clusters. A pretty species, growing in wet sand or marshy borders of streams, from 4 to 10 inches high. I have seen them in beds showing their pink color in masses for quite a distance.

29

R. Mariàna, with paler petals and narrower leaves, grows in New Jersey and farther south.

Other members of the family are tropical.

30. Purple-spiked Loosestrife

Lýthrum Salicària. — *Family*, Loosestrife. *Color*, deep, beautiful purple. *Leaves*, lance-shaped, heart-shaped at base, often whorled in threes. *Time*, late summer.

Calyx, a tube with 5 to 7 teeth, and small projections between. *Corolla*, of about 6 long, often twisted petals. *Stamens*, 12, 6 longer, 6 shorter. *Flowers*, in a spike, crowded. Plant tall and soft-downy. 2 to 3 feet high.

A beautiful importation from England, found plentifully in swamps in Orange County, New York, and elsewhere. It is remarkable as an example of trimorphism, the two sets of stamens and pistil being of different lengths in the same flower. Every pistil, in order to effect fertilization, must receive the pollen from a stamen of the same length in another flower. Professor Darwin experimented with these flowers, and wrote about them to Doctor Gray: "I am almost stark, staring mad over lythrum. If I can prove what I really believe, it is a grand case of trimorphism, with three different pollens and three stigmas. I have fertilized above ninety flowers, trying all the eighteen distinct crosses which are possible within the limits of this one species. For the love of Heaven, have a look at some of your species, and if you can get me some seed, do."

31. Hyssop-leaved Loosestrife

L. hyssopifolia. — *Color*, light purple. *Leaves*, opposite, scattered, oblong to linear, obtuse. *Time*, summer.

Calyx, a tube with 5 to 7 teeth, and as many more—often longer teeth—between the regular divisions. *Petals*, 5 to 7. *Stamens*, 4, 5, or 6. *Fruit*, a 2-celled pod.

Plant low, 2 feet tall or less. The leaves are scattered on the upper part of the stem. *Flowers* small, single, growing in the upper leaf-axils.

32

L. lineaire has white flowers, and is a large and bushy plant, 3 or 4 feet high. On the stem are opposite, margined angles. Flowers with 6 stamens. Leaves long and narrow.

33

The *Swamp Loosestrife* (*Décodon verticillatus*) has small rose-colored flowers, on short pedicels, clustered in the upper axils of opposite or whorled, long, and narrow leaves. Tall, sometimes 8 feet high. These flowers are also trimorphous, with stamens and pistil of different lengths.

34. Water-purslane

Ludwigia palustris. — *Family*, Evening Primrose. *Color*, greenish or reddish when the plant is wholly terrestrial. *Leaves*, opposite, small, petioled, oval, or roundish, with curving veins. *Time*, July, August.

This is at times an aquatic plant, growing wholly in water; or it is found in swamps, its stems lying on the mud, creeping and rooting. *Petals*, none when in water, small and reddish when out. The lobes of the calyx remain, crowning the fruit, which is a 4-sided capsule full of small seeds. Flowers closely sessile, somewhat fleshy, small, without beauty, green and stiff. Stems 4 to 15 inches long.

35. False Loosestrife. Seedbox

L. alternifolia.—*Color*, yellow. *Leaves*, alternate, pointed at both ends, narrow. *Time*, August, September.

Calyx tube, short, with 4 lance-shaped and leaf-like lobes. *Petals*, 4. *Stamens*, 4. *Fruit*, a square, box-like capsule, with rounded base and wing-angles.

A smooth, rather tall plant, with conspicuous flowers on peduncles in the leaf-axils. 24 to 40 inches high.

36

A smaller species is *Hairy False Loosestrife* (*L. hirtella*), with blunt leaves. It has clustered roots, often thickened and tuberous. It is found in moist pine barrens of New Jersey to Florida and Texas. 2 feet high or less.

Other species of *Ludwigia* have flowers with greenish petals or none, and may be recognized by runners produced from the base of the stem. The capsules of all are 4-sided and prominent. Three—*Ludwigia sphaerocarpa*, *L. polycarpa*, *L. linearis*—are found in swampy places.

37. Willow-herb

Epilobium lineare ("upon a little pod").—*Family*, Evening Primrose. *Color*, pale magenta. *Leaves*, lower ones opposite, numerous, with edges rolled back; upper scattered, all on short stems. *Time*, August.

Calyx tube, 5-lobed. *Petals*, 4-notched. *Stamens*, 8. *Stigma*, club-shaped.

A plant slightly hairy, 1 to 2 feet high, with pods on long stalks, and seeds crowned with fine hairs, by which they are blown about.

38

E. strictum, also a swamp herb, somewhat taller than the last, is covered with minute whitish hairs. It has broader



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WATER-PARSNIP (*Sium cicutaefolium*)

(See page 56)

leaves, short-stemmed or sessile. The tufts of hairs belonging to the seeds are very soft and silky.

39

E. coloratum has numerous flowers on tall stems. Leaves with toothed margins, narrow, long, with stalks. Flowers a pale pink, nodding. Seeds furnished with a tuft of *brown* hairs. 1 to 3 feet high.

40. Mock Bishop-weed

Discopleura capillacea. — *Family*, Parsley. *Color*, white. *Leaves*, compound, finely cut into thread-like divisions. Flower-bracts cut. *Time*, June to October.

Flowers in compound umbels. A plant smooth-stemmed and branching, usually low, 1 foot high, but at times several feet tall.

Its fine, white flowers and hair-like leaves are common among the brackish marshes, wherever the water keeps their roots perpetually moist.

41. Hemlock-parsley

Conioselinum Canadense. — *Family*, Parsley. *Color*, white. *Leaves*, 2 to 3 pinnately compound, thin. *Time*, August.

Tall, slender, and smooth. No involucre, but fine, long, thin involucels. The plant strongly resembles the poisonous hemlock (*conium*). 2 to 5 feet high.

42. Cowbane

Tiedemannia rigida has tuber-bearing roots, which are poisonous. Its umbels of white flowers bloom in August. It is from 2 to 5 feet tall, with leaves simply pinnate. Leaflets, 3 to 9. An involucre of fine bracts lies under the umbel, and smaller *involucels* are at the base of the *umbellets*.

43. Cow-parsnip

Heracleum lanatum is a coarse, rough plant, sometimes 8 feet high, with a rank smell about its foliage. The leaves



WATER-PENNYWORT (*Hydrocotyle Americana*)

(See page 56)

are large, thrice compound; the flower-umbels broad. Flowers, white, the outer ones larger than the others, with inversely heart-shaped or 2-cleft petals. Involucre and involucels present.

44. Water-hemlock or Spotted Cowbane

Cicuta maculata may be known by its purple-streaked stem. It is a large, coarse plant, with white flowers in large umbels. It grows from 2 to 6 feet high. The lower leaves have long stems. They are twice or thrice pinnate, coarsely serrate, heavily veined. The blossoms appear in August. The root is a deadly poison, perhaps making it the most dangerous of our native plants. It has been eaten for sweet cicely, with fatal consequences.

45

C. bulbifera is smaller, 1 to 3 feet high, with leaflets less deeply toothed, and small bublets growing in clusters upon its upper axils. Flowers, white.

46. Water-parsnip

Sium cicutaefolium.—*Family*, Parsley. *Color*, white. *Leaves*, pinnate. *Time*, July, August.

Smooth and tall, with a stout, grooved, angled stem. The pinnate (locust-like) leaves are divided into 6 or 8 pairs of sharp-pointed, serrate leaflets. Numerous narrow bracts surround the flowers. If the plant grows in water, the lower leaves may be finely dissected. A poisonous species. 2 to 6 feet high.

47. Water-pennywort

Hydrocôtyle Americana.—*Family*, Parsley. *Color*, white, flowers very small. *Leaves*, kidney-shaped. *Time*, summer.

Sometimes called water-ivy. It has small, thread-like stems, which creep over wet moss and cling to soft mud. The pretty,



ROUGH BEDSTRAW (*Galium*) in fruit

shiny, roundish or kidney-shaped leaves, crenately lobed, are very common in marshy places. The tiny flowers are clustered in the axils. They are nearly stemless. The outward resemblance to other genera of the parsley family is remote.

48. Small Bedstraw

Galium trifidum.—*Family*, Madder. *Color*, white. *Leaves*, in whorls, 4 to 7; small, 1-nerved, with rough mid-ribs. *Time*, summer.

No calyx teeth. *Corolla* lobes and stamens, 3 or more. *Fruit*, smooth.

The fruit, as in all the galiums, is a pair of dry seed-vessels, joined at first, separating when ripe into distinct carpels. The square stems are weak, 5 to 20 inches high. They are covered with bristles turning downward, and by this means the plant attaches itself to and lifts itself over other vegetation, often forming dense tangles. A persistent grower, and a plant that may be met with in almost any swampy ground. Variable.

49

Rough bedstraw (*G. asprillum*) has a stronger stem, with more hooked prickles. The leaves terminate in a point, or prickle. They grow in whorls of 6, or fewer, on the small branches.

Flower-stems forked 2 or 3 times.

50. Eupatorium

Eupatorium leucólepis.—*Family*, Composite. *Color*, white. *Leaves*, opposite, sessile, roughish, long, narrow, finely serrate. *Time*, summer.

Corollas, tubular.

About 5 flowers in a head, 1 to 2 feet high. Plant covered with some roughness. Found in sandy bogs; very common.



PURPLE ASTER (*Aster puniceus*)

(See page 62)

51. Golden-rod

Solidago uliginosa is one of our earliest golden-rods, coming into flower sometimes early in July. The leaves are lance-shaped and pointed. The flowers are small, much crowded into long, narrow panicles. The root-leaves are sometimes nearly a foot long. It grows in peat-bogs. 2 to 3 feet high.

52

S. patula has angled, smooth stems. Leaves long, smooth underneath, but rough above. This unusual roughness of the upper surface of the leaves will identify the species. The flower-heads are rather large, in short racemes terminating in spreading branches. 2 to 4 feet high.

53

S. Elliottii and *S. Neglecta* are swamp species. Both are smooth plants with strong stems, the flowers in showy, spreading racemes. 1 to 4 feet high.

54. Asters

The asters—distinguished, often handsome, members of the Composite Family—seldom bloom before August. They are essentially a fall flower, mingling their bright purple or blue or white rays tastefully with the golden-rods and sunflowers. They grow with us everywhere, and being, with few exceptions, perennials, reappear year after year in their own chosen haunts. The disks are yellow, sometimes turning to brown or purple. Asters grow upon the stems and branches variously, sometimes closely, in bunches, or in corymbs or loose panicles. Many species are subject to great variations, and they run into each other. They vary in size from small buttons to a silver half-dollar. The name means a star. There are over 50 species given in Gray's manual. Our commonest will be arranged in the following chapters :



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TALL SUNFLOWER (*Helianthus giganteus*)

(See page 64)

Ch. 2. *Aster nemoralis*,
A. puniceus.

Ch. 3. *A. radula*,
A. Novi-Belgii,
A. tenuifolius,
A. subulatus.

Ch. 6. *A. diffusus*,
A. patens,
A. dumosus,
A. umbellatus.

Ch. 5. *A. Tradescanti*,
A. paniculatus,
A. Novae-Angliae,
A. junceus.

Ch. 9. *A. macrophyllus*.
Ch. 10. *A. laevis*,
A. cordifolius,
A. undulatus.

Ch. 11. *A. acuminatus*.

Ch. 12. *A. spectabilis*,
A. concolor,
A. ericoides,
A. multiflorus.

55

Aster nemoralis.—*Color*, lilac. *Leaves*, rigid, long, with margins turned backward.

A low aster, 1 or 2 feet high, with small leaves, the whole plant somewhat rough. Stem slender and simple. Flowers rather large and pretty. The species may be known by its leaves with revolute margins.

56

Aster puniceus.—*Color*, varies from light to dark purple. * * *
Leaves, long, pointed, with eared bases.

A very common species, with tall, rough stem, and handsome, large blossoms. The stem is sometimes reddish below. *Leaves* are smooth underneath and rough above. This species abounds in low thickets and swamps, where it holds its own with tall shrubs, often projecting its purple blooms seven feet high.

57. Marsh-elder. High-water Shrub

Iva frutescens. — *Family*, Composite. *Color*, greenish



$\frac{1}{2}$

LARGER BUR-MARIGOLD (*Bidens chrysanthemoides*)

(See page 66)

white. *Leaves*, many, near the root, smooth, and partly fleshy, rather broad; those above, narrow, bract-like.

Tall and coarse, not a shrub, but shrubby. It may reach 8 feet. The flowers grow in the axils of the upper leaves, and in a raceme at the end of the branch or stem. They hang and nod. The leaves have coarse, sharp teeth.

58. Tall Sunflower

Heliánthus gigantèus.—*Family*, Composite. *Color*, pale yellow, both rays and disk. *Leaves*, lance-shaped, large, rough above and beneath. *Time*, August, September.

Very tall, reaching 10 feet. A rough stem, and the narrow leaves hairy near the base. The rays are numerous and long, of a lemon color. A pretty sunflower, growing in swampy thickets and beside streams.

59. Coreopsis. Tickseed

Coreópsis ròsea.—*Family*, Composite. *Color*, of rays, rose-color; of disk, yellow. *Leaves*, long, narrow, not toothed, opposite. *Time*, August.

A rare find in sandy swamps is the rose-colored coreopsis. The *rays* are 3-toothed, about 8 in number. The heads are small, on leafy stems, from $\frac{1}{2}$ foot to 2 feet high.

60. Tickseed Sunflower

C. trichospérma has 3 to 7 divided leaves with short petioles, coarsely-toothed leaflets, and flowers with short, inconspicuous rays. This approaches bur-marigold.

The *golden coreopsis* of old-fashioned gardens has yellow, toothed rays, with dark red around the central disk. *Leaves* narrow, on thin petioles. Other varieties are more double, with variable spots or markings. They are imported from Texas and Arkansas, and are especially fine in the South and West.



AMERICAN CRANBERRY (*Vaccinium macrocarpon*)

(See page 67)

61. Swamp-beggarticks

Bidens connata.—*Family*, Composite. *Color*, of disk, yellowish. *Flowers*, without rays. *Leaves*, with margined petioles, lance-shaped and pointed, more or less divided.

The achenes or seeds, which adhere to the clothing, are furnished with 3 or 4 awns and hairy margins, the hairs turning backward and acting like tiny hooks.

Two feet high or less, with toothed leaves. A plant absolutely without beauty.

62. Larger Bur-marigold

B. chrysanthemoides.—*Family*, Composite. *Color*, bright, golden yellow. *Leaves*, undivided, without petioles, lance-shaped, toothed, opposite. *Time*, August to October.

The handsomest of the bur-marigolds. It is especially striking in the later days of September and to the middle of October, outlasting many of the golden-rods. The flowers are about two inches across, and nod on rather long peduncles. These plants mass in rich bloom around pools in pastures and in swampy land, often growing quite in water. 2 to 3 feet high.

63. Swamp-thistle

Cnicus muticus.—*Family*, Composite. *Color*, dark purple. *Leaves*, deeply cut, and the divisions very prickly. *Time*, summer.

The flower-heads of this species are rather large, and the plant itself is tall, 5 or 6 feet being its average height.

The scales under the flower are not prickly. Stem smooth, and leaves hairy above. When young, they are webby and woolly underneath.

64. Cranberry

Vaccinium Oxycoccus.—*Family*, Heath. *Color*, white, with pink tinge. *Leaves*, small, scale-like, thin, with turned-back margins.

Calyx and *corolla*, 4-cleft. *Stamens*, 8. *Berry*, 4-celled. *Flowers*, nodding.

Fruit, a small acid berry, not so desirable for the table as the larger species. Stems, wiry, trailing, from 6 to 9 inches long.

65

V. macrocarpon, the large *American Cranberry*, is the one cultivated in large sections of bog-land, and prized as the accompaniment to the Thanksgiving turkey. The stems grow prostrate, often 4 to 5 feet in length. Flowers are large, with corolla turned back.

The name cranberry is said to be a shortening of crane-berry, referring to the curve of the branches, which are conceived to be like the crooked neck of a crane. A cranberry bog is flooded with water in the fall and early spring. In May the water is drained off. The picking commences in September, before heavy frost, and men, women, and children are employed, and paid by the crate or bushel. Buildings are erected near the bogs, in which the fruit is separated from leaves and twigs.

The geographical range of the cranberry is very wide, from north latitude 38° to 60°, and covering all North America east of the Mississippi.

66. Swamp-milkweed

Asclèpias incarnata.—*Family*, Milkweed. *Color*, crimson. *Leaves*, sometimes heart-shaped at base, oblong, pointed at apex. *Time*, July.

The construction of the flower of milkweed is so singular it should be described. Without the magnifying-glass one sees 5 short, pointed sepals hidden under 5 larger petals turned backward and downward. The next row of bodies standing up over the flower-centre may be taken for stamens. But through the glass we see that these are tubular bodies, colored like petals, containing a curved, needle-like hook. The latter is called a horn; the tube enclosing it, a hood. All 5 of the horns lie protectingly over the stamens and pistil. Pull off the hoods, with their

enclosed horns, and see what strange things the stamens are. The little fringed lip at the tip is not the anther. A tube of anthers below, united, stands around the pistil. Their long cells open lengthwise, often in bud. The pollen, instead of being in grains, is in a long, yellow, flat mass, one in each cell (in shape like an apple seed), which can be squeezed out entire with thumb and finger. Two of these, from different, adjacent anthers, cling together by a thread, and adhere to insects visiting them, and so are carried to other flowers.

There are seemingly two pistils (really two ovaries) united above into a large, flattish, sticky stigma, which catches and holds the pollen-masses borne to it by bees. In a flower the pollen-masses lie too low for its own stigma. The insect visit is absolutely necessary for fertilization. Now perhaps we have found a use for the hoods. They probably collect and store honey, and so invite the insects, upon whose help the flower is dependent. The reflexed corolla could not hold any nectar, and without honey bees would pass the milkweed by.

The swamp-milkweed is well known. It is smooth-stemmed, very leafy, with but little milky juice. 2 to 3 feet high.

67. Hedge-hyssop

Gratiola Virginiana.—*Family*, Figwort. *Color*, yellowish-white. *Leaves*, opposite, sessile, long, narrow, acute at both ends. *Time*, summer.

Low, light-green plants, in wet, sandy soil. Flowers with a darker-yellowish tube, and lighter, nearly white, lobes. Two-lipped *corolla*, the lower lip 3-cleft, the other 2. There are only 2 fertile *stamens*. The stems often lie upon the ground, branched, with flowers prominent on long peduncles.

68. Golden Hedge-hyssop

G. aurea is a deep yellow species, very common along the seashore in wet sand.

69. False Pimpernel

Ilysanthes riparia.—*Family*, Figwort. *Color*, light purple.



GOLDEN HEDGE-HYSSOP (*Gratiola aurea*)

Leaves, small, numerous, roundish, or longer than broad, sessile, some clasping. *Time*, summer.

A plant 6 or 8 inches tall, with smooth, branching, leafy stems, and a labiate flower, the upper lip cut into 2 divisions, the lower into 3. The flowers are purplish, in racemes terminal or from the leaf-axils, on long, slender pedicels.

The name means mud-flower, and reveals its habitat in wet muddy places. It often chooses a cranberry marsh.

70. Marsh-speedwell

Veronica scutellata.—*Family*, Figwort. *Color*, pale blue. *Leaves*, long, narrow, sessile, toothed. *Time*, summer.

A delicate, tender plant, with racemes of small flowers, single or in pairs, the panicles often bent in a zigzag fashion. *Corolla*, wheel-shaped, small. The *flowers* are on slender pedicels, which bend backward. 6 to 12 inches high.

71. Pedicularis

Pedicularis lanceolata.—*Family*, Figwort. *Color*, pale yellow. *Leaves*, oblong, lance-shaped, double-toothed. *Time*, August, September.

A species taller than the commoner wood-betony, 1 to 3 feet high. A smooth-stemmed plant, with flowers in heavy, terminal spikes.

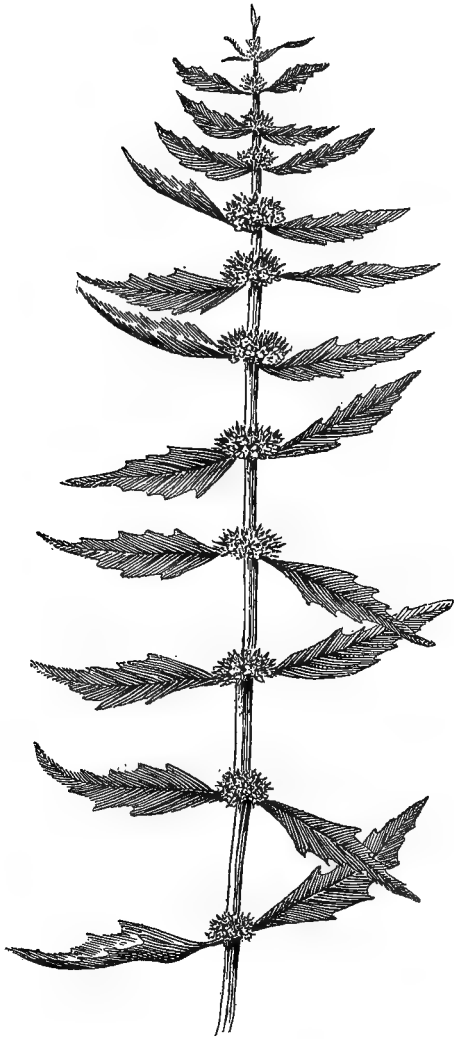
Corolla, 2-lipped, the upper lip much curved and hooked under.

72. Hedge-nettle

Stachys palustris.—*Family*, Mint. *Color*, crimson. *Leaves*, upper, sessile; lower, short-stalked, hairy, crenately toothed, round at base. *Time*, summer.

A square-stemmed, leafy plant, 2 or 3 feet high, hairy, densely so along the angles of the stem.

Tubular, 2-lipped *corolla*, one, the upper, lip, entire, hairy; the lower, 3-lobed. The dark-pink or rose-colored flowers grow in interrupted spikes, crowded towards the end.



BUGLEWEED (*Lycopus Virginicus*)

(See page 72)

73

Hyssop-leaved Hedge-nettle (*S. hyssopifolia*) is smooth, except at the joints, which are hairy. Flowers, 4 to 6, in distant whorls. Leaves, linear, sessile, or with short stalks. 1 foot high.

74

S. áspera is taller, and with rough stem-angles, the bristles turned backward. The leaves are all petioled. Sometimes considered a variety of *S. palustris*.

75. Bugleweed

Lycopus Virgínicus (a wolf's foot, from some fancied likeness of the leaves).—*Family*, Mint. *Color*, white. *Leaves*, opposite, with petioles, oblong, tapering at both ends, regularly toothed. *Time*, July, August.

Calyx, with 4 acute short teeth. *Corolla*, bell-shaped, 4-lobed. *Stamens*, 2 good ones. One pair without anthers.

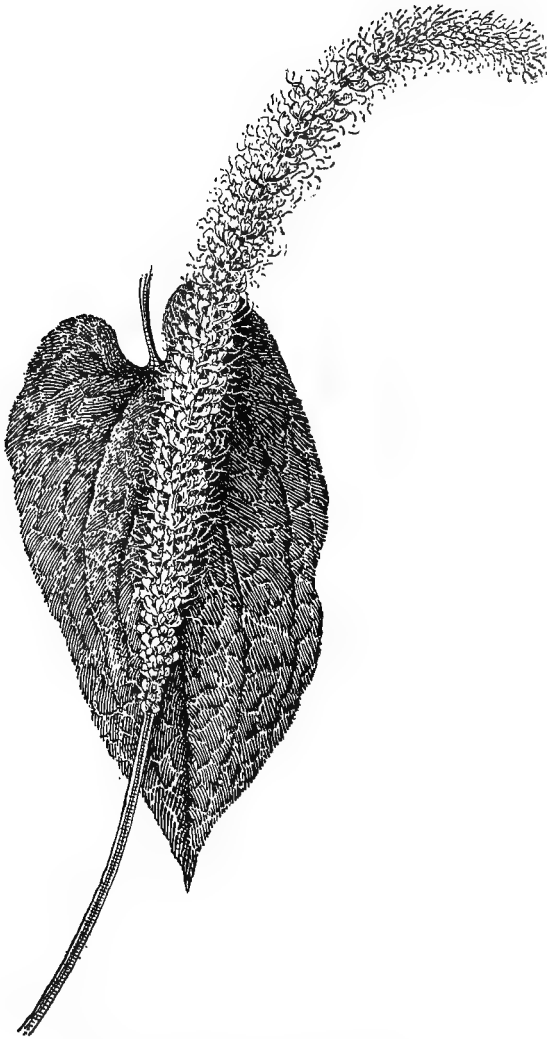
Fruit of 4 nutlets, which, when ripe, project above the calyx teeth.

Flowers, very small, in close whorls around the 4-angled, smooth, stiff, upright stem, much shorter than the leaves among which they nestle. *Stem*, 20 inches high or less, bearing sometimes from its base thread-like runners with small tubers.

76. Great Water-dock

Rumex Británnica.—*Family*, Buckwheat. *Color*, green. *Leaves*, oblong, lance-shaped, very large, those near the root 1 or 2 feet long. *Time*, summer.

This genus, mostly familiar to us from the dock-weed in our gardens, has some species growing in wet grounds. This one is very tall, 5 to 8 or even 10 feet high. The lower leaves are long, coarse, acute at both ends. I have found a plant of this species



LIZARD'S-TAIL (*Saururus cernuus*)

(See page 74)

measuring 10 inches around the stem near the ground, and over 10 feet high.

Flowers, lacking corolla, consist of 6 sepals, 6 stamens, and 3 styles. The 3 inner sepals, called *valves*, bear each a grain-like body. All the flowers are upon slender pedicels, forming a long, compound, green panicle.

77

Other species inhabiting wet places are *Pale-dock* (*R. altissimus*), a paler green, but tall, like the first ;

78

White-dock (*R. salicifolius*), with white root, 1 to 3 feet high ;

79

Swamp-dock (*R. verticillatus*), 3 to 5 feet tall, with flowers whorled about the stem in loose, almost leafless racemes.

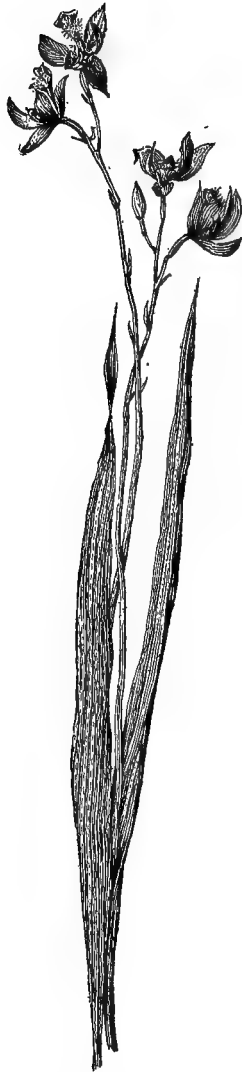
80. Lizard's-tail

Saururus cernuus.—*Family*, Lizard's-tail. *Color*, white. *Leaves*, alternate, ovate, heart-shaped at base, with petioles thin, dark green. *Time*, summer.

An example of a perfect flower—that is, possessing stamens and pistils, but without calyx or corolla. The flowers are on short pedicels, each with a little bract under it. They are crowded in a terminal spike, which gently nods and waves its numerous white threads. The stamens have long, dangling filaments. The flowers are slightly fragrant. The petioled leaves have converging ribs. Stem 2 to 5 feet tall. I have found this flower growing out of an old mill-dam, where water trickling over the stones kept it perpetually wet. Its usual habitat is a swamp. Range from Connecticut to Florida and westward.

81. Adder's-mouth

Micróstylis monophyllos.—*Family*, Orchis. *Color*, white or greenish. *Leaf*, 1, ovate-elliptical, at the base of and enveloping the stem. *Time*, July.



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CALOPOGON. GRASS PINK. (*Calopogon pulchellus*.)
(See page 76)

The orchids, which are seen in such variety of form and color in our green-houses, are represented by several of our dearest native wild flowers. Their structure is complicated, but can well be understood by studying some of the larger members of the family. It is especially designed for insect fertilization. The perianth is composed of 6 divisions, the 3 outer sepals colored and harmonizing with the 3 inner petals. One of the petals is large, and generally hangs down. This is called the *lip*, and affords a standing-place for insects, whose visits are thus invited. The internal structure consists of a *column* made up of 1 stamen (except in cypripediums, where there are 2), united with, or supported by, the style or stigma. The pollen lies in masses, called *pollinia*, and these cling to the proboscis of an insect and are carried by it to another flower. The stigma is a broad, glutinous surface, to which the *pollinia*, when they are brought into contact with it, adhere.

In this species (adder's-mouth) the flowers are very small, greenish, in a raceme. Whole plant low, 5 or 6 inches high, with a single broad leaf and one or more scales at the base of the stem. The lip is slender, as are the other two petals. The flower-pedicles are short. Root a bulb.

82. Green Adder's-mouth

In *M. ophioglossoides*, another species, its leaf occurs about the middle of the single flower-stem, oval or roundish, clasping, and the flowers make a short, blunt raceme, 1 to 3 inches long. 5 to 10 inches high.

83. Calopogon. Grass-pink

Calopogon pulchellus (or *Limodorum tuberosum*).—*Family*, Orchid. *Color*, magenta. *Leaf*, 1, long and narrow, grass-like. *Time*, June, July.

Among our loveliest bog-orchids is the beautiful calopogon. A scape, bearing a single leaf, issuing from a sheathing base, produces a few rose-colored flowers, the lowest in bloom while the upper ones are still in bud. The lip appears above in the upper part of the flower, broadened at terminus, and bearded with white, yellow, and crimson hairs. This is the normal posi-

tion of the lip. In most orchids it is brought under, to form an insect platform, by the twisting of the ovary. In this the ovary does not twist. The outer sepal, thus brought below, is large and broad, and forms, quite as well as the lip, a place for the visiting insect to stand upon. Root, a bulb. Scape 12 to 18 inches high.

This is not a rare plant. Many swamps are crimsoned in spots by this striking and beautiful flower. It is worth one's while to leave the city for a June holiday in order to find the calopogon in one of its wet haunts.

84. Rose Pogonia. Snake-mouth

Pogonia ophioglossoides.—*Family*, Orchis. *Color*, pale crimson, rarely white. *Leaves*, 1, large, near the middle, lance-shaped or oval, and 1, smaller, near the flower. *Time*, June July.

This single-flowered orchis is often found in the same swamp side by side with its more pretentious relative, the calopogon. It is low, 6 to 9 inches high, from a fibrous root. The flower is terminal, large, 1 inch long, and it opens wide, with a somewhat bearded lip. It is sweet-scented, as Thoreau expresses it, with "a strong, snaky odor." Occasionally a second flower springs from the leaf-axil. The original home of this dainty plant, Dr. Gray says, is Japan.

85. Arethusa

Arethusa bulbosa.—*Family*, Orchis. *Color*, rose-pink. *Leaf*, 1, 4 to 6 inches long, narrow, hidden at first, appearing after the flower. *Time*, May, June.

Lip pendent, rounded and toothed at apex, fringed, spotted with purple, with 3 white ridges running down its surface. Other *petals* and *sepals* long, narrow, arching over the petal-like *column*. *Fruit*, a capsule 1 inch long.

One of our most beautiful orchids, but quite local in its habit. In its favorite swamp it reappears year after year with unerring certainty. The flower is an inch long, subtended by 2 small scales. The lip, broadened and gracefully curved, is fringed with soft, purplish hairs. The root is a bulb. From it arises a scape, 6 to 10

inches tall, at first leafless, except for 2 or 3 sheathing bracts at its base. From the upper bract, later, the linear leaf grows.

Why it should be "dedicated to the nymph Arethusa" can hardly be explained. Diana changed the nymph into a fountain, in order to save her from the pursuit of a too ardent lover. Does the arethusa bury itself in swamps for self-protection against its fond admirers, who love it and pursue it almost to its extinction, when once its retreat is discovered?

86. Small, Pale-green Orchis

Habenaria viréscens. — *Family*, Orchis. *Color*, green. *Leaves*, the lower, ovate to lance-shaped; the upper, linear; all acute at apex. *Time*, June, July.

Many species of *habenaria* are found in the Eastern States, including the handsome fringed orchids. Most of them grow in wet soil and swampy ground. The flowers are arranged in bracted spikes, often long and full. They have a long, narrow spur, which contains the nectar for the visiting insect.

H. viréscens has green flowers, small, spurred, on leafy or bracted stems. At first the bracts are longer than the flowers, but later the flower-stalks lengthen beyond the bracts. 1 to 2 feet high.

87. Tall, Leafy, Green Orchis

H. hyperborea is found in peaty swamps. Growing to a limit of 2 feet, its green flowers make a long, thick spike, sometimes covering the stem below the middle. Lip narrow, entire. Leaves lance-shaped.

88. Tall, White Bog Orchis

H. dilatata has white flowers, with long, narrow leaves. Stem, 1 to 2 feet high.

89. Small, Northern Bog Orchis

A 1-leafed species is *H. obtusata*. The roundish leaf



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WHITE-FRINGED ORCHIS (*Habenaria blephariglottis*)

(See page 80)

grows near the base of the flower scape. Flowers in a spike, not crowded, greenish white.

These are not the finest of our rein-orchids, for their flowers are rather small and insignificant. (The common names are taken from Britton and Brown's *Illustrated Northern Flora of the United States and Canada*.)

90. White-fringed Orchis

Habenaria blephariglottis.—*Family*, Orchis. *Color*, white. *Leaves*, the lower ones lance-shaped, quite long; the upper, bract-like. *Time*, July.

A beautiful milk-white orchid. The lip is variously cut and fringed, giving the whole spike of flowers a soft, lace-like appearance. The stem, smooth, with bracts rather than leaves above the middle, grows from 12 to 15 inches tall. The pure color of the heads of flowers makes them at once conspicuous in the swamps, cranberry marshes, etc., where they grow, often in great profusion.

91. Yellow-fringed Orchis

H. ciliaris is not so common. It is a very elegant, stately flower, 2 feet or less high, with leaves like the white-fringed orchis. The flowers are large, copiously and conspicuously fringed, orange-color, with the spike densely flowered.

92. Ragged Orchis

H. lacera has greenish-yellow flowers, not so pretty as its brighter-colored relatives. 1 to 2 feet high.

93. Smaller Purple-fringed Orchis

H. psycodes bears many flowers, in a full, rich crimson spike. The lip is fan-shaped, 3-divided, all the parts being deeply fringed. The delicate blossoms are fragrant, and the leaves, like so many of this genus, pass above into bracts. *Time*, July, August.

94. Calypso

Calypso borealis.—*Family*, Orchis. *Color*, purple, pink, and yellow. *Leaf*, 1, roundish, slightly heart-shaped, thin, many-nerved, pointed, on a petiole whose base sheathes the base of the stem. *Time*, May and June.

Sepals and *petals* nearly alike, narrow and pointed. *Lip*, broad, swollen, sac-shaped, 2 parted at the apex, with woolly, yellow hairs inside. *Column*, broad and petal-like, the lid-like anther drooping from its summit. *Scape*, 3 to 6 inches tall, sheathed with about 3 loose scales.

The pretty, brightly colored flower is solitary and drooping. The bulbous root lies snugly in a bed of moss, and whoever finds this sweet nymph does not need to be told that he has a treasure.

95. Showy Lady's Slipper

Cypripedium spectabile.—*Family*, Orchis. *Color*, white and pink. *Leaves*, large, numerous, pointed, ovate, many-ribbed. *Time*, June, July.

It must be a rare plant that draws from Dr. Gray the expression, "The most beautiful of the genus." All the sepals and petals are white, except for the blush on the front of the broad, inflated, not twisted lip. Stem, downy, 2 feet high, from fibrous roots. It is not easy to find, being a shy thing, and hiding its beauty in peat-swamps, where, however, if once discovered, it may be seen to grow in numbers.

96. Ram's-head Lady's Slipper

C. arietinum bears 3 or 4 leaves, and a single, drooping flower, with greenish-brown *sepals* and *petals*, the lip red and white, veiny, prolonged into a blunt spur at the apex.

The shape of the spurred lip and sepals around it suggest a ram's head. Many of our orchids, the cultivated ones especially, without any great stretch of the imagination, can be likened to insects and animals.

Found in northern New York and Maine, westward to Minnesota. 8 to 12 inches high.

97. Iris. Flower-de-luce. Larger Blue Flag

Iris versicolor.—*Family*, Iris. *Color*, blue, with darker veinings, and touches of yellow, white, and green. *Leaves*, equitant, like corn or grass. *Time*, May, June.

Every one knows the beautiful iris, one of the blue flowers, but so variegated with other tints as to be named after the rainbow.

The stiff, sword-shaped, folded leaves give a dignity to the plant, which grows about 3 feet high. The large flower deserves study. The perianth is divided into 6 lobes, 3 outer and 3 inner, which are united into a short tube below. The outer divisions curve gracefully backward, the inner stand erect.

Stamens, 3, almost hidden under the 3 broad, petal-like styles, which bear their stigmas immediately under their 2-lobed, lip-like tips. *Capsule*, 3-lobed, 1½ inches long.

Insect aid is necessary for the fertilization of this flower, and the bee, said to be a lover of blue colors, is often seen delving into the honeyed depths of the iris, powdering his head with the pollen, which he carries to another flower.

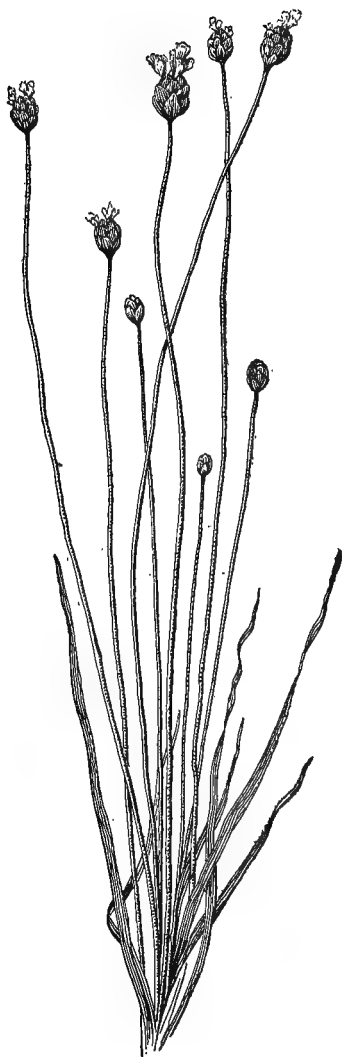
98. American Bog-asphodel

Narthécium Americánum (or *Abàma Americàna*).—*Family*, Bunch-flower. *Color*, yellowish. *Leaves*, linear, one arising out of another, like those of iris, about 7-nerved, very narrow. *Time*, June, July.

From the sword-shaped, grass-like leaves a straight stem arises, a foot to 18 inches high, bearing at the top a dense raceme of small, greenish-yellow flowers, each with 6 narrow similar sepals, 6 woolly *stamens*, and a sessile *stigma*. Bracts attend the flowers. A rather pretty bog herb, found in pine barrens of New Jersey.

99. Slender Yellow-eyed Grass

Xyris flexuosa.—*Family*, Yellow-eyed Grass. *Color*, yellow. *Leaves*, grass-like. *Time*, all summer.



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SLENDER YELLOW-EYED GRASS (*Xyris flexuosa*)

In the sandy marshes, with cranberry, sundew, and marsh St. John's-wort, the little yellow dots of xyris are everywhere. It rises tall, a foot or more, and with a somewhat flattened stem, bearing at the top a small, brownish, nearly round head of scales. If we call it a tiny pine-cone, no bigger than a small pea, we give it as the naked eye sees it. From the top of this cone, or a little to one side, spring 1, 2, or 3 flowers, showing just 3 wide-open golden petals. There are also 3 small sepals, one larger than the others fringed with short hairs. The stem, and often the leaves, are twisted. Botanically the little cone is a head of bracts, from within each of which a blossom may spring. The flower withers very soon after picking. 6 to 18 inches tall.

100. Fringed Yellow-eyed Grass

X. fimbriata is a large and taller species, 2 feet high, with a more flattened, stouter stem, and a head of bracts over half an inch, sometimes an inch, long. In this the lateral sepals are fringed, and project beyond the bracts.

Found in New Jersey pine barrens, southward to Florida.

101. Carolina Yellow-eyed Grass

X. Caroliniana sends up scapes 1 to 2 feet tall, slender, twisted or straight. Leaves, linear, quite long. Head of flowers about $\frac{1}{2}$ inch long. Found along the Atlantic States and in Pennsylvania.

102. Broad-leaved Cat-tail

Typha latifolia.—*Family*, Cat-tail. *Color*, brown. *Leaves*, all near the base of the stem, long, narrow, sheathing. *Time*, summer.

The picturesque brown of the tall cat-tails begins to show itself in August. The long, round stem, from a creeping rootstock, bearing the tails, may grow 5 or 6 feet in height. The dense, cylindrical head of flowers bears neither petals nor sepals, but bristles in their place, staminate flowers above, and pistillate below. The pistils are supported upon long stalks which are cov-

ered with knobbed, fine bristles, and these later form the down, by which the seed when ripe is carried by the wind. Throughout North America.

103. Swamp Pink

Helònias bullàta.—*Family*, Bunch-flower. *Color*, purple. *Leaves*, clustered at the base of the scape, 6 to 15 inches long, broad at apex, tapering at base, thin, flat, evergreen, with bracts above on the scape. *Time*, April, May.

Flower perianth of 6 segments. *Stamens*, 6, and a 3-lobed capsule. Flowers, in a simple, short, terminal, dense and blunt raceme. Scape, 1 to 2 feet high, from a tuberous rootstock.

A pretty plant, found from New Jersey southward to Virginia.

104. Skunk-cabbage

Symplocàrpus foétidus.—*Family*, Arum. *Color*, of spathe, green, striped with purple and yellow. *Leaves*, large, broad, ribbed, heart-shaped. *Time*, March, April.

This coarse and singular plant, with its ill odor, is yet of interest because it has the reputation of being the earliest bloom of spring. In March you may look for the singular, lumpy flowers which precede the big, coarse leaves. The flowers crowd and cover a thick, fleshy spadix, which becomes green and purplish, long-stalked. The enveloping spathe is large, broad, at first completely covering the spadix; afterwards, as the fruit matures, decaying and falling off. The fruit itself is a singular, repellent-looking mass, being the spadix enlarged, soft, spongy, with the seeds formed underneath the epidermis. Later these drop to the ground like small bulbs.

The plant leaves are clustered at the root. They are from 1 to 2 feet long, and nearly as broad.

Notwithstanding the skunk and garlic combination of odor which this plant possesses, and which often permeates the atmosphere around, insects, including bees, buzz and hum over the flowers with seeming pleasure. Small insects are often caught and drowned in the accumulation of rain-water within the channels of the leaf-stalks.

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| <p>92. Ragged-fringed Orchis (<i>Habenaria lacera</i>), greenish white.</p> <p>93. Purple-fringed Orchis (<i>Habenaria psycodes</i>), purple.</p> <p>94. <i>Calypto borealis</i>, purple, pink, and yellow.</p> <p>95. Showy Lady's Slipper (<i>Cypripedium spectabile</i>), white and pink.</p> <p>96. Ram's-head Lady's Slipper (<i>Cypripedium arietinum</i>), brown, red, and white.</p> <p>97. Iris. Flower-de-luce. Larger Blue Flag (<i>Iris versicolor</i>), blue, white, and pink.</p> | <p>98. Bog-asphodel (<i>Narthecium Americanum</i>), yellowish.</p> <p>99. Yellow-eyed Grass (<i>Xyris fluxuosa</i>), yellow.</p> <p>100. <i>Xyris fimbriata</i>, yellow.</p> <p>101. Carolina Yellow-eyed Grass (<i>Xyris Caroliniana</i>), yellow.</p> <p>102. Cat-tail (<i>Typha latifolia</i>), brown.</p> <p>103. Swamp Pink (<i>Hellonias bullata</i>).</p> <p>104. Skunk-cabbage. (<i>Symplocarpus foetidus</i>), green.</p> |
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69a. Short-stalked False Pimpernel

Ilysanthes attenuata. Family, Figwort. Color, white, the corolla striped with purple. Leaves, opposite, ovate to oblong, entire or slightly toothed, sessile, 3 to 5 nerved, an inch or less long.

Corolla, irregular, 2-lipped, small. Stamens, 2, fertile. Style, long and slender.

The small flower is raised on a stem shorter than the leaves, single or opposite, from their axils. It pulls up easily from its muddy habitat, showing clustered roots. It loves wet places, as banks of streams in dark woods. 3 to 16 inches high. Maine to Florida.

The principal difference between this species and *I. riparia* (page 68) is in the flower-stems, these of *I. attenuata* being shorter than the leaves, those longer.

CHAPTER III

AT THE SEA-SIDE—NEAR THE COAST

Salt air and sandy soil attract their own flowers. Among them are plants with stiff, unyielding foliage, of a stern and defying sort, which venture so close to the ocean that they are watered with its salt spray. Others, of a tenderer character, creep behind the protecting dunes, nestling in hollows, craving shelter from the fierce gales. Actual coast vegetation is sparse. There are no trees, and only a few hardy shrubs. The shore is joined to the country by a skirting fringe of pines, oaks, cedars, and locusts, beneath whose shade still other species are content to dwell.

The flowers grouped in this chapter may, some of them, like the Canadian burnet, have crept inland; but most are recognized as belonging to the sea-shore.

Some flowers that grow in salt marshes and pine barrens near the coast are here included.

AT THE SEA-SIDE—NEAR THE COAST

1. Sea-side Crowfoot

Ranunculus Cymbalaria.—*Family*, Crowfoot. *Color*, yellow. *Leaves*, clustered at the root, round or heart-shaped, with wavy margins, fleshy, on long stems. *Time*, summer.

Petals, 5 to 8, surrounding a head of achenes. The flowers are borne upon low scapes, either solitary or many, from 1 to 6 inches high. A nectar-bearing pit and scale are found at the base of each petal, as in nearly all buttercups.

The plant is propagated by means of runners, at the joints of which are small leaves. It bears beautiful, bright-yellow, rather large flowers. I have found them growing quite in water, on sandy or muddy shores.

2. Sea-rocket

Cakile Americana.—*Family*, Mustard. *Color*, reddish purple. *Leaves*, alternate, inversely egg-shaped, broader at apex, with a toothed and wavy margin; fleshy. *Time*, July to September.

Sepals and petals, 4, open and spreading. *Stamens*, 6. *Pod*, short and thick, 2-jointed, each half containing 1 seed. The lower joint is round; the upper, when ripe, 4-angled and beaked. Stem 8 to 14 inches high.

Not pretty. A fleshy plant, with a large display of foliage and small flowers. Growing in thick masses along the coast and on the shores of the Great Lakes.

3. Poverty-grass

Hudsonia tomentosa.—*Family*, Rock-rose. *Color*, yellow. *Leaves*, bristly, awl-shaped, small, growing thickly on the stem. *Time*, May, June.

Petals, 5, falling after a day's time.

Flowers, very small, borne among the leaves near the tops of the branches; sessile or with short peduncles. This plant grows a few inches high, in a close and bushy fashion, heather-like, in sand along the dunes or on the edges of pine woods.

Another species, *H. ericoides*, differs in one particular—that the flowers are borne on slender long peduncles.

“In some parts the two species of poverty-grass (*Hudsonia tomentosa* and *ericoides*), which deserve a better name, reign for miles in little hemispherical tufts or islets, like moss scattered over the waste.

“In summer, if the poverty-grass grows at the head of a hollow looking towards the sea, in a bleak position where the wind rushes up, the northern or exposed half of the tuft is sometimes all black and dead, like an oven-broom, while the opposite half is yellow with blossoms, the whole hillside thus presenting a remarkable contrast when seen from the poverty-stricken and the flourishing side.”—*Thoreau's "Cape Cod."*

4. Pinweed

Léchea thymifolia.—*Family*, Rock-rose. *Color*, greenish or purplish. *Leaves*, opposite, some whorled, long, narrow. *Time*, summer.

Sepals, 5, one longer than the others. *Petals*, 3. *Stamens*, many. *Pistil* bears 3 feather-like stigmas.

This is a plant of rather stout growth, about 2 feet high, loosely branching, with dull, insignificant flowers in a loose, leafy panicle. The leaves are broad and thin, and the entire plant is somewhat hairy. In dry ground near the coast, from Massachusetts to Florida.

5. Pine-barren Sandwort

Arenaria Caroliniàna.—*Family*, Pink. *Color*, white. *Leaves*, overlapping, but spreading, bristly, awl-shaped. *Time*, May to August.

Sepals, 5. *Petals*, 5. *Stamens*, 10. *Styles*, 3. The *pod* splits into 3 parts when ripe. A tufted plant, with short and grooved stems. 4 to 10 inches high.

Above, the branches are leafless and bear many flowers in cymes. A pretty flower, growing in sand. I have found it growing on the road from Bridgehampton to East Hampton, Long Island, looking brightly out of arid sand, where one would think nothing could grow. New York, New Jersey, and southward.

6. Broad-leaved Sandwort

Arenaria lateriflora.—*Family*, Pink. *Color*, white. *Leaves*, blunt, oval or oblong, sessile, without stipules, $\frac{1}{2}$ to 1 inch long.

Sepals and *petals*, 5, or sometimes 4. *Stamens*, 10. *Pod*, 3-celled. 4 to 12 inches high.

Small, star-like flowers, on low, erect, downy branches, 2 to 4 on the peduncles.

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A. peploides is a fleshy plant growing from a rootstock. Branches 6 to 10 inches high ascend, bearing sessile flowers in the axils of the thick, partly clasping, ovate leaves. In sandy soil along the shore.

8. Sand Spurry

Euda rubra.—*Family*, Pink. *Color*, dark pink, almost red. *Leaves*, long, flat, somewhat fleshy. *Time*, summer.

Sepals and *petals*, 5. *Stamens*, 10 or less. *Styles*, 3. 2 to 6 inches high.

A low, smooth plant, the stems upright or lying down. Smaller leaves are clustered in the axils. A more strictly marine species

grows along the coast, with fleshier leaves, and lighter pink corolla
—*Buda marina*. 4 to 8 inches high.

THE PULSE FAMILY

The *Pulse Family*, to which our vegetables the pea and bean belong, is known, with few exceptions, by its *papilionaceous* corolla. The petals are so different they have received special names. The large upper one, which enfolds the others in bud, is *the standard*, generally broad, erect, or turning backward. The narrower, opposite, side petals are *wings*. The lower one is considered to be two petals united, and being hollowed and boat-shaped, is the *keel*. The keel usually encloses stamens and pistil.

Stamens of these flowers number 10 (rarely 5); one being free, the other 9 mostly united by their filaments into a tube, which is split open on the upper side. Through this slit projects the pistil, later becoming a *pod* or *legume*.

The *calyx* is 5-divided, usually unequally.

To this family belong not only the pea and bean, but lentil, cassia (senna), liquorice, logwood, and such useful plants. None is poisonous. Many are ornamental climbers, with showy blossoms and graceful foliage.

9. Beach Pea

Láthyrus marítimus.—*Family*, Pulse. *Color*, purple. *Leaves*, compound, of from 3 to 5 pairs of oval-shaped leaflets, a tendril terminating the *rachis*. *Time*, June, July.

Corolla, papilionaceous.

The beach-pea, so common along our coast, is a coarse, weak-stemmed plant, spreading its thick, petioled leaves in a low, aggressive clump. The leaf-stipules are as large as the leaflets, halberd-shaped. Flowers nearly an inch long, in panicles. They are quickly pushed aside and followed by the rapidly growing pod.

10. Canadian Burnet

Potèrium Canadèse.—*Family*, Rose. *Color*, white. *Leaves*,



CANADIAN BURNET (*Poterium Canadense*)

pinnate, of several oblong, deeply serrate leaflets, notched at base, rounded at apex. *Time*, August, September.

Petals, none. *Sepals*, 4, whitish.

The color and beauty of the flower lies in the numerous feathery stamens which hang their anthers upon long, weak, white filaments.

The *pistils*, 1 to 3, help the soft appearance of the flower spike by tufted, plummy stigmas capping long styles. The flowers, each one small, are crowded together, much like a cat-tail in size and shape. The plant grows tall, 2 to 6 feet, with large leaves, bearing stipules also serrate, joined to the stem.

A very common and showy plant, near the coast, in marshy ground. It grows with the beach golden-rod, among sterile fronds of the royal fern, tangled with beach-pea stems, its wavy, white spikes towering above them all.

11. Thread-leaved Sundew

Drôsera filifôrmis.—*Family*, Sundew. *Color*, magenta. *Leaves*, all from the base, long, thread-like, without stalks, covered with purple glands raised on hairs. *Time*, July, August.

Parts of the flower in fives or sixes. *Styles*, divided, so as to seem like 6 to 10, but they are in reality 3 to 5. 2 to 7 inches high.

Flowers, on one side of a naked scape, $\frac{1}{2}$ inch broad. This species differs in the shape of its leaves and color of its blossoms from the round-leaved sundew.

It is insectivorous, and, like the other, catches small insects among its sticky, hairy glands, assimilates and digests them. One may often find dried remains of hapless insects scattered along the edges of the leaves and stems. From Massachusetts to Florida.

12. Sea-purslane

Sesúvium pentândrum —*Family*, Ficoideae. *Color*, purple.



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BEACH GOLDEN-ROD (*Solidago sempervirens*)

(See page 98)

Leaves, fleshy, opposite, oblong, blunt at apex. *Time*, July, September.

Calyx, 5-divided. *Petals*, none. The *sepals* are purple inside, and resemble petals. *Stamens*, 5. *Styles*, 3 to 5. *Pod* opens with a lid at the top.

A maritime herb, lying along the ground, with blossoms axillary or terminal. Sometimes it grows erect. 2 to 12 inches long.

13. Oldenlandia

Oldenlandia glomerata.—*Family*, Madder. *Color*, white. *Leaves*, opposite, oblong or ovate, with stipules united to the petioles. *Time*, summer.

Calyx, 4-lobed. *Corolla*, with 4 lobes shorter than the calyx. *Stamens*, 4. *Style*, often none, but 2 sessile stigmas. The parts of the flower are sometimes in fives.

Inconspicuous, small plants, less than a foot high, with flowers clustered in the axils of the leaves.

14. Beach Golden-rod

Solidago sempervirens.—*Family*, Composite. *Color*, golden yellow. *Leaves*, thick, lance-shaped, pointed, entire, lower ones slightly clasping. *Time*, September.

Very tall, or low and spreading. The blossoms are closely massed in a short, broad, thick panicle. Showy and rich, stout-stemmed, very leafy. It is one of the handsomest of the golden-rods. 2 to 6 feet high.

15. Aster rádula

Family, Composite. *Color*, light purple. *Leaves*, long, narrow, rough, pointed, sessile.

This aster may be recognized by its very rough oblong or lance-shaped leaves, the lower ones larger, and with sharply toothed margins in the middle. The stem is simple, very leafy, bearing single flowers, or several in corymbs. More common near the coast, from Maine to Delaware.



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ASTER SUBULATUS

(See page 100)

16. *Áster Nòvi-Bélgii*

Family, Composite. *Color*, blue, with bright-yellow disk. *Leaves*, thick, rigid, or quite narrow, some of them clasping.

Very common, and among our latest asters of the Atlantic border. It is under three feet tall. One variety, *litòreus*, is very low, stiff, almost prickly. A variety, *laevigátus*, has thinner and smoother leaves. Upper leaves become small and like bracts.

17. *Áster tenuifólius*

Color, light purple. *Leaves*, scattered, long, pointed at both ends, thick, almost fleshy. 6 to 24 inches high.

An aster with crooked, bent stem, smooth, and not very leafy. Low, with showy flowers, found in salt-marshes.

18. *Áster subulátus*

Color, purple. *Leaves*, narrow.

A low plant, smooth, with very narrow and pointed leaves. Rays short, and the flower in consequence insignificant. It grows, like the last, in salt-marshes. 6 to 20 inches high.

19. Salt-marsh Fleabane

Plùchea camphoràta.—*Family*, Composite. *Color*, pink. *Leaves*, sessile, toothed, oblong and narrow, thick and rough. *Time*, September.

A common and pretty flower, found in salt-marshes. In manner of flowering it resembles the everlastings. The small, rose-colored blossoms grow in close, flat heads. They give forth a distinct odor of camphor. Stems rough, hairy, and with small glands. 2 to 5 feet high.

20. Purplish Cudweed

Gnaphàlium purpùreum.—*Family*, Composite. *Color*, white, marked with purple. *Leaves*, woolly and whitish.

One of the everlastings, and finding its purple color in the



SALT-MARSH FLEABANE (*Pluchea camphorata*)

streaks in the scales of the involucre. The flowers grow in sessile bunches in the upper leaf-axils, and, wand-like, along the summit of the stem. Whole plant very woolly. Found near the coast, from Maine to Virginia, and southward. 6 to 20 inches high.

21. Sea-lavender. Marsh Rosemary

Státice Limònium, var. *Caroliniana*.—*Family*, Leadwort. *Color*, lavender. *Leaves*, all from the root, thick, oblong, tapering into long petioles, tipped with a bristly point. *Time*, August, September.

A curious plant, light purple in color, with small blossoms in much-branched panicles. The flowers grow on one side of naked branches, which are 1 to 2 feet high.

The *corolla* dries and remains through the winter; hence, sought for winter bouquets. Found in salt-marshes at Sag Harbor, Shelter Island, and other places along the coast.

22. Sea-milkwort

Glaùx marítima.—*Family*, Primrose. *Color*, purplish and white. *Leaves*, fleshy, entire, oblong, sessile, opposite. *Time*, June.

Calyx, tubular, with petal-like lobes. No *corolla*. *Stamens*, 5, alternate with the calyx lobes.

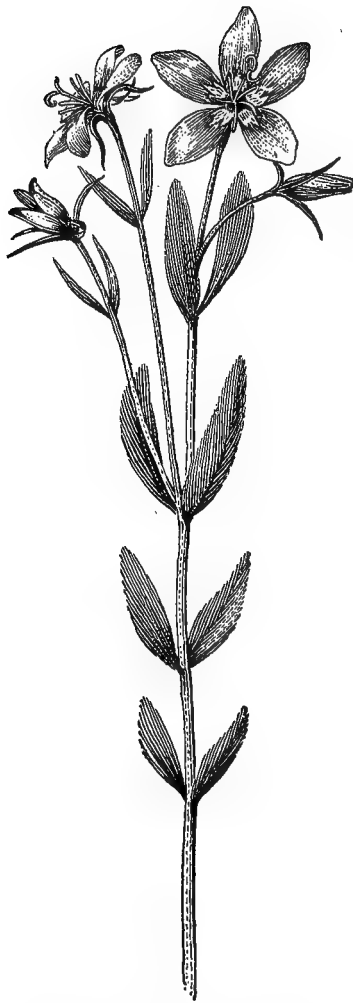
Low and fleshy plants, with flowers in the leaf-axils. Coast of New England. 2 to 8 inches high.

23. Sea-pink

Sabbàtia stellàris.—*Family*, Gentian. *Color*, pink, sometimes white. *Leaves*, opposite, entire, narrow and long, the lower broader. *Time*, August.

Corolla, 5-parted, wheel-shaped. *Calyx*, 5-parted. *Stamens*, 5. 6 to 24 inches high.

A beautiful flower, found in salt, wet marshes. A large, open corolla, with a yellow centre, looks you squarely in the face. This and *Sabbatia gracilis* are much alike, differing mainly in



SEA-PINK (*Sabbatia gracilis*)

the length of the sepals. In *S. Stellaris* they are shorter than the petals; in *S. gracilis* they are equal to them in length. They form masses of pink color, covering acres in extent.

24. Large Sabbatia

Sabbatia chloroides.—*Family*, Gentian. *Color*, deep pink, or sometimes white. *Leaves*, oblong, narrow. *Time*, August.

Tubular *Corolla*, the border 8 to 12 parted. The largest of our beautiful sabbatias. It grows from 1 to 2 feet high, with a branching stem. The blossoms are 2 inches across, of a soft, rosy pink color, occasionally white. I have found them plentifully in southern New Jersey. Range from Massachusetts to Florida.

25. Purple Gerardia

Gerardia purpurea.—*Family*, Figwort. *Color*, rose-purple. *Leaves*, opposite, linear, with rough margins. *Time*, late summer and autumn.

Forsaking the 2-lipped type of the Figwort family, the gerardia blossoms are bell-shaped, with irregular, spreading borders. The short calyx teeth are sharp and pointed. The flowers, 1 inch wide, are showy, growing on rigid, diverging branches. Supposed to be root-parasitic. I have seen the beautiful purple gerardia in spreading masses, several feet across.

26. Seaside Gerardia

Gerardia maritima.—*Family*, Figwort. *Color*, rose. *Leaves*, fleshy, long, narrow, generally opposite. *Time*, August, September.

Corolla as in purple gerardia.

Pod, roundish, many-seeded. Stem low, with short branches, from $\frac{1}{2}$ to 1 foot high, with flowers $\frac{1}{2}$ inch long.

27. Chaffseed

Schwálbea Americàna.—*Family*, Figwort. *Color*, dull pur-

plish yellow. *Leaves*, entire, ovate, or oblong, without petioles; the upper, narrow bracts. *Time*, May to July.

Calyx, tubular, unequally 5-toothed. *Corolla*, 2-lipped, the under lip 3-lobed; the upper, entire. *Stamens*, 4, lying under the upper lip.

Flowers, rather large, in a loose spike, all on short pedicels, 1 to 2 feet high. Found in wet, sandy soil along the coast.

28. Eyebright

Euphrasia officinālis ("cheerfulness").—*Family*, Figwort. *Color*, whitish, yellowish, or bluish. *Leaves*, those among the flowers, bristly-toothed; those on the stem lower down, opposite, crenately-toothed or cut, ovate or lance-shaped.

Calyx, tubular, bell-shaped, 4-cleft. *Corolla*, 2-lipped, the upper lip with 2 broad and spreading lobes, under which arise the 4 *stamens*. Lower lip 3-cleft, with all the lobes notched.

A plant of small growth, with at least its musical name to recommend it. Flowers in spikes. It may be found along the coast of Maine, among the White Mountains, and northward.

29. Yellow Rattle

Rhinanthus Crista-galli.—*Family*, Figwort. *Color*, yellow. *Leaves*, opposite, narrow, coarsely-toothed; the floral bracts being bristly-tipped.

Calyx, 4-toothed, much swollen in fruit. *Corolla*, 2-lipped, a small tooth each side of the apex of the upper lip; the lower lip 3-lobed, its lobes spreading, about $\frac{1}{2}$ inch long. Seeds, when ripe, broadly winged. They rattle in the enlarged dry calyx, whence the popular name.

Flowers crowded in one-sided spikes, nearly sessile. Same range as the above.

30. Bigelow's Glasswort. Samphire

Salicornia mucronata or *Bigelovii*.—*Family*, Goosefoot.

Color, green. *Leaves*, none, but fleshy, opposite, pointed scales in their place. *Time*, summer.

There are many coarse, uninteresting, weed-like plants along the sea-shore. Those which belong to the Goosefoot family have little beauty of form or color, being devoid of a corolla. This one is low, fleshy, with a thick spike of flowers in groups of threes, sunk in hollows in the axils of the upper scales. The small calyx is inflated like a bladder, irregularly toothed along the margin. As the plant grows older it turns reddish. There are two other species—*S. herbacea*, Slender or Marsh Samphire, which turns a vivid red in fall, and *S. ambigua*, Woody Glasswort, with broadly ovate scales, and flowers making a short spike.

31. Tall Sea-blite

Dóndia Americána or *Sudeda linearis* is a fleshy plant, with long, narrow, rush-like leaves, 2 inches long or less. It lies upon the ground, or stands erect, 1 to 2 feet high. The flowers, stemless, grow in the axils of leafy bracts. No corolla.

32. Saltwort

Sálsola Káli has a color given to it by means of large, pink wings belonging to the 5-parted calyx. Corolla wanting. The wings make a circular border along the back of the calyx, after it has grown and enclosed the fruit. Flowers sessile and single in axils of the awl-shaped, bristly-pointed leaves. Plant rather branched and spreading. 1 to 2 feet high.

33. Red Goosefoot

Chenapódium rubrum.—*Family*, Goosefoot. *Color*, reddish. *Leaves*, triangular, coarsely toothed, very acute, thickish, the upper long and narrow petioled.

Flowers small, in leafy, compound axillary and terminal spikes, wanting corolla. The calyx is rather fleshy, with 3 to 5 lobes, colored red or purplish. 1 to 2½ feet high.

34. Spreading Orache

Átriplex pátula.—*Family*, Goosefoot. *Color*, greenish.



COAST JOINTWEED (*Polygonella articulata*)

(See page 108)

Leaves, alternate or opposite; long and narrow, some broad at base, and 3-cut or lobed near the base; the upper sessile, the lower with slender petioles. *Time*, summer and autumn.

Flowers, of 2 sorts, the staminate with a 3- to 5-parted calyx; the pistillate with 2 large bractlets underneath, united at their bases. *Stem*, branched, 1 to 3 feet tall.

Flowers grouped in round clusters, axillary, in the upper leaves, and forming, along the top of the stem, leafless spikes.

Homely, weed-like annuals, known better in the species *A. hastata*, with slender-stemmed triangular leaves, more or less irregularly toothed.

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Sea-beach Atriplex (*A. arenaria*) is 6 to 18 inches high, slender-stemmed, erect or somewhat prostrate, with short petioled or sessile, oblong or linear leaves, which are rounded or pointed at apex, the flowers in clusters in the axils. Whole plant pale green, silvery-scurfy.

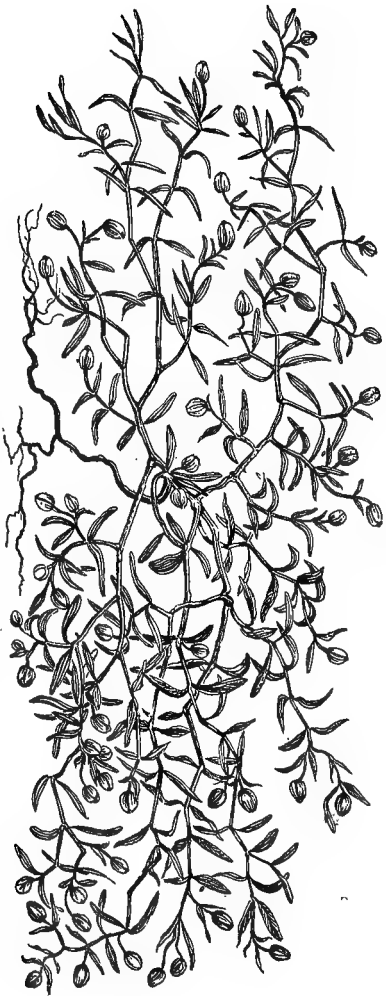
36. Coast Jointweed

Polygonella articulata.—*Family*, Buckwheat. *Color*, light rose, almost white. *Leaves*, jointed at base, sheathing the stem, very narrow, alternate. *Time*, September.

A beautiful plant, with thread-like stems and leaves, growing in sandy soil. The flowers (very small) are on jointed, slender stalks, in small racemes, 1 to 3 inches long. The leaves sheathing the stems with thin, naked coverings, called ocreae, show that the plant is a buckwheat. The flowers have no corolla, but a 5-parted calyx. They are so minute that they can only be studied through a magnifying-glass. Plant 6 to 12 inches tall. It grows in pure sand along the railroad or by way-sides, not far from the coast from Maine to Florida. Nothing can be more dainty than this fine, soft-foliaged little thing.

37. Golden Dock

Rumex persicarioides.—*Family*, Buckwheat. *Color*, green.



SPREADING EUPHORBIA (*Euphorbia polycarpa*)

(See page 111)

Leaves, long, 10 to 12 inches, narrow, wavy, the lower eared or heart-shaped at base, with wavy, crisped margins. *Time*, July to October.

Flowers, whorled in a dense panicle. Perianth of 6 very small sepals, 3 outer, 3 inner. These inner sepals grow large after flowering, and come together over the fruit (an achene). They are called valves, and are supplied with 2 or 3 bristles on each side, pointed and long. On the back of each a "grain-like tubercle" or "callosity" is borne, of a yellow color, giving the name *golden*. Stem stout, 1 to 3 feet high, sometimes creeping, very leafy.

A maritime plant, also found in the interior.

38. Coast Knotgrass or Seaside Knotweed

Polygonum maritimum. — *Family*, Buckwheat. *Color*, greenish white or pinkish. *Leaves*, small, thickish, narrowly oblong, jointed to the sheathing stipules, their margins often turned back. *Time*, July to September.

Low and smooth plants, with nearly sessile small flowers, 1 to 3 clustered in the axils, without true corollas, but with a 5- or 6-parted, petal-like calyx. *Stamens*, 8. *Style*, 1. *Achene*, triangular, smooth, shining. 8 to 20 inches long.

Flower pedicels slender, jointed, and stem deeply lined. The sheaths, *ocreae*, in this family are large, silvery, becoming brown at base, torn or fringed on their edges. From Maine to Florida, in sand, on the shore.

39. Shore Knotweed

P. littorale, also a plant of the shore, has stout stems, 1 to 4 feet long, erect or prostrate, small, oblong to lance-shaped leaves, and 2 to 6 green or pinkish flowers clustered in the axils; the *ocreae* 2-parted and fringed. 1 to 4 feet long.

40. Ipecac

Euphórbia Ipecacuánha.—*Family*, Spurge. *Color*, white or

rose. *Leaves*, opposite, oblong or narrow, small, few, sessile. *Time*, May. Stems 4 to 10 inches long.

The Spurge family includes many of our useful plants—the castor-oil, croton-oil, manihot (from which tapioca is made), and the rubber-plant. In its manner of flowering this genus (*Euphorbia*) is singular. There is no proper calyx or corolla, but an involucre resembling a calyx, often colored, cup-shaped, and divided into 4 or 5 lobes, surrounds the flowers. Between the lobes are thick glands. Within this cup arise several staminate flowers, each a single stamen on a jointed stalk, from the axil of a small bract. From the centre of this cluster of stamens a single pistil is raised on a long stalk composed of a 3-celled ovary, 3 styles, and 6 stigmas. The plants contain milky juice. In this species (*ipecac*) the growth is low and slender. The numerous stems fork below the middle, bearing a pair of small leaves near the fork. Flower stems above an inch long. Sometimes the whole plant has a reddish tinge. It may be found in the spring, common. The *ipecac* used in medicine is mostly obtained from *Cephaelis Ipecacudnha*, a member of the Madder family.

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E. corollata is a tall species, 2 or 3 feet high, with leaves generally whorled around the upper part of the stem. The upper leaves are white-margined, giving the plant a showy appearance. The involucre is white, and the clusters of flowers are grouped in umbels. The umbels of flowers are 5-forked (sometimes fewer or more), each fork again two or three times forked.

From New York to Florida, and inland. Not strictly maritime.

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Spreading Euphorbia (*E. polygonifolia*) is a species growing on pure sand on the shore, its pinkish stems with small, narrow, opposite leaves, slightly heart-shaped at base, acute at apex, with cut or fringed stipules, spreading carpet-like on the ground. The root pulls lightly up. If a branch or single leaf

is broken off, a thick, milky juice exudes from the wound. The flowers are small, greenish, appearing in July. 3 to 10 inches long.

The euphorbias are all poisonous. Nuttall says, "In the deserts of Africa they only tend, as it were, to augment the surrounding scenes of desolation; leafless, bitter, thorny, poisonous, they seem to deny food to every animated being."

43. Redroot

Lachnánthes tinctoria or *Gyrophœca capitata*.—*Family*, Bloodwort. *Color*, yellow. *Leaves*, long, sword-shaped, those clustered at base shorter than the stem, those above, on stem, bract-like. *Time*, July to September.

Perianth of 3 sepals and 3 petals. *Stamens*, 3, on long filaments. *Style*, 1, long and slender. 18 to 30 inches tall.

The flowers grow in woolly, dense cymes, or broad panicles, on pedicels, terminating a hairy stem. The fibrous root is red. Range, from Massachusetts to Florida, mostly in the pine barrens, near the coast.

44. Narrow-leaved Cat-tail

Typha angustifolia.—*Family*, Cat-tail. *Color*, light-brown. *Leaves*, long and quite narrow. *Time*, June, July.

Staminate and pistillate *flowers* usually separated by a space of 2 or 3 inches.

Common along the entire Atlantic coast, sometimes found inland. 5 to 10 feet high.

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CHAPTER IV

AQUATICS

There is something especially fascinating about plants that grow in the water. They are generally odd and striking. They are perhaps just out of reach, and if you cannot hire a barefooted boy, you must get a row-boat in order to secure the treasures. They look so cool and clean, and rest so quietly upon the lake's placid surface! The bright colors of the flowers mingle harmoniously with their large, undivided, or else finely cut, seaweed-like leaves—for our aquatic foliage is apt to run to one of these extremes.

We have not many purely aquatic plants. Sometimes the arrow-head and others which have been grouped with swamp plants become aquatic, growing quite in water, and the water-arum, which is placed in this chapter, sometimes takes root in muddy marshes. So the dividing-line between this and Chapter II. is at times indistinct.

AQUATICS

1. Common White Water-crowfoot

Ranunculus aquatilis (var. *trichophyllus*).— *Family*, Crowfoot. *Color*, white. *Leaves*, soft, fine, much dissected, hair-like, with a dilated stem. *Time*, June to August.

Petals, 5. *Sepals*, 5. At the base of the petals a spot or indentation may be found. Stems about 1 foot long.

The leaves all float under water. On being taken from the water their divisions fall together.

A delicate, rather pretty plant found in shallow, slow waters.

2. Yellow Water-crowfoot

R. multifidus.— *Family*, Crowfoot. *Color*, bright yellow. *Leaves*, immersed in water or floating on the top, cut into thread-like divisions. *Time*, May to July.

Petals, 5 to 8, much larger than the 5 sepals, with a small scale at base.

The achenes of this crowfoot are compressed into a roundish head, each one tipped with a straight, pointed beak. The upper, floating leaves are less divided than the lower, and the leaflets are variously shaped, toothed, and lobed. This plant is a perennial, and throws out roots from its joints. Often several feet long.

Var. *terrestris* grows in mud.

Stiff Water-crowfoot (*R. circinatus*) has rigid, divided leaves,

which retain their shape when taken out of the water. The stipules are large. Leaves sessile. About 1 foot long.

4. Water-shield

Brasènia peltàta.—*Family*, Water-lily. *Color*, purple. *Leaves*, floating, 2 or 3 inches wide, alternate, roundish or oval, with a central, long petiole. *Time*, summer.

Sepals and petals, 3 or 4. *Stamens*, 12. *Pistils*, 2 to 18.

Flowers, small, in the leaf-axils, springing from a creeping root-stock. Growing in ponds and sluggish streams. Dr. Gray says it is "also a native of Puget Sound, Japan, Australia, and East India." Stem several feet long.

5. Yellow Nelumbo. Sacred Bean. Water-chinquapin

Nelumbo lutea.—*Family*, Water-lily. *Color*, yellow. *Leaves*, growing well out of water, large, 18 to 20 inches across, roundish, sinking in the centre, where the stalk joins the blade. *Time*, summer.

Sepals and petals, like those of the water-lily.

The flower is from 1 to 5 inches in diameter, scentless, growing, as do the leaves, on tall stems, from a root-stock. The numerous pistils are hidden in a concave receptacle, and they produce bean-like, eatable seeds. The plant also produces edible tubers. Found in a few ponds in southern Connecticut, westward and southward; rare in the Middle States. Dr. Gray says, probably introduced by Indians.

6. Water-nymph. Water-lily

Nymphaea odorata.—*Family*, Water-lily. *Color*, white, or rarely pink. *Leaves*, thick, round, heart-shaped, 6 or 8 inches across, long petioled, with entire margins, often reddish underneath. *Time*, June to August.

Sepals, 4. *Petals*, numerous, the outer broad, growing nar-

rower towards the centre, and passing into stamens. According to some authorities, this flower exhibits rather the transformation of stamens into petals. *Pistil*, with a many-celled ovary, whose rounded top bears radiate stigmas around a central projection. The stem is hollow, long enough to bring the blossom out of water.

The flower opens in the morning and closes at night.

This pure and beautiful water queen, with its ravishing fragrance, is everywhere a favorite. Its large, handsome leaves make us think of smooth waters with green banks, and an idle hour, perhaps, spent in a row-boat with a friend! Pity that such nymphs should have acquired a commercial value, and that boys with hot, perspiring hands should drag them about in the sun on our city streets, and into the railway trains, for the few pennies they will bring.

“ On the stream, whose inconstant bosom
Was pranked under boughs of embowering blossom,
Broad water-lilies lay tremulously,
And starry river-buds glimmered by,
With golden and green light slanting through
Their heaven, of many a tangled hue.”

SHELLEY.

THE WATER-LILY

“ From the reek of the pond the lily
Has risen in raiment white,
A spirit of air and water,
A form of incarnate light.
Yet except for the rooted stem
That steadies her diadem,
Except for the earth she is nourished by,
Could the soul of the lily have climbed to the sky?”

LUCY LARCOM.

7. Yellow Pond-lily

Nùphar ádvena.—*Family*, Water-lily. *Color*, yellow, or with a purple tinge. *Leaves*, seldom submersed, more often float-

ing, thick, deeply-cleft at their base, a foot long. *Time*, summer.

Sepals, 5 or 6, greenish. *Petals*, numerous, stouter than, and passing into, the stamens.

This plant is a coarse imitation of the water-lily. It is common, sometimes found in the same waters with the white water-lily. The fruit ripens above water. Without fragrance.

8

N. Kalmiànum is slender-stemmed, with thin, roundish, kidney-shaped, submersed leaves, and others larger, floating, broadly elliptical. Flowers yellow-petalled, with red stigmas.

Maine to Pennsylvania, and westward.

9. Umbelled Water-pennywort

Hydrocòtyle umbellàta.—*Family*, Parsley. *Color*, white. *Leaves*, orbicular, crenate, small, with the long petiole fastened to the middle underneath. *Time*, June to September.

Flowers, small, umbelled, pedicelled, white or greenish, from root-stocks creeping in the mud. The leaves are tiny imitations of lily-pads. After flowering, the top of the water where it grows is covered with the specks of white blossoms. Leaf-stalks 1 to 6 inches long.

10

H. verticillàta sends out runners, and has few flowers in interrupted spikes. Leaves like the last. Flower stems 1 or 2 inches long.

11

Sium Carsònii.—*Family*, Parsley. *Color*, white. *Leaves*, pinnate. Leaflets, 1 to 3 pairs, or a single terminal leaflet, sharply toothed, long and narrow; submersed leaflets toothed or cut irregularly and deeply. *Time*, July to October. 1 or 2 feet long.

Generally growing in water, sometimes along the shore. Flow-



2
—
3

WATER-PENNYWORT (*Hydrocotyle umbellata*)

(See page 120)

ers in compound terminal umbels, with conspicuous involucre of many narrow bracts. Stem weak, hollow. In flowers of this family the anthers mature some time after the stigma is ripe—an arrangement to secure cross-fertilization.

12. *Berula*

Berula angustifolia.—*Family*, Parsley. *Color*, white. *Leaves*, pinnate, the leaflets—5 to 9 pairs—sharply or obtusely toothed or lobed, 3 inches long or less. *Time*, July, August.

Flowers in compound umbels, with rather large involucre of narrow bracts. An erect stem from 6 to 30 inches tall, smooth, round.

13. Water-milfoil

Myriophyllum verticillatum.—*Family*, Water-milfoil. *Color*, greenish or white. *Leaves*, very much and finely cut, like the teeth of a comb; whorled in threes or fours. *Petals*, often none. *Stamens*, 8.

The flowers are inconspicuous, sessile, in the axils of the leaves. The only acquaintance I have with this plant is through a specimen sent me from a friend in southern New Jersey. I placed my plant in a dish of water and kept it for weeks. Its finely dissected leaves grew very fast and overlapped the edges of the dish. White blossoms appeared in March.

There are several members of this family which grow in ponds and shallow streams. They all have capillary leaves, usually whorled on the stem.

14

M. scabratum is a delicate species found in shallow waters. The flowers have 4 stamens. The leaves are whorled, 4 or 5 in a whorl, the lower ones finely cut, the upper entire.

15

M. ambiguum has few or no leaves on the flowering stems.

The leaves, under water, are pinnately parted into about 10 very narrow divisions.

In ponds and ditches from Massachusetts to Pennsylvania.

16. Water-marigold

Bidens Béckii.—*Family*, Composite. *Color*, yellow. *Leaves*, those under water many, cut and divided into narrow, capillary divisions; those above, long, narrow, undivided. *Time*, autumn.

A large-flowered species, found in slow streams and ponds. The flowers are single, on long and slender stems. The seeds are smooth nutlets, each with several long awns, spreading apart, and barbed at their apex.

17. Featherfoil

Hottônia inflata.—*Family*, Primrose. *Color*, white. *Leaves*, crowded at the base of the cluster of flower-stalks, very much dissected into thread-like divisions. *Time*, summer.

Calyx, of 5 long, narrow divisions. *Corolla*, with short tube, and spreading, 5-parted border. *Stamens*, 5. *Capsule*, many-seeded. Stems often 2 feet long.

Flowers whorled around the much-swollen joints of the hollow peduncles; all springing from floating and rooting stems.

In pools and ditches from Massachusetts to the Gulf.

18. Floating-heart

Limnánthemum lacundsum.—*Family*, Gentian. *Color*, white. *Leaves*, round, heart-shaped, thick, on thread-like, very long petioles. *Time*, June to August.

Calyx, 5-parted. *Corolla*, tubular, wheel-shaped, the border 5-divided, with 5 glands at the fringed bases of the lobes. *Fruit*, a many-seeded capsule.

A plant rooting in mud in winter; in spring, sending up an

umbel of flowers from under the leaves near the top of the leaf-stalk, from which place, also, appear sometimes new roots and leaves. Shallow water. Range, from Maine to Florida. Stems sometimes 8 to 10 feet long.

19. Common Bladderwort

Utriculària vulgàris.—*Family*, Bladderwort. *Color*, bright yellow. *Leaves*, under water, finely cut, bearing little bladders. *Time*, summer.

The bladderworts, of which Dr. Gray chronicles 12 species, are insectivorous, aquatic plants. The bladders scattered among the leaves serve two purposes—to float the plant at time of flowering and to entrap minute water-animal food.

In *U. vulgàris* the bladders are large. They are furnished with a hinged lid, and with hairs turning inward, so as to prevent the escape of a larva which may have ventured within the mouth of the bladder. It is said that the hairs keep up a wavy motion and so create a sort of current, which sucks the creature in, if it ventures near these traps.

The bright-yellow blossom, coming to the water's surface on a scape $\frac{1}{3}$ foot long, has a 2-lipped corolla, like some of the figworts. The leaves are very much dissected, and when first pulled up hang stringily together. Take this unpromising plant home, place it in a basin of water, pick off the mud and slime that clings to it, and you have a beautiful botanical specimen. Slip the pressing paper under while in the water, and dry with several thicknesses of paper.

20

U. subulàta is a very small species. A short scape, 3 or 4 inches high, bears yellow blossoms, half a dozen or so, on hair-like pedicels. The leaves are grass-like, not dissected.

21

One species bears a purple flower (*U. resupinàta*).

22

U. inflàta I have found near the shores of Greenwood Lake,



$\frac{1}{2}$

PICKEREL-WEED (*Pontederia cordata*)

(See page 126)

New Jersey. This bears large, yellow flowers, 3 to 10 on the scape. The leaf-stalks are swollen, and the capillary leaves have small bladders.

23

U. cornuta bears showy, fragrant flowers, 1 inch long, with a large helmet-shaped lower lip and long, curved spur.

24. Water-weed

Elodæa Canadensis.—*Family*, Frog's-bit. *Color*, greenish. *Leaves*, sessile, pellucid, long and narrow, or oval, small, whorled, in threes and fours, or opposite, 1-nerved. *Time*, July.

A small, slender herb, growing its stems and leaves under water, but bringing its pistillate flowers to the surface by stretching the tube of the corolla till it reaches the top of the water. This tube is thin and thread-like. The staminate flowers break off early, scattering their pollen on the top of the water around the stigmas of the pistillate flowers.

Tape, or eel-grass (*Valisneria spiralis*), belongs to this family. Its ribbon-like leaves grow 6 feet long. It is common and well known.

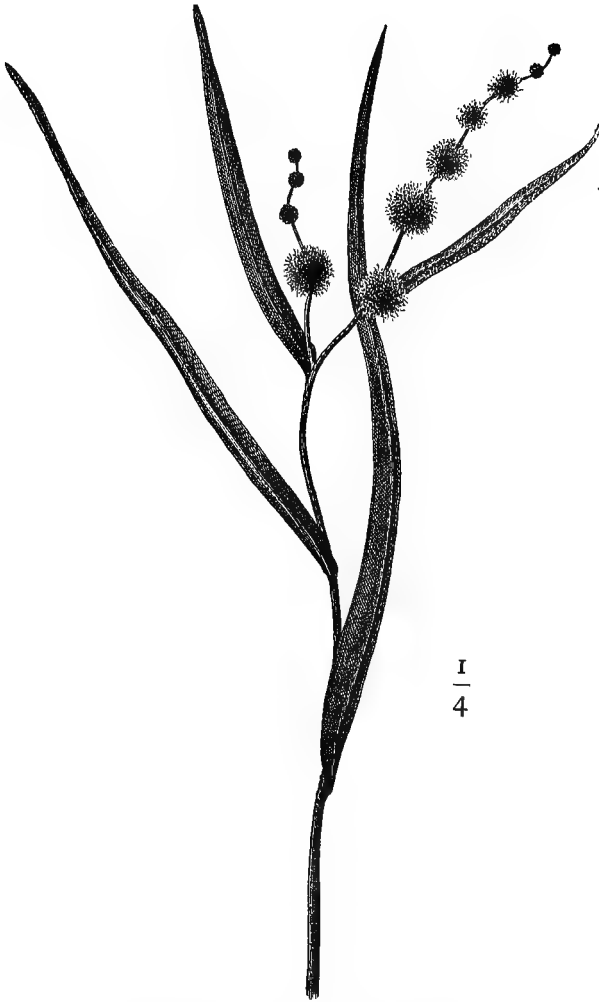
25. Pickerel-weed

Pontederia cordata.—*Family*, Pickerel-weed. *Color*, blue. *Leaves*, thick, triangular, heart or arrow shaped, on long, thick stalks, mostly from root. A single leaf grows on the flower-spike. *Time*, July to September.

Perianth, tubular, 2-divided. The upper lip notched twice; the lower lip parted into 3 narrow divisions. The upper lip is marked with a pair of yellow spots. *Stamens*, 6, 3 of them often worthless. 1 to 4 feet long.

After fruiting, the flower perianth coils from the apex downward and surrounds the fruit.

The plant bears bright-blue flowers in a thick spike, which



$\frac{1}{4}$

BUR-REED (*Sparganium simplex*)

(See page 128)

grows out of a sheathing bract. Common in ponds and shallow streams.

26. Mud Plantain

Heteranthèra renifórmis.—*Family*, Pickerel-weed. *Color*, white or pale blue. *Leaves*, kidney-shaped or heart-shaped, with long sheathing petioles. *Time*, summer.

A low, creeping-stemmed herb, with a spathe of few flowers, which perish in a day. The flower-tube is 6-divided. There are 3 stamens, 2 with yellow anthers, 1 with a greenish anther. A leaf at first covers the flowers, from the base of which, when ready to bloom, they emerge. Connecticut to New Jersey and southward.

27. Water Star-grass

H. graminea or *dùbia* has stamens all alike, with grass-like leaves which lie under water. Stem 2 or 3 feet long, rooting at the joints. The small light-yellow flowers come to the surface.

28. Bur-reed

Sparganium simplex.—*Family*, Cat-tail. *Color*, white. *Leaves*, long, narrow, flat, ribbon-like, sheathing at base, floating. *Time*, July, August.

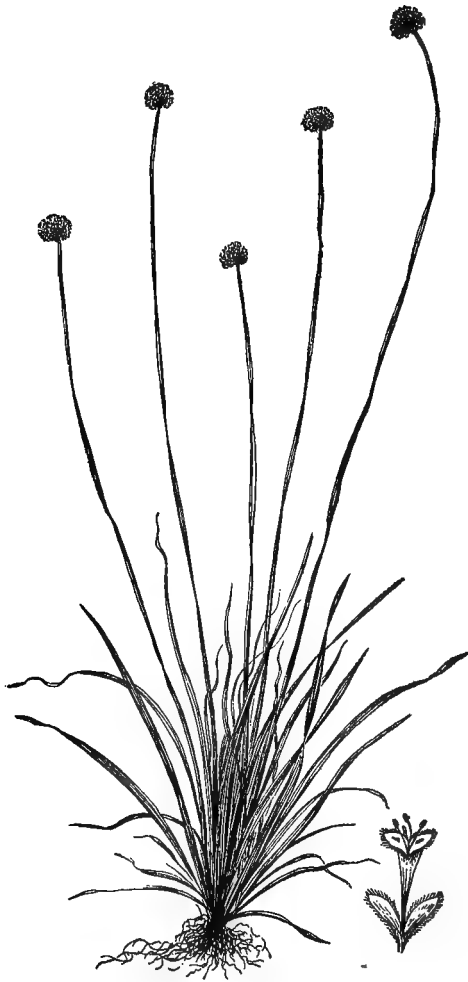
Flowers, without perianth. *Stamens* and *pistils*, separate, with bracts, collected in dense heads along the upper part of the stem. Staminate flowers above. The fertile ones below, rather larger, from 1 to 4 in a head, consist of several pistils, with a calyx-like set of scales underneath. Sometimes it is wholly terrestrial, growing in mud on the borders of streams.

29. Broad-fruited Bur-reed

S. eurycarpum, a stout and tall species, and *S. minimum*, very small, possess the same general characteristics. The latter is wholly aquatic, with floating stems 3 feet long or less.

30. Green Arrow-arum

Peltandra Virgínica.—*Family*, Arum. *Color*, green. *Leaves*,



$\frac{1}{2}$

SEVEN-ANGLED PIPEWORT (*Eriocaulon septangulare*)
(See page 131)

arrow-shaped, large, the largest $2\frac{1}{2}$ feet long, the lobes at base long and sharp, margins rolled inward, long petioled. *Time*, May, June.

A common plant, growing in shallow water or in bogs. The flowers are without calyx and corolla, being a collection of stamens and ovaries crowded on a long spadix, covering it nearly to the top. The leaf forming the spathe is long, 4 to 8 inches, tapering, curving, closely enfolding the spadix, fleshy at base. Fruit, a green berry. Plant springing from tufted fibrous roots, the flowering scape but little shorter than the leaves. Maine to Florida and westward.

31. Wild Calla. Water-arum

Calla palustris. — *Family*, Arum. *Color*, of the spathe, white; berries, red. *Leaves*, broad, somewhat heart-shaped, on long, thick petioles. *Time*, May, June.

The flower of this pretty aquatic is a close copy of the stately potted plant the calla-lily. The true flowers appear—staminate above, perfect below—on a fleshy receptacle, the spadix, which is short and thick. This lies against a broad, flattish, much pointed, pure-white open leaf, the spathe. Leaf-stalks, 4 to 8 inches long.

No other leaf grows upon the flower-stem. Others, green, on long stalks, come up from the creeping rootstock.

These are common flowers in Lapland and other Northern countries, where they grow so numerous as to cover whole marshes and exclude other plants. The roots are caustic and acrid.

They are found from Nova Scotia to Virginia and westward.

32. Golden-club

Orontium aquaticum. — *Family*, Arum. *Color*, yellow. *Leaves*, lance-shaped or oblong, smooth, dark-green, and velvet-like above, pale underneath, on long petioles, ascending or floating according to the depth of the water; all from root. *Time*, April, May.

A scape 1 foot or so tall rises out of the water and terminates in a spadix of rich yellow color covered with small perfect yellow flowers. The spathe enclosing the very young spadix becomes bract-like, imperfect, remaining merely as a sheath at the base of the scape, or wholly drops off.

In ponds and salt marshes, from Massachusetts to Florida, generally near the coast.

33. Seven-angled Pipewort

Eriocaulon septangulare. — *Family*, Pipewort. *Color*, white, lead colored, or even darker. *Leaves*, short (1 to 3 inches long), smooth, loosely cellular, pellucid, all from root. *Time*, July to October.

Stamens and *pistils* in different flowers, in the same head. Divisions of perianth, in staminate flowers, 2 or 3, narrow, bearded with fine white hairs; in pistillate flowers, similar, with an inner set of smaller segments. *Stamens*, 4 to 6. The flowers are so small that their parts can only be made out with a magnifying-glass. A white, woolly beard abounds among them, and covers the base of the scape, which is long enough to bring the flower-heads to the water's surface, and so may be a few inches or several feet in length. The scape is angled with 4 to 7 lines, often twisted.

This singular aquatic is not very common. In the ponds where it grows from August to October, under overhanging trees, the surface of the water will be dotted with the white flowers, and where the water is shallow the tips of the leaves can be seen. Its range is from Newfoundland to Texas.

34. Greater Duckweed

Spirodela polyrrhiza. — *Family*, Duckweed. *Color*, flower seldom seen. *Leaves*, strictly thalli, loosely cellular, very small, 2 or 3 together, purple, convex beneath, dark green above, palmately nerved.

This family comprises our smallest flowering plants. The leaves are less than half an inch across. The tiny plants cover the water's surface at the time of their vegetating, in spring and summer. Dr. Gray says of the duckweeds that they are propagated "by the prolific growth of a new individual from a cleft in the edge or base of the parent frond, remaining connected for some time, or separating; also from autumnal fronds in the form of minute bulblets, which sink to the bottom of the water, but rise and vegetate in spring; the flowers and fruit scarce, in some species never seen."

There are 3 genera and 26 species, found in rivers, ponds, pools, and shallow bays from Maine to North Carolina. *Lémna trisúlca* has lance-shaped thalli, narrowed at the base. *L. perpusilla*, with thalli scarcely bigger than a pin's head, is found in New York and New Jersey ponds. *Wólffia* is the third genus. Two species are found with us, floating like minute grains just under the water's surface. They come almost within the range of microscopic plants.

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Var. <i>terrestris</i>.</p> <p>3. Stiff Water-crowfoot (<i>Ranunculus circinatus</i>).</p> <p>4. Water-shield (<i>Brasenia peltata</i>), purple.</p> <p>5. Yellow Nelumbo. Sacred Bean. Water-chinquapin (<i>Nelumbo lutea</i>), yellow.</p> <p>6. Water-nymph. Water-lily (<i>Nymphaea odorata</i>), white or rarely pink.</p> <p>7. Yellow Pond-lily (<i>Nuphar advena</i>), yellow or with a purple tinge.</p> <p>8. <i>Nuphar Kalmianum</i>, yellow.</p> <p>9. Umbellated Water-pennywort (<i>Hydrocotyle umbellata</i>), white.</p> <p>10. <i>Hydrocotyle verticillata</i>.</p> <p>11. <i>Sium Carsonii</i>, white.</p> <p>12. Berula (<i>Berula angustifolia</i>), white.</p> <p>13. Water-milfoil (<i>Myriophyllum verticillatum</i>), greenish or white.</p> <p>14. <i>Myriophyllum scabratum</i>.</p> <p>15. <i>Myriophyllum ambiguum</i>.</p> <p>16. Water-marigold (<i>Bidens Beckii</i>), yellow.</p> | <p>17. Featherfoil (<i>Hottonia inflata</i>), white.</p> <p>18. Floating-heart (<i>Limnanthemum lacunosum</i>), white.</p> <p>19. Common Bladderwort (<i>Utricularia vulgaris</i>), bright yellow.</p> <p>20. <i>Utricularia subulata</i>, yellow.</p> <p>21. <i>Utricularia resupinata</i>, purple.</p> <p>22. <i>Utricularia inflata</i>, yellow.</p> <p>23. <i>Utricularia cornuta</i>, yellow.</p> <p>24. Water-weed (<i>Elodea Canadensis</i>), greenish. Tape or eelgrass (<i>Valisneria spiralis</i>).</p> <p>25. Pickerel-weed (<i>Pondetaria cordata</i>), blue.</p> <p>26. Mud-plantain (<i>Heteranthera reniformis</i>), white or pale blue.</p> <p>27. Water Star-grass (<i>H. graminea</i>), light yellow.</p> <p>28. Bur-reed (<i>Sparganium simplex</i>), white.</p> <p>29. Broad-fruited Bur-reed (<i>Sparganium eurycarpum</i>).
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CHAPTER V

WET MEADOWS AND LOW GROUNDS

11
2

Bordering the marshes and streams are the wet meadows, which glow with rich and varied plant life. Tall grasses and rushes wave among the yellow lilies, grass of Parnassus, and meadow-rue. Nestling deep down, half hidden in moss and cress, are the dainty marsh-harebell and sweet white violet. Here we shall cull a choice bouquet. We still need our rubbers over tall shoes. The latter I always wear in walking, as a protection from possible snake-bites. The former I suspend in a bag from my belt, in order to have them "handy." The wet meadow and swamp overlap each other, and some flowers may be grouped in this chapter which also grow in the marshes.

WET MEADOWS AND LOW GROUNDS

1. Tall Meadow-rue

Thalictrum polygamum.—*Family*, Crowfoot. *Color*, white. *Leaves*, ternately compound, the leaflets being fine, small, rounded or lobed, oblong and stalked. *Time*, July to September.

Flowers in compound panicles. *Petals*, none. *Sepals*, white. The *stamens* and *pistils* are borne on different plants. The staminate flowers are the prettier, in compound panicles, loose and feathery, with white filaments, thicker towards the top. The pistillate flowers are smaller, more compact, and greener.

A plant lovely both in its soft feathery blossoms and its delicate foliage, growing tall, sometimes 8 feet. It masses beautifully with clumps of wild roses wherever the soil is wet and springy. My own observation indicates that the plants bearing staminate flowers are much more common than those bearing pistillate. I have often failed to find one of the latter among many of the former.

2. Cursed Crowfoot

Ranunculus scelerátus.—*Family*, Crowfoot. *Color*, pale, greenish yellow. *Leaves*, thickish; those from the root rounded, 3-lobed, on petioles; those of the lower stem 3-divided, the roundish lobes irregularly cut; those above with long and narrow uncut lobes, sessile. *Time*, summer.

Sepals, 5. *Petals*, 5, small, inconspicuous, not longer than the sepals. The hollow, thick stem contains an acrid juice which blisters the mouth. About 1 foot high.

3. Bristly Crowfoot

R. Pennsylvanicus.—*Color*, yellow. *Leaves*, divided into threes, the divisions stalked, and irregularly cut or toothed. *Time*, summer.

Sepals, 5, turned back. *Petals*, 5, small. Head of achenes, long. Stout and erect, with stems leafy to the top, and beset with bristly hairs. *Flowers*, inconspicuous. 1 to 2 feet high.

4. Northern Crowfoot

A low but pretty crowfoot is one with large yellow petals, *R. septentrionalis*; an early flower, coming into blossom in May and continuing till August. Most of the stems ascend; some lie on the ground and send out runners. Leaves irregularly cut, the leaflets stalked or sessile. 1 to 3 feet high.

5. Creeping Crowfoot

R. repens often has leaves variegated with white spots. It is probably an introduced species. Much like the last, but flowering later. Flowers 1 inch across.

6. Early Spring Cress

Cardamine rhomboidea.—*Family*, Mustard. *Color*, white. *Leaves*, uncut, broad, those at the root roundish or heart-shaped; those on the stem growing narrower till they become lance-shaped. All somewhat toothed. *Time*, April to June.

Sepals, 4. *Petals*, 4, open, spreading. *Stamens*, 6, 2 shorter than the others. *Pod*, long, tipped with a slender style and large stigma, 2-valved, opening with a sudden movement, and disclosing a single row of seeds in each cell. 6 to 18 in. high.



SWEET WHITE VIOLET (*Viola blanda*)

(See page 140)

Our earliest and prettiest bitter cress, with quite large flowers in terminal clusters. They are much like the candytuft of garden-beds.

7

Another white cress is *C. hirsuta*, hairy, small, with leaves clustered at the root and growing on the stem, either cut or entire. It may be a delicate plant, with leaves almost like ferns, and fine, soft clusters of flowers, or it may grow 2 feet tall, with coarser, larger foliage. It must have wet soil. I have seen it most beautiful in the hills, on wet rocks, where perpetual springs trickling down prepare an environment which the little cress loves.

8. Cuckoo-flower

C. pratensis will scarcely be found away from the wet meadows, and even there it is rare. It is a handsome plant, with white or pink blossoms on stems from a short rootstock. Leaves divided into 7 to 13 leaflets, the lower leaflets stalked, upper sessile. 8 to 20 inches high.

9. Sweet White Violet

Viola blanda. — *Family*, Violet. *Color*, white, with purple lines. *Leaves*, round or kidney-shaped, with petioles. *Time*, early spring.

Sepals and *petals*, 5; the latter differing in size, and the lowest one spurred at base.

This is one of our smallest violets, and, on account of its faint, sweet scent, one of our dearest. We all know the mossy, damp place in which it can be found, and one of our earliest spring walks is directed thither.

10

Near by, perhaps, grows the *Lance-leaved Violet* (*V. lanceolata*), also white, with larger flowers and lance-shaped, petioled leaves.



SECONDARY BLOSSOMS OF VIOLET (*Viola primulaefolia*)

(See page 142)

II

Or the *Primrose-leaved Violet* (*V. primulaefolia*), with leaves somewhat heart-shaped at base, and white blossoms. This may sometimes be found in dry soil. 2 to 10 inches high.

These are some of the stemless violets, without true stems, bearing leaves from the root, and flowers on scapes. They bear two kinds of blossoms, the earlier, which we know, and later ones near the root, under the leaves, which do not produce petals, and which are self-fertilized in the closed bud, more fruitful than the other and showier blossoms. These are called "cleistogamous" flowers. It is a matter of interest to find them, in July and August, under a clump of leaves.

12

Pale Violet (*V. striata*) is 6 to 10 inches tall, with leafy stems, leaves heart-shaped, finely toothed, and fringed stipules. Flowers, white or cream color, with purple lines, short-spurred. An early and late bloomer, found southward in the mountains.

13. Ragged-robin

Lýchnis Flos-cùculi.—*Family*, Pink. *Color*, red. *Leaves*, very narrow, opposite. *Time*, summer.

Calyx, with 5 short teeth. *Petals*, 5, each divided into 4 long, narrow lobes. These linear lobes, erect, wavy, or curled, make this a "ragged" flower. The color, like that of the red-breast, suggests the robin. Flowers in panicles.

Imported from Europe; found in New England and New York.

14. Northern Stitchwort

Stellaria boreàlis.—*Family*, Pink. *Color*, white. *Leaves*, broadly lance-shaped or ovate. *Time*, summer.

Sepals, 4 or 5. *Petals*, 2 to 5, very short, overtopped by the calyx; sometimes lacking. *Styles*, 4. 6 to 18 inches high.

A species bearing flowers both at the ends and in the forks of

branches. There are leaf-like bracts under the flowers, and the whole plant is smooth, weak, and much branched.

15. St. John's-wort

Hypéricum adpréssum.—*Family*, St. John's-wort. *Color*, yellow. *Leaves*, long, lance-shaped, dotted, opposite. *Time*, July, August.

Sepals, 5. *Petals*, 5. Many stamens. A single stem, unbranched, arises from a woody base, with flowers in a terminal cyme. The stem has 2 or 4 edges or angles, and grows about 18 inches high. *Flowers*, rather large, conspicuous.

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H. ellipticum, another species, found in wet places, has petals of pale yellow, and long, blunt, thin leaves, with a clasping base. The cyme is sparsely flowered and not leafy. 8 to 20 in. high.

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H. maculátum has large oblong or lance-shaped leaves, their bases somewhat clasping, and small, pale-yellow, crowded flowers. Leaves conspicuously dotted with both black and clear dots. The petals are also dotted and marked with black lines. 20 inches to 3 feet high.

We are likely to become confused with the many slightly varying species of St. John's-worts. Any one of them was, in the eyes of maidens of an older time, endowed with a sort of magical power. If cultivated successfully in a garden, it would secure a husband within a year. Gathered and hung on the doors on the eve of St. John, it was supposed to be a protection against evil spirits.

18. Purple Polygala

Polýgala sanguinea.—*Family*, Milkwort. *Color*, reddish or pale purple. *Leaves*, alternate, simple, entire, long, narrow. *Time*, summer.

Calyx of 3 small green sepals and 2 large colored wings. *Corolla* of 3 petals, the larger (the keel) crested. *Stamens*, 6 or 8.

Fruit, a pod, flat and notched at the top. Flowers clustered in a globular head, like clover, which elongates as it grows older. Stems branched and leafy. A pretty flower found in various soils, moist and dry, by roadsides and mostly in wet meadows, where it is often so plentiful as to make beds of color. 6 to 18 in. high.

19. Marsh Pea. Marsh Vetchling

Láthyrus palústris.—*Family*, Pulse. *Color*, light purple or blue. *Leaves*, compound; leaflets 2 to 4 pairs, long and narrow. Stipules long, acute at both ends. Tendrils are found on some of the leaves. *Time*, July.

Corolla, papilionaceous. The flowers, about $\frac{1}{2}$ inch long, are pretty, 4 or 5 together. The plant is weak-stemmed and trailing. 1 to 2 feet long.

Common from New Jersey westward and northward.

20. Water Avens. Purple Avens

Gèum rivàle (from Greek, "good taste," referring to the pleasant taste of the roots of several species).—*Family*, Rose. *Color*, purplish. *Leaves*, mostly from the root, irregularly and deeply parted. A few on stem, 3-lobed, or divided into 3 leaflets. *Time*, May to July.

Calyx, 5-divided, of a brownish purple color. *Petals*, 5, large, notched, contracted below into claws. *Stamens*, many. *Style*, jointed in the middle, the upper half feathery.

Fruit, a head of dry achenes. A plant about 2 feet high, found in bogs and wet meadows, with several large nodding flowers on an unbranched stem.

Its peculiar color and cut leaves mark it as an interesting flower.



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MARSH PEA. MARSH VETCHLING. (*Lathyrus palustris.*)

21. Yellow Avens

G. strictum has root-leaves pinnate, with wedge-shaped leaflets, and stem-leaves 3 to 5-divided, with oblong, acute leaflets. Stipules prominent and deeply cleft. Pistils many, forming burs with hooked bristles in fruit, on a soft, downy receptacle.

This is a pretty flower, with graceful foliage 2 to 5 feet high, dotting the New Jersey meadows in summer. Found also westward to Minnesota and Kansas.

22. Queen-of-the-prairie

Spirœa lobata.—*Family*, Rose. *Color*, deep pink. *Leaves*, pinnate, with a large terminal leaflet, deeply cut, attended by prominent, kidney-shaped stipules. *Time*, June.

Sepals and *petals*, generally 5, sometimes 4. *Stamens*, numerous. The handsome flowers are borne, clustered, in a long, compound panicle, on a long peduncle. 2 to 8 feet high.

A stately, beautiful plant adorning the meadows and prairies south and west of Pennsylvania. Its leaves when crushed give forth the odor of sweet birch.

23. Grass-of-Parnassus

Parnassia Caroliniàna.—*Family*, Saxifrage. *Color*, white. *Leaves*, 1 on the flower stem, near the base, clasping; others from the root, roundish, somewhat heart-shaped, with thick petioles. *Time*, July to September.

Sepals, 5, somewhat united. *Petals*, 5, white, large, veined with green or yellow. Five good *stamens*. At the base of each petal is a cluster of bodies which will puzzle many students. They are sterile filaments of defective stamens, 3 in each cluster. There are 4 *stigmas*, without styles, over the 4-valved capsule.

Very pretty, conspicuous flowers, which it is a pleasure to find. Flower stem 1 to 2 feet high. Flower 1 to 2 inches broad. New England to Florida and westward.



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IRON-WEED (*Vernonia noveboracensis*)
(See page 148)

24. Water-starwort

Callitriche defléxa, var. *Austini*. — Family, Water-milfoil. Color, greenish. Leaves, very small, crowded, in a tuft.

This plant is one of our tiniest growths. Little tufts of leaves 1 inch high, with sterile flowers consisting of a single stamen, and fertile ones consisting of a 4-celled ovary and 2 stigmas, tell the whole story.

25. Great Willow-herb. Fire-weed

Epilòbium angustifòlium. — Family, Evening Primrose. Color, magenta. Leaves, long, narrow, willowy. Time, late summer.

Calyx tube, deeply 4-lobed. *Petals*, 4. *Stamens*, 8, maturing before the pistil. *Pistil*, 1, with a 4-lobed spreading stigma. *Pod*, long, at length bursting and liberating seeds furnished with downy white tufts. The flowers are large in long racemes, terminating the stem. The lower ones mature seed while the uppermost are still in bud, giving an untidy appearance to the whole spike. 2 to 8 feet high.

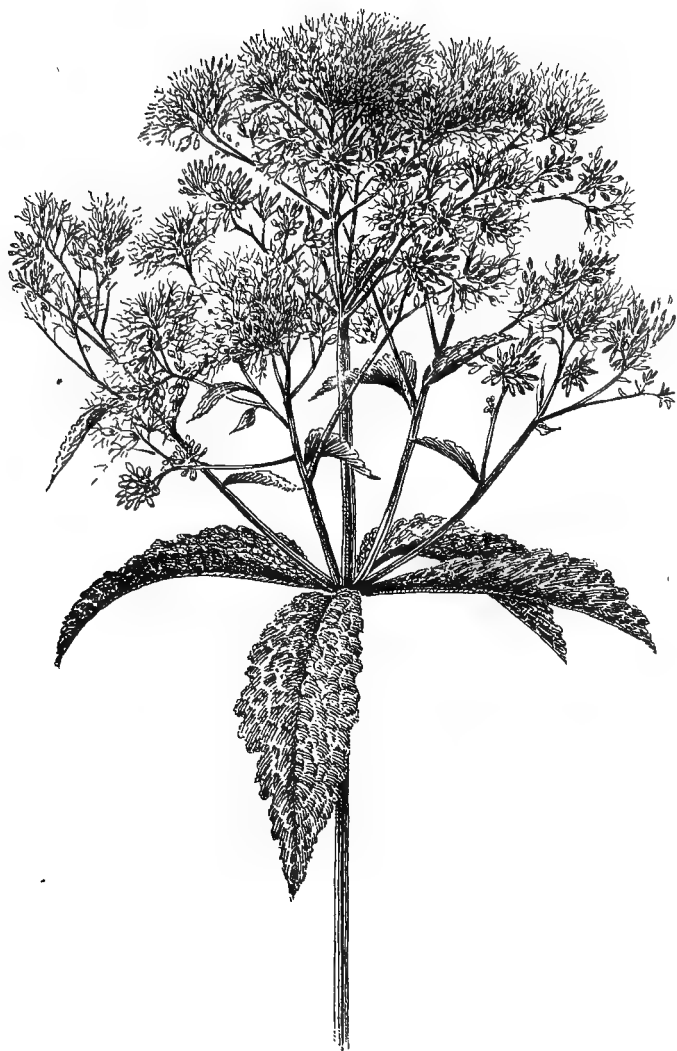
A tall, handsome plant, growing in low meadows, and in burnt-over districts. So the pine woods, which are subject to frequent fires, give rise to this pink flower in great abundance. It illustrates one of nature's devices for covering ugliness with beauty.

26. Iron-weed

Vernònia Noveboracénsis. — Family, Composite. Color, purple. Leaves, long, narrow, alternate, acute, rough. Time, August.

Corollas, all tubular. *Flowers* in dense, thistle-like heads, growing in irregular cymes. The involucre is composed of purplish scales. 4 to 8 feet high.

A tall, showy, and common plant, vying with Joe-Pye-weed in making the low meadows bright with rich, autumnal color. From Maine to Virginia, west to Minnesota, and southward.



JOE-PYE-WEED. TRUMPET-WEED. (*Eupatorium purpureum.*)

(See page 150)

27. Joe-Pye-weed. Trumpet-weed

Eupatòrium purpùreum. — *Family*, Composite. *Color*, purple. *Leaves*, rough, pointed, whorled, 4 to 6 toothed, sometimes spotted. *Time*, late summer.

Corollas, tubular. A very tall plant, reaching 12 feet in height. *Flowers*, in dense, compound corymbs. Stem sometimes spotted or dotted, hairy, and rough.

Conspicuous, and common in low grounds.

28. Boneset

E. perfoliátum. — *Family*, Composite. *Color*, white. *Leaves*, opposite, clasping, or joined at base, serrate, wrinkled; often several inches long. *Time*, summer.

A well-known plant, formerly much used as tea for medicinal purposes by home practitioners. *Flowers*, in large corymbs. 2 to 4 feet high.

29

E. teucrifòlium has large, veiny, ovate leaves, toothed or cut near the base, not clasping. The lower are often in threes; the upper, alternate. 2 to 8 feet high.

30. Áster Tradescánti

Family, Composite. *Color*, white, sometimes tinged with pink. *Leaves*, lance-shaped, several inches long, with a very slender point.

A rather tall aster, 3 to 4 feet high. Heads of flowers numerous, in paniced clusters. *Stem*, smooth and slender. The flowers grow upon the upper side of the branch, which they quite cover with soft, white bloom.

31. Áster paniculátus

Color, white or pale violet. *Leaves*, long and pointed, the lower with toothed margins; the upper, entire.



ASTER TRADESCANTI

One of the tallest of the genus, reaching a height of 8 feet. It is bushy and coarse-stemmed. Flowers scattered in irregular, loose panicles. Common and variable in its leaves.

32. New England Aster

A. Novae Angliae is light varying to dark purple in color. *Leaves*, lance-shaped, deep green.

The common New England aster grows very tall, 6 or 7 feet. The *flower*—a shade of magenta purple—is many rayed. A dozen or more crown the stout, hairy, coarse stem. *Leaves*, without petioles, the lower with ear-shaped bases, clasping the stem. A showy plant growing in moist ground.

33. *Áster júnceus*

Color, light purple. *Leaves*, narrow, long.

A slender, graceful, aster, found in wet soil. The leaves are 4 or 5 inches long, the upper ones entire. The flowers are rather small, a few on the tips of simple stems. 1 to 3 feet high.

34. Common Fleabane

Erigeron Philadelphicus. — *Family*, Composite. *Color*, crimson, purplish, or pink. *Leaves*, thin, oblong, the upper clasping the stem with heart-shaped bases, entire, the lower toothed, narrowed downward, mid-rib prominent. *Time*, all summer.

Rays, numerous and very thin. *Stem*, leafy to the top. The *flower* heads are small, growing in corymbed clusters. *Stem*, hairy, and coarse. 1 to 2 feet high.

The flowers of this genus resemble both asters and daisies. They may be distinguished by the narrow and numerous rays.

35. Great Lobelia

Lobelia syphilitica.—*Family*, Lobelia. *Color*, blue. *Leaves*,



GREAT LOBELIA (*Lobelia siphilitica*)

growing thickly, ovate or lance-shaped, irregularly toothed, the lowest quite large. *Time*, July to September.

Calyx tube, short, 5-cleft. *Corolla*, 2-lipped, split on the upper side. Upper lip 2, lower 3 lobed. One inch long.

The blue of this lobelia is rather pale, fading sometimes to nearly white. It is a hairy, tall-stemmed plant (3 feet high), with a long, leafy panicle of showy flowers. A near relative of the cardinal-flower, but by no means as pretty. According to Mr. William Hamilton Gibson, a plant specially prepared for cross-fertilization, the pistil maturing after the anthers have discharged their pollen.

36. Marsh Bell-flower

Campánula aparinoïdes.—*Family*, Campanula. *Color*, pale blue or white. *Leaves*, long, narrow, small, rough along the edges and mid-rib. *Time*, July.

Calyx, 5-cleft. *Corolla*, bell-shaped, twice the length of calyx, but small, less than $\frac{1}{2}$ inch long. *Stamens*, 5. *Pod*, 3-celled.

The little bells of this plant must be sought for. Look among the leaves around a mossy, wet stump, and you may find a weak, triangular stem about 20 inches long, with flowers here and there on slender pedicels. By means of tiny hooks along the angles of the stem the plant is able to raise itself, and keep from being utterly smothered by the stronger growths around it.

37. Loosestrife

Lysimáchia stricta.—*Family*, Primrose. *Color*, yellow, with dark markings. *Leaves*, opposite, long, narrow, acute at both ends, dotted. *Time*, June to August.

Calyx, 5- or 6-parted. *Corolla*, more deeply, generally 5-parted, wheel-shaped. *Stamens*, 4 or 5, their filaments united. *Style* and *stigma*, 1. *Fruit*, a round pod. *Flowers*, on slender stems in long, leafy racemes. *Stem*, 1 to 2 feet high, straight, smooth, branched above, bearing numerous flowers, which are



FRINGED GENTIAN (*Gentiana crinita*)

(See page 156)

bright yellow, with brownish-red centres and veinings. Tiny bulbs often occur in the leaf-axils. A bright, pretty flower of the low meadows.

The *Moneywort* of our gardens, sometimes called yellow myrtle, belongs to the loosestrife genus. It grows trailing on the ground, with roundish, bright-green leaves and yellow blossoms. It escapes from gardens into a wild state.

38. Fringed False Loosestrife

Steironèma ciliatum.—*Family*, Primrose. *Color*, yellow, with a dark reddish centre. *Leaves*, opposite, often so close together as to seem whorled, narrow, somewhat heart-shaped at base, tapering and pointed at apex, the lowest 6 inches long, on fringed leaf-stalks. *Time*, summer.

Calyx and *corolla*, united below, deeply 5-parted above, the divisions spreading. *Flowers* on long peduncles, grouped with small leaves, springing from the opposite leaf-axils.

A pretty plant, so much like the loosestrifes as to suggest the common name which I have placed above. 2 to 4 feet high.

39. Fringed Gentian

Gentiàna crinìta.—*Family*, Gentian. *Color*, blue. *Leaves*, opposite, acute at apex; broader, somewhat rounded or heart-shaped at base. *Time*, September, October.

Calyx, 4-cleft. *Corolla*, 2 inches long, a tube with 4 spreading lobes, finely fringed around the edges. *Stamens*, 4; glands between the filaments at their bases. *Style*, 1 or none. *Stigmas*, 2.

Flowers solitary, or a few at the top of a stem 1 to 2 feet high, standing stiffly erect. Its beauty lies chiefly in its clear blue color, for it is scarcely graceful. The corolla opens only in sunlight, closing upon the approach of a shower. It is one of our late flowers, coloring the autumn low meadows with the pure



CLOSED OR BOTTLE GENTIAN (*Gentiana Andrewsii*)

(See page 158)

blue borrowed from a June day. So Bryant says, in his well-known poem :

“Thou waitest late, and com'st alone
When woods are bare and birds are flown,
And frosts and shortening days portend
The aged year is near his end.

“Then doth thy sweet and quiet eye
Look through its fringes to the sky,
Blue—blue—as if that sky let fall
A flower from its cerulean wall.”

In places this flower grows abundantly, but it is by no means common.

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Not far from it may be found the *Closed Gentian* or *Bottle Gentian* (*G. Andréwsii*). The corolla of this species lies in folds and remains closed.

Dr. Gray says, “Its proper lobes are obliterated, the apparent lobes consisting of the broad, fringe-toothed, and notched appendages.” The leaves are stiff and joined to the stem, as in the fringed gentian. The color is a beautiful blue, and with age the flowers turn a reddish purple.

41. Centaury

Erythræa ramosissima.—*Family*, Gentian. *Color*, crimson. *Leaves*, small, ovate, or oblong. *Time*, summer.

Calyx, 4- to 5-parted. *Corolla*, tubular, with a 4- to 5-parted, spreading border. *Stamens*, same number as petals, their anthers twisted spirally.

Less than 6 inches high, these plants are yet worthy of a trip into the wet meadows to find. The flowers have a cymose arrangement, and are bright in color. New Jersey and southward.

42. Snake-head. Turtle-head

Chelone glabra.—*Family*, Figwort. *Color*, white, often with



SNAKE-HEAD. TURTLE-HEAD. (*Chelone glabra.*)

a pink or purplish tinge. *Leaves*, opposite, sessile, or with short petioles, long, tapering, broad or narrow. *Time*, August.

Calyx, of 5 sepals. The mouth of the inflated, tubular *corolla* is a little open, the upper lip being swollen as if hump-backed. Looking into the throat, it is seen to be woolly-bearded, having 4 stamens which have woolly filaments and tiny heart-shaped anthers. A fifth but sterile stamen is present.

This plant grows often very high, usually 2 to 3 feet. Stem and leaves smooth. Flowers occupy the ends of branches, crowded together, the lower in blossom while the upper are in bud. It takes a lively imagination to invest the innocent corolla with reptile-like features.

43. Monkey-flower

Mimulus ringens ("Diminutive of *mimus*, a buffoon, from the grinning corolla." — GRAY). — *Family*, Figwort. *Color*, lilac. *Leaves*, opposite, meeting and clasping the stem, long and narrow or oblong, pointed, toothed. *Time*, July to September.

Calyx, with 5 angles and teeth. *Corolla*, tubular, 2-lipped, upper lip 2-lobed, lower 3-divided; of the snap-dragon order, slightly open. The flowers grow near the upper part of the stem, in the leaf-axils hanging from long, slender peduncles. The stem is sharply 4-angled, 2 or 3 feet high, smooth.

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Often growing beside this species is *M. alatus*, differing only in having petioled leaves and flowers on shorter peduncles. The flowers are of the same delicate shade of lilac, and the stem is even more sharply angled.

45. Scarlet Painted-cup

Castilleja coccinea. — *Family*, Figwort. *Color*, of incon-



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MONKEY-FLOWER (*Mimulus ringens*)

spicuous flower, yellow; of floral leaves, red. *Leaves*, lower ones deeply, irregularly cleft into narrow divisions. Upper and floral, less deeply. Root-leaves, nearly entire, clustered. *Time*, June.

This flower is neither scarlet nor a cup. Pulling aside the brilliant leaves, we find hidden among them a small yellow blossom, with a *calyx* of two divisions, each 3-cleft; a *corolla* tubular, 2-lipped, the upper lip long and narrow, enclosing 4 stamens, the lower 3-lobed and short. *Flowers*, in a short spike.

Often the wet fields are reddened in large patches with this singular plant, which dyes its upper leaves a color to rival the cardinal-flower in intensity. Stem hairy, about 1 foot high.

46. American Germander. Wood Sage

Teucrium Canadense.—*Family*, Mint. *Color*, pink, sometimes cream-white.

This is a pretty plant, covered with soft down, 2 or 3 feet high. The square stem and fruit of 4 nutlets proclaim it a mint. The corolla is unique in that there seems to be no upper lip. A broad, concave lip projects below, two little horns or ears lie above, and two more ear-like lobes back of all. Between the last two lobes, standing well out, are the 4 stamens and pistil, two stamens being taller than the others. The flowers grow in terminal spikes, greenish buds above, pink flowers below, and often, lowest of all, scarious, withered corollas, which detract from the beauty of the spike.

I have found this mint along Greenwood Lake, New Jersey, and on the south, bay shore of Long Island. Its range is extensive.

47. False Dragon-head

Physostegia Virginiana.—*Family*, Mint. *Color*, light pink, touched with crimson. *Leaves*, thick, serrate, lance-shaped, sessile, opposite. *Time*, July, August.

Calyx, bell-shaped, deeply 5-toothed. *Corolla*, 1 inch long,



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AMERICAN GERMANDER. WOOD SAGE. (*Teucrium Canadense.*)

tubular, with an inflated throat, 2-lipped; the upper lip entire, the lower 3-parted, its middle lobe broad and notched. Stems, smooth and square. Tall plants, 1 to 5 feet in height, with showy spikes of pink flowers, crowded, overlapping one another.

From Vermont westward and southward. A slenderer and lower variety, *Denticulata*, is found in the Middle States.

48. Halberd-leaved Tear-thumb

Polygonum arifolium. — Family, Buckwheat. Color, pale pink or white. Leaves, tapering, halberd-shaped, long, pointed, stalked. Time, summer and early fall.

Petals, none. Calyx, 5-parted, green, with pink edges. Stamens, 8. Styles, 3. Flowers, few, in loose racemes.

Like a cat's fur, this plant must be stroked the right way—that is, downward. The stem is then as soft as satin. But run your finger upward, a thousand vicious little prickles stand up and scratch you. It is then a tear-thumb. By means of these prickles the plant climbs over every other herb and shrub which chances to be its neighbor. 2 to 6 feet long.

49. Arrow-leaved Tear-thumb

P. sagittatum has short-stalked, arrow-shaped leaves. The flowers—white, in little knots or buttons—are on the ends of the branches. The prickles on this species are rather more savage than in the other. Both are common in moist, low grounds.

50. Nodding Lady's Tresses

Spiránthes cernua or *Gyróstachys cernua*.—Family, Orchis. Color, white. Leaves, long, narrow. Time, fall—September, October.

This is, perhaps, the commonest of the orchids. The different species of lady's Tresses are much alike, all being known by the twisting of the spike of flowers. In this species the flowers are



ARROW-LEAVED TEAR-THUMB (*Polygonum sagittatum*)

in rows of threes, quite close together, slightly fragrant, white, straight, tall. The sepals and petals are stiff and waxy. The lip is folded or wavy, oblong, turned down. There are long root-leaves, which at time of flowering have generally disappeared. Leafy bracts, beginning below the spike, follow around with the flowers. $\frac{1}{2}$ to 2 feet high.

51. Grass-leaved Lady's Tresses

G. præcox is an earlier-blossoming species (July and August). Possibly also a little taller, with long, persistent root-leaves, and bracts surrounding the stem above. The white flowers, not fragrant, in single rows, stand out horizontally, and twist around the stem. 10 to 30 inches high.

52. Pointed Blue-eyed Grass

Sisyrinchium angustifolium.—*Family*, Iris. *Color*, blue, with yellow centre. *Leaves*, grass-like. *Time*, summer.

Perianth, of 6 divisions, each tipped with a bristle. *Stamens* and *stigmas*, 3. 3 to 15 inches high.

A well-known pretty blue or violet-tinted flower, with a yellow centre. The perianth segments are regularly divided and spreading, so that one of its popular names is Blue Star. On the tip of a flattened stem, often "winged," one or more flowers are borne, and they are topped by a grass-like bract, a spathe which at first encloses the flower. Newfoundland, south to Virginia, and westward.

53. Stout Blue-eyed Grass

S. anceps or *graminoides* has a smaller blossom, growing on a taller and more branching stem, with *two* spathes. 8 to 18 inches high.

54. Wild Leek

Allium tricoccum.—*Family*, Lily. *Color*, white or greenish. *Leaves*, long and narrow, disappearing before the flowers come. *Time*, July.

From a coated bulb, the leaves appear early in spring, growing less than a foot high. Later come the flowers in umbels, like the



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SLENDER LADY'S TRESSES (*Spiranthes gracilis*)
(See page 438)

cultivated onion. Unfortunately the familiar, onion-like smell belongs to the wild leek, which otherwise is not lacking in pretensions to beauty. New Brunswick to North Carolina and Tennessee. Scape 4 to 15 inches high.

55. Wild Garlic

A. Canadense grows from a single bulb to the height of a foot or more. Small bulbs often replace the pink or white flowers.

56. Field Garlic. Crow Garlic

A. vineale is taller, 2 or 3 feet in height. The umbel of blossoms has a strong smell. The narrow leaves of this are somewhat channelled. Small bulbs, tipped with a fine hair, sometimes displace the green or purple flowers, which grow on a scape, leafless above, and covered with the sheathing leaves below.

57. Large Purple-fringed Orchis

Habenaria grandiflora, or *fimbriata*.—*Family*, Orchid. *Color*, light purple, sometimes white. *Leaves*, lance-shaped to oval, their bases sheathing the stem, the lower 4 to 10 inches long, upper smaller, acute at apex. *Time*, June to August.

The large lip 3-parted and much fringed, prolonged into a long, thread-like spur. Upper sepals and petals toothed, joined together. Flowers fragrant, large, the lips often 1 inch long, in dense racemes. Stem 1 to 5 feet high.

No richer-hued or more queenly flower rewards the seeker after our native orchids. Range from Nova Scotia and New England to North Carolina, westward to Michigan, in meadows and rich woods.

58. Wild Yellow Lily. Canada Lily. Meadow Lily

Lilium Canadense.—*Family*, Lily. *Color*, yellow, dotted with brown. *Leaves*, rough on margins and veins underneath, lance-shaped, or somewhat oblong, in whorls of 4 to 10 around the stem. *Time*, June, July.



$\frac{1}{3}$

TURK'S-CAP LILY (*Lilium superbum*)

(See page 170)

This is pre-eminently the field lily, and the only one of our wild lilies which is of a golden-yellow color. Like the Turk's-cap, it nods on its stem, but unlike that, which rears a pyramid of many rich blossoms, this hangs out a single golden bell, or at most two or three lilies, on its flower-bearing stalk. Height, 3 to 5 feet. Flowers about $2\frac{1}{2}$ inches long, the sepals curving backward. The stamens, as in all our lilies, have prominent brown anthers, which dust the bodies of big bees with pollen when they sip the nectar from the bells.

The stigma is large and 3-divided.

In the fields, low-lying and moist, or sometimes in swamps, where this flower appears in profusion, the golden color most charmingly tints the entire meadows. Perhaps a few of the red lilies may keep it company, but for the most part these prefer a drier and shadier locality. Nova Scotia, south to Georgia, west to Missouri.

59. Turk's-cap Lily

L. supërbum.—*Family*, Lily. *Color*, dark orange, spotted with red. *Leaves*, in whorls, long, narrow, 3-veined, sessile. *Time*, August.

Sepals, 6, rolled back. *Stamens*, 6, with linear anthers lightly attached at their middle to slender filaments. *Style*, thick, bearing a 3-lobed stigma. *Flowers*, nodding, arranged in rows, one row above another, making a pyramid of from 3 to 40 blossoms.

A stalk 7 to 8 feet high, crowned with many rows of these large, bright lilies, is one of the handsomest gifts of the flower kingdom. Neither is it chary of its charms, for it blooms in the low meadows, along the roadside, in thickets, rearing its beautiful pyramids where the clethra grows, near the border of a marsh or shaded stream, wherever the soil is moist.

60. Blazing-star. Devil's-bit. Unicorn-root. Drooping Starwort

Chamaelirium Caroliniànum.—*Family*, Bunch-flower. *Color*, white. *Leaves*, upper ones lance-shaped or linear, flat, sessile

or short-petioled; the lower broad at apex, obtuse, tapering into narrow petioles. *Time*, May to July.

Stamens and *pistils* on different plants. *Sepals*, 6, persistent after withering. Six *stamens* with white anthers. The fertile flowers contain only the rudiments of stamens. *Styles*, 3, long, club-shaped, stigmatic along one side. Capsule oblong, about $\frac{1}{2}$ inch long, 3-lobed, and 3-valved.

A long stem, 4 feet high or less, rises from a tuberous root-stock, bearing a bractless raceme several inches long, of small, feathery, white staminate flowers. The raceme of pistillate flowers on a shorter stem is stiff and erect.

Massachusetts to Florida, and westward.

61. Bunch-flower

Melânthium Virgînicum. — *Family*, Bunch-flower. *Color*, cream or yellowish green. *Leaves*, root-leaves sheathing, long—often 1 foot—and narrow, grass-like, the upper becoming small. *Time*, July, August.

The flowers are crowded or bunched at the end of a tall, unbranched stem, 4 or 5 feet high. They form a large panicle, of which the lower flowers are staminate, the upper pistillate. The 6 *sepals* are quite separate, raised on claws and spreading. After blossoming they become brownish. The *stamens* are joined to the sepals. Three *styles* and *stigmas*.

Found in marshes and wet woods, from Rhode Island to Florida and Texas.

62. White Hellebore. Indian-poke

Verâtrum viride. — *Family*, Bunch-flower. *Color*, yellowish green. *Leaves*, parallel-ribbed, broad, pointed, plaited, running down and clasping the stem with sheathing bases. *Time*, May to July.

Perianth of 6 sepals, narrowed at base. *Stamens*, 6, the filaments curved. Tall, 2 to 8 feet, and coarse, with very poi-

sonous roots. The stem is heavy and leafy, terminating in a stiff, almost bristly, heavy, compound panicle of flowers. A single flower is pedicelled, somewhat flat and open, small and homely.

A plant of rank, strong growth, found 4000 feet high in the Adirondacks, also in the New Jersey wet meadows. Range, over the Atlantic States, south to Georgia, west to Minnesota. 2 to 8 feet high.

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| <ol style="list-style-type: none"> 1. Tall Meadow-rue (<i>Thalictrum polygamum</i>), white. 2. Cursed Crowfoot (<i>Ranunculus sceleratus</i>), pale yellow. 3. Bristly Crowfoot (<i>Ranunculus Pennsylvanicus</i>), yellow. 4. <i>Ranunculus septentrionalis</i>, yellow. 5. <i>Ranunculus repens</i>, yellow. 6. Early Spring Cress (<i>Cardamine rhomboidea</i>), white. 7. Hairy Spring Cress (<i>Cardamine hirsuta</i>), white. 8. Cuckoo-flower (<i>Cardamine pratensis</i>), white or pink. 9. Sweet White Violet (<i>Viola blanda</i>), white with purple lines. 10. Lance-leaved Violet (<i>Viola lanceolata</i>), white. 11. Primrose-leaved Violet (<i>Viola primulaefolia</i>), white. 12. Pale Violet (<i>Viola striata</i>), white or cream color. 13. Ragged-robin (<i>Lychnis Flos-cuculi</i>), red. 14. Northern Stitchwort (<i>Stellaria borealis</i>), white. 15. St. John's-wort (<i>Hypericum adpressum</i>), yellow. 16. <i>Hypericum ellipticum</i>, yellow. 17. <i>Hypericum maculatum</i>, yellow. 18. Purple Polygala (<i>Polygala sanguinea</i>), reddish or pale purple. 19. Marsh Pea. Marsh Vetchling (<i>Lathyrus palustris</i>), light purple or blue. 20. Water Avens. Purple Avens (<i>Geum rivale</i>), purplish. | <ol style="list-style-type: none"> 21. Yellow Avens (<i>Geum strictum</i>). 22. Queen of the Prairie (<i>Spiraea lobata</i>), deep pink. 23. Grass of Parnassus (<i>Parnassia Carolinia</i>), white. 24. Water Starwort (<i>Callitriche deflexa</i>, var. <i>Austini</i>), greenish. 25. Great Willow-herb. Fire-weed (<i>Epilobium angustifolium</i>), magenta. 26. Iron-weed (<i>Vernonia Novaeboracensis</i>), purple. 27. Joe-Pye-weed (<i>Eupatorium purpureum</i>), crimson. 28. Boneset (<i>Eupatorium perfoliatum</i>), white. 29. <i>Eupatorium teucrifolium</i>. 30. <i>Aster Tradescanti</i>, white. 31. <i>Aster paniculatus</i>, white or pale violet. 32. New England Aster (<i>Aster Novae-Angliae</i>), purple. 33. <i>Aster junceus</i>, light purple. 34. Common Fleabane (<i>Erigeron Philadelphicus</i>), crimson, purplish, or pink. 35. Great Lobelia (<i>Lobelia syphilitica</i>), blue. 36. Marsh Bell-flower (<i>Campanula aparinoides</i>), pale, blue or white. 37. Loosetrife (<i>Lysimachia stricta</i>), yellow.
Moneywort. 38. Fringed False Loosetrife (<i>Steironema ciliatum</i>), yellow. 39. Fringed Gentian (<i>Gentiana crinita</i>), blue. 40. Closed Gentian (<i>Gentiana Andrewsii</i>), blue. |
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| <p>41. Centaury (<i>Erythraea ramosissima</i>), crimson.</p> <p>42. Snake-head. Turtle-head (<i>Chelone glabra</i>), white, with pink or purplish tinge.</p> <p>43. Monkey-flower (<i>Mimulus ringens</i>), lilac.</p> <p>44. <i>Mimulus alatus</i>.</p> <p>45. Scarlet Painted-cup (<i>Castilleja coccinea</i>), red leaves, yellow flowers.</p> <p>46. American Germander. Wood Sage (<i>Teucrium Canadense</i>), pink or cream-white.</p> <p>47. False Dragon-head (<i>Physostegia Virginiana</i>), light pink.</p> <p>48. Halberd-leaved Tear-thumb (<i>Polygonum arifolium</i>), pale pink or white.</p> <p>49. Arrow-leaved Tear-thumb (<i>Polygonum sagittatum</i>), white.</p> <p>50. Nodding Lady's Tresses (<i>Gyrostachys</i> or <i>Spiranthes cernua</i>), white.</p> <p>51. Grass-leaved Lady's Tresses (<i>Gyrostachys</i> or <i>Spiranthes praecox</i>), white.</p> | <p>52. Pointed Blue-eyed Grass (<i>Sisyrinchium angustifolium</i>), blue.</p> <p>53. Stout Blue-eyed Grass (<i>Sisyrinchium graminoides</i> or <i>anceps</i>).</p> <p>54. Wild Leek (<i>Allium tricoccum</i>), white or greenish.</p> <p>55. Wild Garlic (<i>Allium Canadense</i>).</p> <p>56. Field Garlic. Crow Garlic (<i>Allium vineale</i>).</p> <p>57. Large Purple-fringed Orchis (<i>Habenaria grandiflora</i>), light purple.</p> <p>58. Wild Yellow Lily. Canada Lily. Meadow Lily (<i>Lilium Canadense</i>), yellow.</p> <p>59. Turk's-cap Lily (<i>Lilium superbum</i>), orange and red.</p> <p>60. Blazing Star. Devil's-bit. Unicorn-root. Drooping Starwort (<i>Chamaelirium Carolinianum</i>), white.</p> <p>61. Bunch-flower (<i>Melanthium Virginicum</i>), cream or greenish white.</p> <p>62. White Hellebore. Indian Poke (<i>Veratrum viride</i>), yellowish green.</p> |
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CHAPTER VI

DRY FIELDS—WASTE PLACES—WAYSIDES

*“Nor yet has Time’s dull footstep worn
To common dust that path of flowers.”*

WHITTIER.

DRY FIELDS—WASTE PLACES—WAYSIDES

1. Pennsylvania Anemone

Anemone Pennsylvanica.—*Family*, Crowfoot. *Color*, white. *Leaves*, from root, much parted or cleft, 5 to 7 times. On stem, a "primary involucre" of 3 sessile leaves, each 3-cleft. The stem above forks twice, and a second involucre of 3-divided leaves appears on the final branches, below the flowers. *Time*, all summer.

Petals, none. *Sepals*, 5, nearly 1 inch long, white, broader at apex, tapering below. *Fruit*, a roundish head of achenes, conspicuous after the sepals drop. 1 to 2½ feet high.

A stiff, erect, and hairy plant, blooming freely in certain localities. Range from west New England to Pennsylvania and northwestward.

2. Horn-poppy

Glaucium luteum.—*Family*, Poppy. *Color*, yellow. *Leaves*, clasping the stem; the lower much cut, the upper lobed, heart-shaped at base. *Time*, spring and summer.

Sepals, 2. *Petals*, 4. No *style*, but fruit a rough pod, 6 to 10 inches long, made 2-celled by a "spongy partition." *Flowers*, single. Stem when broken emits a yellowish juice like the celandine. 2 to 3 feet high.

South New England to Virginia.

3. Common Fumitory

Fumària officinàlis.—*Family*, Fumitory. *Color*, pink, shading to darker. *Leaves*, compound, finely cut. *Time*, summer.

Sepals, 2, acute, lance-like, sharply toothed. *Petals*, 4, in pairs, 1 of the petals spurred. *Stamens*, 6. *Fruit*, a 1-seeded, round pod. Stems $\frac{1}{2}$ to 3 feet long.

Branching and leafy. Flowers small, in spikes or dense racemes.

4. Mouse-ear Cress

Sisymbrium Thaliànum.—*Family*, Mustard. *Color*, white. *Leaves*, entire, or slightly toothed. *Time*, early spring.

A small plant, branched, hairy at base. The 4-sided pods are longer than the flower pedicels. Imported from Europe, and found in our country from Massachusetts to Kansas, in old rocky fields. 4 to 16 inches high.

5. Whitlow-grass

Dràba vèrna.—*Family*, Mustard. *Color*, white. *Leaves*, all from the root, oblong, or lance-shaped. *Time*, early spring.

Sepals and *petals*, 4. The petals are quite deeply 2-cleft. *Stamens*, 6. *Pistil*, 1. *Pods* on long stalks, oval, pointed. The tiny flower-stems are 2 or 3 inches high, with delicate, open petals. One of our earliest roadside flowers, so small as almost to escape notice.

Introduced from Europe, in sandy soil along roadsides and in waste places.

6. Common Winter Cress. Yellow-rocket

Barbarèa vulgàris (named from St. Barbara).—*Family*, Mustard. *Color*, yellow. *Leaves*, the lower lyrate, having a large, rounded, terminal lobe; the upper leaves variously cut

and toothed, deeply cut at base, rounded at apex. *Time*, spring and summer. 1 to 2 feet high.

Sepals, petals, and stamens as in others of the mustard family. *Pod*, linear, round or somewhat 4-sided. Flowers in terminal, long racemes, the pods below, yellow blossoms above.

7. Dyer's-weed, or Weld. Wild Mignonette

Reseda Lutèola (from *resedo*, to calm, it being supposed to possess sedative properties).—*Family*, Mignonette. *Color*, dull, greenish yellow. *Leaves*, alternate, lance-shaped, with glands for stipules. *Time*, summer.

Calyx, 4-parted. *Corolla* of 4 petals. The upper one 3 to 5 times cut, the 2 side petals 3-divided, the lower one entire. Stamens numerous on a fleshy disk. The small flowers grow in long, narrow, stiff spikes.

This is not very common, although a roadside plant. Height, 2 feet. "Used," says Dr. Gray, "for dyeing yellow." A European importation. The fragrant mignonette of the gardens is *reseda odorata*.

8. Common Blue Violet

Viola palmata.—*Family*, Violet. *Color*, blue or purple. *Leaves*, all from the root, the early-leaves roundish or heart-shaped; later ones variously lobed and divided. *Time*, May.

Sepals, 5-eared at base. *Petals*, 5, one of them spurred at base. *Stamens*, somewhat united; 2 of them with spurs extending into the spur of the corolla. *Style and stigma*, 1. Flowers on leafless stems, springing from a rootstock, surrounded by leaves.

9

Variety *cucullata* is our commonest blue violet.

It is found from the arctic regions to the Gulf of Mexico and westward, almost to the Pacific.

When Don Orsino, in "Twelfth Night," says that the music

"Came o'er my ear like the sweet south
That breathes upon a bank of violets,
Stealing and giving odor,"

he could not have spoken of our American species, which, unlike the English violet, has no scent. But our own is very dear to us. It puts on no airs. It is a humble bit of color. It does not disdain to brighten our dooryards or our pasture lands. It seems to like human company, and it always has the same message: "Spring is here."

Later, cleistogamous blossoms are produced, which are fertilized in the bud.

10. Bladder-campion

Silene Cucubalus.—*Family*, Pink. *Color*, white. *Leaves*, opposite, oval, or narrow. *Time*, summer.

Calyx, 5-toothed, veined, much swollen. *Petals*, 5, each one divided, so as to seem like 10. *Stamens*, 10. *Styles*, 3. *Flowers*, in loose panicles.

A smooth plant, 1 foot high, easily known by its inflated calyx and good-sized flowers. An imported species, now very common in some parts of New England and New York, extending westward to Illinois.

11. Sleepy Catchfly

S. antirrhina.—*Family*, Pink. *Color*, rose. *Leaves*, opposite, long, narrow. *Time*, June to September.

Calyx, 5-toothed. *Corolla*, of 5 notched, stalked petals, each with a scale-like growth at the base of the blade. *Stamens*, 10. *Styles*, 3.

Slender, 1½ feet high. *Flowers* in panicles, small. They open in sunshine for a short time. Stems with swollen, sticky joints.

12. Night-flowering Catchfly

S. noctiflora opens its white, divided petals only by night.

The *calyx* is somewhat swollen, 1 inch long, and leaves are long, narrow, tapering to a point.

The pretty, fragrant flowers invite the night-moths by throwing open their petal doors by night. In the daytime it is only a wilted, uninteresting flower.

Mr. W. H. Gibson says: "Is not the midnight like Central Africa to most of us?" asks Thoreau; and not without reason, for even the best-informed student of daylight natural history may visit his accustomed haunts in the darkness as a pilgrim in a strange land. At least once in the summer to light our lantern and walk among the flowers would well repay us, for the flowers and leaves asleep are a strange, unwonted sight. And occasionally the rule is reversed, as in the case of the night-flowering catch-fly, and the flower, like some belle of the ball dressed in white, is awake, entertaining insect guests, to whom her portals are closed by day."

13. Mouse-ear Chickweed

Cerástium viscosum (a horn, from shape of pod).—*Family*, Pink. *Color*, white. *Leaves*, egg-shaped or oblong. *Time*, May, June.

All the parts of the flower, 5. A small, straight, hairy annual, 6 or 8 inches high. The tiny flowers are in clusters, terminating the stem. The pods become quite long.

An imported species.

14. Field Chickweed

C. arvense is commoner. The petals are notched. The narrow, lance-shaped, opposite leaves grow smaller towards the end of the branch on thin, weak petioles, 4 to 8 inches high.

15. Larger Mouse-ear Chickweed

C. vulgatum has larger, pedicelled, white flowers clustered

on spreading stems about a foot high, hairy, clammy. Upper leaves, thin bracts.

May to July.

16. High Mallow

Málva sylvéstris.—*Family*, Mallow. *Color*, purplish or pink. *Leaves*, sharply 5- to 7-lobed. *Time*, summer.

Calyx, of 5 sepals. Underlying is a 3-leaved *involucrel*, like a second calyx. *Corolla*, of 5 petals, large, notched. *Stamens*, united, their anthers kidney-shaped. *Styles*, numerous, making a ring of blunt, roundish, wrinkled, veiny, one-sided carpels when ripe. *Stem*, 2 to 3 feet high.

Imported from Europe; not an uncommon wayside plant.

17. Lady's-sorrel. Yellow Wood-sorrel

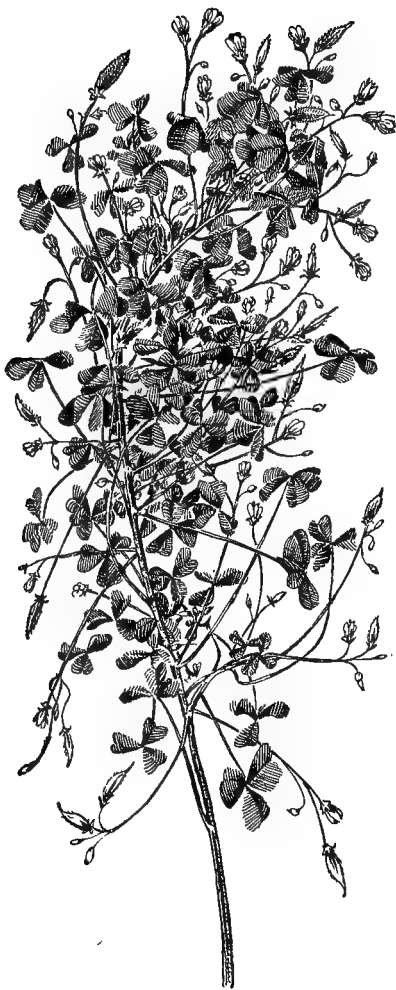
Óxalis corniculàta, var. *stricta* (from a word meaning sour).—*Family*, Geranium. *Color*, yellow. *Leaves*, on stem and from roots, of 3 leaflets. *Stípules*, present. *Time*, all summer.

Sepals, *petals*, *styles*, 5. *Stamens*, 10. *Pods*, long, erect, weak-stemmed.

The common yellow sorrel-flower varies greatly in size from a buttercup to a small cinquefoil. The plant is smooth or roughish. Stem-leaves and upright pods contain acid juice, pleasing to pickle-loving school-girls. The flowers grow on leafy stems, springing from the leaf-axils, on rather long peduncles. This is one of the plants that conspicuously "sleep" and fold their leaflets at the approach of night. This species bears secondary blossoms, which are fertilized in the closed bud and are especially fruitful. Strangely, the ordinary, more showy flowers absolutely prevent self-fertilization by having stamens and anthers of 2 or even 3 different lengths, "*dimorphous*" or "*trimorphous*."

18. Wild Strawberry

Fragària Virginiàna.—*Family*, Rose. *Color*, white. *Leaves*,



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LADY'S-SORREL. YELLOW WOOD-SORREL
(*Oxalis corniculata*, var. *stricta*)

from the root, on long, hairy petioles, with 3 serrate leaflets.
Time, spring.

Calyx, 5-cleft, with a narrow bract between each 2 divisions.
Petals, 5, roundish.

The fruit of the strawberry is an enlarged and juicy receptacle, with the achenes buried in depressions on the outside.

F. Indica is a yellow-flowered strawberry. It has escaped from cultivation, and has a tasteless fruit; found southward.

The wild strawberry is a pleasant find in one's spring walks. The blossoms are delicate, the leaves pretty. The scarlet, fragrant fruit, even if small, peering from among grass and leaves, has an aroma, a delicious wild flavor that the large, juicy, cultivated berry cannot afford.

Sometimes in the New York groceries tiny cornucopias made of leaves and filled with New Jersey hulled wild strawberries are offered for sale, and find eager buyers at large prices.

“I caught the fragrance which the sundry flowers,
 Fed by the stream with soft perpetual showers,
 Plenteously yielded to the vagrant breeze.
 There bloomed the strawberry of the wilderness;
 The trembling eyebright showed her sapphire blue;
 The thyme her purple, like the blush of even;
 All kinds alike seemed favorites of heaven.”

WORDSWORTH.

19. Norway Cinquefoil. Five-finger

Potentilla Norvégica.—*Family*, Rose. *Color*, yellow. *Leaves*, of 3 leaflets, sessile, or with petioles. *Time*, summer.

Calyx, 5-cleft, and with narrow bracts in the recesses. *Petals*, 5, small. The calyx lobes project beyond the petals.

A branching, hairy species, growing from 6 inches to 2 feet high. Stems thick. Flowers crowded and mixed with leaves at the end of the stem. The leaves are coarsely serrate. The yel-



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COMMON EVENING PRIMROSE (*Oenothera biennis*)
(See page 186)

low flowers are insignificant, and the petals soon drop. Most of our species of cinquefoils have 5 leaflets.

20

A stout, high species is *P. arguta*, with brown and quite hairy stems, flowers yellow, or sometimes white, as large as a small strawberry blossom. Height, 4 feet or less. Leaflets, 7 to 11.

21. Silvery Cinquefoil

P. argentea, has a palmate leaf of 5 leaflets, very white and velvety underneath, shiny, dark-green above. The stems are woolly white. Handsome, with large, yellow flowers.

22. Common Cinquefoil

P. Canadensis runs upon the ground or grows erect. The stems are brown, smooth, and wiry. The flowers are on long peduncles, single, from the leaf-axils. Runners are produced as from strawberry vines. The leaflets number apparently 5, by the deep division of the two side leaflets. All these are common species, found in dry fields and meadows, along roadsides and footpaths.

23. Common Evening Primrose

Oenothera biennis.—Family, Evening Primrose. Color, yellow. Leaves, alternate, long, narrow or oblong, pointed, the lowest with petioles. Time, June to September.

Calyx tube, 4-lobed, narrow, much prolonged beyond the ovary. Petals, 4. Stamens, 8. Fruit, a 4-valved capsule.

The evening primroses may be known by a long calyx-tube, at the end of which is the flower. The flowers are short-lived, and are followed by rough pods on the lower part of the spike. Hence, though a showy flower, generously brightening dry and dusty places, the aspect of the whole plant is coarse and un-

finished. The flowers open at sunset and on cloudy days, and wither the next morning. In September they remain open all day :

" A tuft of evening primroses,
O'er which the wind may hover till it dozes,
O'er which it well might take a pleasant sleep,
But that it is ever started by the leap
Of buds into ripe flowers."

The stem is stout and hairy, 1 to 5 feet high. These blossoms are fertilized by night-flying insects, whose keen eyes see the golden blossoms in the darkness, and whose fine sense of smell is attracted by their delicate fragrance.

24. Sundrops

O. fruticosa has alternate, oblong, or lance-shaped, toothed leaves.

Flower, as in the preceding. The calyx-lobes turn back. *Pod*, with a short, thick stalk, 4-angled.

A variable species, from 1 to 3 feet tall, with delicate, lemon-colored, large flowers, slightly fragrant, in loose or corymbic clusters. The flowers open by day and close at night.

25

O. pumila is a smaller species, with pods less winged, and with entire, blunt-pointed leaves, narrow on the stems. 1 to 2 feet high. Flowers in a loose, leafy spike.

The evening primroses of the Eastern States are all yellow. Two white or rose-colored species are found west of Kentucky and Missouri.

26. Gaura

Gaura biennis.—*Family*, Evening Primrose. *Color*, rose or white, growing redder with age. *Leaves*, alternate, sessile, oblong to lance-shaped, slightly toothed. *Time*, August.

Calyx tube 4-lobed, much prolonged, as in the preceding. *Petals*, 4, unequal, with claws. *Stamens*, 8. *Style*, long, capped by a 4-divided stigma, around which is a curious raised border. The flowers are small, in spikes. Stem tall and stout, 3 to 8 feet. The whole plant is downy, with soft hairs.

27. Clammy Cuphea. Blue Wax-weed

Cuphea viscosissima.—*Family*, Loosestrife. *Color*, magenta. *Leaves*, opposite, oblong or lance-shaped. *Time*, September, October.

A much-ribbed, purplish, sticky *calyx* tube, swollen or slightly spurred near the base, on the upper side, with 6 teeth above, and as many points between the regular divisions. *Petals*, 6, 2 much larger than the rest, 4 narrow, thread-like, inserted on top of the calyx tube. They quickly shrivel after the flower is plucked. The *capsule* is thin, easily ruptured. The seeds are borne on one side of the placenta, which springs backward and out of the pod, looking like a handle. This peculiarity of the pod will identify the plant. It is a late fall flower, growing in dry pastures. The stem is sticky, hairy, often reddish. The flowers are single, or several, with peduncles.

28. Poison Hemlock

Conium maculatum.—*Family*, Parsley. *Color*, white. *Leaves*, large, twice divided; leaflets pale green, lance-shaped, cut. *Time*, July.

Stem spotted and smooth. A tall branching herb whose leaves give forth an unpleasant odor when crushed. Both involucre and involucels present of 3 to 5 bracts. 2 to 5 ft. high.

This plant is the famous hemlock which Socrates was condemned to drink. It was the means often employed in Athens for putting criminals to death. It should be identified to be avoided, for its juices are as deadly to-day as when the great philosopher calmly drank of the fatal cup.



BLAZING STAR (*Liatris spicata*)

(See page 190)

29. Button-weed

Diòdia tères (a thoroughfare).—*Family*, Madder. *Color*, whitish. *Leaves*, opposite, long, lance-shaped, stemless, stiff, rigid, with membranaceous, bristly stipules connecting the leaves. *Time*, summer.

Flower parts in fours. An insignificant herb, generally rough or hairy-stemmed, with small, whitish flowers about $\frac{1}{4}$ inch long, with funnel-form corollas. Flowers 1 to 3 in the leaf-axils. *Stem*, softly hairy, 3 to 9 inches long.

Found along garden paths and waysides from New Jersey to Florida and Texas.

30. Bluets. Innocence

Houstdnia caerulea.—*Family*, Madder. *Color*, bluish white, with yellow centre. *Leaves*, small, blunt and wide at apex, narrowing to base, opposite, entire. *Time*, May, June.

A very short, 4-lobed calyx, forming a tiny cup to hold the tubular corolla with its 4-spreading lobes, barely $\frac{1}{2}$ inch across. *Stamens*, 4. *Style*, 1.

Delicate flowers of spring, 2 to 5 inches high, growing in bunches from slender creeping stems or rootstocks. The pale blue corolla, with its bright eye, dots many meadows with tiny stars.

31. Blazing Star

Liàtris spicàta.—*Family*, Composite. *Color*, rose-purple. *Leaves*, long and narrow, rigid, upright, the lower 3 to 5-nerved. *Time*, late summer.

Corollas, tubular; no rays. Heads of flowers large, crowded on the upper part of very leafy stems.

A rough, bristling plant, 2 to 5 feet high, found along roadsides from Massachusetts to New Jersey and southward. Very handsome, regular flowers, of striking color.

32

L. scaridsa differs but little from the last, with stiff, narrow, pointed leaves, the lower petioled; purple flowers in round heads, around which the bristling scales of the involucre are very prominent, their tips sometimes purple like the flowers. Height 2 to 5 feet, with same range as the last.

Among our wayside plants are many members of the *Compositae*. Some are richly colored, pretty; others are coarse and rough. Many are imported, and, like the English sparrow among birds, compare unfavorably with our native species. All have a name and a place.

33. Golden-rod

Solidago nemoralis is a common species, covering barren fields. It varies from 6 inches to 2 feet high. Its stem is simple, capped with a heavy, one-sided compound panicle of deep-yellow flowers. The whole plant is grayish and roughish. Leaves tapering and narrow.

34

S. Canadensis is a common species. It is coarse and rather tall, limit 6 feet, with spreading, often recurving, one-sided racemes of flowers. Sometimes very rough and harsh, sometimes smooth. Toothed leaves, pointed, lance-shaped, rough above, softer beneath.

35

S. juncea may be known by the fringed petioles of its lowest sharply toothed leaves. The upper leaves are narrow and entire. Stem 1 to 2 feet high. The flowers have small rays, and are arranged in drooping, corymb-like panicles. A common form, as is also

36

S. serotina, which has a thick, tall stem, 7 feet or less. The

leaves are pointed, thin, sharply toothed. A variety of this is one of the tallest golden-rods, the gigantic golden-rod.

37

S. gigantéa, 5 to 8 feet high. A large flowering panicle of bright-yellow flowers caps the stem. This is abundant.

38. White-topped Aster

Sericocárpus conyzoides.—*Family*, Composite. *Color*, white, with pale-yellow centre. *Leaves*, serrate or smooth, thin, sessile, 3-nerved, long, narrow, hairy. *Time*, July.

Disk and ray flowers present. A common, conspicuous plant, found on borders of thickets and woods and along roadsides, in dry, sandy soil.

The flowers grow in flat-topped clusters, on tall plants 1 to 4 feet high. They resemble asters or small daisies. The involucre scales are whitish, with green tips, turned back, thick and leathery. Maine to Ohio and southward.

39

S. solidagíneus is a species with smaller clusters of flowers, narrower and stiffer leaves, more tapering at the base, and with rough margins, found near the coast, from Connecticut and Long Island, southward, and westward to Tennessee. It flowers in July.

The fruit of both species is fine and silky.

40. Umbelled Aster

Áster umbellátus.—*Color*, white. *Leaves*, tapering at both ends.

Very tall, 7 feet or less, and leafy to the top. Flowers grouped in compound corymbs, small. The lower leaves are 6 inches long.

In moist soil, along roadsides. Varieties of this aster are found westward and southward in New Jersey pine barrens and Pennsylvania.



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WHITE-TOPPED ASTER (*Sericocarpus conyzoides*)

41

A. diffusus.—*Color*, white or light purple. *Leaves*, long, narrow, pointed or oblong, sharply toothed about their middle.

One of the smaller asters. Common and variable. Several varieties are given, known by small or large leaves. It is a much-branched hairy species, and the blossoms are crowded upon one side of short branchlets.

42

A. patens.—*Color*, blue purple. *Leaves*, heart-shaped, the lobes often clasping around the stem.

One of the earlier asters, coming into bloom before the middle of August. The disk is small, yellowish green, and the rays are long, with a backward curve. The stem, about 2 feet high, is hairy. Flowers on delicate stalks, attended by small, scattered leaves. One of our prettiest very blue asters. It grows along roadsides, preferring the shady places in dry ground.

43

A. dumosus.—*Color*, blue. *Leaves*, long and narrow, with rough margins.

Flowers, rather large. *Plant*, 2 or 3 feet high, with slender branches and small leaves. Those upon the flower branches scale-like.

44. Low Cudweed

Gnaphalium uliginosum (a lock of wool).—*Family*, Composite. *Color*, white. *Leaves*, long, narrow, woolly. *Time*, late summer.

A small species, 5 or 6 inches high. The plant is rough and woolly; flowers arranged in head-like clusters. One of the everlasting having a papery, dry involucre around the flowers.

45. Common Everlasting

G. polycéphalum is a white flower, fragrant especially when



ASTER DUMOSUS

dried. Fertile and sterile flowers in the same heads, all surrounded by dry, white scales. They are arranged in flat corymbs, or sometimes in panicles. *Leaves*, lance-shaped, long, without petioles, irregularly scattered on the stems, pale green and whitish, woolly. The stem is woolly. *Time*, July to September.

Dyed blue and red this flower was once a favorite for winter decorations, and in company with dried grasses made some parlors hideous.

46. Robin's-plantain

Erigeron bellidifolius. — *Family*, Composite. *Color*, light purple. *Leaves*, those on stems few, long, and narrow, partly clasping, entire. Root-leaves broader. *Time*, May.

A very pretty, daisy-like composite, with fine, violet rays, many of them on hairy stems, appearing among our spring flowers. Many people think it an early daisy. It grows in pasture-lands, in dry or sometimes moist soil. About 2 feet high.

47. Yarrow, or Milfoil

Achillea millefolium (named after Achilles, who is said to have discovered its healing properties). — *Family*, Composite. *Color*, white, sometimes pink. *Leaves*, twice-pinnately divided into sections, which are 3 to 5-cleft. *Time*, August.

The small flowers grow in a close, flat, stiff, and hard corymb, 3 or 4 inches across. The stems are simple and stout, covered with the dissected, tansy-like leaves. There is a rose-colored variety found farther north. The plant is strongly, not unpleasantly, scented. Yarrow-tea has had a reputation in many countries, among the common people, for its medicinal virtues.

48. Elecampane

Inula Helènum. — *Family*, Composite. *Color*, yellow. *Leaves*, woolly underneath, large, undivided, alternate, serrate, the lower with petioles, the upper sessile and clasping. *Time*, August.

Stout, coarse plants, 4 to 5 feet high, with large flowers possessing long and narrow yellow rays and heavy yellow disks. Root thick and mucilaginous, used in veterinary practice; growing often in clumps, like sunflowers, near barn-yards, or in old fields, along lanes and roadsides. Imported from Europe.

49

Lépatchys pinnàta.—*Family*, Composite. *Color*, yellow; disk, gray. *Leaves*, alternate, low down on the stem, pinnate, with 3 to 7 lance-shaped leaflets. *Time*, July.

Rays, few, drooping, 2 inches long. Single heads, large, showy. *Stem* and branches grooved. Plant, 4 feet high, covered with small, whitish hairs.

Western New York, southward and westward.

50. Beggar-ticks. Stick-tight

Bidens frondòsa (2-toothed).—*Family*, Composite. *Color*, yellowish green. *Leaves*, with petioles, divided into 3 or 4 leaflets, which are short-stalked, coarsely-toothed, lance-shaped, pointed. *Time*, late summer and fall.

One may make the acquaintance of the fruit of this plant after a walk in the woods in the fall. The seeds are achenes armed with "barbed awns," which turn backward, catching in the clothing. There is no beauty in the plant, which is coarse, hairy, 2 to 6 feet tall; its flowers are rayless, with a hairy involucre, which projects beyond the disk.

51. Spanish Needles

B. bipinnàta has leaves 1 to 3 pinnately-divided, with ovate or narrow leaflets wedge-shaped at base.

Flowers with short yellow rays and dull yellow disks. Of the involucre, the outer row of scales equals the rays in length. Achenes, nearly smooth themselves, possess 3 to 4 awns, by means of which they are disseminated.

52. Fireweed

Erechthites hieracifolia.—*Family*, Composite. *Color*, greenish white. *Leaves*, lance-shaped or oblong, toothed, sessile, those above having eared bases. *Time*, August, September.

A coarse plant with grooved stem and leaves of various shapes and sizes, growing tall (6 feet or less) and erect. The heads of flowers are flat or elongated in their arrangement, and the seeds give rise to many large, soft, fine hairs. This plant springs up in vast numbers over burnt districts, filling the air with its white, filmy, cobwebby pappus when the seed is ripe. This is caught everywhere on fences and trees, blocking window-screens and dusting clothing. There is no beauty in the plant, and it has a rank, disagreeable odor.

53. Mayweed

Ánthemis Cótula.—*Family*, Composite. *Color*, white rays, yellow disks. *Leaves*, finely, thrice dissected, scented with the odor of chamomile mingled with tansy. *Time*, summer.

Both ray and disk flowers present. This is the *maruta* of older editions, a common daisy-like plant found along sandy roads. The heads of flowers terminate the branches in single blooms. The involucre scales are bordered with white.

54. Succory, or Chicory

Cichòrium Íntybus.—*Family*, Composite. *Color*, blue, dark or pale. *Leaves*, those on stem oblong or long and narrow, partly clasping. The lower ones deeply cut, with segments turned backward. *Time*, late summer.

A showy plant, but often ragged and covered with dust. There are 2 or 3 heads of flowers on the ends of branches or in axils of small, lance-shaped leaves. The rays or "straps" of the flower are conspicuously toothed. The flowering stems are rigid, rather coarse.



SUCCORY, OR CHICORY (*Cichorium Intybus*)

Common in waste lots around New York and Brooklyn, and along roadsides everywhere from New England to Iowa. The root is used for the adulteration of coffee.

55. Golden Ragwort. Squaw-weed. (See page 88)

Senècio àureus (senex, old man, from the resemblance of the white pappus to gray hair).—*Family*, Composite. *Color*, yellow. *Leaves* on stem, sessile or clasping, lyre-shaped, lance-shaped, and deeply cut. The root-leaves have long petioles, and are round or heart-shaped. *Time*, May, June.

A common plant with perennial root, blossoming earlier than many of the composites. It grows from 2 to 3 feet high, and is woolly when young. The heads of yellow flowers are small, arranged in leafless clusters. Seeds with fluffy, hoary pappus.

56. Hawkbit. Fall Dandelion

Leóntodon autumnàlis (a lion and tooth, from the toothed leaves).—*Family*, Composite. *Color*, yellow. *Leaves*, blunt, toothed or cut, from the root. Minute scales on the flower scapes. *Time*, summer and fall.

Flowers all with strap-shaped corollas in flat heads, smaller than the common dandelion. They grow singly on scapes, from 3 inches to a foot tall, on peduncles, thickened under the flower. Occasionally the scape is branched and another flower appears.

A late and pretty copy of the spring dandelion found throughout New England. The seeds bear brown pappus in two rows.

57. Burdock

Árctium Láppa.—*Family*, Composite. *Color*, crimson. *Leaves*, ovate or round, some with heart-shaped bases. *Time*, summer and early fall.



HAWKBIT. FALL DANDELION. (*Leontodon autumnalis.*)

The involucre is round, with many scales in rows, leathery, each tapering to a recurved, prickly point. Plant 2 to 4 feet high.

The writer recalls, in connection with this plant, an anxious day when her small children were missing. After a prolonged search they were found seated under a large burdock-plant, some distance from home, on a road leading into the woods, making baskets and bird's-nests by sticking together the burdock flowers.

58. Hairy Hawkweed

Hieracium Gronovii.—*Family*, Composite. *Color*, yellow. *Leaves*, hairy, entire or slightly toothed, oblong, or broader at apex.

Heads small, 15- to 30-flowered, on long, slender stems, leafy and hairy. Flowers paniced. 1 to 3 feet high.

A common plant in sterile soil along roadsides and the edges of woods.

59

Chondrilla juncea.—*Family*, Composite. *Color*, yellow. *Leaves*, small, a few on the stem, long and narrow; mostly from the root, deeply cut, the segments bent backward. *Time*, August.

Small, scattered heads of flowers on nearly leafless branches. *Stem*, 3 feet tall or less, bristly hairy below, smooth above.

60. Cotton, or Scotch Thistle

Onopordon Acanthium.—*Family*, Composite. *Color*, purple. *Leaves*, coarse, prickly, cottony-woolly, running down the main stem. *Time*, July to September.

A thistle introduced from Europe, not yet common in the Atlantic States. 2 to 4 feet high.

61. Centaurea, or Knapweed. Star-thistle

Centaurea nigra, likewise an importation from the Old World,



HAIRY HAWKWEED (*Hieracium Gronovii*)

has purple flowers with no rays, but a roundish involucre whose scales are black-fringed just under the flower.

62. Field Sow-thistle

Sônchus arvênsis bears bright-yellow flowers in large heads. Leaves much cut, spiny-toothed, clasping the stem by a heart-shaped base.

In fields and along roadsides in New England and New York, becoming common.

63. Nipplewort

Lámpsana commûnis.—*Family*, Composite. *Color*, yellow. *Leaves*, ovate or lyre-shaped, toothed or angled.

A slender, branching plant with small, loosely paniced heads of flowers, 1 to 3 feet high, smooth, with 8 scales in the involucre in a single row.

64. White Lettuce, or Rattlesnake-root

Prenânthes álba.—*Family*, Composite. *Color*, white, with brown or purplish pappus and involucral scales. *Leaves*, triangular, with ear-like lobes at their bases, 3- to 5-cleft, the upper entire. *Time*, late summer and September.

A smooth, coarse plant with milky juice, variable leaves, large below and small above, 3 or 4 feet high. The heads of bell-like flowers hang close to the purplish stem in terminal panicles.

65. Lion's-foot

P. serpentària is lower, about 2 feet tall, with leaves more cut and greenish white or cream-colored flowers with pappus the same color. Flowers sometimes purplish.

66. Canada Wild Lettuce

Lactûca Canadénsis.—*Family*, Composite. *Color*, pale



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WHITE LETTUCE, OR RATTLESNAKE-ROOT (*Prenanthes alba*.)

yellow. *Leaves*, long, cut, with wavy margins. *Time*, summer.

A tall plant, reaching the height of 8 or 9 feet. Its leaves are nearly a foot long below and become smaller above. The cream-colored flowers grow in long, leafy panicles.

Common along roadsides, in borders of fields, also in copses, in damp soil.

67. Pimpernel

Anagallis arvensis.—*Family*, Primrose. *Color*, variable, copper color, blue, or white. *Leaves*, opposite or whorled, sessile, egg-shaped, small. *Time*, June to August.

Calyx and *corolla* regularly 5-parted. *Stamens*, 5, their filaments purple bearded. *Pistil*, 1. *Flowers*, small, wheel-shaped. *Stem*, low, spreading. Flowers on long stems, single in upper leaf-axils. The petals close upon the approach of a shower, from which one of the popular names is poor man's weather-glass. They also close at night and soon after being picked.

I know of no other flower tinged with just this shade of red. It is often called scarlet pimpernel, but it is not scarlet so much as terra-cotta. It is a dear little plant, often seen lying so thickly on the ground as to dot the field with its bright color. I have picked it in sprays 20 inches long.

68. Indian Tobacco

Lobelia inflata (named from De l'Obel, a Flemish botanist).—*Family*, Lobelia. *Color*, blue-purple. *Leaves*, toothed, sessile, ovate, or oblong. Pointed. *Time*, August.

Corolla and *calyx* tubular. Both 5-divided. *Corolla* split. *Flowers* in loose racemes, small, with a few minute leaves. The calyx is swollen, and the ripe pod is bladder-shaped. Plant, 10 to 20 inches in height.

A poisonous plant, formerly used in the Thomsonian school as an emetic.



2
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3

PIMPERNEL (*Anagallis arvensis*)

69

L. spicata is a slender, straight-stemmed, light-blue species, 1 to 4 feet high, with small flowers in long, thin spikes. The root leaves are broad; upper bract-like. Calyx not inflated.

70. Purple Milkweed

Asclèpias purpurascens (named for Aesculapius, the physician).—*Family*, Milkweed. *Color*, deep rose-purple. *Leaves*, opposite, broad, tapering to a point, the upper velvety, the lower hard and smooth. *Time*, July.

A very handsome milkweed, with dark-green leaves, whose veins are raised, pointed upwards, and prominent on the under side. *Flowers*, a purplish crimson, the round buds darker than the open flower, in umbels, 3 or 4 umbels terminating the leafy stem. From 1 to 3 feet high. Not much milky juice.

New England to Tennessee and southward.

71. Common Milkweed

A. Cornuti is a taller and coarser species. Leaves 6 to 8 inches long. The corolla is a reddish or brownish pink or purple, with some white. The large pod, when ripe, is full to bursting of hairy, tufted seeds, beautiful, silky things which fly on the lightest breeze.

72. Butterfly-weed

A. tuberosa is an orange-colored species. It grows freely in clumps, with rough and hairy stem and leaves, 1 to 2 feet high. Brilliant and beautiful, it dots the fields, especially southward, with bright color. Its juice is not milky. (See page 224.)

73. Viper's-bugloss. Blueweed

Échium vulgàre.—*Family*, Borage. *Color*, blue first, red-



$\frac{1}{3}$

PURPLE MILKWEED (*Asclepias purpurascens*)

dish purple later. *Leaves*, coarse, hairy, almost bristly. *Time*, June, July.

The blossoms appear compactly on the upper side of a curved branch. *Corolla* 5-lobed, spreading, with red *stamens* protruding. The plant itself is coarse and bristly, but the blossoms are not without a prettiness—at least, of color—since the 2 colors, blue and reddish purple are found on the same spike. About 2 feet high, often covered with dust, and looking very plebeian.

It chooses dry soil along waysides.

74. Common Gromwell.

Lithospérmum officinale.—*Family*, Borage. *Color*, white or pale yellow. *Leaves*, rough above, soft beneath, broad or lance-shaped, thinnish. 1 to 2 feet high.

Calyx and *corolla*, tubular, with a spreading, 5-cleft border. 5 scales in the throat. The ripened seeds form hard, bony nutlets, white like ivory, giving the botanical name, “stony seed.” Imported, as is also

75. Corn Gromwell

L. arvense, with whitish flowers and long, narrow leaves.

76

A species found among the pine barrens, is *L. hirtum*, hairy, 1 to 2 feet tall, with bristly leaves on the stem, and flowers in close clusters, peduncled, showy.

77. Ground-cherry

Phýsalis viscosa (from phusalis, a bladder, referring to inflated calyx).—*Family*, Nightshade. *Color*, greenish yellow, with orange centre. *Leaves*, oval or oblong, entire. *Time*, June, July.



BUTTERFLY-WEED (*Asclepias tuberosa*)
(See page 208)

A wheel-shaped *corolla*, with 5 divisions. The calyx in fruit becomes inflated, and loosely surrounds the berry. When young the plant is covered with soft, 2 or 3 times forked brownish hairs. The edible ripe berry is orange-colored.

This plant grows on dry hillsides and pasture lands in New Jersey, and south to Florida.

78

Another species, *P. pubescens*, has simple, not forked hairs upon it. The yellow berry is enclosed in the inflated calyx. The *corolla*, $\frac{1}{2}$ inch broad, is spotted in the centre with dark brown or purple; *stamens* with violet-colored anthers. Foliage rather strong, rank-scented.

79. Moth-mullein

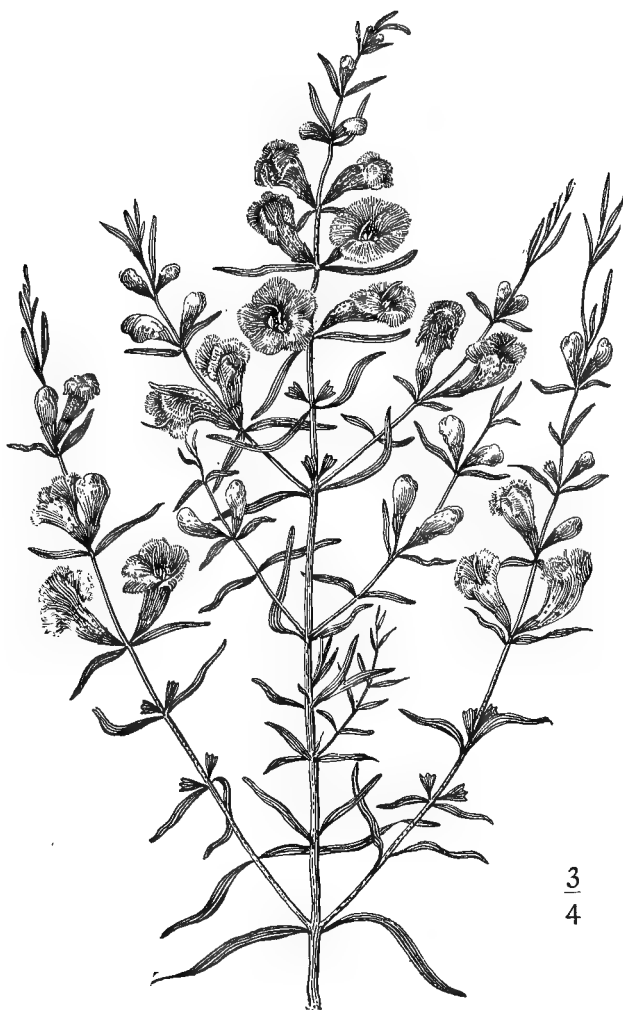
Verbáscum Blattària.—*Family*, Figwort. *Color*, white or yellow, with a purple tinge in the centre. *Leaves*, those below petioled and deeply cut, those above clasping, oblong, or lyre-shaped. *Time*, summer.

This plant has not the extreme woolliness of, and there is nothing in its appearance that should indicate its near relation to, the common mullein. It is low and smooth, with flowers almost nodding and loosely spiked, making some pretensions to prettiness. The filaments of the 5 stamens are fringed with purple. Corolla 5-lobed, open and turned back. It falls off easily.

The white and yellow varieties often grow side by side. In some places this has become a weed.

80. White Mullein

A rarer species is *V. Lychnitis*, with yellow flowers (or white) in a tall panicle. Leaves are greenish above, woolly beneath, and the plant is covered with a soft, whitish woolliness.



$\frac{3}{4}$

SLENDER GERARDIA (*Gerardia tenuifolia*)

(See page 214)

81. Thyme-leaved Speedwell

Verónica serpyllifolia. — *Family*, Figwort. *Color*, nearly white or light blue, with dark blue lines. *Leaves*, egg-shaped, the lower petioled and roundish, the upper narrow and bract-like. *Time*, May to July.

Calyx and *corolla*, 4-parted, the latter wheel-shaped, 1 lobe larger than the others. Small, often dooryard weeds, growing flat and mat-like upon the ground, with the opposite flower branches standing 3 or 4 inches high. Flowers in loose racemes. Stem creeping at base, smooth.

82. Beard-tongue

Penstemon pubescens (fifth stamen). — *Family*, Figwort. *Color*, lilac or whitish. *Leaves*, lance-shaped or broad and egg-shaped. Those below somewhat toothed. *Time*, summer.

Corolla, tubular, 2-lipped. The upper lip 2, the lower 3 divided. There are 4 fertile *stamens*, and the fifth, sterile, with a profusely bearded filament, gives the flower its name. *Flowers*, large (1 inch or more long), crowded in a dense panicle. Stem, 2 to 3 feet high.

A showy plant, in sterile or rocky fields, from Maine to Florida and westward.

83. Slender Gerardia

Gerardia tenuifolia. — *Family*, Figwort. *Color*, rose-pink. *Leaves*, very narrow, linear, acute. *Time*, middle and late summer.

Calyx, bell-shaped, 5-toothed. *Corolla*, $\frac{1}{2}$ inch long, bell-shaped. *Stamens*, 4. *Style*, 1.

This pretty flower colors the New Jersey fields with bright crimson in August. It can be seen from the railway cars in great profusion.

The flowers appear on long, slender, often dark-colored stems.



$\frac{2}{3}$

BLUE VERVAIN (*Verbena hastata*)

(See page 216)

The plant varies from a foot to a foot and a half high, is diffusely branching, with leaves rather far apart. Its root may be parasitic, and the plant turns black in drying.

Range, near the coast, Middle and Southern States.

84. White Vervain

Verbena urticaefolia. — *Family*, Vervain. *Color*, white. *Leaves*, opposite, petioled, toothed, oval, acute. *Time*, July, August.

Calyx, unevenly 5-toothed. *Corolla*, 5-toothed, the lobes spreading. *Stamens*, in 2 pairs, the upper frequently imperfect. *Fruit*, splitting into 4 nutlets. *Flowers*, in spikes, rather loose, on stems 3 to 5 feet tall. Quite common, sometimes growing with the next.

85. Blue Vervain

V. hastata is a taller plant, with bluish-purple blossoms in a compact spike. It would be pretty were the flowers all to come out at once; but buds above, seeds below, a small circle of flowers between, is its parsimonious habit. Leaves pointed, the lower often lobed, and with halberd-shaped bases.

The vervain (verbena) seems to have been connected with magic, acting as a charm against witches. Says Mr. Knight, in his biography of Shakespeare:

“Some of the children said that a horseshoe over the door, and vervain and dill, would preserve them, as they had been told, from the devices of sorcery.”

It was in the times of Vergil thought to be a charm to recover lost love:

“Effer aquam, et molli cinge haec altaria vitta,
Verbenasque adole pingues et mascula tura.
Coniugis ut magicis sanos avertere sacris
Experiar sensus.”

VERGIL, Eclogue VIII., lines 64-7.



BLUE-CURLS (*Trichostema dichotomum*)

(See page 218)

86. Blue-curls. Bastard Pennyroyal

Trichostema dichotomum.—*Family*, Mint. *Color*, blue. *Leaves*, lance-shaped, oblong, with short petioles, entire.

Corolla, 2-lipped. In the mint family the corolla is more or less 2-lipped, and, with the *calyx*, is tubular. Blue-curls is a small, unattractive plant, with a fragrance not quite agreeable. The stamens project well out of the corolla, and their long, hair-like filaments are curved under. The corolla is 5-divided, the 3 lower lobes partly united. 4 to 8 inches high.

Massachusetts to Florida and Texas.

87

T. lineare is also a widely extended species, found in New England and southward in the Atlantic States, with linear leaves and a slender downy stem. Flowers as in the above.

88. Wild Marjoram

Origanum vulgare.—*Family*, Mint. *Color*, purplish. *Leaves*, petioled, roundish, entire, sprinkled underneath with resinous dots. *Time*, July, August.

Calyx, 5-toothed. *Corolla*, 2-lipped, 4-lobed, the upper lip broad and slightly notched. *Stamens*, 4, standing well out from the flower. The bracts and stem of this plant often have a purplish tinge. The small flowers are arranged in terminal, close spikes, with the colored bracts interspersed. The whole plant fragrant and with a pleasant taste.

O. Marjorana, sweet marjoram, is often cultivated, and sometimes escapes and becomes wild.

89. Motherwort

Leonurus Cardiaea (lion's tail).—*Family*, Mint. *Color*,



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SELF-HEAL (*Brunella vulgaris*)

(See page 220)

pale purple. *Leaves*, long-petioled, cut, the lower palmately, the upper into 3 divisions. *Time*, summer.

Corolla, 2-lipped, the upper lip bearded. Lower lip in 3 divisions, spreading. *Stamens*, 4. Tall, leafy herbs, with flowers whorled in the axils terminating the branches.

90

L. Marrubiástrum has coarsely toothed, oblong leaves, with a whitish corolla, shorter than the calyx-teeth. Flowers in whorls.

New Jersey and southward.

91

L. Sibiricus has a purplish corolla, much longer than the calyx. Leaves, 3-parted, the divisions deeply cut.

Waste grounds in Pennsylvania and westward. These are all introduced species, from Europe and Asia.

92. Self-heal

Brunélla vulgàris. — *Family*, Mint. *Color*, violet blue. *Leaves* petioled, long, narrow, wavy. *Time*, June to October.

Corolla, 2-lipped, the upper being arched and straight.

A very common plant by roadsides and in pasture lands. It is smart and cheery looking, though often sadly dusted and be-draggled. The flowers are in clusters of threes, sessile, all in a compact, terminal, clover-like head. Bract-like leaves grow among them. Plant about 6 inches high.

93. Hemp-nettle

Galeópsis Tetràhit. — *Family*, Mint. *Color*, purplish or variegated. *Leaves*, serrate, ovate. *Time*, August, September.

Calyx and *corolla*, tubular. Upper lid of corolla arched,

concave; the lower 3-cleft, the middle lobe being heart-shaped. Low, branching, with flowers in the axils of the upper leaves, whorled, common.

94. Red Hemp-nettle

G. Ládánium is a beautiful little pink flower of the strictly labiate kind, quite prominent on the small, leafy stem. Leaves longer and narrower than in the last.

I have found this only at Bridgehampton, L. I. Its range is throughout east New England, where it is not common.

95. Bastard Toad-flax

Comándra umbellàta.—*Family*, Sandalwood. *Color*, greenish white or purplish. *Leaves*, alternate, nearly sessile, about 1 inch long, pale green, pinnately veined. *Time*, May to July.

No *corolla*, but a tubular *calyx*, spreading at the top, and lengthened beyond the fruit. At its base, above the ovary, is a thick disk, and from the edge of this the stamens spring, one opposite each lobe of the calyx, their anthers joined to the centre of the disk by tufts of hair-like threads. *Flowers* in corymb-like clusters, terminal, or in the axils of the uppermost leaves. *Fruit*, a roundish drupe, tipped by the 5 lobes of the calyx. Parasitic on roots of other plants. 8 to 10 ins. high.

Found in dry fields, from Cape Breton Island south to Florida and westward to the Pacific coast.

96. Spurge

Euphórbia maculàta.—*Family*, Spurge. *Color*, reddish. *Leaves*, small, oblong, narrow, slightly and finely toothed near the apex, about $\frac{1}{2}$ inch long.

Lying on the ground and common. The leaves are marked

with a dark spot in the middle. They have narrow fringed stipules. The involucre has glands which give the flower a reddish tint. The flowers grow in heavy clusters, on rather long stems, along the sides of the branches.

97. Three-seeded Mercury

Acalypha Virginica.—*Family*, Spurge. *Color*, greenish. *Leaves*, alternate, petioled, ovate or oblong, with stipules. *Time*, July to September.

In this plant the stamens and pistils are in different flowers, each with a calyx, 3- to 5-parted. The minute, staminate flowers are clustered in front of a small bract. The pistillate, either singly or 2 or 3 together, grow in the axils of "fruiting bracts." These bracts are expanded, like a large cut-lobed leaf. The plant is somewhat hairy, 18 or 20 inches high, turning reddish or purplish late in the season. It is a homely, nettle-like weed. Capsule 3-seeded.

New England to Minnesota and southward to Florida.

98. Colic-root. Star-grass

Aletris farinosa.—*Family*, Lily. *Color*, white or yellowish. *Leaves*, thin, pale, greenish yellow, lance-shaped, clustered at the root. *Time*, July, August.

A plant with many small, bell-shaped flowers terminating a tall, leafless scape, 2 or 3 feet high, in a narrow raceme often nearly a foot long. One or 2 bracts, longer than the pedicels, subtend each flower. *Stamens*, 6, on short filaments. *Style*, 1, but 3-divided at the top.

A special mealy look about the flowers has given this plant its name, *aletris*, meaning a slave grinding corn. Along roadsides, on the edges of dry woods, in sandy soil, often thickly, this plant grows from New England to Florida and in the mountains of Virginia.



STAR-GRASS (*Hypoxis erecta*)

(See page 224)

99. Star-grass

Hypoxis erecta.—Family, Amaryllis. Color, yellow. Leaves, grass-like, stiff, hairy.

Perianth, 6-parted, greenish and rough, hairy outside, yellow within. *Stamens*, 6. Root, a small bulb. The bright star-like blossoms grow 1 to 3 or 4, on a scape less than a foot high. Common in dry soil.

This is not a grass, as its common name would seem to imply. In connection with this flower I recall an incident of a botanical excursion. Rev. Thomas Morong, an eminent botanist, now deceased, was the teacher and guide. Among the excursionists were some amateur botanists, who knew the flowers only by their common names. One of these young ladies found the *hypoxis*, and called it "yellow star-grass." "It is not a grass at all," said the professor. "It is *Hypoxis erecta*."

Said another, "I suppose we may call its cousin, the flower so nearly like it, 'blue-eyed grass?'" "You certainly may not," the professor answered, impatiently. "That is also not in any sense a grass. It is *Sisyrinchium angustifolium*, a member of the iris family. These two flowers have no relation to each other. The *hypoxis* is an amaryllis. Why do people learn these common names, which are often so misleading, when it is just as easy to associate a plant with its only true name?"

NOTE to 72 (page 208).—A variety, *decumbens*, considered by Dr. Britton a separate species, has reclining stems, leaves oblong or oval, the upper ones opposite. 2 to 3 feet long.

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| <p>1. Pennsylvania Anemone (<i>Anemone Pennsylvanica</i>), white.</p> <p>2. Horn-poppy (<i>Glaucium luteum</i>), yellow.</p> <p>3. Common Fumitory (<i>Fumaria officinalis</i>), pink.</p> <p>4. Mouse-ear Cress (<i>Sisymbrium Thaliana</i>), white.</p> <p>5. Whitlow-grass (<i>Draba verna</i>), white.</p> <p>6. Common Winter Cress. Yellow-rocket (<i>Barbarea vulgaris</i>), yellow.</p> <p>7. Dyer's-weed, or Weld. Wild Mignonette (<i>Reseda luteola</i>), greenish yellow.</p> <p>8. Common Blue Violet (<i>Viola palmata</i>), blue or purple.</p> <p>9. Variety <i>Cucullata</i>,</p> <p>10. Bladder-campion (<i>Silene cucubalus</i>), white.</p> <p>11. Sleepy catchfly (<i>Silene antirrhina</i>), rose.</p> <p>12. Night-flowering catchfly (<i>Silene noctiflora</i>), white.</p> <p>13. Mouse-ear Chickweed (<i>Cerastium viscosum</i>), white.</p> <p>14. Field Chickweed (<i>Cerastium arvense</i>), white.</p> <p>15. Larger Mouse-ear Chickweed (<i>Cerastium vulgatum</i>), white.</p> <p>16. High Mallow (<i>Malva sylvestris</i>), purplish or pink.</p> <p>17. Lady's-sorrel. Yellow Wood-sorrel (<i>Oxalis corniculata</i>), yellow.</p> <p>18. Wild Strawberry (<i>Fragaria Virginiana</i>), white.</p> <p>19. Norway Cinquefoil. Five-fin-</p> | <p>ger (<i>Potentilla Norvegica</i>), yellow.</p> <p>20. <i>Potentilla arguta</i>, yellow.</p> <p>21. Silvery Cinquefoil (<i>Potentilla argentea</i>), yellow.</p> <p>22. Common Cinquefoil (<i>Potentilla Canadensis</i>), yellow.</p> <p>23. Common Evening Primrose (<i>Oenothera biennis</i>), yellow.</p> <p>24. Sundrops (<i>Oenothera fruticosa</i>), yellow.</p> <p>25. <i>Oenothera pumila</i>, yellow.</p> <p>26. Gaura (<i>Gaura biennis</i>), rose or white.</p> <p>27. Clammy Cuphea. Blue Wax-weed (<i>Cuphea viscosissima</i>), magenta.</p> <p>28. Poison Hemlock (<i>Conium maculatum</i>), white.</p> <p>29. Button-weed (<i>Diodia teres</i>), whitish.</p> <p>30. Bluets. Innocence (<i>Houstonia caerulea</i>), bluish white.</p> <p>31. Blazing Star (<i>Liatris spicata</i>), rose-purple.</p> <p>32. <i>Liatris scariosa</i>, purple.</p> <p>33. Golden-rod (<i>Solidago nemoralis</i>), yellow.</p> <p>34. <i>Solidago Canadensis</i>, yellow.</p> <p>35. <i>Solidago juncea</i>, yellow.</p> <p>36. <i>Solidago serotina</i>, yellow.</p> <p>37. <i>Solidago gigantea</i>, yellow.</p> <p>38. White-topped Aster (<i>Sericocarpus conyzoides</i>), white.</p> <p>39. <i>Sericocarpus solidagineus</i>.</p> <p>40. Umbelled Aster (<i>Aster umbellatus</i>), white.</p> <p>41. <i>Aster diffusus</i>, white or light purple.</p> |
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42. *Aster patens*, blue-purple.
 43. *Aster dumosus*, pale blue.
 44. Low Cudweed (*Gnaphalium uliginosum*), white.
 45. Common Everlasting (*Gnaphalium polycephalum*), white.
 46. Robin's-plantain (*Erigeron bellidifolius*), light purple.
 47. Yarrow. Milfoil (*Achillea Millefolium*), white.
 48. Elecampane (*Inula Helenium*), yellow.
 49. *Lepachys pinnata*, yellow.
 50. Beggar-ticks. Stick-tight (*Bidens frondosa*), greenish yellow.
 51. Spanish Needles (*Bidens bipinnata*), yellow.
 52. Fireweed (*Erechtites hieracifolia*), greenish white.
 53. Mayweed (*Anthemis Cotula*), white.
 54. Succory. Chicory (*Cichorium Intybus*), blue.
 55. Golden Ragwort. Squaw-weed (*Senecio aureus*), yellow.
 56. Hawkbit. Fall Dandelion (*Lentodon autumnalis*), yellow.
 57. Burdock (*Arctium Lappa*), crimson.
 58. Hairy Hawkweed (*Hieracium Gronovii*), yellow.
 59. *Chondrilla juncea*, yellow.
 60. Cotton, or Scotch Thistle (*Onopordon Acanthium*), purple.
 61. Centaurea. Knapweed. Star-thistle (*Centaurea nigra*), purple.
 62. Field Sow-thistle (*Sonchus arvensis*), yellow.
 63. Nipplewort (*Lampsana communis*), yellow.
 64. White Lettuce. Rattlesnake-root (*Prenanthes alba*), purple and white.
 65. Lion's-foot (*Prenanthes serpentina*), greenish white.
 66. Canada Wild Lettuce (*Lactuca Canadensis*), pale yellow.
 67. Pimpernel (*Anagallis arvensis*), copper-red, blue, or white.
 68. Indian Tobacco (*Lobelia inflata*), blue-purple.
 69. *Lobelia spicata*, light blue.
 70. Purple Milkweed (*Asclepias purpurascens*), deep crimson.
 71. Common Milkweed (*Asclepius Cornuti*), pink or purple.
 72. Butterfly-weed (*Asclepias tuberosa*), orange.
 73. Viper's-bugloss. Blueweed (*Echium vulgare*), blue and red.
 74. Common Gromwell (*Lithospermum officinale*), white or pale yellow.
 75. Corn Gromwell (*Lithospermum arvense*), whitish.
 76. *Lithospermum hirtum*.
 77. Ground Cherry (*Physalis viscosa*), greenish yellow.
 78. *Physalis pubescens*, purplish.
 79. Moth Mullein (*Verbascum Blattaria*), white or yellow.
 80. White Mullein (*Verbascum Lychnitis*), yellow or white.
 81. Thyme-leaved Speedwell (*Veronica serpyllifolia*), white or light blue.
 82. Beard-tongue (*Penstemon pubescens*), lilac or white.
 83. Slender Gerardia (*Gerardia tenuifolia*), rose-pink.
 84. White Vervain (*Verbena urticaefolia*), white.
 85. Blue Vervain (*Verbena hastata*), bluish purple.
 86. Blue Curls. Bastard Pennyroyal (*Trichostema dichotomum*), blue.
 87. *Trichostema lineare*, blue.
 88. Wild Marjoram (*Origanum vulgare*), purplish.
 Sweet Marjoram (*Origanum Marjorana*).
 89. Motherwort (*Leonurus Cardiacaca*), pale purple.
 90. *Leonurus Marrubiastrum*, whitish.
 91. *Leonurus Sibiricus*, purplish.
 92. Self-heal (*Brunella vulgaris*), blue.
 93. Hemp-nettle (*Galeopsis Tetrahit*), purplish.

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| 94. Red Hemp-nettle (<i>Galeopsis Ladanum</i>), pink. | 97. Three-seeded Mercury (<i>Acalypha Virginica</i>), greenish. |
| 95. Bastard Toadflax (<i>Comandra umbellata</i>), greenish white. | 98. Colic-root. Star-grass (<i>Aletris farinosa</i>), white. |
| 96. Spurge (<i>Euphorbia maculata</i>), reddish. | 99. Star-grass (<i>Hypoxis erecta</i>), yellow. |

CHAPTER VII

WEEDS

*"I will go root away
The noisome weeds, that without profit suck
The soil's fertility from wholesome flowers.*

* * * * *

*"The whole land
Is full of weeds; her fairest flowers choked up,
Her fruit-trees all unpruned, her hedges ruined."*

SHAKESPEARE, "Richard II."

Certain plants follow man, dispute possession of his garden with him, and spring up wherever he makes a path or road. Many come from foreign countries. No legislation, no quarantine, can keep them out. Their seeds are sly, furnished with all sorts of devices for catching on to the dress of man, the hide or hair of animals, the feathers of birds, and even the bodies of insects. Great steamships and railways give them free passage. They are "vegetable tramps." Says John Burroughs: "They are going east, west, north, south. They walk, they fly, they swim; they steal a ride, they travel by rail, by flood, by wind; they go underground and they go above, across lots, and by the highway."

Not all weeds are unsightly, nor have they all dull blossoms. Most of them, even the pretty ones, make themselves unwelcome by becoming too common. Webster says a weed is "any plant growing in cultivated ground to the injury of the crop or desired vegetation, or to the disfigurement of the place; an unsightly, useless, or injurious plant."

Such as they are, we are bound to give them space in our vegetable economy. The "wheat and tares," we are told, "the good and the bad, will grow together till the end of the world."

WEEDS

1. Tall Crowfoot, or Buttercup

Ranunculus acris. — *Family*, Crowfoot. *Color*, yellow. *Leaves*, all those on the stem and radical much cut, the divisions sessile.

Sepals, 5, spreading, not reflexed. *Petals*, generally 5, longer than the sepals. *Stem*, hairy, 2 or 3 feet high. The stem and leaves contain a peculiarly acrid juice. If they are bitten into, the tongue and lips will be blistered in a painful manner. Beggars use the juice to produce sores upon their skin. Children picking them with moist hands will be troubled with an irritating eruption. Cattle refuse to eat them, hence they flourish in great numbers. When dried in hay the acrid properties disappear.

An undesirable importation from Europe.

2. Bulbous Crowfoot, or Buttercup

R. bulbosus. — *Family*, Crowfoot. *Color*, a deep satiny yellow. *Leaves*, from root, 3-divided, the middle division stalked and 3-cleft, the side divisions sessile, all cleft and toothed. *Time*, May to July.

Sepals, 5, turned back. *Petals*, 5, 6, or 7, round, bright yellow, large. Flowers showy. The stem is hairy, erect, 1 foot high, and expands at its base into bulbous shape.

This is also a European importation, and has already become a troublesome weed in New England.

3. Celandine

Chelidonium majus ("The swallow, because its flowers appear with the swallows."—GRAY).—*Family*, Poppy. *Color*, yellow. *Leaves*, divided, cut, or toothed, light green, hairy. *Time*, spring and summer. Around dwellings.

Sepals, 2, soon falling. *Petals*, 4. *Stamens*, many. *Style*, prominent. *Pod*, 2-valved, long, thin, on slender stalks. Valves splitting from below and opening upward. *Stigmas*, 2. 1 to 2 feet high.

This is a small-flowered, imported plant found around country gardens. It takes root easily in stone-walls or sterile soil, and blossoms cheerily beside the garden-paths. The stems are full of a yellowish acid juice. Flowers in a small umbel.

"Long as there's a sun that sets,
Primroses will have their glory;
Long as there are violets,
They will have a place in story;
There's a flower that shall be mine—
'Tis the little celandine."—WORDSWORTH.

4. Hedge-mustard

Sisymbrium officinale.—*Family*, Mustard. *Color*, pale yellow. *Leaves*, sharply cut, the incised parts turning backward, alternate. *Time*, all summer.

A plant growing 2 or 3 feet high, much branched. Naturalized from Europe.

5. White Mustard

Brassica (or *Sinapis*) *alba*.—*Family*, Mustard. *Color*, yellow. *Leaves*, with petioles, lyrate, variously cut, the terminal lobe round and large. *Time*, summer.

Flowers, large petalled. The common name is taken from the pale color of the seed. Cultivated for table use, it has

become a weed. It is 2 to 5 feet high, stout, and much branched. Pods tipped with a sword-shaped, 1-seeded beak.

6. Black Mustard

Brássica (or *Sinàpis*) *nìgra* bears yellow *flowers* in slender racemes. *Leaves*, the lower ones lyrate, the terminal lobe being large and often divided. *Pods*, $\frac{1}{2}$ inch long, filled with dark-colored, pungent seeds. Plant, 3 to 6 feet high, much branched.

Table mustard is made from the seeds of white and black mustard. When powdered and mixed with warm water the most pungent oil known is generated, causing strangulation if breathed.

In England, mustard is sown for forage. It is cut before the weeds are ripe and fed to cattle.

The oil of mustard is used in making soap. *Sinapis* (common mustard) was known to the Greeks and Romans 300 years before Christ. The mustard referred to in Scripture is thought to be a small tree allied to the olive, whose fruit tastes like mustard-seed.

7. Shepherd's-purse

Capsélla Búrsa-pastòris.—*Family*, Mustard. *Color*, white. *Leaves*, mostly clustered at the root, a few scattered on stem. Much and variously cut. *Time*, spring and summer.

Small white flowers grow in long racemes, the triangular pods, *silicles*, rapidly forming below. The pod is 2-valved, and the valves are boat-shaped. 6 to 20 inches high.

8. Wild Peppergrass

Lepidium Virginicum.—*Family*, Mustard. *Color*, white. *Leaves*, thin, long, and entire on the stem; lower ones often cut. *Time*, summer.

Flowers very small, arranged in long racemes. Pods elongated, flat, slightly notched in the middle, each cell containing one seed. Taste, peppery. 2 feet high or less.

9. Corn-cockle

Lychnis Githâgo (a light or lamp).—*Family*, Pink. *Color*, deep crimson. *Leaves*, long and narrow. *Time*, summer.

Calyx of 5 long, slender, leaf-like divisions, longer than the petals. *Corolla*, 5 broad petals. *Stamens*, 10. *Pistil*, 1. *Styles*, 5. 1 to 3 feet high.

In England this attendant upon wheat fields is considered a nuisance. If its black seeds become mingled with the wheat grains to any extent they are unwholesome. But the flower, although established here, is not yet common enough to be troublesome. The plant is softly hairy, and rather plebeian-looking. The flowers have long stems.

10. Evening *Lychnis*

L. vespertina is white or pink, its flowers opening at night. Its leaves are long and narrow, opposite; its calyx teeth are short, the foliage, stem, etc., being sticky and softly hairy. Not common. 1 to 2 feet high.

11. Red *Lychnis*

L. diurna has red flowers, opening by day. Calyx teeth very short, not so viscid as the former. All these are imported plants, found as weeds in cultivated or waste grounds. 1 to 2 feet high.

12. Thyme-leaved Sandwort

Arenaria serpyllifolia.—*Family*, Pink. *Color*, white. *Leaves*, opposite, small, pointed. *Time*, summer.

Sepals, 5. *Petals*, 5. *Stamens*, 10, *Styles*, 3. The pod, when ripe, splits into 3 and then into 6 pieces.

This is a common little dooryard plant, much branched and leafy. Flowers quite small, in loose, irregular cymes.

13. Common Chickweed

Stellaria mēdia (stella, a star, from the star-shaped flow-



CORN-SPURREY (*Spergula arvensis*)

(See page 236)

ers).—*Family*, Pink. *Color*, white. *Leaves*, ovate or oblong, $\frac{1}{2}$ to 2 inches long. *Time*, spring and summer.

Sepals and *petals*, 4 or 5. *Petals*, deeply divided. *Stamens*, 8 or 10. *Styles*, 3. Weak-stemmed and prostrate. Leaves with petioles, the lower hairy.

It prefers shady, damp ground, but will grow almost anywhere in gardens. The little round pods, as well as leaves, make food for caged birds.

Mr. W. H. Gibson has found the chickweed blossoming under snow in midwinter. He says: "It must indeed be a cold day when

"The chickweed's eye is closed."

You are always sure of it. Even in midwinter, if you know its haunt in some sunny nook, you may dig away the snow and pick its white, starry blossoms, larger and fuller now than those of summer."

14. Long-leaved Stitchwort

S. longifolia has a number of small, star-shaped white flowers on long pedicels, in cymes. Stems sometimes with rough angles, 8 to 18 inches high. Leaves long and narrow. Widely spread, growing in grass. May to July.

15. Corn-spurrey

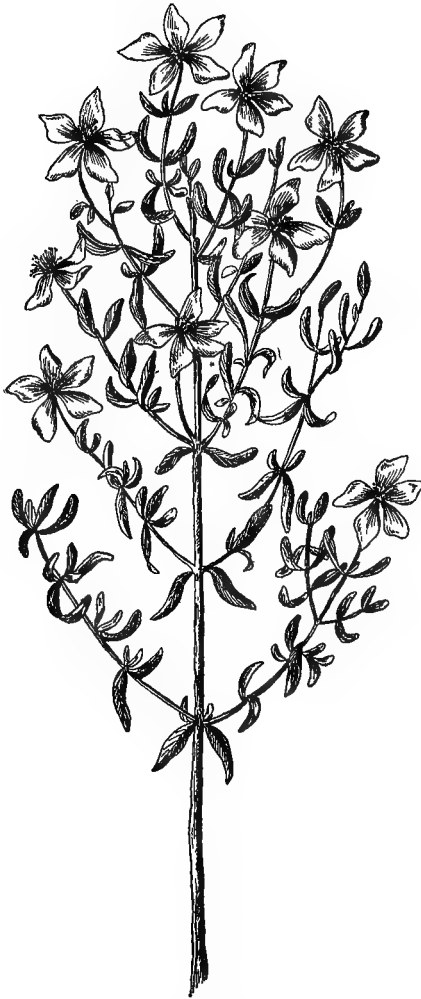
Spérgula arvénsis.—*Family*, Pink. *Color*, white. *Leaves*, whorled, numerous, long (1 to 2 inches), narrow and thread-like. *Time*, July, August.

Sepals, 5, separate. *Petals*, 5. *Styles* and *valves* of the pod, 5.

A delicate, pretty plant, found often growing thickly in corn and grain fields. 6 to 18 inches high.

16. Common Purslane

Portulàca oleràcea.—*Family*, Purslane. *Color*, light yellow. *Leaves*, thick, fleshy, roundish, entire, scattered. *Time*, spring, summer. *Calyx*, 2-cleft, the sepals keeled. *Corolla*



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COMMON ST. JOHN'S-WORT (*Hypericum perforatum*)

(See page 238)

of 5 petals, inserted on the calyx, opening only on sunny mornings, falling soon. *Stamens*, 7 to 12. *Style*, 1, but deeply 5- or 6-parted. *Pod*, round, opening by a lid hinged on one side, called a *pyxis*, disclosing numerous seeds neatly arranged within.

This persistent weed lies flat on the ground. The farmer, when he wants a strong comparison, says, "As mean as pusley." His wife does not disdain to use its succulent stem and leaves for an insipid and mucilaginous table vegetable. The leaves of this plant turn upward at night, two of them clinging together when they are opposite.

17. Common St. John's-wort

Hypêricum perforatum.—*Family*, St. John's-wort. *Color*, bright yellow. *Leaves*, oblong or lance-shaped, pellucid dotted, opposite, sessile, meeting and almost clasping the stem. *Time*, summer, into September.

Sepals, 5. *Petals*, 5. *Stamens* very numerous, united in 3 or 5 groups. *Styles*, 3. *Pod*, 3-celled. Petals and anthers dotted with black. A much-branched, leafy *stem*, with runners starting near the base, and many flowers in a flat cluster.

Very common. A weed when once established difficult to extirpate. Juice tart and blistering to the mouth. Where not too common, it is a bright and attractive plant. Imported from Europe. 1 to 2 feet high.

18. Common Mallow

Málva rotundifolia.—*Family*, Mallow. *Color*, white, with pink or lavender veins. *Leaves*, on long petioles, round, heart-shaped at base, with broadly toothed outlines. Slightly lobed. *Time*, summer.

Calyx of 5 sepals, under which are 3 narrow bracts. *Petals*, 5, notched. *Stamens*, united by their filaments into a tube. The kidney-shaped anthers are clustered at the top,

and the styles of the pistil project from and overhang the tube. This homely weed will repay examination under the magnifying-glass. The althaea and hollyhock are members of this family.

The common mallow is a dooryard weed. 4 to 12 inches long.

19

Sida spinosa.—Family, Mallow. Color, yellow. Leaves, lance-shaped or oblong, toothed, petioled.

Calyx, 5-cleft. *Petals* and *styles*, 5. *Fruit* of 5 carpels united, each becoming 2-beaked at the top. 1 to 2 feet high.

A low, branched plant, getting its name from a spine-like protuberance found at the base of some of the leaves. An importation from the tropics, this plant is now found growing in waste fields of southern New York, and to the westward and southward.

20. Yellow Melilot. Sweet Clover

Melilotus officinalis.—Family, Pulse. Color, yellow. Leaves, of 3 toothed leaflets. Time, July, August.

A plant which, when dried, is fragrant. The flowers are loosely borne on a long, raceme-like, drooping spike. It grows tall, from 2 to 4 feet.

21. White Melilot

M. alba is much like the yellow, except in color. It likewise has a fragrance, when dried, like new-mown hay.

Both grow in waste or cultivated grounds. At night 2 of the 3 leaflets fold together; the other, says Mr. Gibson, "is left out in the cold."

22. Black Medick

Medicago lupulina is a yellow-flowered clover, with flowers in short spikes and with kidney-shaped pods.

23. Alfalfa

M. sativa is cultivated for fodder. The flowers are purple and the pods spirally twisted.

24. Rabbit-foot or Stone Clover

Trifolium arvense bears flowers in compact heads. The color, at first purplish, becomes a soft gray, and the heads are silky and downy. Stipules are joined to the leaf-stalk. It is a troublesome weed in new lawns, having persistent, strong roots. In fields its masses of bloom vary with a pleasing gray tint the greens and browns of grasses. 5 to 10 inches high.

25. Yellow or Hop Clover

T. agrarium is not indigenous. Its yellow corolla becomes dry and brown with old age. The stipules are long and narrow, joined to the leaf-stalk for half its length. It grows in light soil by roadsides and in dry fields; about 10 inches high.

26

A smaller species of yellow-blossomed clover is *T. procumbens*, with downy stems 5 or 6 inches high.

27. Vetch. Tare

Vicia sativa.—Family, Pulse. Color, light purple. Leaves, of 5 to 7 pairs, narrow, tipped with a tendril.

Corolla, papilionaceous. Flowers, large, 1 or 2 in the leaf-axils, with short or no peduncles.

This is the common tare, that springs up in cultivated fields, from New England to New Jersey and southward.

V. tetrasperma has whitish flowers on long stems.

V. hirsuta has blue flowers, growing several on the stem.

All naturalized from Europe.

28. Carpet-weed

Mollugo verticillata.—*Family*, Ficoideae. *Color*, white. *Leaves*, small, in whorls, broad and obtuse at the apex, narrowed downward. *Time*, summer and September. A prostrate plant of the nature of a weed.

The little, open, white axillary flowers give one of this plant's common names—*Indian chickweed*. It has no petals, but 5 sepals, which are white inside, green outside.

It is common, growing in sterile soil along the sides of hard paths and in cultivated ground, too humble almost to attract notice.

29. Wild Carrot

Daucus Carota.—*Family*, Parsley. *Color*, white or purplish. *Leaves*, 2 or 3, pinnately decomposed. *Time*, summer. *Flowers*, in close umbels. 1 to 3 feet high.

Too well known to need description. Imported from Europe, it has become a common and most troublesome weed. After flowering, the umbel becomes concave or nest-shaped. The central flower of each umbel is purple and defective. In New Jersey whole fields are white with wild carrot. Were it less common, the soft, fine appearance of the flower, together with its prettily cut leaf, might win favor.

30. Fool's Parsley

Aethusa Cynapium.—*Family*, Parsley. *Color*, white. *Leaves*, ternately compound, the divisions cleft. *Time*, July.

A poisonous, ill-smelling annual growing on cultivated grounds. No involucre, but involucels of long and narrow hanging leaves under the umbellets of white flowers. Taste, acrid and burning. 12 to 30 ins. high.

31. Butter-weed. Fleabane

Erigeron Canadensis.—*Family*, Composite. *Color*, white.

Leaves, long, narrow, those from the root lobed. *Time*, July to October.

Both disk and ray flowers present. A tall, coarse, ugly weed. It resembles a daisy, with the rays cut very short. The numerous flowers are arranged in panicles.

32. Daisy Fleabane. Sweet Scabious

E. annuus. — *Leaves*, with coarse teeth, the lower with margined petioles.

Flowers clustered, larger than the last, white with purplish tinge. Also a coarse plant, 4 to 5 feet high. The flowers have many long, fine rays.

33

E. strigosus may be known from the last by its entire leaves and a generally more delicate appearance. The flower rays are white and fine.

Fleabanes, when dried and hung inside the house, were considered poisonous to insects.

34. Common Ragweed. Bitterweed

Ambròsia artimisiaefòlia. — *Family*, Composite. *Color*, green. *Leaves*, much cut and thin, opposite and alternate.

This unwelcome weed, when examined under the microscope, shows the fertile and sterile flowers in different heads on the same plant. The spikes of flowers above are staminate. Below, in the leaf-axils, are 3 pistillate flowers. Often the plant exhales rather a disagreeable odor. Its pollen is said to produce hay-fever. It has a strong, spreading root.

Mr. W. H. Gibson has found something curious and likable in this ugly weed. He says: "The pith obtained from the stem is lighter and more buoyant than any vegetable tissue of like bulk. It seems almost to float as it falls from your hand, while its cross-fracture, with its iridescent sheen, certainly brings reminders of



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DAISY FLEABANE (*Erigeron strigosus*)

the rainbow in the realm of the gods." Dr. Gray says the generic name *Ambrosia* "is ill-chosen for these worthless and coarse weeds."

Mr. Burroughs says: "Ambrosia, 'food for the gods'! It must be food for the gods, if anything, for, as far as I have observed, nothing terrestrial eats it, not even a billy-goat."

35. Spiny Cocklebur

Xanthium spinosum.—*Family*, Composite. *Color*, greenish yellow. *Leaves*, coarse, toothed or lobed, alternate. *Stems*, stout, branching.

Sterile and fertile flowers in different heads. *Corolla* attending the single pistil, long, thread-like.

An imported weed, too well known. There are spines at the base of the leaves, slender, and of a yellow color, 3-parted. In waste places, moist soil. Fruit, $\frac{1}{8}$ inch long, pointed, beaked, a rough bur clothed with hooked prickles, 2-celled.

36

X. strumarium grows in barn-yards, having more slender spines.

37

X. Canadense has stout and prickly fruit, the prickles hooked backward.

38. Purple Cone-flower

Rudbeckia hirta.—*Family*, Composite. *Color*, yellow, with chocolate-brown, cone-shaped disk. *Leaves*, almost entire, rough, hairy, as is the stem. *Time*, summer.

Rays and disk-flowers present.

This pretty weed has been brought to the East in clover-seeds from Western fields. It grows 1 to 2 feet high, and colors whole fields with a bright yellow, possessing strong roots, which are as difficult to eradicate as those of the white daisy. New Jersey



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PURPLE CONE-FLOWER (*Rudbeckia hirta*)

farmers regard the cone-flower with thorough disapproval, but city boarders fill large jardinières with the yellow blooms, and love them.

39

Galinsōga parviflōra.—*Family*, Composite. *Color*, greenish yellow. *Leaves*, thin, 3-nerved, egg-shaped, pointed, toothed, or entire. *Time*, spring to autumn.

A weed found plentifully in the back yards of our city houses. It is on the increase, and is difficult to eradicate. The small flowers have yellow disks and minute white rays. It grows several inches high, and is smooth and odorless.

40. White-weed. Ox-eye Daisy. White Daisy

Chrysānthemum Leucānthemum.—*Family*, Composite. *Color*, white. *Leaves*, cut or toothed. *Time*, June to September.

The wonder is that so simple a flower can carry so long a botanical name. This is the common white daisy, dear to city maidens and abhorred by cultivators of the soil. It has come from Europe. The fever-few and marguerite of the gardens are refined types of this aggressive weed.

The English daisy is pink—"crimson-tipped," as Burns says—and is a near relative of the whiteweed.

41. Dandelion

Tarāxacum officināle.—*Family*, Composite. *Color*, yellow. *Leaves*, at the root, variously cut. *Time*, early spring, into summer and fall.

This is one of the weeds that we love for its bright, golden eye, and because it is one of our first flowers to awake from its winter nap and prophesy of coming spring. It is a native of Europe, but has occupied our American soil as far as to the Rocky Mountains. Its young leaves are eaten. In fruit it forms a round head of evanescent seed, a flower bubble, the soft, feathery pappus being raised on a long beak.

Many lawns are a mass of golden bloom with the dandelion.

It not only comes early, finding warm, sunny corners in April, but it blooms solitary and audacious long after its true season is spent. The time for each blossom is short, the involucre at first closing; later, after the pappus has grown, opening, turning downward, leaving the seed wholly exposed to the breeze.

The dandelion has tempted many poets' pens. The deep color of the flower suggests to James Russell Lowell a comparison with the precious metal which tempted the "Spanish prow" across the seas:

"Dear common flower that grow'st beside the way,
 Fringing the dusty way with harmless gold,
 First pledge of blithesome May,
 Which children pluck, and full of pride uphold—
 High-hearted buccaneers, o'erjoyed that they
 An Eldorado in the grass have found
 Which not the rich earth's ample round
 May match in wealth—thou art more dear to me
 Than all the prouder summer blooms may be.

"Gold such as thine ne'er drew the Spanish prow
 Through the primeval hush of Indian seas,
 Nor wrinkled the lean brow
 Of age, to rob the lover's heart of ease!
 'Tis the spring's largess, which she scatters now
 To rich and poor alike, with lavish hand;
 Though most hearts never understand
 To take it at God's value, but pass by
 The offered wealth with unrewarded eye."

42. Thistle

Cnicus lanceolatus.—*Family*, Composite. *Color*, crimson. *Leaves*, cut, prickly, woolly, sessile, alternate, running down the stem. *Time*, summer.

Flowers in a round, close head, surrounded by a prickly involucre.

This is the common thistle, with leaves and stem very prickly,

which is the despair of every farmer once it makes its appearance in his pasture.

43. Canada Thistle

C. arvensis, 1 to 2 feet high, with many small, purplish heads of flowers, so troublesome a weed in New England fields, has large, creeping roots, which can only be eradicated by frequent, deep ploughing.

44. Pasture Thistle

C. pumilus is about the same height, with 1, 2, or 3 rather small heads of rose-colored flowers. 1 to 2 feet high.

45

The tallest of the thistles is *C. altissimus*, sometimes 10 feet high, with rather small heads of rose-colored flowers.

46

C. horridulus is a thistle whose flowers are pale yellow, sometimes purple, very prickly. The small spines are yellowish. These grow in dry or sandy soil as weeds more or less troublesome in fields or pastures. 1 to 3 feet high.

47. Venus's Looking-glass

Specularia perfoliata.—*Family*, Campanula. *Color*, blue, with purplish tint. *Leaves*, round, clasping the stem with a heart-shaped base. *Time*, June to August.

Calyx, 3 to 5-lobed. *Corolla*, 5-lobed. The wheel-shaped, blue flowers of this plant are found singly or in twos or threes in the upper leaf-axils. The stem, 3 to 20 inches high, is simple, weak, with milky juice. The fruit is a 3-sided capsule. The lower flowers on the stem, 2 or 3 together, half-enclosed by the shell-like leaf, are small, cleistogamous, fertilized in the bud, and never expand into flower. The upper,

terminal ones only, open and display the broad, expanding corolla.

48. Horse-nettle

Solanum Carolinense.—*Family*, Nightshade. *Color*, violet, or rarely white. *Leaves*, toothed or deeply cut, ovate or oblong. *Time*, summer.

Calyx, 5-parted. *Corolla*, wheel-shaped, 5-parted. *Fruit*, a 2-celled berry. Stout and erect perennials, with many stiff, yellowish prickles upon the roughly hairy stem.

In waste grounds and dry soil, from Connecticut to Florida, westward to Texas.

49. Common Nightshade

S. nigrum, with white flowers, opposite, ovate, wavy-toothed leaves and black berries, is found in shady, damp spots—an ill-looking weed.

The deadly nightshade is an English plant with bright red berries, not found here. The tomato, egg-plant, and capsicum, also the Irish potato, belong to this family, which contains, besides these useful and edible plants, many that are very poisonous. The berry of the potato is said to be poisonous.

50. Jamestown-weed. Thorn-apple

Datura Stramonium.—*Family*, Nightshade. *Color*, white. *Leaves*, ovate, toothed, large. *Time*, summer and autumn.

Calyx, 5-toothed, the upper part falling away in fruit. *Corolla*, 3 inches long, funnel-form, the edge 5-toothed. *Stamens*, 5. *Fruit*, a prickly 2-celled capsule. Flowers on peduncles growing in the forks of the branching stems.

Large, coarse, rank plants, often found in the barn-yards. They are ill-scented and poisonous.

51. Mullein

Verbascum Thapsus.—*Family*, Figwort. *Color*, yellow. *Leaves*, thick, velvety, long, acute, alternate. *Time*, summer.

A well-known, tall, thick, excessively woolly plant, with terminal spikes of large blossoms. The leaves run down the main stem, producing wings. The flowers last for a day only.

I have seen this plant cherished in pots in the houses in Germany, under the name of the "American velvet-plant," and have been called upon to admire the extremely soft, beautiful leaves!

52. Butter-and-eggs

Linària vulgàris. — *Family*, Figwort. *Color*, yellow and orange. *Leaves*, long, narrow, entire, and alternate. *Time*, summer.

Corolla, 2-lipped, with the throat closed by a projection of the lip, called a palate. The lower lip has a long, slender spur. Stem, 2 or 3 feet high. The flowers are fragrant, rather suggestive of a dairy smell. They grow closely together in a long, slender terminal spike, rather pretty, but of the plebeian type.

53. Neckweed. Purslane Speedwell

Verónica peregrìna. — *Family*, Figwort. *Color*, whitish. *Leaves*, the upper sessile, entire, oblong; the lower petioled, thickish, oval to oblong, toothed. *Time*, April to June.

Corolla, wheel-shaped, 4-parted. *Flowers*, short pedicelled, appearing sessile, single in the axils. *Calyx*, longer than the corolla. A smooth plant, 4 to 9 inches high.

A common weed throughout the United States.

54. Gill-over-the-ground. Ground Joy

Népetà Glechòma. — *Family*, Mint. *Color*, blue. *Leaves*, serrate, rounded, kidney-shaped, with petioles. *Time*, May to August.

Calyx, 5-toothed, small. *Corolla*, 2-lipped, the upper small, 2-cleft; the lower broad, 3-cleft.

A prostrate, trailing plant, often found bordering the garden paths, blossoming rather early. Flowers in clusters in the axils.

Near the fence, close by, is its near relative,

55. Catnip

N. Catària, a European species. The plant is covered with a great deal of whitish down. The leaves are heart-shaped, coarsely toothed, petioled. Flowers white or purplish, crowded in spikes.

Catnip-tea is an old-time remedy for colds and fevers.

56. Dead-nettle

Làmium amplexicaule.—*Family*, Mint. *Color*, purplish. *Leaves*, rounded, deeply toothed, those above clasping the stem; the lowest long-stalked. *Time*, May to October.

Corolla, small, tubular, 2-lipped, the lips quite open, the upper rounded and concave; the lower flat, hanging, with small side lobes, spotted. The flowers are in whorls or heads, like many of the mint family.

57. Amaranth. Rough Pigweed

Amaránthus retrofléxus.—*Family*, Amaranth. *Color*, green. *Leaves*, ovate, or the upper lance-shaped, pointed, long-petioled. *Time*, August to October.

Sepals, 5, tipped with a point. *Corolla*, wanting. *Stamens*, 5, awl-shaped. *Bracts*, 3, under the flowers, which are collected in dense axillary and terminal spikes. Height, 1 to 10 feet.

58. Thorny Amaranth

A. spinósus is a weed more troublesome southward. A pair of rigid spines occurs in the axils of the leaves. Stem reddish, 1 to 4 feet high.

59. Tumble-weed

A. álbus has pale-green to whitish stems, with slender branches. *Flowers*, in small axillary clusters. *Stamens* and *sepals*, 3. This weed is often uprooted by the wind and blown about on the Western prairies, whence the common name.

60. Pigweed. Lamb's-quarters

Chenopodium álbum.—*Family*, Goosefoot. *Color*, green. *Leaves*, narrow above, broader below, angularly toothed. *Time*, spring, summer.

The farmer's wife boils the tender tops of this weed, not knowing that the plant is nearly related to her garden spinach and beets. As the plant grows older it becomes white and mealy. *Flowers* in spikes or panicles, small, without corolla.

61. Russian Thistle

Salsola Trágus.—*Family*, Goosefoot. *Color* of leaves and outer branches, red. *Leaves*, rigid, needle-like, tipped with a prickle, clustered, long, somewhat fleshy.

Calyx, 5-parted, each division with a broad, strongly veiny wing, which encloses the fruit. *Stamens*, 5. *Styles*, 2. *Flowers* in axils of the leaves. Plant branched, bushy, an importation from Europe or Asia, and a pernicious weed in New Jersey and northward.

62. Scape. Pokeweed. Garget. Pigeon-berry

Phytolacca decándra.—*Family*, Pokeweed. *Color*, white. *Leaves*, large, smooth, thick, oval, pointed, veiny, alternate. *Time*, July to September.

Calyx of 5 white sepals, with a pink tint on the outside. *Corolla*, wanting. *Stamens*, 10, giving the specific name. *Styles*, 10. *Ovary*, green, conspicuous, forming in fruit a 10-

celled berry, with a single seed in each cell, surrounded with purplish juice. A tall weed, 5 to 10 feet high, with stout, upright stems and flowers in racemes, rank-stemmed, with a broad, poisonous root. The berries cannot be poisonous, for birds eat them.

This is one of the plants that springs up in burnt-over districts. In one season such blackened ground bears myriads of gargets, where none was seen before. They also like to creep up near dwellings. I have in mind one which grows back of a country church, close to its wall, always in the shade, reaching the pulpit window with its tall stem.

"Its cylindrical racemes of berries of various hues, from green to dark purple, 6 or 7 inches long, are gracefully drooping on all sides, offering repasts to the birds, and even the sepals from which the birds have picked the berries are a brilliant lake-red, with crimson, flame-like reflections, equal to anything of the kind—all on fire with ripeness."—*Thoreau*.

63. Curled Dock

Rumex crispus.—*Family*, Buckwheat. *Color*, green. *Leaves*, long, narrow, with wavy, curled edges, acute at apex, the lower ones slightly heart-shaped at base. *Time*, spring and summer.

Calyx, of 6 sepals, the inner 3 (called valves) colored, bearing greenish grains, which they close around. The outer 3 are leaf-like, united at base, spreading in fruit. *Stamens*, 6. *Styles*, 3. Instead of ordinary stipules, the leaves at the very bases of their petioles sheathe the stem. Flowers in whorls, crowded in long panicles.

A common weed in farm lands, 3 or 4 feet high.

64. Bitter Dock

R. obtusifolius has flowers whorled in looser, more distant panicles. Lower leaves ovate, heart-shaped, obtuse, the upper narrower, acute. Calyx wings spiny-toothed; achenes smooth, red.

65. Red-veined Dock

R. sanguineus is similar, with red veins in the leaves. Leaves somewhat fiddle-shaped, the lower with long petioles.

66. Smaller Green Dock

R. conglomeratus has a leafy panicle of pedicelled, small flowers. Leaves petioled, oblong to lance-shaped, acute, 1 to 5 inches long.

67. Field or Sheep Sorrel

R. Acetosella bears a small panicle of reddish flowers, and smooth, halberd-shaped leaves, mostly clustered at the root. Low, sour herbs, so common as to redden the fields where they grow. The upper leaves clasp the stem with thin, membranous, stipular sheaths. Common everywhere in dry soil.

68. Knotweed. Doorweed

Polygonum aviculare.—*Family*, Buckwheat. *Color*, pink. *Leaves*, small, sessile, blue-green, less than 1 inch long, narrow. Sheaths silvery, membranous. *Time*, summer.

Corolla, none. *Calyx*, green, bordered with pink. *Flowers*, very small, in axillary clusters.

There is a puzzling variety among the species of this genus, some of which are common weeds; others, rarer, aspire to prettiness. Many of them frequent wet places, and are found along roadsides. This one is smooth, much jointed, prostrate, slender. Very common.

69. Erect Knotweed

P. erectum is stouter, erect, 2 feet or less tall, with broader leaves. There is a yellowish tint to the flowers and stem by which it may be known. Flowers 1 or 2 in the axils. Leaves jointed to the sheaths.

70. Pennsylvania Persicaria

P. Pennsylvanicum has lance-shaped leaves hairy along the mid-rib. The dark, pink flowers are in short, thick, obtuse

spikes. Branches often dotted with little stalked glands. Plant erect, 1 to 3 feet tall.

71. Lady's-thumb

P. Persicaria has bristly haired sheaths with pointed, lance-shaped leaves, generally spotted near the middle with a dark-brown, triangular figure, and flowers in dense, erect, peduncled spikes.

72. Black Bindweed

P. Convolvulus is a twining or prostrate species with halberd or heart-shaped leaves, and greenish flowers in loose, irregular axillary clusters.

73. Stinging Nettle

Urtica didica.—*Family*, Nettle. *Color*, greenish. *Leaves*, opposite, ovate, heart-shaped, downy underneath. *Time*, summer.

The whole plant is furnished with stinging hairs. A small gland, secreting a poisonous fluid, is at the base of each hair. If one be touched, never so lightly, I can testify from experience that the hand will burn and sting for hours afterwards. Height, 2 or 3 feet. Common around old out-buildings and barns, and in waste places generally.

Two other species may be mentioned; neither of them quite so vicious.

74. Slender Nettle

U. gracilis is sparingly bristly, quite tall, 2 to 7 feet, with leaves lance-shaped, possessing heart-shaped or round bases, deeply serrate, on tall petioles. Flowers in axillary compound panicles.

75. Small Nettle

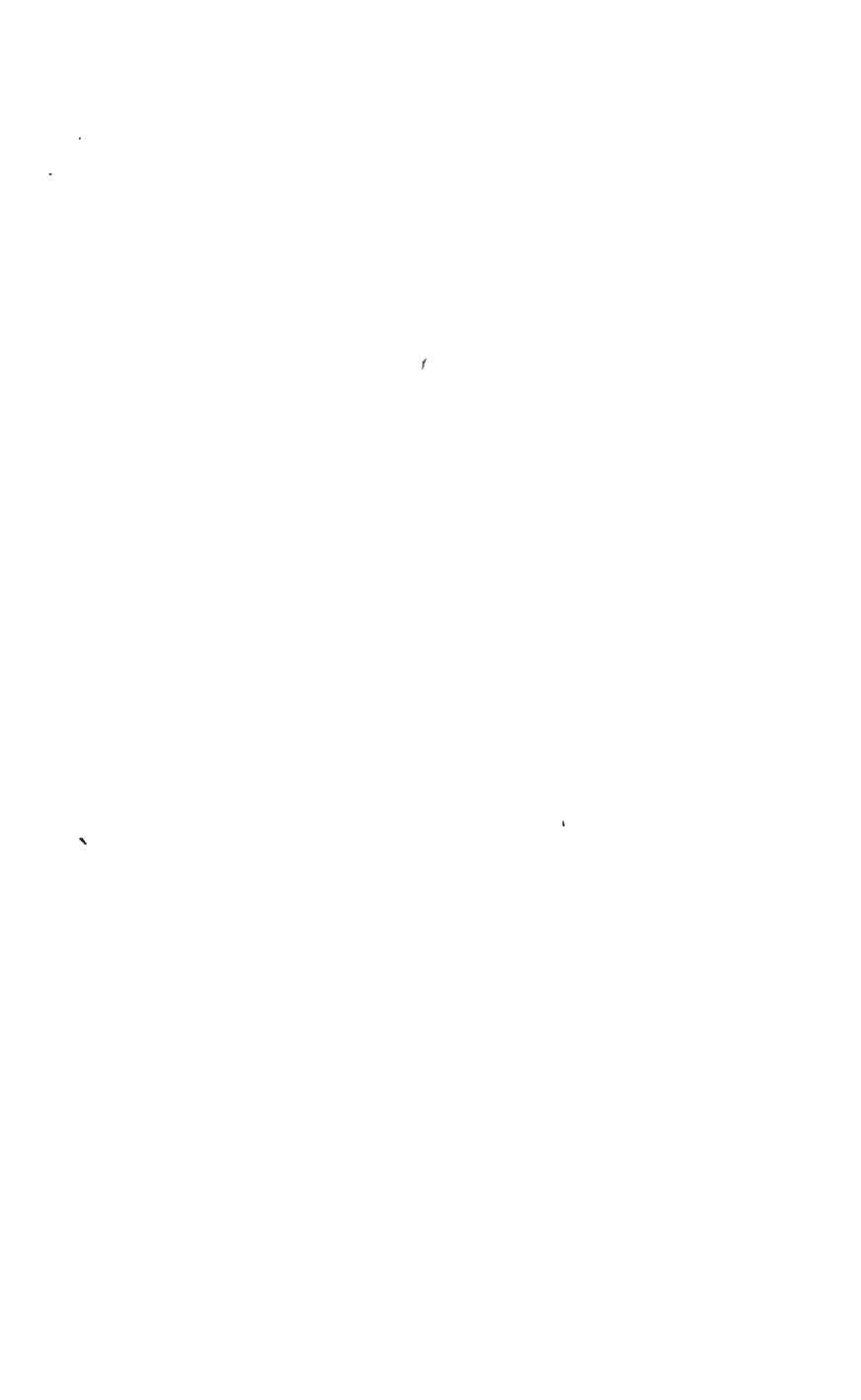
U. urens is small and coarse, provided with few stings. Leaves deeply and sharply toothed, ovate, petioled, 3- to 5-nerved. These species are found over the entire Atlantic coast.

To this family belong our splendid elm-trees; also, the fig and banyan, as well as the hemp plant.

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CHAPTER VIII

ESCAPED FROM GARDENS

The tendency of plants to escape from their first environments is illustrated by some of our cultivated flowers. The seeds are widely dispersed; they take root by the wayside or in fields, and every season travel farther from their original home. At length they grow among the native flowers with the appearance of an indigenous plant. I found a seemingly new species once in a walk along the Pompton fields (New Jersey). It was a pretty crimson flower of the Compositae, and as I could not find any mention of it in the Manual (an old edition of Gray), I plumed myself on being a discoverer, with all the pride of an amateur astronomer who locates a new asteroid.

My pretty flower was only an oyster-plant "escaped from gardens."

In this chapter a few of these wanderers are grouped.

ESCAPED FROM GARDENS

1. White Poppy

Papàver somniferum.—*Family*, Poppy. *Color*, white or bluish purple. *Leaves*, alternate, divided, clasping, cut, and toothed. *Time*, late spring and summer.

Sepals, 2, thin, falling after the flower appears. *Petals*, 4. Numerous *stamens*. *Style* short, and *stigma* broad, overhanging the ovary.

Fruit, 1 inch in diameter, opening by chinks under the edge of the stigma. Stem, from 1 to 3 feet high, somewhat hairy. Buds droop on the stem ; the flower is erect.

This is the opium poppy, cultivated so largely in Turkey and India.

The part of the plant used in commerce is the milky juice which exudes from the capsules. These are carefully cut in the evening, and the juice is collected next morning. When sufficient liquid has been gathered on one dish, it is drained and evaporated, made into round balls, and placed on slats to dry. The opium balls are then ready for market.

Opium contains morphine, narcotine, codeine, thebaine, papaverine, etc. Its use in medicine is well known. The Romans understood its medicinal properties. Vergil speaks of the plant, and of its sleep-producing capacities.

The export of opium from India into China is over 14,000,000 pounds every year. The Chinese government has strenuously opposed the excessive importation, but has been forced to sub-

mit. In parts of China 15 out of 20 adults smoke it, and many eat it as well.

The opium poppy can be cultivated in the United States, but the high price of labor here makes it impossible to compete with Oriental countries.

2. Spider-flower

Cleome púngens.—*Family*, Caper. *Color*, crimson. *Leaves*, long-petioled, much cut, the leaflets acute. *Time*, summer and early fall.

Calyx, 4-cleft. *Corolla*, of 4 petals on long claws. *Stamens*, 6, equal in length, with very long, thread-like filaments. *Pistil*, a very long stalk, at the end of which the seed-vessel is borne. *Pod*, long, many-seeded.

A showy flower found in gardens, here and there escaped from cultivation. 4 to 6 feet high.

3. Sweet Violet

Viola odoràta.—*Family*, Violet. *Color*, purple or blue. *Leaves*, clustered, heart-shaped. *Time*, spring.

This is a species indigenous throughout Europe, escaped from cultivation with us. It is known by its sweet scent, and, when double, is the flower so largely sold by florists in early spring.

4. Pansy. Heart's-ease

V. tricolor.—*Color*, purple and yellow. *Leaves*, cut or entire.

This pretty little violet is a reminder of our grandmothers' gardens. It is the origin of the pansy in its infinite variety, than which probably no other flower has a greater cultivation. The heart's-ease has now run wild in many places.

5. Deptford Pink

Diánthus Armèria.—*Family*, Pink. *Color*, rose. *Leaves*, long and narrow. *Time*, July.

Calyx, tubular, with 5 points. *Petals*, 10. *Stamens*, 10. *Styles*, 2. 6 to 18 inches high.



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DEPTFORD PINK (*Dianthus Armeria*)

A small annual, with flowers in clusters on stiff, erect stems, formerly cultivated. I have found it high up on the hills and in dry fields. The garden Sweet William is a near relative of this pink. *D. carophyllus*, an English species, is the origin of the larger cultivated carnation or clove-pink.

6. Bouncing Bet. Soapwort

Saponaria officinalis.—*Family*, Pink. *Color*, light rose or white. *Leaves*, lance-shaped, the lower ones broader, more oval than the others, opposite. Joints of stem swollen.

Calyx, 5-toothed. *Petals*, 10. *Stamens*, 10. *Styles*, 2.

A slovenly flower, still somewhat cultivated, but often running wild. The calyx bursts, and the petals seem tumbling out of place. The plant is from 1 to 2 feet high, and has a generally back-yardish appearance.

7. Curled Mallow

Málva crúspa.—*Family*, Mallow. *Color*, whitish. *Leaves*, alternate, round, crisped. *Time*, summer.

Sepals, 5, united at base. A 3-leaved involucre underneath. *Petals*, 5, inversely heart-shaped. *Stamens*, numerous, united into a column. *Pistils*, many, making in fruit a ring of kidney-shaped, 1-seeded carpels, which separate when ripe. The *flowers* are small, sessile, crowded in the leaf-axils. Tall and straight.

8. Musk-mallow

M. moschàta has white or magenta flowers, which smell pleasantly of musk. The leaves are 5-lobed, their divisions cleft or parted. Flowers borne on short peduncles, clustered on the branches and stem.

9. Velvet-leaf. Indian Mallow

Abùtilon Avicénnæ. — *Family*, Mallow. *Color*, yellow. *Leaves*, soft and velvety, long-petioled, heart-shaped, with

roundish lobes. *Fruit*, hairy. *Stem*, 4 feet high. Originally from India.

10. Common Blue Flax

Linum usitatissimum.—*Family*, Flax. *Color*, blue, with a purplish tinge. *Leaves*, linear, alternate, 1 inch or so in length. *Time*, summer.

Parts of the blossom in fives, regular and symmetrical. Flowers in terminal corymbs, pretty and delicate. The fibrous part of the plant is used in the manufacture of linen, cordage, sail-cloth, etc. Its seed furnishes linseed-oil.

It is cultivated in this country, and grows spontaneously in some places.

“Oh, the goodly flax-flower!
It groweth on the hill,
And be the breeze awake or sleep,
It never standeth still.”

MARY HOWITT.

11. White Clover

Trifolium repens.—*Family*, Pulse. *Color*, white.

The white clover is a finer-leaved, smaller plant than the common red clover (*T. pratense*). It is sweet-scented. Honey made from a field of white clover is delicious.

Crimson Clover is a handsome, newly introduced species, with large leaves, tall stems, and long spikes of dark red flowers.

12. Purple Coronilla

Coronilla varia.—*Family*, Pulse. *Color*, pink-purple or white and lilac. *Leaves*, compound, 7 to 12 pairs of small oblong leaflets, with 1 odd, terminal. *Flowers*, papilionaceous, grouped in umbels from slender peduncles springing out of the leaf-axils. *Pods*, long, 3 or 4 times jointed. *Time*, all summer.

This pretty, hardy plant, escaped from cultivation, borders the roadsides in many places in Connecticut and Long Island to New Jersey. From underground runners ascending stems arise to the height of 2 feet. It is becoming more common every year.

13. Mossy Stonecrop

Sedum acre.—*Family*, Orpine. *Color*, yellow. *Leaves*, thick, small, overlapping on the branches, like scales. *Time*, July.

Sepals and *petals*, 4 or 5. *Stamens*, twice as many as petals. *Pistils*, 4 or 5.

Moss-like plants, better known in hanging-baskets and urns, but found growing wild in some sections.

14

The garden *Orpine* or *Live-for-ever* (*S. Telephium*), with purple flowers, stout oval leaves, and thick stems, 2 feet high, has also escaped from gardens and attached itself to congenial rocks in some woods.

15. Caraway

Carum Carui.—*Family*, Parsley. *Color*, white. *Leaves*, compound, some of the leaflets cut into thread-like divisions. *Time*, summer.

Flowers in compound terminal umbels. Escaped from old-fashioned gardens, where it has long been a favorite plant on account of the pleasant taste of the seeds, which are still used in cookies and buns. 1 to 2 feet high.

The fusiform root is said to be edible.

16

C. Petroselinum is the garden parsley, which is found sometimes growing wild. It bears greenish-yellow flowers.

17. Wild Parsnip

Pastinaca sativa.—*Family*, Parsley. *Color*, yellow. *Leaves*, pinnately compound. *Time*, early summer.

Flowers in small, compound umbels, without involucre or involucels. *Stem*, tall, stout, smooth, grooved.

This is the cultivated parsnip, now escaped from gardens and found wild everywhere. It is fed to cattle, especially in Europe, where the root is said sometimes to reach the length of 4 feet.

18. Tansy

Tanacètum vulgàre.—*Family*, Composite. *Color*, yellow. *Leaves*, coarse-grained, much cut into fine-toothed leaflets. Petioles winged and cut-toothed. *Time*, summer.

Flowers, all tubular, and much compressed into flat-topped corymbs.

An herb formerly cultivated for its medicinal qualities. It has escaped from gardens, and now grows wild in many places. Plant from 3 to 4 feet high, with a strong, pungent scent.

19. Wormwood

Artimisia Absinthium.—*Family*, Composite. *Color*, yellow. *Leaves*, twice or thrice divided into narrow lobes. *Time*, summer.

Escaped from old gardens, where it is still cultivated for its remedial virtues. *Southernwood* is a member of this genus, sweet-scented, with narrow, linear leaves.

Mugwort (*A. vulgàris*) is another species, with white wool on the branches and under surfaces of the leaves, the small flowers being in panicles.

20. Oyster Plant

Tragopògon porrifòlius.—*Family*, Composite. *Color*, dark crimson. *Leaves*, grass-like, clasping the stem. *Time*, summer.

This plant may often be found growing wild along the borders of farms. It grows 2 or 3 feet high, is stout, and may be known by its leaves, which are long, narrow, and clasping, grass-like. Flower-heads large, solitary.

There is a species called goat's-beard (*T. pratensis*), which bears yellow flowers.

21. Bell-flower

Campânula ranunculoides. — Family, Campanula. *Color*, purple. *Leaves*, bract-like above, the lower with long petioles and heart-shaped. *Time*, summer.

Calyx and *corolla*, bell-shaped and 5-cleft, the points spreading. Flowers 1 inch long.

This is a pretty plant, rather stiff in its foliage, escaped from cultivation in country gardens, where also it is still found. The large, bell-like flowers hang from short pedicels in the axils of the upper bract-like leaves. 2 or 3 feet tall.

22. Black Henbane

Hyoscyamus niger. — Family, Nightshade. *Color*, dull, brownish yellow, marked with purple veins. *Leaves*, clasping the stem, wavy in outline, angled or toothed.

Calyx, tubular, 5-lobed. *Corolla*, funnel-shaped, with a 5-lobed, plaited border. The capsule, surrounded by the calyx, opens with a round lid near the top. *Flowers* in the axils of the leaves in one-sided, leafy spikes. Plant with a disagreeable scent, poisonous.

23. Snapdragon

Antirrhinum majus. — Family, Figwort. *Color*, purple, blue, or white. *Leaves*, smooth, oblong, numerous, lower opposite or whorled. *Time*, summer and autumn.

A well-known cultivated plant escaping from old gardens. The corolla forms a type of many members of the Figwort family, 2-lipped, the lips meeting and closing the tube. By pressing the thumb and finger on the sides the flower may be made to open widely, like an animal's mouth. Letting it go, it shuts again suddenly, easily suggesting the common name. Flowers nearly 2 inches long, in racemes.

A smaller species is *A. Oróntium*.

24. Creeping Thyme

Thymus Serpyllum.—*Family*, Mint. *Color*, purplish. *Leaves*, very small, ovate, with fringing hairs at the base. *Time*, summer.

A much-branched, low, slender plant forming dense tufts from one root. Flowers generally in whorls of 6, without bracts, but with a pair of floral leaves. All forming a long, slender spike.

It was used for seasoning by the old Romans. Thyme and honey were found on Mt. Hymettus. Honey made from the flowers of this plant was greatly liked.

25. Summer Savory

Saturèia horténsis is found growing wild in some Western fields. Flowers purple, few in a spike, without bracts, and with narrow, entire leaves in clusters.

26. Horehound

Marrùbium vulgàre.—*Family*, Mint. *Color*, white. *Leaves*, ovate, rounded at base, serrate, wrinkled, with short petioles. *Time*, summer.

A rough plant, 12 to 18 inches high, with roundish clusters of flowers and stiff bracts in the leaf-axils. *Corolla*, quite small.

One of the plants which follows man from one abode to another. It was formerly much used for coughs and other lung complaints.

27. Prince's Feather

Polygonum orientàle.—*Family*, Buckwheat. *Color*, bright rose. *Leaves*, with petioles, ovate, pointed, or oblong, sheathing the stem. *Time*, summer.

Better known in gardens, from which it has escaped and become wild in places. It is tall and covered with soft, hairy down. Heavy, dense spikes of flowers, drooping and handsome. The sheaths at base of the leaves are hairy, often turned back along the upper edge. 1 to 8 feet high.

Originally from India.

28. Snow-on-the-Mountain

Euphóbia marginàta. — *Family*, Spurge. *Color*, white. *Leaves*, whorled or opposite, the upper conspicuously bordered with white. *Time*, August.

An erect, hairy plant, 2 to 3 feet high, with the flowers as described in a previous chapter. This species is very showy, the white leaves above setting off the smaller flowers, which grow in 3-forked umbels.

This is cultivated in New York and New Jersey. It is wild westward and southward.

29

E. Cyparíssiæ is another species escaped from cultivation. It is low, 8 to 10 inches high, with narrow, crowded stem-leaves, those above heart-shaped. Flowers in umbels. This grows from a running rootstock.

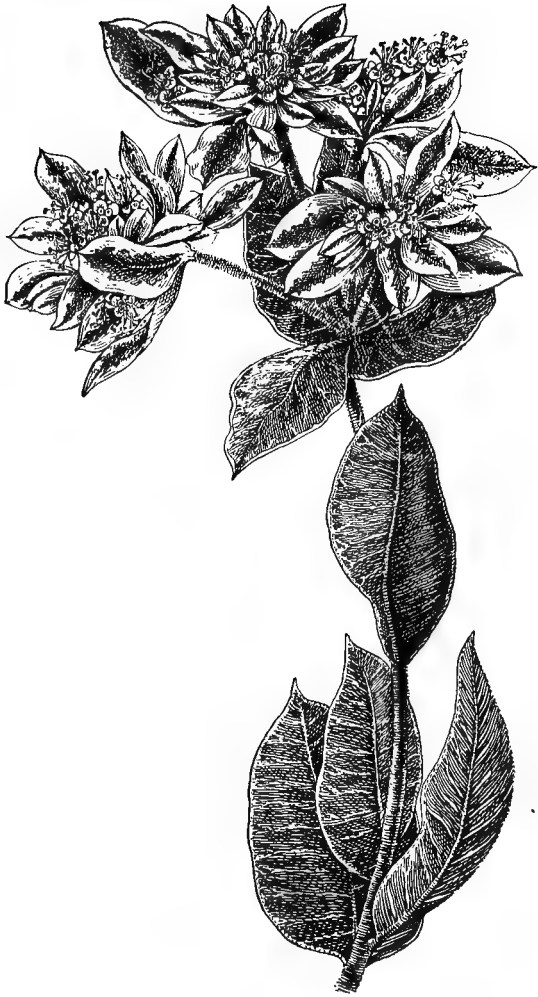
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E. Láthyris is a smooth plant with stout stem, 2 to 3 feet high, with thick, oblong leaves, those under the flowers often heart-shaped.

Occasionally found wild from New England to North Carolina.

31. Blackberry Lily

Gemmingia Chinénsis. — *Family*, Iris. *Color*, deep orange-yellow. *Leaves*, like those of iris, 8 to 10 inches long, folded. Scarious bracts above. *Time*, July to September.



SNOW-ON-THE-MOUNTAIN (*Euphorbia marginata*)

It was while walking on one of the roads in Suffern, New York, that I first found this strikingly handsome flower growing to a height of 3 or 4 feet, with the sword-shaped leaves of the flower-de-luce, the stem crowned with small lily-like blossoms. I nevertheless perceived that it was not a lily. An enlarged central column came up through the ovary, and, the outside covering falling away, the round, juicy seeds clung to this receptacle and formed a very clever imitation of a blackberry. The 6 divisions of the flower perianth are deeply and regularly cut nearly to the base of the flower-tube, spreading and turning somewhat backward. After flowering they twist together and remain withered above the ovary. They are of a deep-orange tint, speckled with purplish, irregular spots. Originally from China, here and there escaped from gardens, from southern New York to Georgia and westward.

32. Star-of-Bethlehem

Ornithógalum umbellàtum ("birds' milk," from color of flowers).—*Family*, Lily. *Color*, white. *Leaves*, long, narrow, 1-ribbed, grass-like, fleshy, equal to or longer than the flower-stems. *Time*, May, June.

A pretty, pure white flower, with 6 spreading sepals, opening in sunshine, green in the middle on the under side. Flowers pedicelled, each with a bract, clustered on the summit of the scape, 5 to 12 inches high. The root is a coated bulb. Escaped from gardens, and found wild; quite common from Massachusetts to Virginia, in grassy lawns, side by side with the grape-hyacinth.

33. Drooping Star-of-Bethlehem

O. nutans has flowers in nodding racemes, with stout pedicels and narrow, pointed bracts. A garden species found wild in eastern Pennsylvania.

34. Grape-hyacinth. Baby's-breath

Muscàri botryoides.—*Family*, Lily. *Color*, deep indigo-blue. *Leaves*, long and narrow. *Time*, April, May.

The perianth of this pretty spring flower is like a round, small bell or globe with 6 little teeth on the edge. The flowers are crowded in long racemes at the end of the scape. Root a bulb. The specific name means, and the deeply colored flower-bells suggest, a bunch of grapes. Originally cultivated, and now escaped from gardens, found in grass-plots, along roadsides, and in meadows, from Massachusetts to Virginia and Ohio.

35. Common Day-lily

Hemerocallis fulva.—Family, Lily. Color, orange-yellow. Leaves, long, narrow. Time, July.

This lily has left the old gardens, escaped to roadsides and fence-corners, where it leads a Bohemian sort of life. It grows tall, and bears several blossoms, short-pedicelled, with small bracts. Stamens large and prominent. The blossoms last a day only, and then wither.

The yellow, sweet-scented lily (*H. flava*) should also be noticed as occasionally escaping from cultivation into a wild state.

36. Tiger Lily

Lilium Tigrinum.—A garden species, tall, 2 to 5 feet, stout-stemmed, leafy to the base, is often found in the fence-corners and along roadsides, growing wild. The stem is nearly black or dark purple, bearing black bulblets in the upper leaf-axils, which sometimes throw out rootlets. Leaves, lance-shaped, with prominent ribs and entire outlines, alternate. Flowers, often numerous, large, drooping, with orange-red, spotted, turned-back sepals. It has 1 long pistil and 6 stamens, projecting and spreading.

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CHAPTER IX

HILLS AND ROCKY WOODS

*“ But this bold floweret climbs the hill,
Hides in the forest, haunts the glen,
Plays on the margin of the rill.
Peeps round the fox’s den.”*

JAMES MONTGOMERY.

HILLS AND ROCKY WOODS

1. Wild Columbine

Aquilegia Canadensis.—*Family*, Crowfoot. *Color*, red and yellow. *Leaves*, root and stem, compound, on long stalks, leaflets divided and roundish-lobed. *Time*, April to June.

Sepals, 5, colored, ovate. *Petals*, 5, red, lined with yellow; in shape they are long, hollow spurs, ending in a little knob below, tipped with a short lip above. *Stamens*, many and long, protruding. *Pistils*, 5, making as many long, erect pods, tipped with the slender styles. *Flowers*, nodding, $1\frac{1}{2}$ inches long. 1 to 2 feet high.

One would scarcely dare to deck her bonnet with red and yellow, but good taste is not offended when nature's artist dips the brush in chrome for a lining to the columbine's scarlet cornucopias.

Its delicate foliage and bright flower make this a favorite, whether it nods in greeting from its favorite clefts in high rocks or grows humbly at our feet.

Insects find sweet honey at the end of the tiny horns, and carry pollen from one flower to another.

2. Early Meadow-rue

Thalictrum didicum.—*Family*, Crowfoot. *Color*, purplish and greenish. *Leaves*, compound, the leaflets stalked, rounded, drooping, 3 to 7-lobed. *Time*, April, May.

Petals, none. *Calyx* of 4 or 5 sepals, falling early. *Stamens*

and *pistils* on different plants. The stamens have linear, bright-yellow anthers, drooping and trembling on hair-like filaments. Flowers, small, in panicles, not conspicuous among the pale, delicate tracery of the leaves. Height, 1 or 2 feet. Earlier than the tall meadow-rue, and growing more in the woods.

3. Purplish Meadow-rue

T. purpurascens bears delicate compound leaves, sessile on the stem, the leaflets often producing hairs tipped with glands or bits of wax. Its flowers, appearing a little later than the preceding, consist of loose, feathery compound panicles of staminate or pistillate blossoms, purplish or greenish, on purplish stems 2 to 4 feet tall. Not uncommon on dry and rocky hills from south New England westward to Minnesota.

4. Pale Corydalis

Corýdalis glauca.—*Family*, Fumitory. *Color*, rose and yellow. *Leaves*, pale green, delicate, variously cut and divided. *Time*, May to August.

Sepals, 2, small, like scales. *Corolla* of 4 petals, the upper extending into a short, rounded spur. *Stamens*, 6, in 2 sets of 3 each, the middle stamen of each group bearing a 2-celled, the outside ones a 1-celled anther. *Pistil*, 1, making a long, slender pod. *Flowers*, about $\frac{1}{2}$ inch long, in paniced clusters.

A delicate plant, 2 feet high or less. It grows by preference on moist, shaded rocks. If there be fairies among flowers, this is one.

5. Golden Corydalis

C. aurea is a species with deep-yellow flowers, found on rocky banks from Vermont westward to Minnesota, southward to Pennsylvania.

6. Hairy Rock-cress

Árabis hirsùta.—*Family*, Mustard. *Color*, white or green-

ish. *Leaves*, long and narrow or oblong, partly clasping the stem by somewhat arrow or heart shaped bases. *Time*, May, June.

Sepals, 4. *Petals*, 4. *Stamens*, 6, 2 short, 4 long. *Pistil*, 1, producing in fruit a long, slender, upright pod, 2-valved by a thin partition. *Stem*, rough, erect, simple, 1 to 2 feet high.

7

A. laevigata has root-leaves occasionally lyre-shaped, stem-leaves similar to those above. A smooth plant, taller than the last.

8. Sickle-pod

A. Canadensis has sessile stem-leaves, acute at apex and base, the lower ones toothed. Pods, rough and hairy, flat, curved, hanging on hairy stalks.

9. Tower-mustard

A. perfoliata is the tallest species, 2 to 4 feet, with yellowish-white petals, oblong or lance-shaped stem-leaves; pods 3 inches long and very narrow. Around rocks.

10

A. lyrata differs in having much-cut and lyre-shaped root-leaves, with stem-leaves entire or sometimes toothed. *Petals* long, *sepals* yellowish green.

These all bear rather small white blossoms in terminal, flattish racemes.

11. Starry Campion

Silene stellata.—*Family*, Pink. *Color*, white. *Leaves*, in whorls of fours, smaller towards the top, simple, pointed, somewhat toothed. *Time*, June, July.

Calyx, bell-shaped and swollen, with 5 points, often brownish or reddish, sticky. *Petals*, 5, fringed, on *claws*. *Stamens*,

10. *Styles*, 3, and a 1-celled pod. *Flowers* conspicuous, nearly an inch across, in a terminal panicle.

Stem, swollen at the joints and viscid, from which property the English name catchfly is derived. Height, 2 to 3 feet. A showy plant, sure to catch the eye of the stroller on hillsides, and well worth our attention.

12. Moss Campion

S. acaulis is a delicate, low, tufted Alpine species, found in the White Mountains, N. H. It is not more than 1 or 2 inches high, with needle-shaped leaves, crowded on the stem, like moss. *Flowers*, small, single, almost sessile, with purple petals notched at apex or entire. Sometimes white flowers appear on naked peduncles. *Time*, July.

13. Fire Pink. Catchfly

S. Virginica bears a few large, deep crimson flowers on slender peduncles. *Stem*, 1 to 2 feet high. The *petals* are deeply slit; *sepals*, sticky and viscid. *Leaves*, thin, those below narrowed towards their bases; those above, oblong to lance-shaped.

New York and southward.

14. Violet Wood-sorrel

Oxalis violàcea.—*Family*, Geranium. *Color*, violet. *Leaves*, petioled, from the root, divided into 3 broad leaflets, which are notched and rounded at apex. *Time*, June.

Sepals, 5, soon withering. *Stamens*, 10, the alternate ones short. *Pistil*, 1, with 5 styles. *Flowers*, several in umbels on leafless scapes.

This pretty little plant has no true stem. Both leaves and



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STARRY CAMPION (*Silene stellata*)
(See page 279)

flower stalks arise from a bulbous root. Flower scapes 6 to 8 inches high, taller than the leaves. The oxalis has 2, sometimes 3, different lengths of stamens and pistil.

15. Creeping Dalibarda

Dalibarda repens.—*Family*, Rose. *Color*, white. *Leaves*, in tufts, from the creeping stem or rootstock, on long petioles, broadly toothed, rounded or heart-shaped. *Time*, June to August.

Calyx, unequally, deeply 5- to 6-parted, the 3 larger divisions toothed, closing over the fruit. *Petals*, 5, spreading. *Stamens*, numerous. *Pistils*, 5 to 10. *Flowers*, 1 or 2 on peduncles, usually shorter than the leaves. 2 to 5 inches high.

This pretty little flower is not obtrusive, and when found might be mistaken for a stemless violet, except for the numerous stamens which are a feature of the rose family.

16. Early Saxifrage

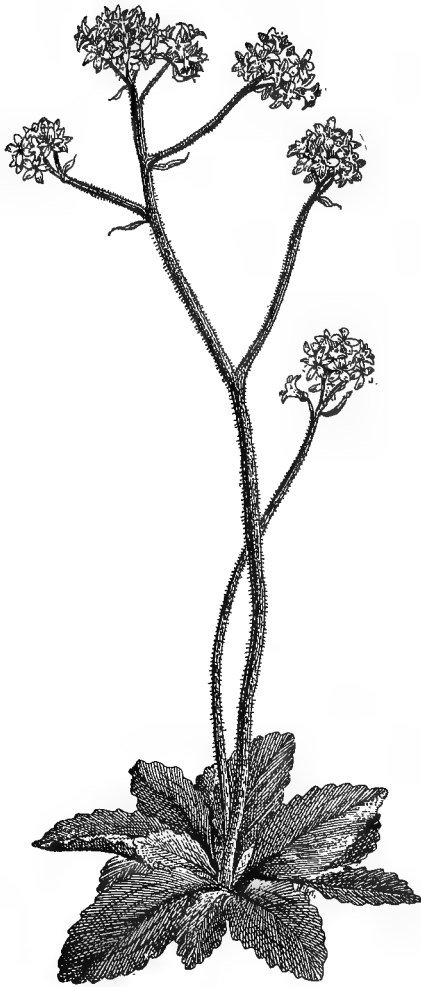
Saxifraga Virginiensis.—*Family*, Saxifrage. *Color*, white. *Leaves*, all at the root, round and broad at apex, narrowed into a broad petiole, somewhat toothed. *Time*, early spring till June.

Calyx, 5-parted. *Petals*, 5. *Stamens*, 10. *Pistil*, 1. *Styles*, 2. Fruit a purplish capsule. One of our delicate early flowers, growing in clefts of rocks.

Flowers cymosely clustered upon the ends of leafless and hairy scapes, several from the same root, 6 or 8 inches high. As the stem elongates, the flower-clusters hang more loosely.

17. Enchanter's Nightshade

Circaea Lutetiàna.—*Family*, Evening Primrose. *Color*, white. *Leaves*, opposite, sharply pointed at apex, rounded at base, long-petioled, distantly toothed, 3 or 4 inches long. *Time*, June to August.



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EARLY SAXIFRAGE (*Saxifraga Virginiensis*)

Low, 1 to 2 feet high, with small flowers, in terminal and side racemes, each flower composed of 2 petals, a 2-parted hairy calyx, 2 stamens, and a 2-celled ovary. Fruit covered with bristly, hooked hairs. In all our woods.

18. False Mitrewort. Foam-flower

Tiarélla cordifolia (tiara, a turban, from shape of the pod).—*Family*, Saxifrage. *Color*, white. *Leaves*, mostly from a rootstock, heart-shaped, with well-defined lobes and teeth, softly downy beneath. *Time*, April, May.

Calyx, 5-parted. *Petals*, 5, on claws, long, narrow. *Stamens*, 10, long, conspicuous, giving the raceme of flowers a feathery, soft appearance. *Styles*, 2.

The stem of the pretty false mitrewort is a rootstock, from which the broad, open leaves and flower-stems, leafless, or sometimes with a leaf or two, grow a foot high or less. Range from New England southward along the mountains, and as far west as Minnesota.

19. Common Alum-root

Heuchera Americana.—*Family*, Saxifrage. *Color*, greenish. *Leaves*, principally from a rootstock, roundish, crenately-lobed and toothed. *Time*, June.

A tubular, 5-cleft, broad *calyx*. *Petals*, 5, small, only equaling the calyx divisions. *Stamens*, 5. *Styles*, 2. *Flowers*, insignificant, in narrow panicles. The hairy stem, 2 or 3 feet high, is beset with small glands.

Connecticut to North Carolina and westward.

20. Stonecrop

Sédum ternatum (from *sedeo*, to sit).—*Family*, Orpine. *Color*, white. *Leaves*, thick, succulent, the lower in whorls of three, wedge-shaped, broader at apex, the upper scattered, oblong. *Time*, May, June.

Sepals and narrow *petals*, 4 or 5. *Stamens*, 8 or 10. *Pistils*



DITCH STONECROP IN FRUIT (*Penthorum sedoides*)

(See page 6)

5, forming in fruit a 5-celled capsule, angled and beaked opening by the falling off of the beaks. *Stems*, 4 or 5 inches high. *Flowers* in 1-sided, at first coiled, leafy, 3-spike cymes.

Plants of this genus spread and attach themselves to the surfaces of rocks. Not uncommon. Found from New England to Georgia.

21. Prickly-pear. Indian Fig

Opuntia vulgàris. — *Family*, *Caetus*. *Color*, pale yellow. *Leaves*, very small, pale green, $\frac{1}{8}$ inch long, awl-shaped, with barbs or prickles in their axils, arranged spirally on the flattened, jointed stems. *Time*, June.

Sepals, indefinite. *Petals*, about 8, united with the sepals into a short tube, which is attached to the top of the 1-celled ovary. *Flowers*, about 2 inches broad. *Stamens*, many, the filaments long and slender. *Pistil*, 1, forming in fruit a flesh-pear-shaped, edible berry, 1 inch long.

The flowers lie close to the flattened branches. Clusters of short, greenish-yellow bristles underlie them and spring up in the leaf-axils. The branches grow irregularly out of each other, 2 to 4 inches long, oval in shape.

22

O. Rafinésquii is the only other Eastern species, with long jointed, deeper green branches and larger flowers and fruit. The flowers often have a reddish centre. Bristles reddish brown, otherwise much like the last.

Both species grow on sandy soil or on flat rocks. Among the hills of New Jersey they attain great perfection, the pedestrians coming sometimes upon a large, flat rock covered with the yellow beauties basking in the direct heat, which they love so well. They are also found near the shore from Nantucket to South Carolina in sandy soil.

The cactus is essentially a desert plant, adapted by its habit to patient, slow growth, its succulent branches, wherein moisture

stored, and its leathery skin and few breathing-pores, which prevent evaporation, for life in arid regions, where nothing else can grow.

Some species bear edible, luscious fruit. Upon one—a native of Mexico—the cochineal insect is fed, giving rise to a large industry. In Arizona the fruit of one species of cactus is thrown into the fire till the bristles are burned off. It is then chopped open and fed to cattle. So juicy is this fruit that it supplies drink as well as food for the animals in places where water is often scarce and procured with difficulty.

The famous night-blooming cereus is a cactus.

23

Pimpinella integerrima.—*Family*, Parsley. *Color*, yellow. *Leaves*, twice or thrice compound, with entire, lance-shaped to ovate leaflets. *Time*, May.

Flowers in umbels, with few or no bracts beneath. Stem smooth and slender, about 2½ feet high, much branching.

24. Upland Boneset

Eupatdrium sessilifolium.—*Family*, Composite. *Color*, white. *Leaves*, opposite, or 3 in a whorl, tapering from a rounded, broad base to a point; sessile, toothed, very veiny, 3 to 6 inches long. *Time*, late summer.

Corollas, tubular, 5 flowers in a head. About 5 feet high; a smooth plant, with soft, downy, compound corymbs of flowers.

Among the mountains from Massachusetts to Illinois, and southward.

25. Golden-rod

Solidago latifolia has a crooked, zigzag stem from 1 to 3 feet high, smooth, simple, or branched. *Leaves*, thin, large, 6 inches or less in length, sharply toothed, pointed at apex and base. *Flowers*, with 3 or 4 rays, the heads clustered in the axils of the leaves or raceme-like at the ends of the branches.

Southward among the mountains, northward in dry woods.

26

S. squarrosa is stout-stemmed, 2 to 5 feet tall. *Leaves*, toothed, veiny, large, with margined petioles. Heads of flowers large, clustered in leafy, compound, elongated spikes.

Mountains of Virginia and northward to the hills of Vermont.

27. Aster

Aster macrophyllus is 2 or 3 feet high, stout and rigid, white or bluish. Leaves rough, serrate, the lower with long petioles, heart-shaped, very long and wide; upper, sessile or with short petioles. Heads of flowers in large, firm corymbs.

28. Everlasting

Gnaphalium decurrens ("a lock of wool," from the plant's downy appearance).—*Family*, Composite. *Color*, white flowers with yellowish scales underneath. *Leaves*, linear, lance-shaped, slightly clasping, and running down the stem. *Time*, summer.

A stout, erect, very woolly plant, 2 feet high, the flowers, with their dry and scarios scales, clustered in dense, flat-topped masses.

From Mr. Gibson we learn that a species of butterfly ("Hunter's") with orange, black, and rose-colored wings selects this plant from which to hang its cocoon, made of the petals of the flowers woven together with its own silk. He says: "If we take a walk in the grassy road, in the pasture-lot, or mountain-path, we may now (September 22d) find dozens of them. Yonder is a clump of the everlasting among the sweet-fern. It is white with blossoms, and some of them seem fraying out in the wind. Our bower-builder is certainly there—perhaps a dozen of them. Ah, yes, here is our bower dangling from the top of the stem and blowing in the breeze."



PLANTAIN-LEAVED EVERLASTING (*Antennaria plantaginifolia*)

(See page 290)

“ White blossoms scattered on a rock ;
 White everlasting flowers that grow
 Where bleakest north winds beat and blow—
 New England's amaranth.”

LUCY LARCOM.

29. Pearly Everlasting

Anáphalis margaritácea. — *Family*, Composite. *Color*, white. *Leaves*, long and narrow, without petioles, acute. *Time*, late summer and fall.

Stamens and *pistils* in different flowers. Flowers tubular, in clusters at the summit of cottony stems, mixed with very many leaves. The scales which surround the flowers are obtuse, very white, and stand out straight and stiff. 1 to 2 feet high. These flowers retain their shape and color when dry.

30. Plantain-leaved Everlasting

Antennària plantaginifòlia. — *Family*, Composite. *Color*, yellowish white. *Leaves*, all silky and soft, those at root spreading, inversely egg-shaped, rounded at summit, 3-nerved, petioled; those on the flower-stems lance-shaped, narrow, pointed. Green above, white-woolly beneath. *Time*, March to May.

The fertile and sterile flowers grow in different plants, generally near each other, the pistil-bearing being smooth and soft-downy, like cottony mittens. The staminate flowers have more color and are dotted in appearance.

An early and pretty spring flower found in rocky fields and woods everywhere. It is low, 3 to 18 inches high, and spreads by offsets and runners.

31. Dwarf Dandelion. *Krigia*

Krígia Virgínica. — *Family*, Composite. *Color*, deep yellow. *Leaves*, mostly from the root, somewhat toothed, the



BELL-FLOWER (*Campanula ranunculoides*)

(See page 268)

earlier roundish, the later deeply cut and toothed. *Time*, spring and summer.

Like its larger prototype, the yellow heads of flowers grow singly on stems at first leafless. Later these scapes branch and gather leaves.

From 1 to 10 inches high, growing in shade, on rocks, in hilly or wooded places. Very pretty and delicate, keeping company with small ferns and corydalis.

32. *Cynthia*. (See page 297)

K. amplexicaulis bears 1 to 3 stem-leaves, clasping, nearly entire, oblong, or oval; those from the root more or less toothed on short, winged petioles. Flowers small, delicate, deep yellow.

33. Harebell

Campânula rotundifolia.—*Family*, Campanula. *Color*, blue. *Leaves*, the earlier ones from root, roundish, heart-shaped or ovate, dying soon. Later ones on the stem, narrow, lance-shaped, numerous. *Time*, June, July.

Calyx, 5-cleft. *Corolla*, 5-lobed, bell-shaped, nearly an inch long. *Stamens*, 5. *Stigmas*, 3. *Fruit*, a capsule, 3-celled, nodding.

One of our loveliest blue flowers, growing singly or a few together on slender stems a foot high or more. Gray says the specific name "is most inappropriate, since the round root-leaves are rarely obvious." It is possible that we might more often find them by hunting and gathering the plant by its root. Though it delights in rocky steeps, where it remains concealed from the gaze of most people, it will also deign to hang its dainty bells from a lake-side, nestling under broad ferns and tall grasses. It is often found in the rock fissures that attend the Hudson River. This seems to be the "bluebell" of Scotland.

34. Whorled-leaved Milkweed

Asclèpias verticillata.—*Family*, Milkweed. *Color*, green-



MOSS OR GROUND PINK (*Phlox subulata*)

(See page 294)

ish white. *Leaves*, simple, thread-like, whorled, 3 to 6 together, with margins turned back, 2 or 3 inches long. *Time*, July.

This is the most ethereal and exquisite of the milkweeds. I first saw it on the top of Federal Hill, Pompton, N. J. It is more common southward. A small umbel of delicate white flowers terminates a stem generally unbranched. The needle-like leaves give it a delicate appearance.

35. Four-leaved Milkweed

A. quadrifolia has a slender stem, naked below, and bears leaves 2 to 4 inches long about the middle, in 1 or 2 sets of fours; and above, 1 or 2 pairs; all ovate or lance-shaped, thin, tapering, with petioles. The blossoms are a pale rose color and white.

Range from Maine to North Carolina and Arkansas.

36. Five-flowered Gentian

Gentiána quinqueflóra.—*Family*, Gentian. *Color*, pale blue. *Leaves*, with heart-shaped and partly clasping bases, 3- to 7-nerved, pointed, ovate to lance-shaped. *Calyx*, small, with 5 narrowly linear lobes. *Corolla*, a long, narrow tube, divided at the summit into 5 bristly-pointed broad lobes. About 5 flowers at the summit of the stem or branches, in racemes or panicles. *Stem*, about 2 feet tall or less, slender.

Found along the mountains, especially of the Alleghanies, southward to Florida. A variety, *Occidentális*, has longer and more leaf-like calyx divisions.

37. Moss or Ground Pink

Phlox subuláta.—*Family*, Polemonium. *Color*, pink, purple, or white. *Leaves*, narrow, thin, fascicled, smaller ones clustered in the axils, irregularly arranged on the stem, evergreen. *Time*, May.

Low, growing in patches early in the season. The pretty, pink flowers have a darker centre. The corolla lobes are notched, calyx lobes narrow. Flowers pedicelled, in terminal cymes.

This has a range from southern New York westward to Kentucky, southward to Florida, in sandy soil, at the foot of or climbing up the sterile hillsides. It is often cultivated under the familiar name of moss-pink. Although a phlox proper, this has distinct characteristics from the Drummond phlox and sweet-William, which are best known in the gardens. A wild sweet-William is found in New Jersey and south, with purple, spotted stems, lance-shaped leaves, rounded at base, and pink flowers in leafy panicles. A white variety of this is also found.

38. False Gromwell

Onosmodium Virginiànum,—*Family*, Borage. *Color*, greenish or yellow. *Leaves*, rough, about 2 inches long, narrow, the lower tapering at base, sessile. *Time*, summer.

Calyx, tubular, with 5 narrow divisions above. *Corolla*, tubular, with 5 long, narrow lobes, bristly on the outside. *Stamens*, 5, with somewhat arrow-shaped, pointed anthers. *Pistil*, with a thread-like, projecting style. *Fruit*, 4 one-seeded nutlets.

A coarse and bristly plant, with flowers in leafy racemes, at first short and close, becoming longer. Range from New England to Florida and westward.

39. Common Dittany

Cunila Mariàna.—*Family*, Mint. *Color*, white or purplish. *Leaves*, opposite, small (1 inch long or less), smooth, dotted, toothed, with rounded or heart-shaped bases, sessile. *Time*, August, September.

Calyx, 5-toothed, hairy within. *Corolla*, 2-lipped, the erect upper lip notched, the lower 3-divided. *Stamens*, with 2 anthers protruding, standing apart. *Fruit*, 4 small nutlets.

A much-branched, stiff little plant, often with reddish stems and flowers in terminal clusters. It has a sweet, minty odor, which it retains when dried. It is not hard to find among the hills from New Jersey to Georgia and westward.

40. Stemless Lady's Slipper. Noah's Ark. Moccasin-flower

Cypripedium acaule.—*Family*, Orchid. *Color*, pink, with darker lines, rarely white. *Leaves*, a pair near the base of the stem, oblong. Near the flower a bract. *Time*, May, June.

Sepals, 3, greenish purple, lance-shaped, 2 inches long; 2 lance-shaped *petals*, besides the lip, which forms a broad, deep, hanging pocket or sac over 2 inches long, white-hairy inside, open at the top.

A rather early, handsome woods-dweller, up hillsides or in sandy or rocky woods. The moccasin-flower hangs gracefully, singly, from the top of a smooth scape 6 to 12 inches high.

Range from Newfoundland to North Carolina, westward to Kentucky and Minnesota.

41. Larger Yellow Lady's Slipper

C. pubescens has several leaves on the stem, large, broad, pointed, 3 to 5 inches long.

Sepals, 3, 2 of them united, lying under the inflated, pocket-like lip. *Petals*, besides the lip, 2, long and narrow, brown, twisted or wavy, as are the sepals. Lip nearly 2 inches long, much inflated, pale yellow, striped with purple. Stem 2 feet high.

A handsome orchid, found from New England to Alabama and among the mountains of Virginia.

42. Smaller Lady's Slipper

C. parviflorum has a subtle, rare fragrance not found in the preceding. Its color is a brighter yellow, sometimes purplish.

The flower is half the size of *C. pubescens*, the sepals brown, twisted. Stem, 2 feet high, and leaves oval-shaped, acute.

Often found growing with the other, and with much the same range.

43. Crisped Bunch-flower

Melánthium latifòlium.—*Family*, Bunch-flower. *Color*, greenish white. *Leaves*, long and narrow, acute at apex, narrowing to the base, the lower clasping. *Time*, July and August.

Six spreading, clawed *sepals* and *petals* compose the perianth, which is free from the ovary. *Stamens*, 6, and *styles*, 3. A tall and slender plant, 2 to 4 feet in height. *Flowers*, on pedicels in large terminal panicles.

Range from Connecticut to South Carolina, in dry woods and along hills, ascending southward to the height of 2000 feet.

[Page 292. No. 32]

Cynthia, Virginia Goatsbeard

Krígia amplexicàulis. *Flowers*, 1 to 1½ inches broad, orange-colored. *Basal leaves*, clustered, on long, winged petioles. Stem-leaf usually single, oval, pointed, clasping, terminating the main stem. Heads of flowers, 2 to 6, raised on long stems. Parts of the single-rowed involucre closely united, tube-like, 1 to 2 feet high.

A bright, conspicuous blossom, becoming common in New Jersey and Pennsylvania, extending northward to Massachusetts, westward to Kansas. May to October.

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CHAPTER X

OPEN WOODS

*"Come ye into the summer woods ;
There entereth no annoy,
All greenly wave the chestnut leaves,
And the earth is full of joy.*

*"I cannot tell you half the sights
Of beauty you may see,
The bursts of golden sunshine,
And many a shady tree."*

MARY HOWITT.

*"The green trees
Partake the deep contentment ; as they bend
To the soft winds, the sun from the blue sky
Looks in and sheds a blessing on the scene.
Scarce less the cleft-born wild flower seems to enjoy
Existence than the wingèd plunderer
That sucks its sweets. The mossy rocks themselves,
And the old and ponderous trunks of prostrate trees
That lead from knoll to knoll a causey rude
Or bridge the sunken brook, and their dark roots
With all their earth upon them, twisting high,
Breathe fixed tranquillity. The rivulet
Sends forth glad sounds, and tripping o'er its bed
Of pebbly sands, or leaping down the rocks,
Seems, with continuous laughter, to rejoice
In its own being."*

BRYANT.

OPEN WOODS

1. Purple Clematis

Clématis ochroleuca.—*Family*, Crowfoot. *Color*, purple. *Leaves*, sessile, opposite, conspicuously net-veined, ovate, sometimes 3-lobed, soft, silky underneath. *Time*, May.

Corolla, wanting. *Calyx* of 4 colored, leathery sepals joined at the base. *Flowers*, large, on long peduncles, solitary, terminating the branches. The fruit is a collection of achenes, each furnished with a very plumose tail. Stems low, erect, generally unbranched.

One of the pleasant surprises awaiting the watchful botanist in his spring walks is this rare purple clematis. Later, in summer, the heads of fruit, with their airy, plumed appendages, will repay study. Found southward to Pennsylvania and Georgia.

2. Thimble-weed

Anemone Virginiàna.—*Family*, Crowfoot. *Color*, greenish or white. *Leaves*, radical and on the stem, the latter forming an involucre of 3-stalked, twice-divided leaves, their divisions cleft. From this whorl of leaves the earlier blossoms arise on tall, naked stalks. Later ones are accompanied by a similar smaller pair of leaves. *Time*, summer.

Petals, none. There are 5 greenish *sepals*, silky and downy underneath. *Fruit*, an oblong head of achenes, thimble-shaped. One of our tall anemones, 2 to 3 feet high, stiff and rather ungraceful; common in many of our woods.

3. Long-fruited Anemone

A. cylindrica is a slender, silky-stemmed plant, with a whorl of involucrel, 3-divided leaves half-way up the main stem, from which spring 2 or 3 naked flower stalks, or perhaps a single peduncle having a second whorl of smaller, cut leaves. Plant about 2 feet high, with greenish-white sepals.

These two species are very similar. Attention to their foliage will enable one to distinguish between them.

4. Wind-flower. Wood-anemone

"The coy anemone, that ne'er uncloses
Her lips until they're blown on by the wind."

HERBERT SMITH.

Anemone nemorosa (shaken by the wind).—*Family*, Crow-foot. *Color*, white, sometimes striped or tinted with blue or pink. *Leaves*, from the root, and 3 on the flower stem, forming an involucre above the middle. Leaflets cut, the lateral in one variety 2-parted, oblong in general outline, on long petioles. *Time*, April, May.

Petals, none. *Sepals*, 4 to 7, like petals. *Stamens*, many. *Pistils*, 15 to 20, forming a head of carpels, with hooked beaks in fruit. *Flower*, single, large, open, 1 inch broad, slightly nodding 4 to 9 inches high.

A delicate little plant, one of the first to appear in spring. It grows from a thin, elongated rootstock. Sterile plants also come up, consisting of a single root-leaf. It is a sure proof that winter is gone when the first wind-flower appears in protected nooks, looking bravely out into the new world, daring late frosts and winds, secure in that very fragileness which bends to the strong blasts.

Percival refers to a blue anemone when he writes :

"Beside a fading bank of snow,
A lovely anemone flew,
Unfolding to the sun's bright glow
Its leaves of heaven's serenest hue."



WIND-FLOWER. WOOD-ANEMONE. (*Anemone nemorosa*)

The juices of this plant, taken internally, are dangerous. If the root be held awhile in the mouth it is said to cause a flow of cold, watery liquid from the nose.

5. Rue Anemone

Anemonélla thalictroides is often confounded with the wood-anemone. It also bears thin involucreal leaves on the stem near the flowers, but rounder, less divided, and more heart-shaped at base, and others from the root, similar. The smaller flowers are several in number, rarely anything but pure white; occasionally rosy-hued. 4 to 9 inches high.

A delicate beauty, both in its foliage and flowers, growing from a cluster of tubers (like miniature dahlia roots), quickly withering after being picked. If one wants a bit of the woods transplanted to the house, they may be taken carefully up by the roots and set in a saucer of moss. For table decoration there can be nothing daintier.

6. Liver-leaf. Hepatica (See Frontispiece)

Hepática trífloba ("liver," from shape of leaf).—*Family*, Crowfoot. *Color*, pale blue or bluish white, or with a delicate trace of pink. *Leaves*, from the root, purple or mottled with purple, 3-lobed, heart-shaped at base, roundish in outline, leathery, evergreen. *Time*, early spring. 4 to 6 inches high.

Petals, none. *Sepals*, petal-like, colored, 6 to 12; directly beneath is an *involucre* of 3 small, roundish, calyx-like leaves.

When the plant first comes the brown leaves of the last summer are all the foliage it has, the new leaves appearing later than the flower. Buds and stem very hairy. One of our best-loved flowers, partly because one of the first. Mr. Gibson considers it the earliest. He says: "When I picked my arbutus in February, and when Burroughs and Dr. Abbott gathered their claytonias, the latter in February, we could doubtless all have found our hepatica too; and I am equally confident that my early blooms of rock-flower and everlasting were never so early as to have stolen a march on the liverworts.



RUE ANEMONE (*Anemonella thalictroides*)

"If the open winter lures any wood-blossom to 'open its eye,' it will surely be the liverwort, even as this flower occasionally anticipates the spring in ordinary winter weather. I have before me a letter from an authority who picked them under a foot of snow on December 9th, and this too in a winter not notably mild."

Common all over the Atlantic States.

7

H. acutiloba differs in having more pointed leaf-lobes, 3, or sometimes 5, in number. Same range as the preceding.

8. Hooked Crowfoot

Ranunculus recurvatus.—*Family*, Crowfoot. *Color*, pale yellow. *Leaves*, with long petioles, lower ones large. All 3-cleft, the broad lobes cleft or divided towards the apex, toothed. *Time*, May, June.

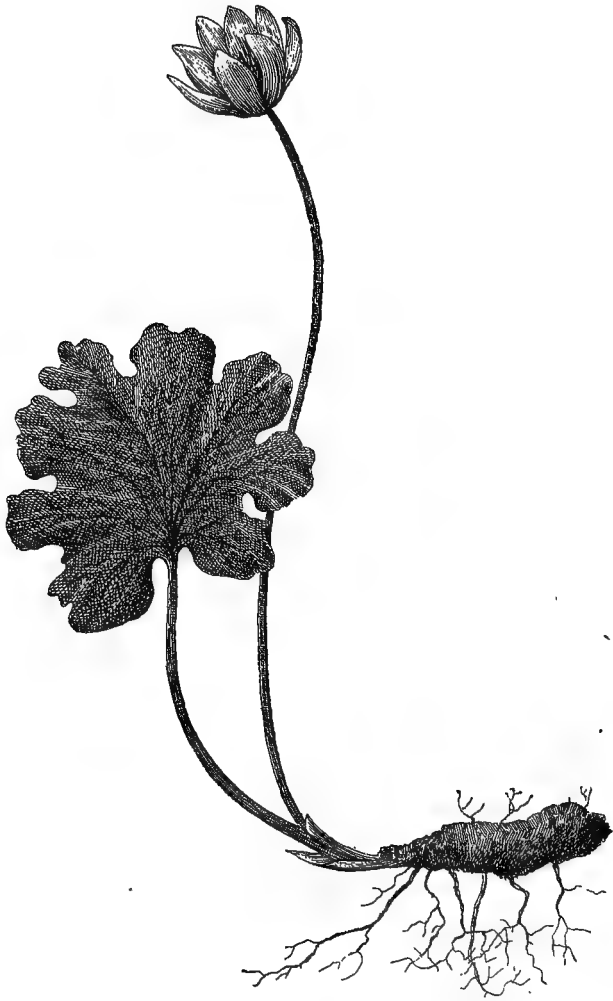
Sepals and *petals*, pointed, 5, the former reflexed, longer than the petals. *Fruit*, a cluster of achenes, armed with a long, recurved hook, whence the common name. Stem hairy, 1 to 2 feet high, strong, woody. Flowers somewhat panicled in the leaf-axils.

A plant common in all our woods. Not especially pretty.

9. Early Crowfoot

R. fascicularis is a bright-yellow flower with 5 *sepals*, and 5, 6, or 7 *petals* much larger than the sepals. The first root-leaves are roundish, 3-parted, toothed. Later ones have a central stalked lobe larger than the lateral segments, much divided or parted. Upper stem-leaves linear, undivided. Plant very leafy and silky, with soft, white hairs. Roots clustered, thick and fleshy, giving the specific name. 6 to 12 inches high.

Low, bright, and pretty, a companion of violets and anemones, being similar and nearly related to our common buttercups.



BLOOD-ROOT (*Sanguinaria Canadensis*)

(See page 308)

10. May-apple. Mandrake

Podophýllum peltàtum.—*Family*, Barberry. *Color*, white. *Leaves*, 2, on forking, stout petioles rising above the flower. Large, variously 5 to 9-lobed, the stalk affixed underneath, a little distance from the edge. *Time*, May.

Sepals, 6, falling early. *Petals*, 6 to 9, roundish. *Stamens*, twice as many as petals. *Fruit*, a large berry, with many seeds filling the cavity. The large, solitary flower droops from a short peduncle between the leaves. Three green bractlets lie underneath, which soon fall. Besides the flowering stems, other stems arise from the rootstock bearing one roundish, 7 to 9-lobed leaf, with the stalk joined underneath to the middle. 12 to 18 inches high.

The children call these umbrella-leaves. The fruit, called in New Jersey May-apple, is edible—that is, it is sweetish and not poisonous, as are all other parts of this singular plant. In New England, May-apple is the name of a modified bud which produces a singular pulpous body upon the azalea.

Mr. Gibson speaks of the mandrake berry as “a yellow, tomato-like affair,” which, he adds, “has a selfish errand in life. It is filled with seeds, and is concerned only in its own posterity.”

11. Twin-leaf. Rheumatism-root

Jeffersònia diphýlla (named after Thomas Jefferson).—*Family*, Barberry. *Color*, white. *Leaves*, all from the root, long-petioled, divided into 2 leaflets. *Time*, April, May.

Sepals, 4. *Petals* and *stamens*, 8. *Pod*, with many seeds, opening by a horizontal slit. *Flower*, 1 inch across, single, on a naked scape. 6 to 8 inches high.

A plant of low growth, not uncommon in the woods of western New York, southward and westward.

12. Blood-root

Sanguinària Canadénsis.—*Family*, Poppy. *Color*, white.

Leaf, 1, from a short rootstock, rounded, deeply lobed. *Time*, April, May.

Sepals, 2. *Petals*, 8 to 12. *Stamens*, many. *Pistil*, 1. Fruit, an oblong, dry pod. Leaf-stalks, 6 to 14 inches tall.

This beautiful, snowy flower of early spring grows on a naked scape accompanied by a single large, round leaf, which enfolds the bud and expands with the flower. Both come from a thick rootstock filled with a blood-red juice, which stains the hands picking the flower.

There are many woods and low hillsides dotted with these pure flowers in their season, which alone are worth a trip from the city to see.

13. Downy Yellow Violet

Viola pubescens. — *Family*, Violet. *Color*, yellow, often streaked with brown or purple. *Leaves*, broad, generally two on the stem, petioled, serrate, one half larger than the other. *Stipules*, large. *Time*, May.

Besides the pair of leaves there is a bract on the stem below. The flowers, one or more, stand above the pair of leaves, not large, softly yellow. Stem downy or rather rough. 5 to 18 inches high.

A beautiful spring flower, growing abundantly, often in large, close patches. The plant gives an impression of much green and little color.

Bryant's "first flower of spring" is the yellow violet.

"When beechen buds begin to swell,
And woods the bluebird's warble know,
The yellow violet's modest bell
Peeps from the last year's leaves below.

"Ere russet fields their green resume,
Sweet flower, I love, in forest bare,
To meet thee, when thy faint perfume
Alone is in the virgin air.

“Of all her train, the hands of Spring
 First plant thee in the watery mould,
 And I have seen thee blossoming
 Beside the snow-bank’s edges cold.

“Thy parent sun, who bade thee view
 Pale skies and chilling moisture sip,
 Has bathed thee in his own bright hue,
 And streaked with jet thy glowing lip.”

14. Green Violet

Sòlea còncolor.—*Family*, Violet. *Color*, greenish white. *Leaves*, entire, acute at both ends, oblong. *Time*, June.

This homely plant deserves scarcely to be numbered among the violets. The small flower has 5 petals, the lower one larger than the others, swollen at base and notched at apex. Stems very leafy, 1 to 2 feet high, with 1 to 3 flowers in the axils on short, nodding peduncles. Pod much larger than the flower.

15. Wild Pink

Silène Pennsylvànica.—*Family*, Pink. *Color*, rose-pink. *Leaves*, from the root, smooth, clustered, on hairy petioles, narrowly wedge-shaped; on stem, opposite, often a single pair, narrow, without petioles. *Time*, May, June.

Calyx, long, tubular, viscid, hairy, 5-toothed. *Corolla*, of 5 notched or rounded petals standing on *claws*, spreading, with a *crown* at the centre, where the claw joins the broad blade. *Stamens*, 10. *Styles*, 3.

A low, beautiful plant found in many places around New York and southward, also westward to Kentucky. It grows in tufts full of bright color, with soft, velvety buds and large, open flowers.

16. Spring-beauty

Claytònia Virgìnica.—*Family*, Purslane. *Color*, pink with



WILD PINK (*Silene Pennsylvanica*)

deeper veinings, or sometimes white with pink veinings. *Leaves*, long, narrow, grass-like, thick, a pair, opposite, on the stem. *Time*, April and May.

Sepals, 2. *Petals*, 5. *Stamens*, 5, joined to the petals. Flowers few, in a loose raceme, on long, thick, fleshy stems, from a small tuberous root. Delicate, star-like blossoms, on fragile stems. When plucked the petals quickly close, and the whole plant droops. It is at best but an evanescent beauty, opening only in sunlight, closing at night. 6 to 12 inches high.

The flowers all turn in one direction—as the botanists say, are *secund*. Common in all our woods.

17

The species *C. Caroliniàna* has broader leaves, fewer and smaller blossoms. The two species are not often found together. The closing of the petals at night seems to bring about self-fertilization, for the pollen falls upon the petals, and they fold over and drop the grains on the stigma.

There is no prettier sight than a wood, whose trees are lightly leaved out in early May, carpeted thickly with the Claytonia's pink stars. Bryant says—

“And the spring-beauty boasts no tenderer streak
Than the soft red on many a youthful cheek.”

18. Flax

Linum Virginiànum.—*Family*, Flax. *Color*, yellow. *Leaves*, alternate, or the lower opposite, entire, small, oblong or long and narrow. On the flowering branches the leaves are like tiny bracts. *Time*, July, August.

All the parts of the blossom in fives. The small, yellow, star-like flowers, about $\frac{1}{2}$ inch long, are scattered on the spreading branches.



SPRING-BEAUTY (*Claytonia Virginica*)

(See page 310)

Suckers springing from the base of the stem help to propagate the plant, which is a common growth on the edges of our light, dry woods. 1 to 2 feet high.

19

L. sulcàtum has long and narrow leaves, with a pair of dark-colored glands in place of stipules. The sepals are bristly margined, sharp-pointed, three-nerved. Flowers yellow, rather large, about $\frac{1}{2}$ inch across, on ascending branches that are grooved or strongly angled. Plant 2 feet high or less. Pods conspicuous, roundish.

20. Wild Cranesbill. Wild Geranium

Geranium maculàtum.—*Family*, Geranium. *Color*, crimson or pink-purplish. *Leaves*, 4 or 5-parted, the divisions wedge-shaped, cut or lobed. *Time*, April to July.

Sepals, 5. *Petals*, 5, on *claws*. *Stamens*, 10, 5 longer than the others, with glands at their base. *Fruit* of 5 carpels, each tipped with a long hooked beak. When ripe the valves burst open elastically, setting the seed free. Flowers 1, 2, or 3 together, from rough, hairy stems which grow from perennial root-stocks. 1 to 2 feet high.

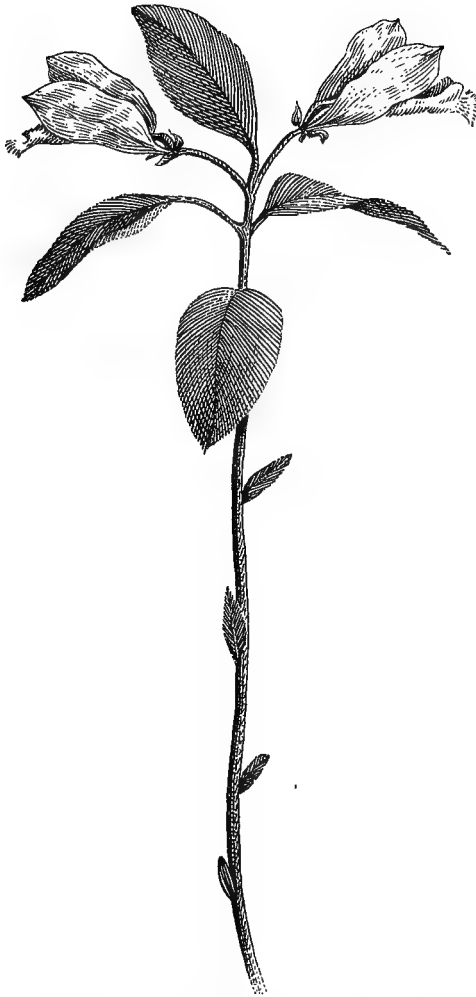
A generous, willing bloomer, covering woods and fields, in their time, with purplish bloom. The flower and fruit will bear study.

The favorite garden geraniums (*pelargoniums*), with their various colors and markings, are related to this humble wild flower.

21. Fringed Polygala. Flowering Wintergreen

Polygala paucifòlia.—*Family*, Milkwort. *Color*, crimson. *Leaves*, small, mere scales below; larger above, broad, on short petioles, 3 or 4 near the flowers. *Time*, May.

Sepals, 5, but 2 of them, the *wings*, are broad, expanding, and colored like petals. *Petals*, 3 in number, the lowest one, the *keel*, larger than the other two and beautifully



FRINGED POLYGALA (*Polygala paucifolia*)

fringed. *Stamens*, 6. *Fruit*, a pod, notched at the top, 2-celled; 1 to 3 blossoms on a stem.

A beautiful early flower, its peculiar shape suggesting an orchid, large ($\frac{1}{2}$ inch long), on slender stems, 4 inches high.

The flowering branches spring from underground stems. These bear later, small, homely flowers close to the ground, which fertilize themselves in the bud.

22

P. polygama is taller, 6 to 9 inches high, with simple, leafy stems. Deep crimson flowers in a loose terminal raceme, the wings longer than the keel. From the root, as in the fringed polygala, spring short underground runners bearing a few inconspicuous, self-fertilizing flowers in racemes. *Time*, July.

23. Tick-trefoil

Desmodium nudiflorum. — *Family*, Pulse. *Color*, purple. *Leaves*, of 3 leaflets, which are ovate to roundish, pale beneath. *Time*, June, July.

Corolla, papilionaceous.

The desmodiums, of which there are many species, are distinguished by their jointed pods, which are straight on the upper margin, scalloped on the lower. They are covered with bristly hooks, by which they are caught in the hair or fleece of animals and widely scattered. One's feminine skirts are often the medium of such dissemination, much to one's annoyance after a walk in the woods in early fall. All these plants have white and purple corollas, generally rough stems, and variable, 3-foliolate leaves.

The *D. nudiflorum* bears racemes of pedicelled flowers on generally leafless scapes 2 feet high. The 3-foliolate leaves are numerous on the end of a sterile stem, attended by bristly stipules. Pod raised on a stalk longer than the flower pedicels. One of the most common species.

24

D. acuminatum bears blossoms and leaves on the same stem.

The leaves crowd the top of the stem (none below), and the raceme of flowers rises above them. Leaflets 4 to 5 inches long, broad, pointed.

Range, from Canada to Florida.

25

D. rotundifolium has round leaflets. The racemes of deep purple flowers appear with the leaves in the axils and on the ends of the branches. Stems prostrate and softly hairy. Both margins of the pod are scalloped.

26

D. cuspidatum is ascending, with straight stems. Leaflets 4 or 5 inches long, lance-shaped, pointed, with large stipules and bracts. Pod with several long joints.

27

D. Dillèni has smaller, thin leaflets. The plant is tall, with small bracts and stipules. Pod with few joints, 3 to 5.

28

D. paniculatum has numerous drooping panicles of flowers on tall, straight stems. Leaflets thin, narrow, oblong to lance-shaped, 3 to 5 inches long.

29

D. Canadènsis is the tallest of the desmodiums, 3 to 6 feet high. It has a coarse, hairy stem, with large, showy flowers.

The specific names indicate peculiarities of these plants, but most people will be satisfied to recognize the genus, and call the plant with sticky, jointed pods, small, purplish, papilionaceous flowers and 3-foliate leaves a desmodium.

30. Milk-pea

Galáctia glabélla.—*Family*, Pulse. *Color*, purple. *Leaves*, of 3 oblong to elliptical leaflets. *Time*, August.

Calyx, 4-divided. *Corolla*, papilionaceous. The pod is flat, hairy, and with several seeds. There are also ripened a few subterranean, fleshy pods. The flowers, large and handsome, are in irregular racemes, 4 to 8 together. A prostrate plant, with nearly smooth stems.

Range, from southern New York to Florida, and westward to Mississippi.

31. Wild Lupine

Lupinus perénnis.—*Family*, Pulse. *Color*, blue, pink, or white. *Leaves*, compound, palmately cut into 7 to 11 leaflets. *Time*, May, June.

Calyx, deeply 2-divided. *Corolla*, papilionaceous. A showy flower in long, large racemes. Stems, 2 feet high, including pod, are hairy.

Along the sides of railroads and everywhere edging the woods, in its season great bunches of the lupine may be seen—patches of blue in the midst of clumps of the pretty, singular leaves. From Massachusetts to the Gulf.

32. White Avens

Gèum álbum.—*Family*, Rose. *Color*, white. *Leaves*, on the stem, toothed or 3-divided or lobed. Root-leaves variously divided into 3 to 5 leaflets, sometimes with one large, round leaflet and several smaller ones below. *Time*, May to August.

Calyx, 5-divided, with bractlets between the divisions. *Petals*, 5. *Stamens*, many. *Achenes*, numerous. The *styles* of the *pistils* are jointed, the upper part hairy. The receptacle upon which the achenes are clustered is densely hairy. A plant about 2 feet high, common.



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COMMON AGRIMONY (*Agrimonia Eupatoria*)

(See page 320)

33

G. Virginianum is a stouter and very hairy species. It has smaller petals with large receptacles, on which are many stout hairs bent backwards. Leaves variously divided, the lower parted to the stem, the upper lobed. *Time*, all summer.

34. Common Agrimony

Agrimonia Eupatoria. — *Family*, Rose. *Color*, yellow. *Leaves*, pinnate, of 5 to 11 large, toothed leaflets, with very small ones accompanying them on the stem. *Time*, July to September.

Calyx, a tube, with a 5-cleft border margined with hooked bristles, closing over the fruit after flowering. *Petals*, 5, longer than the calyx. *Stamens*, several. *Fruit*, a pair of achenes. *Flowers*, in slender racemes. 2 to 6 feet tall.

35. Small-flowered Agrimony

A. parviflora has more, long and narrow, leaflets, 11 to 19, with many smaller ones interspersed, deeply toothed, and smaller, yellow flowers. Same height as the last.

New York to Georgia and westward.

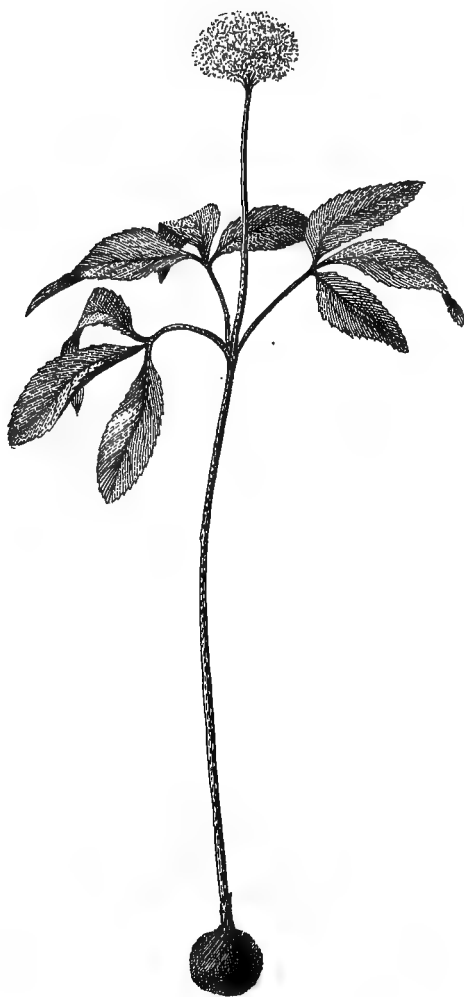
36. Sweet Cicely

Osmorrhiza brevistylis (scented root). — *Family*, Parsley. *Color*, white. *Leaves*, thrice compound. Leaflets ovate, toothed, softly hairy, tapering, 2 or 3 inches long. *Time*, May, June.

Flowers, in umbels, with few involucrel bracts underneath. Plant 2 or 3 feet high, softly hairy, graceful and delicate in its form and foliage. The root is pleasantly anise-scented.

Found in the Northern States and in the mountains farther south.

O. longistylis is scarcely more than a variety of the last, being distinguished from it by its longer style.



DWARF GINSENG OR GROUND-NUT (*Aralia trifolia*)

(See page 324)

37. Golden Meadow Parsnip

Tháspium àureum.—*Family*, Parsley. *Color*, deep yellow. *Leaves*, from the root, heart-shaped, toothed; on the stem, 3-divided, the leaflets ovate or round to lance-shaped, serrate. *Time*, summer.

Flowers in compound umbels, large, handsome. Fruit matures in August or September, pedicelled. Stem smooth and stout, 2 to 5 feet high.

Throughout the Atlantic States.

A variety (*atropurpureum*) has dark purple petals.

38. Sanicle. Black Snake-root

Sanícula Marylandica ("to heal—or perhaps from San Nicolas."—GRAY).—*Family*, Parsley. *Color*, yellowish. *Leaves*, 3 to 7, palmately parted, with the divisions toothed and pointed. Root-leaves long-stalked. *Time*, summer.

Small greenish-yellow flowers in irregular or compound umbels, a few staminate, without pistils. Fruit round, composed of several prickly carpels. Stem, 2 to 3 feet high.

A difficult plant to identify, having little external appearance of a parsley, the small flowers and curious prickly fruit making it puzzling.

Range, throughout the Atlantic States.

Variety *S. Canadensis* has the upper leaves 3-parted, thin, on a lower stem than the last. The leaf-divisions are sharply toothed; the side ones often 2-lobed.

39. Five-leaved Ginseng

Arália quinquefòlia.—*Family*, Ginseng. *Color*, white. Fruit red. *Leaves*, 3, in a whorl on a low stem, palmately divided into 5 long-stalked leaflets. *Time*, July.

Flowers, staminate and pistillate on different plants.

The members of the ginseng family, with their pretty leaves



WILD SARSAPARILLA (*Aralia nudicaulis*)

(See page 324)

and delicate flowers, are among the choicest finds of the woods. In their botanical features they are not unlike the parsleys, having a short, toothed calyx, 5 petals, 5 stamens, and from 2 to 5 styles. Compound leaves, and small white (or greenish) flowers in umbels, complete the likeness. But they differ from the rank and often baneful parsleys in one important respect. None of the ginsengs is poisonous. Their roots are aromatic, of pleasant flavor.

The ginseng has a stem 1 foot high, bearing above the leaves a simple umbel of white flowers, and later a cluster of bright red, berry-like drupes.

40. Dwarf Ginseng, or Ground-nut

A. trifolia is often found growing near in the same woods. The ground-nut refers to its root, a small tuber, sweet and edible, sunk deep into the ground, only unearthed after careful, patient digging. 3 to 8 inches high.

It is a lovely herb, with little balls of blossoms just overtopping a whorl of 3 leaves, each divided into 3 to 5 sessile leaflets, all on the same leaf-stalk. It is a spring flower, coming with the hepatica in April and May, perfecting later a yellowish fruit.

41. Wild Sarsaparilla

A. nudicaulis, though not the officinal root which the soda-fountain clerk uses (officinal meaning that which has commercial value), is sometimes used to flavor summer drinks. A single, long-stalked leaf rises to the height of a foot, divided into oblong, pointed leaflets, 5 leaflets on each of 3 divisions. To the unbotanical eye there are 3 compound leaves, each 5-divided, springing from the stem. Lower down the flowers grow on separate scapes in umbels, 2 to 7 umbels springing from the same centre. In the autumn these large, handsome leaves, with their dark purple attendant bunches of fruit, are very conspicuous. The roots are several feet long, and spread horizontally.

42. Spikenard

A. racemosa has astonishingly long, large leaves (I have found them 2 or 3 feet across), decomposed, with ovate, heart-shaped, pointed leaflets, somewhat downy and toothed. Flowers in drooping umbels or racemes, stamens and pistils in different blossoms. Roots large, spicy, fragrant.

43. Partridge-berry

Mitchella repens.—*Family*, Madder. *Color*, white or tinged with pink. Berries red. *Leaves*, small, roundish, shining, evergreen, with short petioles. *Time*, June, July.

Calyx, 4-toothed. *Corolla*, tubular, 4-lobed. *Stamens*, 4. *Stigmas*, 4, long, on a single style. The flowers are close together, in pairs, their calyx-tubes later cohering and making a double fruit, crowned with 8 teeth, filled with hard nutlets. The pink-tipped flowers appear early in summer, and the scarlet fruit lasts into the snowy season.

A favorite plant growing only in woods, matted, with trailing stems on the ground, loving best to nestle at the foot of trees. The flower is delicately fragrant, and the fruit makes food for the birds which spend their winter with us.

44. White Snake-root

Eupatorium ageratoïdes.—*Family*, Composite. *Color*, white. *Leaves*, opposite, long petioled, with cut margins, pointed, broad near the base. *Time*, late summer.

Corollas, tubular.

A handsome plant, 2 to 3 feet high, spreading and branching, whose pure white corymbs of flowers and long-stemmed, thin leaves mass finely in the woods.

45

E. aromaticum is very similar, with leaves on shorter stems and flowers in large corymbs.

The former is common in New England, the latter from Massachusetts southward, near the coast.

46. Vanilla Plant

Trilisa odoratissima.—*Family*, Composite. *Color*, purplish. *Leaves*, large, entire, light green, thick, the upper clasping. *Time*, autumn.

Heads, without rays, small. *Flowers*, in flat clusters.

The odor of vanilla is given out by the crushed leaves.

A plant belonging to the pine barrens of New Jersey and southward.

47. Silver-rod

Solidago bicolor is the only white golden-rod, although a variety of the *Virgaurea* is found near the White Mountains, with rays so pale as to be almost white. The bicolor is usually taken for an aster. The flowers, cream-color rather than pure white, grow in clusters up and down the simple wand-like stem. The plant is grayish, with a fine, hairy growth. The leaves are partially serrate, with short petioles.

48

S. concolor is a yellow variety that grows in the same way, with flowers clustered in the leaf-axils. The rays only are yellow, and the disk is light-colored.

49

S. caesia is a common golden-rod. It is late in flowering, delicate, graceful, upright, with pale flowers closely clustered along the stem. The *leaves* are long, narrow, serrate, feather-veined.

50

S. speciosa is also a late bloomer. Its leaves are a polished dark green, the lower with margined stalks. The stem is tall, 3 to 6 feet, and is crowned with a splendid, ample panicle of



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SILVER-ROD (*Solidago bicolor*)

bloom. About 5 large rays are borne on the flowers, whose stems are roughly hairy. A common species.

51

S. rugosa, 1 to 6 feet tall, has leafy, thick stems, with broad, veiny, rough, serrate leaves, oblong, ovate, or lance-shaped. Flowers in one-sided, backward-curved panicles.

A common, generally low-growing species, subject to great variations.

52. Elm-leaved Golden-rod

S. ulmifolia has broad or oblong to lance-shaped, sharply-serrate, thin, pointed leaves, softly hairy underneath. Flowers in recurved, spreading panicles. Stem smooth, but branches hairy, much like the last.

53. Blue Aster

Aster laevis.—*Color*, sky blue. *Leaves*, oblong, tapering, firm, with rough margins.

One of our most beautifully colored asters. Common in light woods. Not more than 2 feet high, and heads of flowers closely crowded at the ends of branches.

54. Heart-leaved Aster

A. cordifolius is pale blue in color, the disk sometimes reddish or purplish. *Leaves*, with petioles, heart-shaped at base.

Flowers small and crowded in panicles. Common, and rather an early bloomer.

55. Wavy-leaved Aster

A. undulatus is blue, with medium-sized flowers, and leaves ovate or lance-shaped, with wavy margins and heart-shaped bases. The upper ones have broad, winged petioles, clasping around the stem. Blossoms paniced in the upper leaf-axils.

An early August bloomer; common.



GOLDEN-ROD (*Solidago nemoralis*)

(See page 191)

56. Ox-eye

Heliópsis lævis. — *Family*, Composite. *Color*, yellow. *Leaves*, opposite, acute at apex, ovate to lance-shaped, with petioles, toothed. *Time*, August.

This yellow daisy is not to be confounded with the commoner purple-coned daisy. It may easily be mistaken for a sunflower, but has fewer and narrower rays, about 10. The heads of flowers are showy on the ends of branches. 1 to 4 feet high. New York, southward and westward.

57. Cut-leaved Cone-flower

Rudbéckia laciniàta. — *Family*, Composite. *Color*, rays and disk, yellow. *Leaves*, alternate, the lowest pinnate, the leaflets cut into 3 to 7 divisions; the upper irregularly 3- to 5-parted. *Time*, late summer and September.

This cone-flower of the woods and thickets may be known from the commoner weed by its yellow disk; the other has a brown disk. Stem smooth and tall, 2 to 7 feet. The flowers have long peduncles, and their long, yellow rays are drooping.

58. Hawkweed. Rattlesnake-weed

Hieràcium venósum. — *Family*, Composite. *Color*, yellow. *Leaves*, clustered around the root, marked above with purple, hairy veins, colored beneath with a lighter purple, entire, without petioles, oblong. *Time*, July and August.

A very pretty, slender, and graceful common plant. The strangely marked leaves form a rosette near the root. Flowers are produced on long scapes, leafless or bearing one leaf; a few in a loose corymb, 1 to 2 feet high.

59. Panicked Hawkweed

H. paniculàtum produces flowers in a loose panicle on slender leafy stems. A much-branched, somewhat hairy plant, rather taller and with flowers smaller than the last.



TRAILING ARBUTUS (*Epigaea repens*)

(See page 332)

60. Canada Hawkweed

H. Canadense produces larger flowers than either of the last, on more hairy stems, in corymbs, with sessile leaves, those above partly clasping.

61. Rough Hawkweed

H. scabrum is quite rough and hairy, with egg-shaped leaves, the plant stiff, 1 to 3 feet high. If broken, the rough stem will be found very brittle. Flowers in corymbose panicles. Common.

62

Lactuca acuminata. — *Family*, Composite. *Color*, blue. *Leaves*, very various. Those from the root arrow-shaped; those on the stem ovate to lance-shaped, acute, sharply toothed, often hairy on the mid-rib underneath; all with a winged petiole.

Tall and leafy biennials, with numerous bluish flowers in a loose panicle on spreading peduncles. Plants of this genus have milky juice; hence the name "lettuce," from *lac*, meaning milk. All are tall and leafy, with cream-colored or purplish flowers, not unlike the genus *Prenanthes*.

63. Trailing Arbutus. Ground Laurel. Mayflower

Epigæa repens (upon the earth).—*Family*, Heath. *Color*, white or pink. *Leaves*, round, oval, or heart-shaped, thick, evergreen, on hairy stalks. *Time*, April, May.

Sepals, 5, pointed. *Corolla*, tubular, with spreading lobes, hairy inside, purest white to deepest pink. *Flowers*, hidden under the broad protecting leaves. *Stamens*, 10. *Style*, slender, its apex making a ring around the 5 stigmatic lobes.

A universal favorite and a candidate for honorable mention as our national flower. We love it because it comes so early and

because of its delicious fragrance. It delights in pine woods, which it literally carpets in early spring with delicate, modest bloom. You may dig the snow away from shaded corners and find it bright and sweet, looking at you with almost startled eyes. In places it has been plucked to its total extinction. One trembles to see such flowers exposed in great bunches on our city streets for sale. Vandal armies of Italian and Irish boys tramp through our woods and pull them up by the roots for a few cents' gain. Nor are they the only ones who threaten the extermination of some of our beautiful native plants. City girls and even botanical classes on their excursions gather more flowers than they need, not being careful to leave the root behind. Will not those who love flowers do what they can for their protection?

The Mayflower is associated, whether correctly or not, with Plymouth Rock and the landing of the Pilgrims. The legend, as beautifully given by Whittier, is that, after their first dreadful winter, this was the first flower to greet the Pilgrims, and that they took courage when they saw so bright a beauty blooming so bravely in poor soil under wintry snows.

Mrs. Sara J. Hale, in her book *Flora's Interpreter*, makes this astonishing statement: "The trailing arbutus is a sort of strawberry-vine found in New England in March, the earliest of all spring flowers."

64. Prince's Pine. Pipsissewa

Chimaphila umbellata ("winter loving").—*Family*, Heath. *Color*, light pink, with a purple tinge from the anthers. *Leaves*, shining, smooth, evergreen, acute at apex, lance-shaped, sharply toothed, whorled on stem or scattered. *Time*, June.

Sepals, 5. *Petals*, 5, round, concave, open. *Stamens*, 10, with hairy filaments and purple, divided anthers. *Pistil*, 1, with a broad, sticky stigma, 5-divided along the border.

A beautiful plant, embodying the very essence of the woods, with flowers, 3 or 4, terminating a leafy stem. Later in the season, when the leaves alone are left, by pulling up one of the long, underground shoots covered with the leaf-branches we have a pretty bit of festooning for the house. Branches 6 to 10 inches high.

65. Spotted Wintergreen

C. maculata resembles the prince's pine, except that the leaves are striped or spotted with white. A better name would be "spotted chimaphila." Both of these plants love the woods and bloom freely, often late in summer. 3 to 10 inches high.

66. Pyxie. Flowering Moss

Pyxidanthèra barbulata ("a small box," and "anther," because the anthers open as if by a lid).—*Family*, Diapensiaceae. *Color*, white or pink. *Leaves*, very small, scale-like, pointed, somewhat hairy. *Time*, April, May.

Sepals and *stamens*, 5. *Corolla*, 5-lobed.

This moss-like, dear little plant is one of our earliest flowers. It is found in the sandy pines of New Jersey, south to North Carolina, creeping on the ground. Flowers sessile, small, on tiny branches, on which grow the scale-like leaves. Plucked and kept well covered with water, it will retain its freshness many days. It is a great delight to come across the pyxie when yet flowers are few.

67. Four-leaved Loosestrife

Lysimáchia quadrifolia.—*Family*, Primrose. *Color*, deep yellow touched with red. *Leaves*, mostly in fours, lance-shaped. *Time*, June.

The flowering stem presents a regular appearance. Four leaves, rarely 5, or less, grow at even distances along the stem, and 2 (generally) star-shaped blossoms, small, on long, thread-like stems, spring from the leaf-axils. It is 1 or 2 feet high. Its symmetry and bright color make it pleasing.

68. Greek Valerian

Polemòonium réptans.—*Family*, Polymonium or Phlox. *Color*, light blue. *Leaves*, pinnate, the upper often running



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SPOTTED WINTERGREEN (*Chimaphila maculata*)

together. There are 5 to 15 leaflets, ovate or lance-shaped. *Time*, May, June.

Parts of the flower in fives. *Calyx* and *corolla*, bell-shaped, the latter with short tube and open border.

This dainty flower bears transplanting and thrives in our city gardens, where I have made its acquaintance. It is scarcely creeping, but lies down weakly. The flowers, about $\frac{1}{2}$ inch long, occur in corymbs—a few only—nodding on stems. Range, in woods from New York southward to Alabama.

69. Beggar's-lice. Stickseed

Echinospérmum Virgínicum.—*Family*, Borage. *Color*, pale blue. *Leaves*, at the root round or heart-shaped, with petioles; those on the stem acute at base, rather long, coarse. *Time*, summer.

A rough, hairy plant, whose seeds are partly covered with prickles, by which means they fasten into the wool of sheep and are widely disseminated. Flowers insignificant, on short pedicels in loose panicles. Lobes of corolla spreading.

70. Figwort

Scrophulària nodòsa (a reputed remedy for scrofula).—*Family*, Figwort. *Color*, greenish or brownish purple. *Leaves*, opposite, deeply serrate, ovate or oblong, rounded or heart-shaped at base, pointed at apex. *Time*, summer.

Calyx, deeply 5-divided. *Corolla*, rounded, tubular, with 5 lobes, the lower spreading, the two upper longer than the rest and erect. *Stamens*, 5, with anthers lying across the filaments and running together into a ring. A rudiment of the fifth stamen may be seen. Stem smooth, 4-sided, 3 or 4 feet high, with small, insignificant flowers terminating the branches.

This herb gives the name to a large and important family of plants, and, curiously, has not the markedly 2-lipped corolla which distinguishes most of the figworts.



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FRINGED LOOSESTRIFE (*Steironema ciliatum*)
(See page 136)

71. Wood-betony. Lousewort

Pedicularis Canadensis.—*Family*, Figwort. *Color*, yellow and purplish red. *Leaves*, the larger from the root, on long, hairy petioles, deeply cut; the upper near the flowers, less incised, much smaller, short petioled. Bracts among the flowers. *Time*, May to July.

Calyx, tubular, entire, except for a slit down the front. *Corolla*, 2-lipped, the upper lip bent and curved inward, enclosing 4 stamens; the lower 3-lobed, the side lobes large and spreading. *Capsule*, sword-shaped, slightly beaked, opening by a slit on the upper side. *Flowers* in thick, short spikes. Those which are mostly red in color have reddish stems and leaves; yellow clusters have pale stems and leaves; and these two brunette and blond beauties often stand side by side. They grow in clumps, conspicuous mainly from their fern-like foliage. 5 to 10 inches high.

There are 100 species of *Pedicularis*, most of them growing in the Arctic regions and Rocky Mountains.

Our species love light shade, taking to the open woods. They are early, following closely upon the spring flowers. Often they are out of bloom by June 1st. This is the manner of the plant's growth. When the flower-stems spring up, new growths form beside them, making tufts of a dozen or so leaves. These remain the first season a rosette at the root. They are a sort of spiral branch drawn in. Next spring the branch shoots up, uncoils, straightens, and bears the flower.

72. Common Speedwell

Verónica officinàlis. — *Family*, Figwort. *Color*, blue. *Leaves*, with short stems, opposite, oblong. *Time*, July.

Flowers in axillary, opposite racemes, very small, much crowded, with short pedicels. Plant softly hairy, prostrate and creeping.



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DOWNY FALSE FOXGLOVE (*Gerardia flava*)
(See page 340)

73. Downy False Foxglove

“The foxgloves and the fern—
 How gracefully they grow,
 With grand old oaks above them
 And wavy grass below!”

Gerardia flava.—*Family*, Figwort. *Color*, yellow. *Leaves*, the lower often deeply and irregularly cut; upper entire, oblong, or lance-like. *Time*, July, August.

A beautiful, bell-like flower, large, with a tubular, 5-cleft short *calyx* and 5 broad, spreading, rounded *corolla* lobes ending a long, somewhat inflated tube which is woolly inside. The corolla slips easily off its receptacle. The 4 *stamens*, their anthers nodding towards each other in pairs, are bearded. Plant 2 to 4 feet high. The buds are especially pretty, often with a slight tinge of pink in their round heads.

74. Smooth False Foxglove

G. quercifolia is taller, 3 to 6 feet, and lacks the pubescence of the preceding. The showy, large (2 inches long) blossoms mingle with graceful foliage, the lower leaves twice cut into fine divisions, the upper lance-shaped and entire.

Both the downy and smooth may sometimes be found together on hillsides, or in light, thin woods. Picked, they afford little satisfaction, because the leaves and stems quickly turn black. Root parasitic.

75. Yellow Gerardia

G. pedicularia is a leafy, branching species, 2 or 3 feet high. The leaves are very much cut, with dissected and toothed lobes, the lower large, the upper quite small. The stems bearing the pretty yellow bells are longer than the calyx-lobes.



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YELLOW GERARDIA (*Gerardia pedicularia*)

The latter are irregularly cut and hairy. The corolla is sticky on the outside.

This graceful, handsome herb is found in light woods along our entire Atlantic border.

76. Cow-wheat

Melampyrum Americànum ("black wheat," from the dark seed).—*Family*, Figwort. *Color*, dull, greenish yellow. *Leaves*, opposite, lance-shaped, with short petioles, the lower entire, the upper with bristly teeth at base, more and more crowded towards the top of the stem. *Time*, summer.

Calyx, tubular. *Corolla*, 2-lipped, the upper arched, covering the stamens; lower 3-lobed, nearly $\frac{1}{2}$ inch long. *Stamens*, 4. *Pistil*, 1.

One of our commonest plants of the woods, low, shrubby, a good deal branched, with single flowers in the axils above. The flowers and floral leaves are hardly to be distinguished in color.

77. Beech-drops. Cancer-root

Epiphègus Virginiàna.—*Family*, Broom-rape. *Color*, brownish, with a purple tinge. *Leaves*, none; brown scales instead. *Time*, August, September.

The flowers of this singular plant are staminate above and pistillate below, in a spike. *Calyx*, 5-toothed. *Corolla* of sterile flowers, 4-toothed. The plants are parasitic on roots of other plants, especially beech-trees, and possess no green stems or leaves. The corolla of the fertile flowers does not open, but is pushed up and off by the pod in its growth. The plant is slender, stiff, branched. 6 to 12 inches high.

I have found it in chestnut woods, where apparently no beeches grew.

78. Squaw-root

Conópholis Americàna is a thick, fleshy, root-parasitic plant,

growing among the decaying, fallen leaves of oak. Flowers are borne on a scaly spike, and with their attendant bracts, they look, says Dr. Gray, "like a fir-cone." The plant is yellowish-brown. 3 to 6 inches high.

79. One-flowered Cancer-root

Aphyllon uniflorum belongs to the same family, a root parasite, with an underground, short, scaly stem and branches, from which grow 1 to 3 brownish, naked scapes, 3 to 5 inches high, with a single purplish flower. This is tubular, large (1 inch long), with 5 diverging lobes. Looking into it one sees 2 folds, bearded with yellow, not without some grace and beauty.

Common East and westward.

80. American Pennyroyal

Hedeoma pulegioides.—*Family*, Mint. *Color*, blue. *Leaves*, small, petioled, somewhat toothed, ovate, strongly scented. *Time*, summer.

Calyx and *corolla*, 2-lipped. The upper lip of corolla is notched; lower 3-cleft. *Stamens*, 2. Low, erect stems, with a few flowers in whorls in the leaf-axils near the tops of the branches. It is rough, hairy, stiff, erect, growing plentifully in dry woods. 4 to 6 inches high.

The true pennyroyal is *Mentha Pulegium* of Europe, to which, however, the American species is very similar in growth, odor, and medicinal properties. From New England southward and far westward.

81. Lyre-leaved Sage

Salvia lyrata.—*Family*, Mint. *Color*, bluish purple. *Leaves*, from the root, deeply cut, lyre-shaped, sometimes entire; on the stem, generally a single pair, small and narrow; near the flower, a few, bract-like.

Calyx, 2-lipped, the upper lip 3-toothed, sometimes entire. *Corolla*, gaping, deeply cut into 2 lips, the upper straight, slightly notched or entire, the lower 3-lobed, spreading. *Stamens*, 2 perfect ones on short filaments, at whose summits a thread crosses, bearing at one extremity a single anther-cell ascending under the upper lip, and at the other an imperfect but pollen-bearing anther, descending. This separation of the anther cells by a transverse filament is characteristic of sages. 10 to 20 inches high.

82

S. officinalis is the common aromatic sage of the gardens, with purplish-blue flowers in whorls about the stem. The name is derived from *salvus*, "in good health," from supposed curative properties. An old writer says: "It is good for the head and brain. It quickens the memory and senses. No man needs to doubt of the wholesomeness of sage."

83. *Blephilia*

Blephilia ciliata.—*Family*, Mint. *Color*, lavender. *Leaves*, green above, whitish and downy beneath, nearly sessile, ovate, narrowing at the base. Hairy, colored bracts under the calyx.

Calyx, tubular, 2-lipped, the upper lip armed with 3 long, the lower with 2 shorter teeth. *Corolla*, with 2 about equal lips, hairy, the upper entire; the lower 3-divided, spreading, the middle lobe notched and narrower than the side lobes. *Stamens*, 2. Two feet or less high. Flowers in terminal round heads and in whorls around the stem in the leaf-axils. Whole plant rough and hairy.

From Massachusetts southward and westward.

84. Mountain-mint. Basil

Pycnanthemum lanceolatum.—*Family*, Mint. *Color*, whitish or light purple dotted with purple. *Leaves*, long, narrow,

nearly sessile, clustered thickly in the axils ; those nearest the flowers whitish, with a soft down. *Time*, July, August.

There are several species of mountain-mint, found oftener below the hills than upon them. Most of them have small flowers with a 5-toothed calyx and 2-lipped corolla crowded in button-like heads, downy, whorled around the stem and terminal in close cymes. With the heads are short, stiff, pointed bracts. It is not easy always to distinguish the species.

85

P. linifolium often grows with *P. lanceolatum*. It has narrower leaves, and narrow, awn-pointed calyx teeth. Heads of flowers less downy. Range of both, throughout the Atlantic coast.

86

P. muticum has broader leaves, with rounded or heart-shaped bases and fewer and larger heads of purplish flowers in close, dense heads, downy, as are also the floral leaves.

87

P. Torreyi is green and not hoary, with flowers terminal in heads and corymbs.

88

P. incanum has ovate, somewhat toothed, very white, woolly leaves, the upper ones white on both sides. Flowers in flat clusters.

All these species grow generally in dry soil from New England southward and westward.

89. Sessile-leaved Water-horehound

Lycopus sessilifolius.—*Family*, Mint. *Color*, white. *Leaves*, sessile, sometimes clasping, ovate to lance-shaped, sparingly toothed, 1 to 2 inches long. *Time*, summer.

Calyx, 5-toothed. *Corolla*, 4-lobed, bell-shaped, twice the length of the calyx. Square-stemmed, smooth, with flowers in dense whorls from the leaf-axils. Slender runners spring from the base.

From Massachusetts to the pine barrens of New Jersey.

90

L. sinuatus is taller than the last, with oblong leaves about 2 inches long, considerably and narrowly cut, petioled. This species bears no runners, but has white flowers in whorls, like the last. It is 1 to 3 feet high.

91. Wild Bergamot

Monarda fistulosa.—*Family*, Mint. *Color*, purple, or dotted with purple. *Leaves*, those near the flower colored like the corolla; all ovate, lance-shaped, sharply toothed. *Time*, July, August.

Calyx tube, hairy within. *Corolla*, with a long tube (1 inch or more) and 2-lipped border, the upper lip erect, notched, the lower 3-lobed, with the middle lobe narrow and notched. *Stamens*, 2, protruding.

A rather coarse herb, 4 or 5 feet high, with a minty fragrance about its leaves and flowers. The flower-bracts and leaves just under the flower are whitish or crimson.

In different varieties of the wild bergamot the corolla varies in color from a light pink to dark purple. These have a wide range in woods, from Massachusetts and Vermont to Florida and westward.

92. Horse-mint

M. punctata is 2 or 3 feet high, with narrow leaves and beautifully colored floral leaves, pale yellow and crimson. The blossoms are yellow; the upper lip, which is erect and notched, is spotted with deep crimson or purple.

93. Giant Hyssop

Lophánthus nepetoides (crested flower).—*Family*, Mint. *Color*, pale greenish yellow. *Leaves*, coarsely toothed, with petioles, acute, ovate. *Time*, summer.

Calyx, bell-shaped, with 5 unequal teeth. *Corolla*, 2-lipped, the upper lip 2-lobed, lower 3-divided, with the middle lobe wavy, toothed. *Stamens*, 4, in pairs, which cross each other. *Flowers*, in terminal spikes, 2 to 6 inches long, thickly interspersed with long, pointed bracts.

A very tall mint, 6 feet high or less, with a stout, smooth, sharply 4-angled stem. Vermont to North Carolina, west to Texas.

94

L. scrophulariaefolius has longer spikes of purple flowers.

95. Forked Chickweed

Anýchia dichótoma.—*Family*, Knotwort. *Color*, greenish white. *Leaves*, minute, very narrow, with stipules. *Time*, all summer.

A difficult plant to analyze, on account of the minuteness of the flower, which can be studied only under a magnifying-glass. It will then be seen to be minus corolla, with a dry, leathery calyx of 5 sepals, 2 or 3 stamens, 2 stigmas. Flowers nearly sessile, clustered. *Fruit*, a 1-seeded, bladder-like body. Height, 1 to 2 feet. Stem forking many times into spreading branches. The minute flowers lie in the forks.

New England to Florida and westward.

96. Crane-fly Orchis

Tipulária díscolor or *unifòlia*.—*Family*, Orchid. *Color*, greenish purple. *Leaf*, appearing in autumn after the flower

has perished, springing from a bulb, often living through the winter, long-petioled, broad, acute, plaited, tinged with purple underneath. Bulbs connected by horizontal offsets. *Time*, July, August.

Flowers on a scape, with several small scales at base, nodding, on pedicels without bracts, making a terminal, loose raceme 5 to 10 inches long. *Sepals* and *petals*, long and narrow, the lip 3-lobed, not exceeding the petals, prolonged backward into a thread-like spur twice as long as the flower.

This singular orchis, with its insect-like form, is a rare and pleasurable find in the woods from Vermont to Michigan, and southward to Florida and Louisiana.

97. Many-flowered Coral-root

Corallorhiza multiflora.—*Family*, Orchid. *Color*, purplish or brownish. *Leaves*, none. *Time*, July to September.

A root-parasitic or saprophytic plant, with no true leaves, but sheathing scales at the base of the flower-scape. It grows from 1 foot to 20 inches high, and the spike of blossoms is rather dense. The flower, less than $\frac{1}{2}$ inch long, has a deeply 3-lobed lip, with a short, stubby, yellowish spur and ear-like side sepals. Lip white, spotted with purple. Root branching, coral-like in shape.

98. Red Lily. Wood Lily. Philadelphia Lily

Lilium Philadelphicum.—*Family*, Lily. *Color*, orange-red, with darker, brownish red spots inside. *Leaves*, long, narrow, whorled on the stem, 4 to 8 in a whorl, and some leaves scattering. *Time*, July, August.

Flowers, 1 to 5, erect, the 6 equal segments of the perianth narrowed into claws, spreading, but not drooping backwards. Capsules, large, 2 inches long, filled with many seeds. This



2
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3

RED LILY. WOOD LILY. PHILADELPHIA LILY
(*Lilium Philadelphicum*)

strikingly handsome lily is 3 or 4 inches long, of a fine rich color, and with its whorls of leaves makes solid pretensions to elegance. Stem, 2 or 3 feet high.

Range from Maine to South Carolina and West Virginia.

99. Fly-poison

Chrospérma muscaetóxicum. — *Family*, Bunch-flower. *Color*, white. *Leaves*, from base of scape, linear, grass-like, a few on the stem reduced to mere bracts. *Perianth*, 6-divided. *Flowers*, pedicelled, in a simple, dense raceme. *Stamens*, with thread-like filaments about as long as the sepals. *Fruit*, a 3-horned capsule. *Stem*, 2 to 4 feet high, from a coated bulb.

Range from Long Island westward to Pennsylvania and Virginia, where it is found among the mountains, and Arkansas.

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CHAPTER XI

DEEP, COOL, MOIST WOODS

“ Though plants are often referred to primitive woods as their locality, it cannot be true to very many. . . . Only those which require but little light and can bear the drip of trees penetrate the woods, and these have commonly more beauty in their leaves than in their pale and almost colorless blossoms.”—THOREAU.

DEEP, COOL, MOIST WOODS*

1. Black Snakeroot. Black Cohosh. Bugbane

Cimicífuga racemòsa.—*Family*, Crowfoot. *Color*, white. *Leaves*, alternate, twice or thrice compound, the leaflets small, cut and toothed, on long petioles. *Time*, July.

Sepals, 4 or 5, soon falling. *Petals*, small, on claws, 2-horned, like transformed stamens. *Stamens*, many, on slender, white filaments, giving the flower a feathery appearance. *Pistils*, 1, sometimes 2 or 3, forming a curious ovoid pod in fruit. Flowers in long, wand-like racemes, which extend in fruit 2 or 3 feet. Stem often tall, 7 or 8 feet, from a rootstock.

A conspicuous, coarse plant, with an unpleasant odor. It is supposed to be poisonous to insects.

2. Tall Larkspur

Delphínium exaltàtum.—*Family*, Crowfoot. *Color*, deep blue. *Leaves*, deeply cleft into 3 to 5 divisions. *Time*, July.

Sepals, 5, one with a long spur at its base. *Petals*, 4, in pairs, the upper pair projecting long spurs into the spur of the sepal, the lower raised on short claws. *Pistils*, 3, making as many erect, many-seeded pods. The flowers are softly hairy,

* This and the preceding chapter overlap each other, since many plants that grow in the woods are in a measure indifferent to their environments, and may be referred to dry or moist soils, and to lighter or heavier shade.

in long, terminal racemes, showy, an intense blue. Extreme height, 5 feet.

Its range is south and west of Pennsylvania.

3. Dwarf Larkspur

D. tricorne has deeply divided leaves, few flowers in a loose raceme, with diverging pods. An early bloomer, its delicate blue or white flowers appearing in April and May. Same range as the last.

4. Red Baneberry

Actaea spicata.—*Family*, Crowfoot. *Color*, white; berries red. *Leaves*, large, broad, twice or thrice compound, the leaflets cut and toothed. *Time*, April, May.

Sepals, 4 or 5, falling early. *Petals*, 4 to 10, small, broadened above, on slender claws. *Stamens*, numerous, with white filaments. *Pistil*, 1, making a many-seeded, oval, cherry-colored berry.

Flowers in a short, thick raceme at the end of the stem, which bears few leaves, and grows about 2 feet high. A handsome plant, especially when the bright fruit enlivens the woods.

5. White Baneberry

A. alba is even more conspicuous, with white berries on curiously thickened red stalks. At the tip of the berry is a black spot. Although the flowers are small, this plant in fruit cannot be mistaken. Its compound, sharply-toothed leaves are broad and handsome. The berries of *actaea* are poisonous.

Both species have a wide range in our Eastern woods, from New England southward.

6. Golden Seal. Orange-root. Yellow Puccoon

Hydrastis Canadensis.—*Family*, Crowfoot. *Color*, green-

ish white. *Leaves*, 1 from the root, 2 near the summit of the flower-stem, rounded or heart-shaped at base, 5 to 7-lobed, 4 to 9 inches wide, doubly toothed. *Time*, early spring.

Petals, none. *Sepals*, 3, colored, soon falling. *Stamens*, numerous. *Pistils*, about 12, with flat, double stigmas. *Fruit*, a head of crimson, 2-seeded berries. Rootstock yellow and bitter.

An interesting little plant with a single flower terminating a low and hairy stem, bearing a pair of quite large leaves. From New York southward and westward.

7. Blue Cohosh. Pappoose-root

Caulophýllum thalictroïdes.—*Family*, Barberry. *Color*, yellowish green. *Leaves*, 1, large, 3-divided, the divisions 3-lobed, situated just below the flower, sessile, so that the flower-stem seems to be the leaf-stalk. A second, smaller leaf sometimes appears. *Time*, April, May.

Sepals, petals, and stamens, 6. *Pistil*, 1, with a short style. *Petals*, small, thickish, with short claws, opposite the sepals. *Flowers*, in a small panicle, terminating the simple stem. *Fruit*, a pair of round seeds on thick stalks, which by expansion burst the ovary covering, become naked, drupe-like, blue and somewhat fleshy, when ripe.

A conspicuous plant, especially when in fruit, loving the solitude of deep woods, growing in rich soil.

8. Celandine Poppy

Stylóphorum diphýllum.—*Family*, Poppy. *Color*, deep yellow. *Leaves*, deeply cut, those from the root bearing a pair of small leaflets.

Sepals, 2, rough and hairy. *Petals*, 4. *Style*, prominent. *Pod*, bristly.

Low plants, with orange-colored juice, and few leaves on the

stem. The flowers are large and showy, 2 inches across, borne at the summit of the stem.

9. Dutchman's-breeches

Dicentra Cucullària (2-spurred).—*Family*, Fumitory. *Color*, white, tipped with pale yellow. *Leaves*, on slender petioles, from the rootstocks, thrice-compound and variously cut, the divisions long and narrow. *Time*, April.

Sepals, 2, small, scale-like. *Petals*, 4, slightly joined; the 2 outer forming 2 spurs, spreading apart, longer than the small flower-stalk; the 2 inner crested. *Stamens*, 6. *Pistil*, 1.

The plant grows from a scaly bulb, composed of grain-like tubers.

The odd flowers grow in a raceme on leafless scapes. One of the prettiest of our wood-dwellers. Is it a mere coincidence that so many of our early spring flowers are of the fragile, delicate sort, while summer and autumn bring heavier bloom, as if the nature hand were at first hesitating and timid, and later acquired a bolder stroke? The wild sunflower, for example, with bur-marigolds and tall asters, can only be associated with fall, while saxifrages, violets, spring-beauties, hepaticas, fumitory, and pale corydalis seem from their very nature to be blown from the breath of spring.

A cultivated species of this family, *Dielytra*, is well known from its blood-red, spurred, heart-shaped corolla. One of its common names is bleeding-heart.

10. Squirrel-corn

D. Canadensis is found more in northerly woods. Underground shoots bear yellow, small tubers, resembling grains of corn. The flowers are white or greenish, tinged with pink, with short spurs and a prominent crest on the two inner petals. A delicate fragrance, as of hyacinths, pervades these dear little flowers.



DUTCHMAN'S-BREECHES (*Dicentra Cucullaria*)

11. Crinkle-root. Pepper-root. Toothwort

Dentaria diphylla.—*Family*, Mustard. *Color*, white. *Leaves*, 2, on the stem, whorled, petioled, each divided into 3 coarsely toothed leaflets; root-leaves similar. *Time*, May.

Flowers in a terminal corymb. Rootstock edible, 5 to 10 inches long, often branched, crisp, tasting like water-cress.

Range from Maine to Kentucky.

12. Round-leaved Violet

Viola rotundifolia.—*Family*, Violet. *Color*, yellow. *Leaves*, ovate to roundish, heart-shaped, crenate, smooth, shiny. *Time*, May.

A short spur and the lateral petals marked with brownish lines will help to distinguish this violet of the woods.

At time of flowering, the leaves, erect, are quite small, 1 inch broad. Later they become larger, 3 or 4 inches broad, and lie prone on the ground. One often finds these leaves in summer carpeting the woods without associating them with the pretty, pale flower which accompanies them in spring.

13. Long-spurred Violet

V. rostrata comes obviously by its name, its spur being longer than the pale purplish petals.

It is a low plant, with little to make it noticeable, and it is besides somewhat rare. Found in New England and southward along the Alleghanies.

14. Canada Violet

V. Canadensis is one of the tallest of our violets, growing to a limit of 2 feet. *Leaves*, heart-shaped, acute, toothed; stipules prominent. Flowers white, tinged with purple, on leafy stems.

Found in the Alleghany Mountains and northward.

15. Dog Violet

V. canina, var. *Muhlenbergii*, bears a light purple blossom. Its upper leaves are heart-shaped, pointed; the lower kidney-shaped, crenate, with long and narrow stipules. *Time*, May to July. This common violet grows 6 or 8 inches high, in damp woods or shady spots. The corolla-spur is long, half the length of the petals. The stem, at first erect, produces later low, reclining branches.

16. Pearlwort

Sagina procumbens.—*Family*, Pink. *Color*, white. *Leaves*, small, thread-like, numerous. *Time*, summer.

Sepals, 4 or 5, longer than the petals, broadly ovate. *Petals*, generally 4, sometimes wanting. *Stamens*, as many as sepals, or twice as many. *Styles*, 4 or 5.

This is a small, matted, moss-like plant, spreading on the ground in damp woods. The tiny flowers are on the ends of the stems or branches.

17. Herb-robert

Geranium Robertianum (generic name signifies a crane, from the long-beaked fruit; this species named after Robert, Duke of Normandy).—*Family*, Geranium. *Color*, purplish pink. *Leaves*, 3 to 5-divided, the divisions twice dissected. *Time*, June to October.

Sepals and *petals*, 5. *Stamens*, 10. *Sepals*, tipped with a short awn, rough, hairy, with the stems often reddish. A strong scent pervades the plant, coming from resinous glands which are scattered in the foliage. Flowers small, single, or 2 or 3 together among the leaves, from forking stems.

This is one of those plants which, by the sudden, elastic bursting of its pods, scatters its seeds a long distance, often several feet.

18. Wood-sorrel

Oxalis Acetosélla ("sour," referring to the acid juice of the stem and leaves).—*Family*, Geranium. *Color*, white, with crimson veinings. *Leaves*, from the root, each composed of 3 notched, broad leaflets. *Time*, June, July.

Parts of the flower in fives, with 10 *stamens*. The *petals* are often notched. *Flowers*, 1 inch across, very pretty with their dark veinings, the petals thrown back, the stamens and styles evident. They terminate delicate, leafless scapes, springing with the leaves from a creeping rootstock. The leaves close or sleep at night, folding backward: The whole plant lies upon the ground in the deep forest in little bunches or clusters. It produces cleistogamous flowers, small, fertilized in the bud, very fruitful.

19. Goat's-beard

Spiræa Arúncus.—*Family*, Rose. *Color*, whitish. *Leaves*, thrice pinnate, with thin, long, sharply toothed leaflets. *Time*, June.

Sepals and *petals*, 5. *Stamens*, many. Stamens and pistils in different plants. Flowers in slender spikes, making a compound panicle long and pendent.

New York to Georgia and westward.

20. Bowman's-root. Indian Physic

Gillènia trifoliàta.—*Family*, Rose. *Color*, pale pink or white. *Leaves* of 3 thin, pointed, toothed leaflets, cut, ovate to oblong, sessile, with small stipules. *Time*, spring.

Calyx, a long and narrow tube, with 5 erect teeth. *Corolla*, of 5 unequal, slender petals springing from within the calyx-tube. *Stamens*, many. *Pistils*, 5, making 5 pods, each 2- to 4-seeded. Flowers in loose clusters.

New York and New Jersey to Georgia, and westward.

21. False Goat's-beard

Astilbe decâdra.—*Family*, Saxifrage. *Color*, white or yellowish. *Leaves*, twice or thrice compound. Leaflets, thin, heart-shaped, lobed, and toothed. *Time*, June.

Calyx, small, 4 to 5-parted. *Corolla*, of 4 to 5 small petals, often wanting in the pistillate flowers. *Stamens*, 8 or 10. *Pistil* with 2 styles. *Fruit*, a 2-celled capsule. Flowers racemed in a large, compound panicle.

A coarse plant, 4 or 5 feet high, found throughout the Southern States from Virginia to Georgia. Much like *Spiræa Aruncus*.

22. Yellow Mountain-saxifrage

Saxifraga aizoides.—*Family*, Saxifrage. *Color*, yellow, with deeper spots. *Leaves*, mostly from the root, long, narrow, lance-shaped, thick. *Time*, June.

Sepals and *petals*, 5. *Stamens*, 10. *Styles*, 2. The plant stems grow in tufts, 3 to 5 inches high, with flowers, few or several in clusters, and a few leaves on the stems.

Delicate and pretty. Found in cold mountainous regions of northern Vermont and New York.

23. Mitrewort. Bishop's-cap

Mitella diphylla ("a cap," from the shape of the pod).—*Family*, Saxifrage. *Color*, white. *Leaves*, of 2 kinds; those on the rootstocks or runners on slender petioles, heart-shaped, 3- to 5-lobed, toothed; those on the flower-stem, a pair, opposite, sessile, with stipules between. *Time*, May.

Calyx, 5-cleft. *Petals*, 5, much cut into slender divisions. *Stamens*, 10. *Styles*, 2, short. Capsule, 2-beaked. *Flowers*, in slender, graceful racemes, 6 to 8 inches long, on rather low and small, hairy stems.

Range, from New England to North Carolina.

24

M. nuda bears fewer flowers on leafless stems a few inches high and slender. Leaves from the root, doubly crenate, roundish or kidney-shaped. Grows in moss in New England and the Northern States.

25. Bunch-berry. Dwarf Cornel

Cornus Canadensis.—*Family*, Dogwood. *Color*, green and white. *Leaves* nearly sessile, 4 or 6 in a whorl, lying close under the flower, ovate, pointed, with curved, parallel veins. Below on the stem are a few smaller, scale-like leaves. *Time*, June.

The flowers are clustered in the centre, small, greenish, with black dots among them. *Calyx* minutely 4-toothed. *Corolla* of 4 oblong spreading petals. *Stamens* 4, with white anthers. *Pistil*, 1. Directly under the head of flowers are 4 large, pointed, white, petal-like leaves, an involucre, which appear to be the flower itself. Later the flower-stalk lengthens and bears a bunch of bright-red berries, very striking and pretty.

This small imitation of the larger flowering dogwood blossom (*C. florida*) is only 5 to 7 inches high. It is not uncommon in deep woods in New Jersey and New York, westward to Minnesota, and whether in blossom or fruit is always a pretty herb to find and study.

26. Feverwort. Horse-gentian. Wild Coffee.
Tinker's-weed

Triosteum perfoliatum.—*Family*, Honeysuckle. *Color*, brownish purple. *Fruit*, orange. *Leaves*, opposite, downy beneath, entire, broad, tapering at base, 2 clasping the stem and uniting, hence the specific name. *Time*, June.

Calyx lobes long and narrow, 5. *Corolla*, a tube with 5 unequal lobes. *Stamens*, 5. Coarse, softly hairy herbs, leafy

and branching, 2 to 4 feet high. *Flowers*, single or in clusters, sessile in the axils of the leaves. *Fruit*, a drupe with 3 bony nutlets.

Canada and New England to Minnesota and southward.

27. Twin-flower

Linnaëa boreàlis (named from the great botanist, Linnæus). — *Family*, Honeysuckle. *Color*, rose and whitish. *Leaves*, opposite, roundish, sparingly crenate, on short petioles, evergreen, shiny above. *Time*, June.

Calyx, 5-toothed. *Corolla*, bell-shaped, 5-lobed. *Stamens*, 4, 2 longer than the other 2. *Fruit*, a dry, 3-celled pod, with only 1 perfect seed. *Flowers*, hairy within, delicately fragrant, in pairs, each hanging from its own tiny stalk, the 2 pedicels united below into a slender peduncle, which grows upright from the trailing and creeping stems. As dainty a floral beauty, loving a mossy nest, as the cool woods afford.

Dr. Gray says that this plant was an especial favorite with "the immortal Linnæus," and that "there is extant at least one contemporary portrait of Linnæus in which he wears the tiny flowers in his button-hole."

28. Sweet-scented Bedstraw

Galium triflorum.—*Family*, Madder. *Color*, white or greenish. *Leaves*, 1 to 2 inches long, with rough margins, in whorls, 4, 5, or 6 in a whorl. *Time*, June, July.

Calyx, tubular. *Corolla*, 4-parted. *Stamens*, 4. *Styles*, 2. *Fruit*, double. *Flowers* on peduncles, 3 together. *Plant* rough along the angles of its square stem, which grows stiffer and taller than in many of the genus. Its peculiarity is in its pleasant fragrance when dried.

29. Goose-grass. Cleavers

G. Aparine is weak stemmed, hairy, and bristly. The plant

bears 8 leaves in a whorl, and white flowers, 1 to 3, on the common peduncle. Found everywhere in shady grounds.

30

G. pilosum is a purple-flowered species. The leaves are in whorls of four, 1 inch long, dotted and hairy. Flowers, 2 or 3 together, all with pedicels.

The *galiums* are interesting little herbs, in that, though weak, they are persistent, and flourish better than some plants by nature hardier and more aggressive.

31. Golden-rod

Solidâgo argûta.—*Family*, Composite. *Leaves*, thin, quite large, serrate on the main stem, entire on the branches, acute, the lower with margined petioles.

One of the earliest bloomers among the golden-rods. *Flowers*, greenish yellow, with 6 or 7 large rays, open, spreading, in rather short and loose racemes. *Stem*, smooth and sharply angled.

Widely distributed from New Hampshire to Pennsylvania.

32. Aster

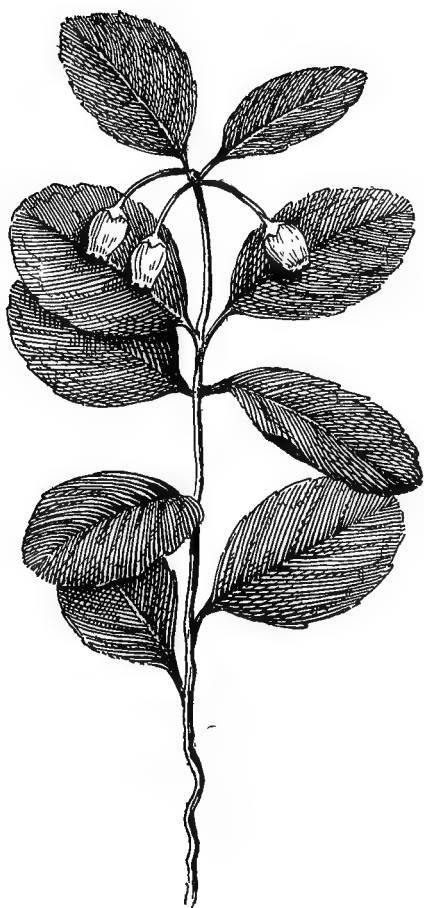
Âster acuminâtus.—*Color*, white, with a purplish tint. *Leaves*, very much pointed, toothed, broad at the base.

This aster has a slender, single, zigzag, and hairy stem. It is low, 10 or 12 inches high, with small flowers.

One of the earlier and an inconspicuous species.

33. Leaf-cup

Polýmnia Canadénsis.—*Family*, Composite. *Color*, pale yellow. *Leaves*, large, thin, the uppermost 3- to 5-lobed, with petioles; lower more deeply cut. Stipule-like appendages are present. *Flowers*, in paniced, flat clusters. Generally



CREEPING WINTERGREEN. CHECKERBERRY.
(*Gaultheria procumbens.*)
(See page 370)

both ray and disk flowers present, but rays small and occasionally wanting. Around the flowers are about 5 large involucre scales, leaf-like in character, making a sort of cup in which the flower sits. Smaller scales in an inner row partly fold over the achenes in fruit. Flowers in paniced, flat clusters. A tall plant, 2 to 5 feet high, with hairy stems.

Range from Western Vermont to Connecticut and westward.

34

Actinomeris squarrosa ("partly rayed").—*Family*, Composite. *Color*, yellow. *Leaves*, alternate, or the lower opposite, hairy, oblong or narrow and lance-shaped, deeply toothed, acute at both ends. *Time*, September.

Rays, few, 5 or 6 to 11. *Disk*, heavy, coarse, dark yellow or brownish. A plant from 4 to 8 feet high, with a coarse stem, hairy, and winged above. *Flowers*, in corymbs.

This plant has been found near Paterson and Montclair, N. J. Its range is western New York and Pennsylvania, southward.

35. Great Indian Plantain

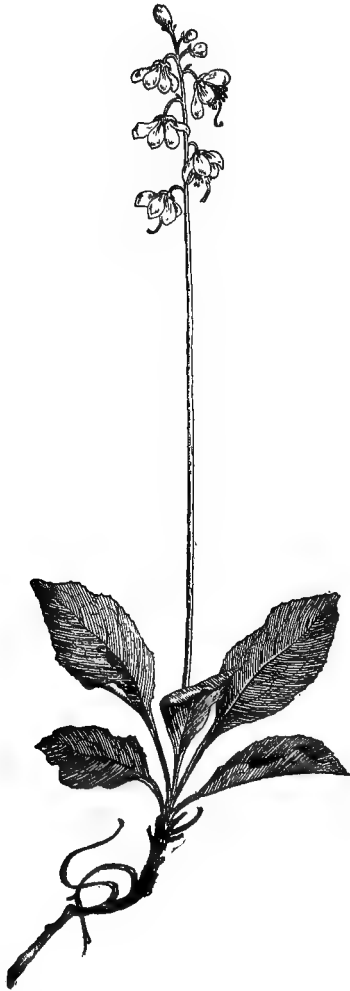
Cacalia reniformis.—*Family*, Composite. *Color*, white. *Leaves*, alternate, petioled, large, the lowest 1 to 2 feet broad, kidney-shaped; upper spreading, fan-shaped, distinctly toothed. *Time*, August.

Flowers, all tubular, with no marginal rays, collected in large, flat clusters. A plant 4 to 9 feet tall, with a stout grooved or angled stem.

New Jersey and southward, especially among the mountains.

36. Pale Indian Plantain

C. atriplicifolia, 3 to 6 feet high, has palmately veined, toothed leaves, and a coarse, smooth, round stem.



$\frac{2}{5}$

SHIN-LEAF (*Pyrola elliptica*)

(See page 372)

37

C. suavdolens is a plant of lower growth (highest, 5 feet), with triangular-shaped, pointed, and toothed leaves.

A rare growth of rich woods, from Connecticut west and south.

38

Prenâthes altissima.—*Family*, Composite. *Color*, yellowish. *Leaves*, with petioles, sometimes winged, variously divided, cut, or toothed, ovate, triangular, or heart-shaped, or 3- to 5-lobed, the divisions cleft.

Flowers in loose, terminal, and axillary panicles, with leaves interspersed; 5 involucreal scales surround the flower. Tall, 5 to 7 feet.

From New England westward and southward.

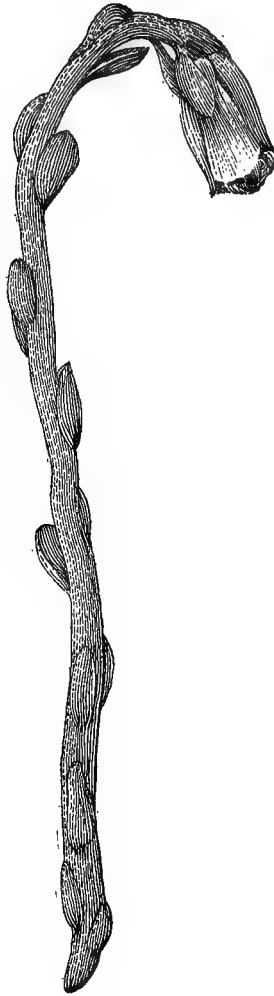
39. Creeping Wintergreen. Checkerberry

Gaulthèria procumbens.—*Family*, Heath. *Color*, white. *Leaves*, alternate, oval, evergreen, somewhat toothed, on petioles. *Time*, July to September.

Calyx, 5-parted. *Corolla*, bell-shaped, swollen in the middle, somewhat contracted at the top, with 5 points. *Stamens*, 10, each with 2 round anther-cells, opening by a hole at the top. *Fruit*, not strictly a berry, made of the calyx adhering to the ovary and grown fleshy. Flowers, 1, or a few, hanging from the axils of the leaves. Plant stem creeping just under or above the ground.

This is the little, well-known plant whose new, tender red leaves youngsters delight to chew, and whose aromatic berries sometimes find their way to our grocery stores.

Often late in the season the waxen flower-bells and ripening fruit are found together.



INDIAN-PIPE. CORPSE-PLANT. (*Monotropa uniflora*)

(See page 374)

The essence of wintergreen is a pleasant flavoring, in taste resembling birch.

Local names are tea-berry and box-berry.

40. Shin-leaf

Pyrola elliptica ("a pear," from fancied resemblance of the foliage to that of a pear-tree).—*Family*, Heath. *Color*, white. *Leaves*, in clusters at the root, ovate, dull, evergreen, thin, with margined petioles. *Time*, June.

Calyx, 5-parted. *Corolla* of 5 ovate petals. *Stamens*, 10, the anthers inverted and opening by chinks. *Pistil*, 1, with a large, curved style, bearing at its apex a 5-divided stigma. Flowers collected in a spike on a scape, with 1 or 2 scaly bracts.

One of our pretty lovers of the deep woods, with rosettes of evergreen leaves at the root surrounding a tall scape finished with a raceme of bright flowers.

41. Round-leaved Pyrola

P. rotundifolia has rounder, thicker, more shiny leaves, and taller flower scapes than the preceding, on which are numerous bracts. Many colors are displayed by varieties of this pyrola, varying from flesh-color to dark-rose tints. They all have the flowers in racemes, and the protruding upward-curved styles. Sometimes called wintergreen. It is probably one of these pyrolas which Bryant had in mind when he wrote :

"Away into the forest depths by pleasant paths they go,
He with his rifle on his arm, the lady with her bow,
Where cornels arch their cool, dark boughs o'er beds of wintergreen."

42. One-flowered Pyrola

Monèses grandiflora ("single delight").—*Family*, Heath. *Color*, white or pink. *Leaves*, clustered at the root, rounded, veiny, thin, pointed, toothed; less than 1 inch long. *Time*, June.



PINE-SAP. FALSE BEECH-DROPS. (*Monotropa Hypopitys*)

(See page 374)

Sepals and *petals*, 5, the latter roundish, widely open, the flower $\frac{1}{2}$ inch across. The flower-scape has a scaly bract or two upon it, with a single nodding flower, rising 3 or 4 inches from the underground stem.

Many dear little plants belong to the Heath family, and may be looked for in our deep woods, but none is more appealing in its helpless, sweet life than the one-flowered pyrola. To find it is a real delight.

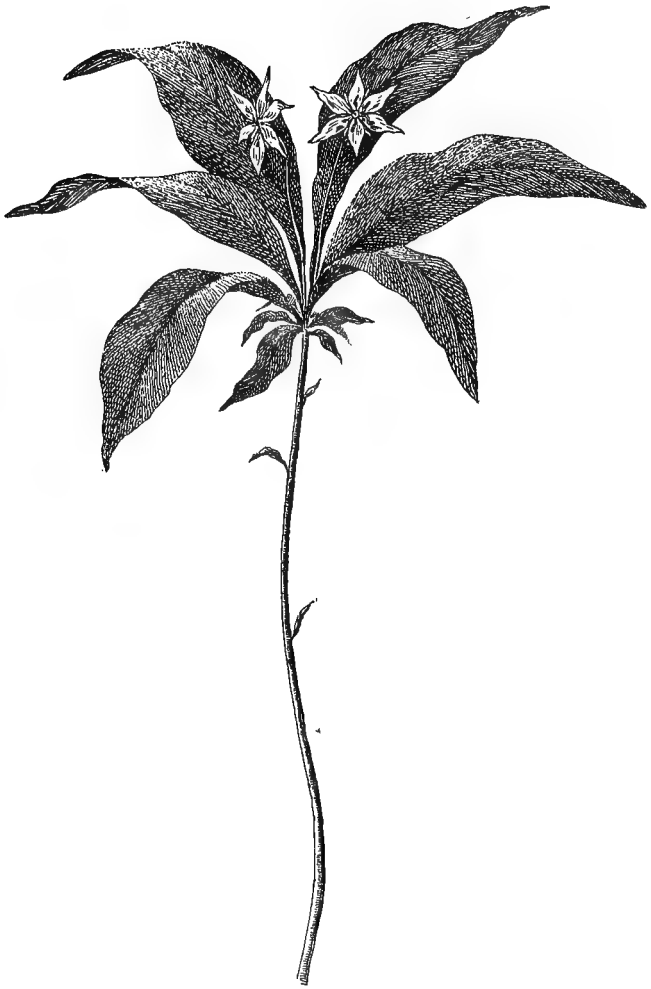
43. Indian-pipe. Corpse-plant

Monótropa uniflòra ("turned to one side").—*Family*, Heath. *Color*, white. *Leaves*, none. *Time*, June to August.

Calyx, of 2 to 4, and *corolla*, of 4 or 5, bract-like scales. *Stamens*, 8 or 10, with anthers joined horizontally to the filaments, opening by 2 chinks. *Pistil*, 1, with a thick style, surmounted by a fleshy 4- to 5-rayed stigma. *Fruit*, a capsule filled with very many minute seeds. *Stems*, waxy white, with bracts in place of leaves, all devoid of chlorophyll (green) grains, 3 to 8 inches high, in clusters from a bunch of fibrous roots which are parasitic on the roots of other plants, or saprophytic, growing on decaying vegetable matter. The flowers at first hang down; in fruit, stand erect. No odor, and a rather unpleasant plant, clammy to the touch, turning black after being plucked. It has been called "Life in death."

44. Pine-sap. False Beech-drops

M. Hypópitys is closely related to the Indian-pipe, but bears several flowers instead of 1, which hang from one side of the stem, the terminal usually with its parts in fives, the others with 3 or 4 sepals and petals. *Color*, yellowish, pink, or white. There is a pleasant fragrance about the flowers, which grow on stems 10 or 12 inches high. It is likewise a true parasite, as is revealed by the total absence of chlorophyll grains. It may be found during the summer months in



STAR-FLOWER. CHICKWEED-WINTERGREEN.
(*Trientalis Americana*)

(See page 376)

almost any pine and oak, deep and cool woods, looking in the distance like a bunch of tall fungi.

These singular parasites have a wide range over the whole United States.

45. Creeping Snowberry

Chiógenes serpyllifòlia.—*Family*, Heath. *Color*, white; berries, white. *Leaves*, evergreen, pointed, with margins rolled over, ovate, less than $\frac{1}{2}$ inch long. *Time*, May.

Calyx, 4-parted; 2 large bractlets underneath. *Corolla*, deeply 4-divided. *Stamens*, 8. *Flowers*, small, nodding in leaf axils on short peduncles. Fruit, a round, white, many-seeded berry. Slender stem and leaves rough, bristly.

The flowers of this pretty, trailing plant are small and shy, hiding in early spring in leafy corners among moss, in peat-bogs of New York and Pennsylvania, in the cool woods of the Adirondacks and Alleghanies. In summer it grows more bold, and flashes up from among its dark-green, shining leaves, the round, pure white berries. It is a plant fragrant of birch, belonging with moss, fern, and streamlet, thoroughly wild.

46. Shooting-star. American Cowslip

Dodecàtheon Meàdia.—*Family*, Primrose. *Color*, deep pink or white. *Leaves*, in a cluster at the root, oblong, or broader at apex than at base. *Time*, May, June.

Calyx and *corolla*, 5-cleft, the divisions of the corolla being long and narrow. *Stamens*, generally 5, their anthers coming together and forming a cone. *Flowers*, showy, in an umbel, at the top of a naked scape, surrounded by an involucre of small bracts.

A handsome plant with range from Pennsylvania southward. Sometimes cultivated.

47. Star-flower. Chickweed-wintergreen

Trientàlis Americàna.—*Family*, Primrose. *Color*, white.

Leaves, whorled on the stem just below the flowers, narrow, sessile. A few scales below. *Time*, May.

Calyx, 7-parted. *Corolla*, 6 or 7-pointed, spreading petals, united at base. A very delicate flower, on small, wiry stems, 2 or more blossoms arising from a whorl of comparatively large leaves. The diminutive, open flower contrasts strikingly with the handsome, thin, pointed leaves.

The plant grows by means of a slender rootstock about 2 feet long, from which the leaf and flower-stems ascend.

New England to Virginia, and westward.

48. Poke-milkweed

Asclèpias phytolacoides. — *Family*, Milkweed. *Color*, greenish; hoods white. *Leaves*, long, 6 to 8 inches broad, the upper narrow, pointed, short-petioled. *Time*, summer.

A tall, rank-growing species of milkweed, 3 to 5 feet high, with pedicelled flowers in terminal and lateral umbels. The horn projecting from the white hood has a long, somewhat curved point. Stem, 3 to 5 feet high. The flowers are loosely clustered, each on a limp, drooping pedicel, as long as the common peduncle.

New England, south to Georgia and Alabama.

49. Pinkroot. Worm-grass

Spigèlia Marilándica. — *Family*, Logania. *Color*, red and yellow. *Leaves*, opposite, their stipules united, sessile, ovate or lance-shaped, pointed. *Time*, June, July.

Calyx, 5-parted. *Corolla*, with a long tube, having a 5-lobed border, which is red outside, yellow within. *Stamens*, 5, and with the *pistil* protruding. *Flowers*, showy, in 1-sided spikes or flat clusters.

New Jersey southward and westward.

50. Obolaria

Obolaria Virgñica. — *Family*, Gentian. *Color*, white or

purplish. *Leaves*, round, fleshy, opposite, wedge-shaped, the lower degenerating into scales. *Sepals*, 2, leaf-like. *Corolla*, tubular, 4-cleft, bell-shaped. *Stamens*, 4, alternate with the lobes of the corolla. *Style*, short, with a 2-divided stigma.

A low, 3 to 8 inches high, generally simple stem, purplish green in color, with nearly sessile flowers in groups of threes, or single in the leaf-axils, or terminating the stem.

A rather curious plant, with thick, roundish leaves, found in New Jersey, southward to Georgia, and westward.

51. Creeping Phlox

Phlox réptans.—*Family*, Polemonium. *Color*, deep crimson. *Leaves*, evergreen, opposite, sessile, ovate, blunt at apex, 1 inch long or less. *Time*, May, June.

Calyx-teeth, 5, long, narrow. *Corolla*, salver-form, the tube long, the border 5-divided. *Stamens*, 5. *Style*, 3-lobed. *Capsule*, 3-celled. *Stem*, 4 to 8 inches tall, from a rootstock. The terminal bud of this ascends and forms a cyme of few flowers, followed by another shoot bearing only leaves.

Among the Alleghanies, from Pennsylvania to Georgia.

52. Wild Sweet William

P. maculàta is found in rich woods, beside streams, from New Jersey and southward. *Flowers*, a deep purplish pink, in slender, leafy panicles. *Leaves*, those above, heart-shaped at base; those below, lance-shaped. *Stems*, smooth, purple-spotted.

53

P. divaricàta bears a cymose cluster of pale-lilac or bluish, delicate flowers. *Leaves*, oblong to long and slender, the lower $1\frac{1}{2}$ inches long.

Plant, 1 foot to 18 inches high, found in woods from New York southward to Florida and Arkansas.

Other species of the pretty phlox are found mostly in woods southward. The plant is well known also in its cultivated forms.

54. Water-leaf

Hydrophýllum Canadéense. — *Family*, Water-leaf. *Color*, white. *Leaves*, large, about 4 inches broad, palmately lobed and veined, petioled, heart-shaped at base, irregularly toothed, the root-leaves sometimes with 2 or 3 small side leaflets. *Time*, summer.

Calyx, 5-cleft, minute teeth between the lobes. *Corolla*, tubular, 5-lobed. Flowers, short-pedicelled, in flat-topped clusters, whose peduncles are shorter than the petioles. Plants smooth-stemmed, from rootstocks which are thick and indented by the stout leaf-stalks; 1 foot high.

New England, westward, and to the mountains of Virginia.

55

H. Virgínicum is taller, 2 feet high or less, with the flower peduncles longer than the petioles. Leaves pinnately cut into 5 to 7 divisions, sharply toothed, oblong to lance-shaped. Flowers, white, or with a bluish tinge, appearing through the summer.

56. Culver's-root. Culver's-physic

Verónica Virginica. — *Family*, Figwort. *Color*, white. *Leaves*, 4 to 7, whorled around the stem, lance-shaped, with short petioles, finely toothed. *Time*, July, August.

Calyx, 4 or 5-parted. *Corolla*, tubular, with wheel-shaped, short border, 4 or 5-cleft. *Stamens*, 2, one at each side of the upper lobes of the corolla, standing out from the flower. The small flowers grow in terminal, spiked panicles, stiff and upright, 3 to 6 feet high.

It is not apparent why this tall, noticeable plant of the woods should be connected with "Culver." Who was Culver? Perhaps a quack doctor, who found secret healing virtues in the root of this plant. I find no recognition of his services elsewhere in botanical or medical works, and no other floral monument to his memory.

57. Lopseed

Phryma Leptostachya.—*Family*, Vervain. *Color*, rose-purple. *Leaves*, 3 to 5 inches long, thin, ovate, pointed, coarsely toothed, the lower with long petioles. *Time*, July.

A plant 2 or 3 feet high, with 2-lipped *calyx* and *corolla*. There are 3 bristly teeth on the upper part of the calyx. The corolla has 3 large lobes on its lower lip. The fruit is a single seed, around which the calyx folds itself. The small flowers, in pairs, are arranged in long spikes terminating the numerous branches.

58

Blephilia hirsuta.—*Family*, Mint. *Color*, pale purple, with darker spots. *Leaves*, with long petioles, ovate, rounded or heart-shaped at base; floral bracts, several, near the flower, shorter than the calyx.

Flowers with 2-lipped calyx and corolla, in whorls around the stem, and forming round, terminal heads. *Calyx*, with long hairs. *Stem*, 2 feet or more tall.

Throughout the Atlantic States.

59. Nerved-leaf Skullcap

Scutellaria nervosa.—*Family*, Mint. *Color*, bluish. *Leaves*, roundish below, becoming longer and narrower above; some toothed, heart-shaped, 1 inch long; all with veins prominent underneath. *Time*, summer.

Calyx, with helmet-like appendage on the back of the upper sepal. In fruit, this falls away. *Corolla*, tubular, 2-lipped, the upper lip arched, concave; lower, notched at apex, spreading,

longer than the upper, convex. *Stamens*, 4. *Fruit*, of 4 winged nutlets, each raised on a slender base.

A plant less than 2 feet high, with simple or branched stem. New York to Virginia and westward.

60. Richweed. Stone-root. Horse-balm

Collinsònia Canadénsis.—*Family*, Mint. *Color*, lemon-yellow. *Leaves*, opposite, ovate, much pointed and deeply toothed, with long petioles. *Time*, July to September.

Calyx, 2-lipped, the upper lip 3-toothed, the lower 2-cleft. *Corolla*, 1 inch long, tubular, with 4 upper, almost equal lobes, and 1 lower, quite long and large, hanging down, cut and fringed. *Stamens*, 2 (sometimes 4), standing well out from the flower.

A smooth plant, 1 to 3 feet high, widely branching, with flowers in loose, large panicles, pleasantly lemon-scented. Found in all the Atlantic States.

61. Virginia Smartweed

Polygonum Virginiànum.—*Family*, Buckwheat. *Color*, greenish. *Leaves*, rather long, 3 to 6 inches, ovate or ovate-lance-shaped, rounded at base, short-stalked, rough, hairy. *Time*, summer.

Corolla, none. *Calyx*, 4-parted; the divisions unequal. *Stamens*, 5. *Styles*, 2. *Flowers*, in long, loose spikes, with bracts. The sheaths at base of leaves are hairy, fringed.

A smooth, upright stem, 2 to 4 feet high. One of our common species.

62. Virginia Snakeroot

Aristolòchia serpentària.—*Family*, Birthwort. *Color*, greenish. *Leaves*, alternate, ovate, or long and narrow, heart-shaped at base, acute at apex. *Time*, July.

Calyx, tubular, bent like the letter S, smaller in the middle, with 3 lobes. No petals. *Stamens*, 6, with sessile an-

thers joining in pairs, each pair overtopped by 1 of the 3 lobes of the stigma. Ovary, 6-celled.

Flowers all near the root, on short peduncles. Upright, branched herbs, 8 to 15 inches high. The root has medicinal stimulant properties.

63. Wild Ginger. *Asarabacca*

Asarum Canadense.—*Family*, Birthwort. *Color*, dull brown, purplish. *Leaves*, 2, on long petioles, from creeping rootstocks, kidney-shaped, 4 to 5 inches broad, thin and translucent. *Time*, early May.

Corolla, wanting. *Calyx*, bell-shaped, spreading, with 3 short, pointed lobes lying flat, open. *Stamens*, 10. *Style*, 6-lobed at summit, with 6 spreading stigmas. *Fruit*, a fleshy, roundish capsule, bursting irregularly and scattering many seeds. Leaf-stalks, 5 to 12 inches long.

The flower grows low down near the root, from between the leaves, on a short peduncle. Its dull color enables it to hide itself with ease under the broad pair of leaves which rise above it. Unless one should recognize the leaf, it would be difficult to discover this plant. Its rootstock has a pungent, aromatic, ginger-like taste. It has pretensions to being among our earliest spring flowers, being mentioned by Mr. Gibson as among the possible March bloomers.

64. Wood-nettle

Laportea Canadensis.—*Family*, Nettle. *Color*, green. *Leaves*, 5 or 6 inches long, ovate, pointed, long-petioled, with one 2-cleft stipule, feather-veined. *Time*, July to September. 18 inches to 4 feet tall.

A plant with stinging hairs, 2 or 3 feet high. *Corolla*, none. The *stamens* and *pistils* are in different flowers. *Calyx*, of 4 sepals, 1 or more of which are smaller than the other 2.



WILD GINGER. ASARABACCA. (*Asarum Canadense*)

65. Richweed. Clearweed

Pilea púmila is a smooth, low nettle, 3 to 18 inches high, without stinging hairs. *Leaves*, pointed, 3-ribbed, coarsely toothed. *Flowers*, of 2 kinds. *Corolla*, wanting. *Sepals*, 3, one large, enclosing the achene in fruit. *Stigma*, sessile, ending in a tuft of fine hairs. Staminate and pistillate flowers together or on separate plants.

66. Large Twayblade

Leptórchis or *Líparis liliifòlia*.—*Family*, Orchid. *Color* of lip, purplish. *Leaves*, 2 at the base of the flower scape, broad, 2 to 5 inches long, expanding into large, loose sheathing bases. Several scales also below on the flower scape. *Time*, May to July.

Sepals and *petals*, narrow, slightly turned back. *Lip*, large, standing out from the flower, nearly $\frac{1}{2}$ inch long. Flowers in racemes on ascending pedicels, ending the scape which grows from a solid bulb.

A low plant, 3 to 10 inches high, found in rich, moist woods from Maine to Georgia, and westward.

67. Loesel's Twayblade

L. Loesèlii has fewer and smaller flowers on the scape, which grows, like the preceding, from a bulb. *Flowers*, greenish, with the lip pointed in the middle. *Leaves*, more inclined to lance-shape, 2 in number, sheathing the base of the flower scape.

This requires rather wet soil, and is found, not common, from New England to Florida.

68. Putty-root. Adam-and-Eve

Apléctrum hiemàle or *spicátum*.—*Family*, Orchid. *Color*, yellowish brown and purplish. *Leaf*, 1, stalked, not sheath-

ing at the base, but springing from the bulb at the side of the scape, large, oval, pointed, 4 to 6 inches long. Flowers in loose racemes which are 2 to 4 inches long, pedicelled, each with its own narrow bract. The singular, united corms of this plant give it the marital name, 2, sometimes 3 or 4, being joined together by offshoots. One little bulb is formed new every year, but retains life for 2 or 3 years. The latest corm sends up in late summer or fall a broad leaf, which usually lasts over the winter. The next season the flowers come up.

Extending over the country from New England to California, southward to Missouri.

69. Early Coralroot

Corallorhiza Corallorhiza or *innáta*. — *Family*, Orchid. *Color*, dull brownish purple, with a whitish red-dotted lip. *Leaves*, none, but the base of the scape is covered with 2 to 5 sheathing scales. *Time*, May, June.

Sepals and *petals*, small, the *lip* being shorter than the petals, all borne upon a sac-like protuberance or spur, which rises above the ovary. *Flowers*, 3 to 12 in a raceme which is 2 or 3 inches long. The root, branched and toothed like a coral branch, gives the plant its name. It is parasitic on roots of other plants, or saprophytic, finding its nourishment on dead or decaying vegetable matter. 4 to 12 inches high.

There are 5 species of coral-root found in the Atlantic States, not any of them being very common. This is found as far south as New Jersey, and in the mountains to Georgia and westward.

70. Small-flowered Coralroot

C. odontorhiza has purplish, small flowers on a purplish scape from a coral-shaped rootstock. *Lip*, broad as compared with the petals and sepals, notched, spotted. *Perianth* borne upon a long, globose spur, which rises from the ovary.

The flowers appear in late summer from Massachusetts southward and westward. 6 to 15 inches high.

71. Large Coralroot

C. multiflora bears more flowers, sometimes 30, on the scape, which, like the flowers, in color is dull brownish purple. Lip, short, 3-lobed, white, with purple lines and spots. Spur yellowish, somewhat curved in outline. 8 to 20 inches high.

From Nova Scotia to Florida, and westward.

72. Striped Coralroot

C. striata has a stouter scape, at the end of which the flowers are closely clustered. Color, dark purple, the lip long and broad. No true spur. Same height as the last.

Range, far north, from northern New York to Michigan and California.

73. Wister's Coralroot

C. Wisteriana rises 8 to 15 inches high, with a loose raceme of purplish pedicelled flowers. Lip, clawed, white, spotted with red, notched.

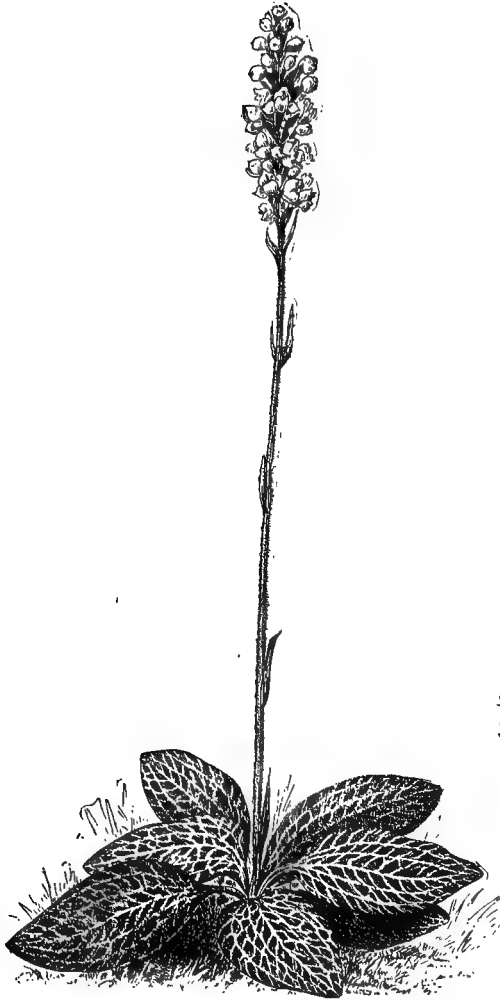
Massachusetts to Florida and Texas. The fruits—*capsules*—of all these species droop when ripe.

74. Heart-leaved Twayblade

Listera cordata.—*Family*, Orchid. *Color*, purplish. *Leaves*, 2, opposite, sessile, small, 1 inch or less long, roundish, somewhat heart-shaped. *Time*, June.

A small orchid, not more than 4 to 10 inches high, with almost minute, green-purplish or chocolate-colored flowers in a spike. The outside sepals turn back. The lip is much longer than the rest of the flower, divided in the middle and toothed at the sides.

From Nova Scotia south to New Jersey, and west across the continent.



$\frac{3}{5}$

DOWNY RATTLESNAKE PLANTAIN (*Peramium* or *Goodyera*
pubescens)
(See page 388)

75. Broad-lipped Twayblade

L. convallarioides rises from a cluster of fibrous roots 4 to 10 inches high, with 2 broad, roundish leaves near the centre of the scape. 1 ♂ or 2 small scales near the base. Flowers greenish yellow, on thread-like pedicels attended by a tiny bract, in loose racemes, 3 to 12 in a spike. Lip much longer than the sepals and petals; double-lobed at the apex, generally with 2 sharp ear-like projections at the base. *Time*, summer.

From Vermont southward to North Carolina; found in the Southern States among the mountains.

76. Southern Twayblade

L. australis bears very small greenish-yellow flowers with purple stripes. The narrow lip is $\frac{1}{2}$ inch long, slit nearly its entire length. Leaves ovate, sessile, a pair attached just above the middle of the scape. Rarely a third leaf occurs near the raceme of flowers. Scape 4 to 10 inches high.

In wet woods or bogs from New York to Florida.

77. Downy Rattlesnake Plantain

Peràmium or *Goodyèra pubescens*.—*Family*, Orchid. *Color*, greenish white. *Leaves*, several, clustered at the root, ovate, softly downy, conspicuously veined with white. *Time*, July, August.

These flowers are small, about $\frac{1}{4}$ inch long, with free side sepals, and the upper sepal with the petals united into a helmet-shaped form. *Lip*, pocket or sac shaped. Flowers in a terminal spike on a scape 6 to 20 inches high bearing several scales.

A pretty and common plant of the woods, known at once by the pretty rosettes of white-veined leaves at the base. Whole plant soft-downy. Range, over the Atlantic seaboard and westward to Tennessee.



1
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2

WHORLED POGONIA (*Pogonia verticillata*)
(See page 390)

78. Menzies' Rattlesnake Plantain

P. Menziesii is stouter stemmed than the last, with leaves less strongly veined with white or not at all. Flowers in spikes. Lip not sac-shaped, but much swollen at base, prolonged into a point at apex. 8 to 15 inches high.

Found in August from New Hampshire and New York across the continent.

79. Lesser Rattlesnake Plantain

P. répens is a species found in woods, especially under evergreens; lower and more slender than the last, with leaves not so strongly veined with white as in *P. pubescens*, short petioled, ovate, pointed, advancing up somewhat on the stem on one side. Flowers in a one-sided spike, small, greenish white, the lip pocket-shaped and curving backward at the apex. July and August. Same range as *P. pubescens*. 5 to 10 ins. high.

80. Nodding Pogonia

Pogonia trianthóphora or *péndula*.—Family, Orchid. Color, pink or pale purple. Leaves, several, very small, ovate, pointed, sessile, clasping the stem. Time, late summer.

In this small orchid the 3 or 4 upper leaves stand under bright flowers hanging and nodding on long, slender pedicels. Sepals and petals, partly united. Lip, raised on a claw, about 3-lobed. Flowers, $\frac{1}{2}$ inch long. Plant 3 to 8 inches high.

Not common, with range from Rhode Island to Florida and westward.

81. Whorled Pogonia

P. verticillàta is a still rarer species, having a whorl of sessile, pointed leaves, 5 in number, under the flower, terminating the stem, which is 10 to 12 inches high. Scales at base of scape, otherwise no leaves. Sepals, 2 inches long, thread-like,



SHOWY ORCHIS (*Orchis spectabilis*)

(See page 392)

dull purple. *Petals*, greenish yellow. *Lip*, 3-divided. *Time*, May, June.

One of the curious orchids resembling an insect; a happy find to the fortunate explorer of moist woods from Ontario to Florida.

82. Smaller Whorled Pogonia

P. affinis is so rare an orchid that it is not yet perfectly known. It is 5 to 10 inches high, with a whorl of 5 leaves at the summit of the scape, from which 1 or 2 flowers arise on thick peduncles, shorter than the ovary and capsule. Sepals and petals about equal. *Color*, greenish yellow.

Connecticut to New Jersey.

83. Showy Orchis

Orchis spectabilis.—*Family*, Orchid. *Color*, pink or light purple and white. *Leaves*, 2, large, the largest 4 inches wide, 8 inches long, oblong or ovate, fleshy, shiny above, clammy, with smooth, wavy margins, arising from near the base of the stem. *Time*, April to June.

A low orchid, from fibrous roots, bearing a single flower-scape, with 3 or 4 rather large flowers, 1 inch long, at the summit. The lip is white, prolonged backward into a blunt spur, not notched or divided. The other *petals* and *sepals* lightly unite, forming a queer, pointed little hood or *galea*, which is dark, rich crimson, with a tinge of purple, in color. Capsules 1 inch long. Height of plant, 6 or 7 inches.

Not common. Range, from New England to Georgia, in the mountains of Virginia, westward to Nebraska. In parts of Pennsylvania this orchis bears the name "preacher-in-the-pulpit."

84. Small Round-leaved Orchis

O. rotundifolia has 1 long roundish or oval leaf near the base of the stem, with 1 or 2 sheathing scales below it. *Flow-*

ers, deep pink, the 3-lobed lip white, spotted with purple. Several flowers in a spike. Slender stem, 8 to 10 inches high, from a creeping rootstock.

Growing mostly northward.

85. Clasping-leaved Twisted-stalk

Stréptopus amplexifolius ("twisted foot").—Family, Lily. Color, greenish white. Leaves, rounded at base and clasping the stem; thin and pointed. Time, May to July.

Perianth, bell-shaped, its 6 pointed *sepals* curved backward. *Stamens*, 6, with arrow-shaped anthers on short, flattened filaments. *Fruit*, a red, many-seeded berry. The *flowers*, $\frac{1}{2}$ inch long, grow from the leaf-axils on slender peduncles 1 to 2 inches long, which are abruptly bent or twisted in the middle; hence the name. Stem a creeping rootstock, from which the branches arise, 2 to 3 feet in height, forking, bearing the nodding flowers near the ends.

86. Sessile-leaved Twisted-stalk

S. ròseus has pink or purple bells of flowers hanging underneath the branches, with leaves, finely hairy, clasping the stem, as in the above. The flower peduncles are slightly bent; branches and leaves somewhat hairy. 12 to 30 inches high.

These are graceful, pretty plants, with a strong likeness to the uvularias and Solomon's-seals.

Range of both species, throughout the Atlantic States and northward, among the mountains of New York to Virginia.

87. Yellow Clintonia

Clintonia borealis. — Family, Lily-of-the-valley. Color, cream or greenish yellow. Leaves, 2, 3, or 4, sheathing the base of the flower-stem, oval or oblong, pointed, parallel-veined, hairy. Time, middle of May into June.

A pretty plant, with leaves like lily-of-the-valley, and stem 6

to 15 inches high, bearing on its summit an umbel of 3 to 6 open, spreading, bell-shaped flowers, each on a slender stalk, which points upward in fruit. Alternating with the sepals, fastened to their base, are the 6 conspicuous stamens. The fruit is a blue berry, nearly round.

An interesting, uncommon-looking plant, whose delicate flowers strongly contrast with its ample leaves.

88. White Clintonia

C. umbellata.—*Color*, white, often dotted with purple. *Leaves*, 2 to 5, broad, pointed, parallel-veined, hairy around the margins, and sometimes along the mid-rib underneath, from the root, their petioles sheathing the base of the flower-scape; sometimes a small leaf on the scape. *Time*, May and June.

Flowers, fragrant, in a many-flowered umbel at the end of a scape 8 to 18 inches high. *Fruit*, a roundish black berry.

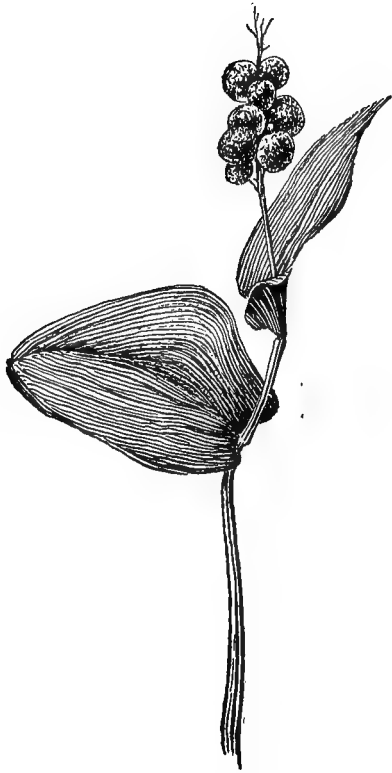
New York to Georgia and Tennessee. On the mountains in Virginia.

89. Perfoliate Bellwort

Uvularia perfoliata (from "uvula," a palate, the flowers hanging under the stem, like a palate).—*Family*, Bunch-flower. *Color*, pale or dull yellow. *Leaves*, oblong or lance-shaped, pointed, passing beyond the stem, so that the latter passes through the leaf. *Time*, May and June.

Stems low, from 8 to 16 inches high, slender, springing from a perennial rootstock. The ascending branch divides, and bears a solitary flower, which droops under the leaves. This flower is at first terminal, but the branch grows beyond it, leaving it lateral. The flower is 1 inch long, with 6 separate sepals and as many short stamens. Sepals narrow, spreading at tip. Capsule 3-angled, the lobes opening above.

New England to Florida. On the mountains in Virginia.



FALSE LILY-OF-THE-VALLEY (*Unifolium* or *Maianthemum*
Canadense)
(See page 396)

90. Large-flowered Bellwort

U. grandiflora has a forking stem, with 1 or 2 leaves, or perhaps more, below the fork. Above, the stem passes through the oblong, oval, or egg-shaped, pointed leaves. Flowers, light yellow, single at the ends of branches, drooping, 1 to 1½ inches long. Stamens longer than the styles. 1 to 2 feet high.

Wide range over the Atlantic States.

91. Mountain Bellwort

U. pubérula has sessile or clasping leaves, oblong to oval, acute, of a pale bluish green. Like the preceding, this plant forks and bears a single narrow, 1 inch long, bell-shaped flower, yellow, drooping from a slender peduncle. Stem rather stout, somewhat hairy, especially on the forks. *Time*, May and June.

Found in mountainous woods in Virginia to South Carolina.

92. Sessile-leaved Bellwort

U. sessilifolia is much like the last species, with oblong, sessile, not clasping leaves, and greenish-yellow flowers, on peduncles 1 inch long, 1 or 2 or no leaves below the fork. *Time*, May and June.

Range wide, from New England to Georgia. Rather common.

93. False Lily-of-the-valley

Unifolium or *Maiánthemum Canadense*.—*Family*, Lily-of-the-valley. *Color*, white. *Leaves*, 1 to 3, one above the other, on flowering stems, ovate to oblong, pointed at apex, heart-shaped at base, with short, thick petioles, or sessile. Some solitary on longer petioles, from the rootstocks. Parallel-veined. *Time*, May and June.

Flowers small, with a 4-divided perianth, 4 stamens, 1 style, delicate, in a terminal spike or cluster, followed in the fall by

a bunch of bright-red berries. This small lily-of-the-valley is one of the flowers dear to children, who love to press their little fingers into a bed of the shining leaves, mixed with mosses, looking for the downy, fine blossoms. Height, 4 to 7 inches. Stem often bent.

In moist woods from New England to North Carolina and westward.

94. Indian Cucumber-root

Medèola Virginiàna. — *Family*, Lily-of-the-valley. *Color*, greenish yellow. *Leaves*, a whorl around the stem, near the middle, of 5 to 9 ovate or long and narrow, pointed, thin leaves; above, just under the flowers like an involucre, another whorl of 3 to 5, broader and shorter. *Time*, June.

Perianth of 6 equal, oblong segments. *Stamens*, 6. A woolly plant, 2 or 3 feet high, with a single unbranched stem, bearing at its summit 3 to 9 small, lily-shaped flowers, on long, slender pedicels. In fall these produce dark-purple, conspicuous berries. The tuberous fleshy rootstocks taste a little like the cucumber.

Nova Scotia to Florida.

95. Hairy Solomon's-seal

Polygonatum biflorum. — *Family*, Lily-of-the-valley. *Color*, greenish yellow. *Leaves*, alternate, broad, ovate, narrow at base, acute at apex, nearly sessile, parallel-veined; 2 to 4 inches long, pale green, softly hairy along the veins beneath. *Time*, May to July.

Flowers cylindrical, bell-shaped, perianth 6-divided at the top. They hang under the stem, mostly in pairs, sometimes in threes, small, as compared with the protecting, overhanging leaves. An interesting spring flower, growing from a jointed rootstock, which is scarred or *sealed* where the former upright growths have fallen off. The flower-bearing stem (2 or 3 feet

high) curves gracefully, and in fall displays round, bluish-black berries.

Range, from New England to Florida and West Virginia.

96. Wild Spikenard. False Solomon's-seal

Smilacina or *Vàgnera racemòsa*. — *Family*, Lily-of-the-valley. *Color*, white. *Leaves*, 3 to 6 inches long, alternate, clasping, or the lower petioled, broad, slender-pointed at apex, parallel-veined, with minutely hairy margins. *Time*, May to July.

Division of *perianth*, 6. *Stamens*, 6. A familiar plant, blossoming about the last of May, in cool woods and on hillsides, often in moist ground. The single ascending stem, producing rather large leaves, rises straight or zigzag to a height of 2 to 3 feet, and bears on its tip a compound panicle of fine, white, pedicelled blossoms, slightly fragrant. In fall these flowers give rise to a lovely bunch of pale-crimson, purple-dotted berries.

Nova Scotia to Georgia.

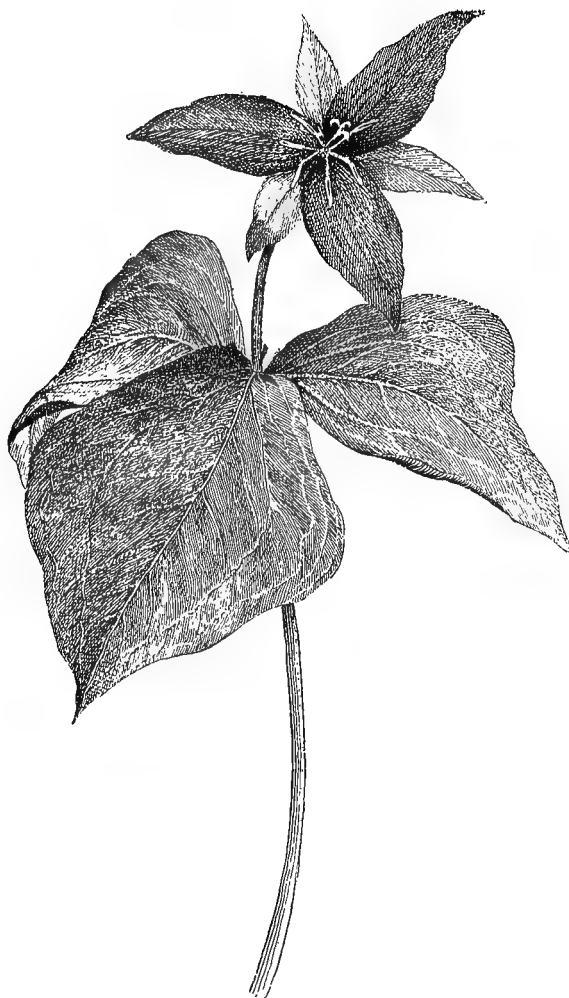
97. Star-flowered Solomon's-seal

A smaller species, 1 foot high, growing under similar conditions, is *V. stellàta*. The flowers, likewise in a terminal simple raceme, are larger than the last, and fewer, each with a distinct pedicel. Most of the leaves clasp the stem, without petioles. Flowers appear about the middle of May, and the berries in September are a purplish black, or green with black stripes. Both of these plants grow from a creeping rootstock, like the true Solomon's-seal, and they are among our interesting friends of the woods.

New England to Virginia and Kentucky. Often found growing with the preceding.

98. Three-leaved Solomon's-seal

V. trifòlia rises from a slender rootstock, a stem 6 to 18



ILL-SCENTED WAKE-ROBIN. BIRTHROOT. (*Trillium erectum*)

(See page 400)

inches high, bearing generally 3 oblong leaves, sessile, and sheathing at base. Flower rather large, with an open, at length reflexed, 6-divided perianth, 6 stamens, 1 ovary and style. Berries, dark red.

In wet, boggy woods from Maine to Pennsylvania, westward to Michigan.

99. Ill-scented Wake-robin. Birthroot

Trillium erectum.—*Family*, Lily-of-the-valley. *Color*, deep purple, crimson, or often lighter, varying to white. *Leaves*, 3 above on the stem, very broad, 3 to 6 inches long, and often as wide, sharply pointed at apex. *Time*, April to June.

Four of the trilliums are found in damp woods, among our rather early spring flowers. They are similar in character, all producing from a tuberous rootstock a single stem, with 3 large leaves at the summit.

This species (*T. erectum*) produces the largest leaves. The solitary flower (2 to 3 inches across) stands or droops on a peduncle, 1 to 4 inches long. Sepals, 3, narrower than the 3 petals, remaining after the petals have withered. The pistil bears 3 stiff, open stigmas, which are stigmatic on their inner surface. The flower might be pretty, but it has a disagreeable odor, which is more attractive to insects than ourselves.

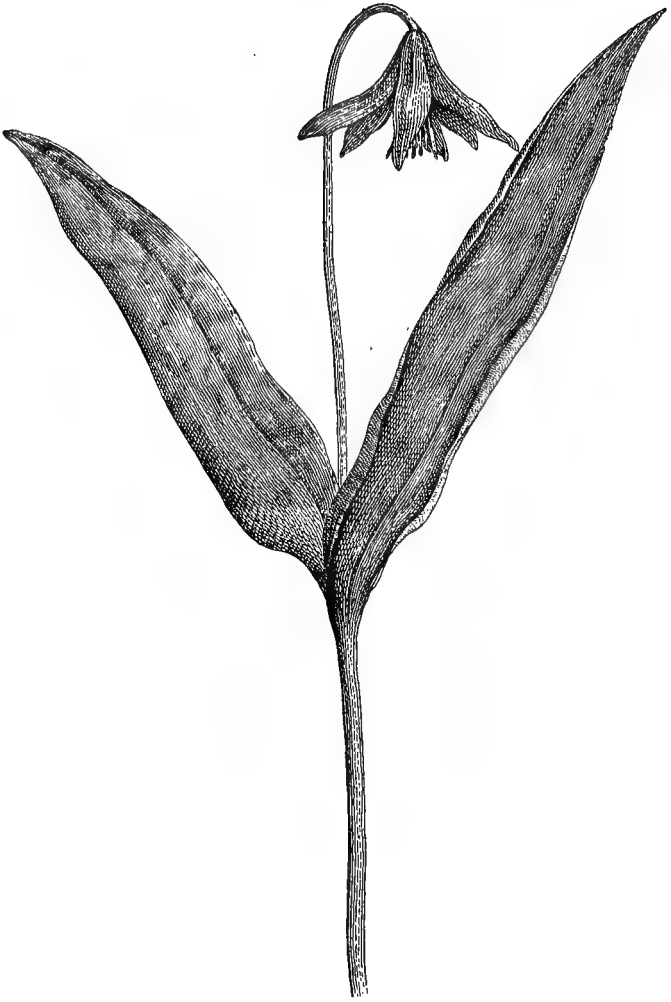
100. Large-flowered Wake-robin

T. grandiflorum is a white trillium, larger in flower and smaller in leaf than the last. The waxy petals take on later a pink color. *Stamens*, 6, with long anthers. *Styles*, 3, slender and erect, stigmatic along the inner side. *Fruit*, a berry, nearly black. *Time*, May and June.

Range, from Quebec to Florida, and westward to Missouri.

101. Nodding Wake-robin

T. cernuum is a white or pink species, with petals about



YELLOW ADDER'S-TONGUE (*Erythronium Americanum*)

(See page 402)

1 inch long, with wavy and turned-back edges. The flower-stalk is short and nodding to one side.

102. Painted Trillium or Wake-robin

T. erythrocarpum or *undulatum* is the most striking of the genus. *Flower*, peduncled, with 3 narrow sepals. Its long, white, wavy petals are colored a deep rich crimson in the middle, or lined with purple, and the upper part of the stem is brown. *Fruit*, a 3-angled red berry, 3-celled, with several seeds in a cell. *Leaves*, tapering almost to a thick, broad petiole, with 3 prominent ribs, running from base to the sharp-pointed apex.

Nova Scotia to Georgia.

The parts of these plants, being all in threes, give them their name, "trillium." Roots, poisonous.

103. Yellow Adder's-tongue

Erythronium Americànum. — *Family*, Lily. *Color*, light yellow. *Leaves*, 2, long, narrow, usually mottled with whitish or purplish spots, sometimes wholly green, contracted below into petioles which surround the stem. *Time*, March to May.

Perianth divisions, 6, separate, narrow, bell-shaped, longer than the 6 stamens. *Flowers*, single, on long peduncles. *Stem*, 1 foot or less high.

A low, smooth plant, often growing in masses or beds in moist, rich woods. The pretty flowers close at night and open mornings. On warm, sunny days the perianth segments curve backward.

104. White Adder's-tongue

E. albidum, a similar species, bears a pretty, white, blue, or purple lily-like flower, with its perianth divisions curled far backward, blossoming early in spring. *Style*, long and projecting, bearing 3 stigmas. A pair of opposite leaves, spotted

or entirely green, springs from the flower-stem. Rare in the Eastern States.

105. Virginia Day-flower

Commelina Virginica. — *Family*, Spiderwort. *Color*, blue. *Leaves*, lance-shaped, 3 to 5 inches long, shorter and bract-like near the top of the stem, sheathing the stem at base, the sheaths fringed along the edges, those leaves near the flowers forming spathes, enclosing the flowers, like hoods. *Time*, summer and early fall.

Sepals and *petals*, 3 of each, unequal; 3 fertile stamens and 3 sterile, with anthers variously shaped. Style 1- and capsule 3-celled. *Flower* large, 1 inch across, showy. It lasts only for a day. *Stems* diffusely branched, thick, fleshy, smooth, spreading.

New York, south to Florida and west to Illinois.

106. Asiatic Day-flower

C. communis is slender-stemmed with lance-shaped leaves, sheathing above, spathe-like, and with bracts. Flowers in umbels, deep blue, 2 *petals* much longer than the third, and the *sepals* unequal.

Southern New York to eastern Pennsylvania. Other species occur in the Southern States.

107. Spiderwort

Tradescantia Virginiana. — *Family*, Spiderwort. *Color*, blue. *Leaves*, long and lance-shaped, 1 foot long or less, channelled and clasping at base. *Time*, May to August.

Sepals, 3, much smaller than the 3 *petals*. Several flowers in a loose umbel terminating rather thick, fleshy stems.

Southern New York south to Virginia and westward.

108. Mountain Spiderwort

T. montana is a slender-stemmed, simple, leafy species with long, narrow leaves, whose bases surround the stem with broad, loose sheaths and flowers similar to the preceding.

In the woods of southern Virginia to Georgia.

109. Indian Turnip. Jack-in-the-pulpit

Arisaema triphyllum.—*Family*, Arum. *Color*, green. *Leaves*, generally 2, on long petioles, divided above into 3 ovate, pointed, short-stalked, wavy-margined leaflets. *Time*, April to June.

The first name is derived from the bulbous root, which is like a miniature turnip. Boiled, this root is rendered edible. The plant is more generally known as a "jack-in-the-pulpit," the Jack being a *spadix* bearing stamens and pistils, without perianth, covered by a single folding leaf—a *spathe* which overtops the flower with a graceful curve, like the roofed pulpits of some cathedrals. Our Jack is a welcome preacher, and his text is "Lo! the winter is past; the flowers appear in the earth." He stands with his fellows in sentinel-like rows along the edges of deep woods or in the lighter-leaved forests. Often the overlapping spathe is prettily striped with purple. The fruit is a gay cluster of scarlet berries, ripe in June or July.

110. Green Dragon-root

A. draconium is a species in which the Jack grows taller than his pulpit, and the single leaf is divided into 5 to 17 leaflets, all springing from a common centre. The leaf, on a long petiole, grows taller than the flower, the divisions being long and narrow. The spadix tapers above into a long, narrow tip. The spathe, whitish or greenish, is long, narrow, acutely pointed. Staminate and pistillate flowers in different plants. Berries reddish orange, appearing in late summer.

Both species are found in all the Atlantic States.

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57. Lopseed (*Phryma Leptostachya*), rose-purple.
58. *Blephilia hirsuta*, pale purple.
59. Nerved-leaf Skullcap (*Scutellaria nervosa*), bluish.
60. Stone-root. Horsebalm (*Collinsonia Canadensis*), lemon-yellow.
61. Virginia Smartweed (*Polygonum Virginianum*), greenish.
62. Virginia Snakeroot (*Aristolochia serpentaria*), greenish.
63. Wild Ginger. Asarabacca (*Asarum Canadense*), dull brown, purplish.
64. Wood-nettle (*Laportea Canadensis*), green.
65. Richweed. Clearweed (*Pilea pumila*).
66. Large Twayblade (*Leptorchis* or *Liparis lillifolia*), purplish.
67. Loesel's Twayblade (*Leptorchis Loeselii*), greenish.
68. Putty-root. Adam-and-Eve (*Aplectrum hiemale* or *spicatum*), yellowish brown and purplish.
69. Early Coralroot (*Corallorhiza Corallorhiza* or *innata*), dull brownish purple.
70. Small-flowered Coralroot (*Corallorhiza odontorhiza*), purplish.
71. Large Coralroot (*Corallorhiza multiflora*), dull brownish purple.
72. Striped Coralroot (*Corallorhiza striata*), dark purple.
73. Wister's Coralroot (*Corallorhiza Wisteriana*), purplish.
74. Heart leaved Twayblade (*Listera cordata*), purplish.
75. Broad-lipped Twayblade (*Listera convallarioides*), greenish yellow.
76. Southern Twayblade (*Listera australis*), greenish yellow.
77. Downy Rattlesnake Plantain (*Peranium* or *Goodyera pubescens*), greenish white.
78. Menzie's Rattlesnake Plantain (*Peranium Menziesii*), greenish white.
79. Lesser Rattlesnake Plantain (*Peranium repens*), greenish white.
80. Nodding Pogonia (*Pogonia trianthophora* or *pendula*), pink or pale purple.
81. Whorled Pogonia (*Pogonia verticillata*), purple and yellow.
82. Smaller Whorled Pogonia (*Pogonia affinis*), greenish yellow.
83. Showy Orchis (*Orchis spectabilis*), pink and white.

84. Small Round-leaved Orchis (*Orchis rotundifolia*), deep pink.
85. Claspig-leaved Twisted-stalk (*Streptopus amplexifolius*), greenish white.
86. Sessile-leaved Twisted-stalk (*Streptopus roseus*), pink.
87. Yellow Clintonia (*Clintonia borealis*), cream or greenish yellow.
88. White Clintonia (*Clintonia umbellata*), white.
89. Perfoliate Bellwort (*Uvularia perfoliata*), pale yellow.
90. Large-flowered Bellwort (*Uvularia grandiflora*), light yellow.
91. Mountain Bellwort (*Uvularia puberula*), yellow.
92. Sessile-leaved Bellwort (*Uvularia sessilifolia*), greenish yellow.
93. False Lily-of-the-valley (*Unifolium* or *Maianthemum Canadense*), white.
94. Indian Cucumber-root (*Medeola Virginiana*), greenish yellow.
95. Hairy Solomon's-seal (*Polygonatum biflorum*), greenish yellow.
96. Wild Spikenard. False Solomon's-seal (*Smilacina* or *Vagnera racemosa*), white.
97. Star-flowered Solomon's-seal (*Vagnera stellata*),
98. Three-leaved Solomon's-seal (*Vagnera trifolia*).
99. Ill-scented Wake-robin. Birth-root (*Trillium erectum*), purple or crimson.
100. Large-flowered Wake-robin (*Trillium grandiflorum*), pink.
101. Nodding Wake-robin (*Trillium cernuum*), white or pink.
102. Painted Trillium or Wake-robin (*Trillium erythrocarpum* or *undulatum*), crimson.
103. Yellow Adder's-tongue (*Erythronium Americanum*), light yellow.
104. White Adder's-tongue (*Erythronium albidum*), white, blue, or purple.
105. Virginia Day-flower (*Commelina Virginica*), blue.
106. Asiatic Day-flower (*Commelina communis*), blue.
107. Spiderwort (*Tradescantia Virginiana*), blue.
108. Mountain Spiderwort (*Tradescantia montana*), blue.
109. Indian Turnip. Jack-in-the-pulpit (*Arisaema triphyl-lum*), green.
110. Green Dragon-root (*Arisaema dracontium*), green and whitish.



CHAPTER XII

SANDY SOIL

In this chapter are included a few plants which seem not strictly to belong to either the wayside or light woods, although many of these may also be found in such places. It would seem that no soil is too unfertile to support some sort of vegetation. Nature, so bountiful in her gifts, has mosses and lichens to cover rocks, fungi for bringing life out of decaying matter, flowers to beautify the sandiest soil.

SANDY SOIL

1. Carolinian Whitlow-grass

Dràba Caroliniàna. — *Family*, Mustard. *Color*, white. *Leaves*, alternate, hairy, oblong, sessile. *Time*, March to May.

Sepals and *petals*, 4. *Pod*, smooth, broad, on a short stalk.

A small plant, less than 5 inches high, with little white flowers in a raceme which becomes about 1 inch long in fruit. Sometimes the petals are wanting. Not so well known as, but earlier than, the common whitlow-grass. This species, coming into flower in March, is among our earliest bloomers.

Sandy and waste fields from Massachusetts southward, and westward to Minnesota.

2. Frostweed

Helianthemum Canadense (“sun-flower,” so called because the flowers open only in sunshine).—*Family*, Rock-rose. *Color*, yellow. *Leaves*, alternate above, opposite below, simple, numerous, lance-shaped to oblong, hoary underneath. *Time*, summer.

Sepals, 5, 2 of them long, thin, and bract-like, hairy or whitish and downy. *Petals*, 5, sometimes none. *Stamens*, 3 to 10, or numerous. *Pistil*, 1, with a 3-lobed, sessile stigma. Stem very hoary; at first simple, later branched.

This singular plant produces two kinds of blossoms, the earlier in July, a large, 5-petalled, yellow flower opening only in sunshine, dropping its petals the next day, 1 inch across, with many

stamens lying flat against the petals. The pod is 1-celled, with numerous seeds. The blossom, resembling an evening primrose, is solitary on the stem. Later in the season—August and September—much smaller flowers cluster in the axils of the leaves up and down the stem, with or without petals, with 3 to 10 stamens and very small, roundish, few-seeded pods, giving the plant an entirely different appearance.

The plant gets its name from the curious ice-crystals which form on the stem near the root in November on frosty mornings.

Mr. Gibson says of this frost-flower (*Sharp Eyes*): "It is a flower of ice-crystal of purest white, which shoots from the stem, bursting the bark asunder, and fashioned into all sorts of whimsical, feathery curls and flanges and ridges. It (the crystal) is often quite small, but sometimes attains three inches in height, and an inch or more in width. It is said to be a crystallization of the sap of the plant, but the size of the crystal is often out of all proportion to the possible amount of sap within the stem, and suggests the possibility that the stem may draw extra moisture from the soil for this especial occasion."

Maine to Minnesota and southward.

3

H. corymbosum is a species peculiar to the New Jersey barrens. It differs in its manner of flowering, bearing its larger blossoms on long, slender stalks, and all the flowers in a cluster at the summit.

4. Bird-foot Violet

Viola pedata.—*Family*, Violet. *Color*, pale or deep blue, with yellow centre. *Leaves*, much cut, with narrow divisions. *Time*, May.

Sepals, 5, eared. *Petals*, 5, one of them spurred. Two of the stamens have appendages which penetrate the spur cavity. Flower, 1 inch across. One of the stemless violets, scapes and leaves springing from an upright rootstock.

The blossom is perhaps the largest and prettiest of the wild

violets. The finely cut foliage, a variation from the prevailing violet type of entire and heart-shaped leaf, adds much to its beauty. Flowering scapes, 5 to 10 inches high.

I recall always with satisfaction a sterile knoll in Connecticut, which, when a child, it was one of the pleasures of each recurring spring to visit. There I could gather the bird-foot violet by the handful, yet make no impression upon the spacious bed of bloom; and since I have seen adult classes in botany rush in a body to inspect and secure a few sparsely scattered specimens of this flower, I think my childish enthusiasm was justifiable.

Cleistogamous, self-fertilizing blossoms, without colored petals, may be found near the roots in midsummer. From New England southward and westward.

5. Arrow-leaved Violet

V. sagittata, deep blue or purplish, with entire, arrow-shaped, petioled leaves, sometimes toothed and variously cut near the base, is one of our common species. The spur is short and thick; petals rather large, and finely bearded. Plant hairy or smooth. Scapes 4 to 9 inches high.

Same range as the last.

6. Pearlwort

Sagina apétala.—*Family*, Pink. *Color*, white. *Leaves*, long, thread-like, thin, hairy near the base, clustered. *Time*, summer.

Petals, 4, small, or sometimes wanting. *Sepals*, *stamens*, and *styles*, 4.

Erect, small, low plants. Not common.

7

Another species, found in sandy soil, is *S. decumbens*. The leaves in this species are short and bristly. All the parts of the flower are in fives, the stamens perhaps 10; calyx equal to or longer than the corolla.

Massachusetts to Illinois, and southward.

8. St. Peter's-wort

Áscyrum stáns ("without roughness").—*Family*, St. John's-wort. *Color*, yellow. *Leaves*, opposite, oval, black-dotted, partly clasping. *Time*, summer.

Sepals, 4, the 2 outer much broader than the inner, leaf-like. *Petals*, 4. *Stamens*, many. *Fruit*, a pod, 1-celled, but valved and divided 2 or 4 times. The blossoms are showy, single. The stem is flattish, 1 to 2 feet high. Whole plant smooth and leafy.

9. St. Andrew's Cross

A. Crúx Ándreeæ, also found in pine barrens, is lower than the last, with narrower and thinner leaves. The petals are linear, not longer than the sepals, and spread 2 on each side, approaching each other in the form of the letter X, or the cross of St. Andrew.

This and the preceding are low and shrubby plants, found in pine barrens along the Atlantic coast.

10. Canada St. John's-wort

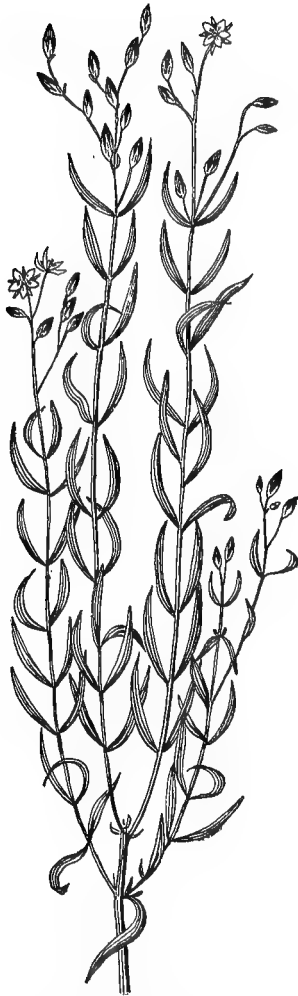
Hypéricum Canadéense.—*Family*, St. John's-wort. *Color*, deep yellow. *Leaves*, long, narrow, obtuse, 3-nerved at base, dotted. *Time*, June to October.

Sepals and petals, 5. *Stamens*, usually about 12, in 3 groups; sometimes 5 in a single row. *Flowers*, in leafless, cymose clusters, less than $\frac{1}{2}$ inch broad. *Pods*, longer than the calyx, pointed, 1-celled. *Stems*, square, straight, upright, 6 to 15 inches high, with ascending branches. Common.

II

H. virgátum grows somewhat higher than the last, with oblong, lance-shaped, upright leaves, and flowers scattered along small branches, making a compound cyme. *Styles*, 3, separate. Color of flowers a coppery yellow.

New Jersey and southward, in wet pine barrens.



CANADA ST. JOHN'S-WORT (*Hypericum Canadense*)

12. Orange-grass. Pineweed

H. nudicaule.—*Family*, St.-John's-wort. *Color*, deep yellow. *Leaves*, small, thin, scale-like, pressed against the stem. *Time*, summer and fall.

A species remotely like the other St.-John's-worts, having round, thin, wiry stems, very small flowers, sessile on the branches, and minute leaves. It grows about 6 to 18 inches high, in sand. The red pods are conspicuous, being longer than the calyx.

It has a wide range, from Maine southward; westward to Missouri. One of our commonest plants, often found on roadsides.

13. Carolinian Cranesbill

Geranium Carolinianum.—*Family*, Geranium. *Color*, pale pink. *Leaves*, palmately 5-parted, the divisions cut into long, narrow lobes. *Time*, May to August.

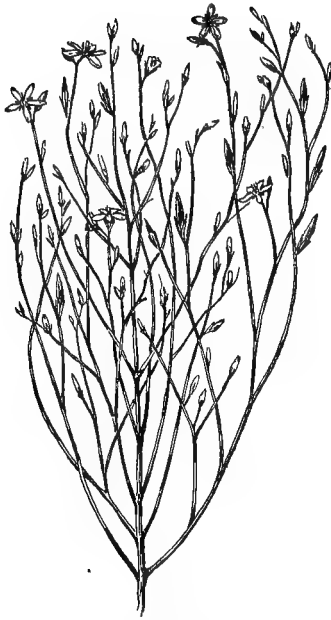
Sepals and *petals*, 5, the sepals hairy, pointed, equalling the corolla in length. *Stamens*, 5 or 10, with glands at their base. Ovary, 5-lobed, with 5 long *styles*, which spring elastically from their common axis when ripe. *Flowers*, small, 1 to 3, pedicelled, on a short common peduncle. *Stems*, hairy, much branched, forking above. Pods hairy.

A flower similar to the wild cranesbill, and variable in form. The light rose-colored petals are notched in the centre. Common everywhere.

14. Seneca Snakeroot

Polygala Senega.—*Family*, Milkwort. *Color*, white. *Leaves*, lance-shaped or broader in the middle, rough margined. *Time*, May and June.

This species of polygala has a close, single head of flowers, springing from a thick, knotty rootstock. It is our only white species (some others are greenish white), and one of the tallest, reaching 1 foot in height.



ORANGE-GRASS. PINWEED. (*Hypericum nudicaule*)

15. Whorled Milkwort

P. verticillata may be known by its long, narrow leaves, whorled on the stem, scattered on the branches. The flowers are collected in clover-like short heads, terminating the branches. They are greenish white, tinged with purple. A bract behind each separate flower falls with the flower. 6 to 12 inches high.

16. Nuttall's Milkwort

P. Nuttallii is a low-growing species, with greenish or dull rose-colored flowers on very short pedicels, the bracts remaining after the flower and fruit fall, a cluster of cone-like small scales. *Leaves*, long and narrow, alternate. 4 to 7 ins. high.

17

P. fastigiata has darker and brighter pink-purple flowers in short dense heads. The slender stem is at first simple, then branched. *Leaves*, about $\frac{1}{2}$ inch long, very narrow, acute. 6 to 16 inches high.

18. False or Wild Indigo

Baptisia tinctoria ("to dye." "Some species furnish 'a poor indigo.'"—GRAY).—*Family*, Pulse. *Color*, yellow. *Leaves*, smooth, small, 3-divided, nearly sessile, the leaflets wedge-shaped, $\frac{1}{2}$ inch to $1\frac{1}{2}$ inches long. *Time*, July.

Calyx, 4- or 5-toothed. *Corolla*, papilionaceous. *Stamens*, 10. *Pods*, roundish, pointed, stalked, raised a little above the calyx.

This common, well-known "indigo" plant is found everywhere, along our walks and drives, in sandy soil. The leafy, much-branched, in outline roundish, bushy herb, about 2 feet high, with its bright racemed pea-blossoms, is a general favorite, notwithstanding its tendency to turn black when picked and dried for the herbarium.

19. Rattle-box

Crotalaria sagittalis.—*Family*, Pulse. *Color*, yellow. *Leaves*, simple, oval or oblong, acute, nearly sessile. *Time*, July.

Corolla, papilionaceous. A small, coarse, hairy plant, 6 inches high, with yellow blossoms, and pods at first green, then black, hard, and brittle. The seeds rattle in the ripened pod. *Stipules* are present, arrow-shaped at base, so formed by running down on the stem and uniting. 1 foot high or less.

Maine to Kansas.

20. Hoary Pea. Goat's-rue. Catgut

Tephrosia virginiana.—*Family*, Pulse. *Color*, pale lemon and rose. *Leaves*, compound, with 9 to 29 leaflets, one odd terminating the stem, all tipped with a minute point. *Time*, June and July.

Corolla, papilionaceous; the standard greenish yellow, broad, turned back in the full-grown flower. The pink or rose-colored wings cohere with the keel, which is greenish yellow tinged with rose-color.

The plant grows erect, 1 to 2 feet, with thick, brittle stems, in large clumps, in sandy soil, especially edging pine woods. The flowers grow in long panicles, through which are scattered a few leaves. The panicle is often ragged-looking, those blossoms below being withered and dried. The entire plant is white, silky, hairy. The roots are strong and fibrous, giving the name catgut. The blossoms, with their striking color and large size, make a showy plant. Not uncommon.

21

T. spicata is a straggling, branching species, covered with brownish hairs, with few reddish flowers in a long spike, and few leaves divided into 9 to 15 leaflets. 2 feet high. *Time*, July.

22

T. hispídula is a slenderer stemmed, straggling species, 2 feet high or less. 2 to 4 purplish flowers in a spike whose peduncle is longer than the leaves.

These 2 species are Southern plants, growing in dry soil from Delaware and Virginia to Florida.

23. Bush-clover

Lespedeza procúbens.—Family, Pulse. Color, purple. Leaves, of 3 leaflets. Time, August and September. Corolla, papilionaceous. Flowers, of 2 kinds. The larger, growing in panicles or clusters, are not so fertile as the smaller, which are mixed with the others along the stem and branches. The latter are usually without petals. The pods have 1 or 2 joints, with a single seed in the upper. The lower joint is generally seedless. Stems, 12 to 30 inches long.

A fine-leaved plant, trailing and vine-like, growing in sandy soil.

24

L. violácea is commonly found along the margins of pine and oak woods. The flowers are bright purple, on upright, slender stems. The leaflets are small, thin. 1 to 3 feet high.

25

L. reticulàta has thicker stems, more leaves, and flowers closer together. Same height as the last.

26

L. Stùvei is covered with down, very leafy, with roundish leaflets and numerous purple flowers, crowded like clover blossoms into long heads. Two or three species have white and purple corollas; among them are—



$\frac{2}{3}$

BUSH-CLOVER (*Lespedeza procumbens*)



$\frac{2}{3}$

BLUE TOAD-FLAX (*Linaria Canadensis*)

(See page 434)

27

L. capitata, with globular heads of flowers on short peduncles; and These species are from 1 to 4 feet high.

28

L. angustifolia, with linear leaflets and flowers in smaller, oblong heads.

Many of the bush-clovers are pretty plants, with fine, delicate foliage. Others are tall and stiff, with short-stemmed leaves and rigid heads of flowers. The genus may be known by the 3-lobed, clover-like leaves, and smooth, 1-seeded, single or double jointed pods. The pods of the nearly related desmodiums have several joints, and they are rough, clinging to the clothing.

29. Pencil-flower

Stylosanthes elatior ("columned flower," from the stalk-like calyx tube).—*Family*, Pulse. *Color*, yellow. *Leaves*, divided into 3 sessile, lance-shaped leaflets, with straight, prominent veins. *Time*, summer.

Calyx, with a slender tube, upon which the papilionaceous corolla with included stamens stands. Standard round, and keel incurved. *Stamens*, in 2 sets, distinguished by their anthers, of which the 5 longer are fixed to their filaments near their bases, the 5 shorter alternating with the longer, fastened near the middle. *Pods*, 1- or 2-jointed, with the lower half of the hooked style clinging to them. When 2-jointed the lower joint is empty, and it acts like a stalk for the upper. Heads few, clustered with small flowers. Stems low, branched from the base. 6 to 20 inches long.

New York and New Jersey to Florida, in the pine barrens.

30. Pink Wild Bean

Strophostyles pedunculâris.—*Family*, Pulse. *Color*, green-



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WILD SENSITIVE PLANT (*Cassia nictitans*)
(See page 424)

ish white, with some pink. *Leaves* of 3 ovate to oblong leaflets, about 1 inch long. *Time*, summer.

Corolla, papilionaceous. *Pod*, very narrow, and 2 inches or less long. *Flowers*, in heads, few, each one sessile, the whole cluster on a long peduncle. Stem very slender and hairy, from a rootstock, growing from 2 to 4 feet in length, prostrate, not climbing.

Found in New Jersey and Long Island, south to Florida, west to Louisiana.

31

In *S. angulosa* the middle of the 3 leaflets is 2-lobed; the others are sometimes lobed or entire, about 1 inch long. Flowers greenish white and bluish purple, growing in closely clustered heads on a peduncle, which lengthens as the season advances. Stems hairy, branched, reclining, 1 to 5 feet long.

32. Partridge-pea

Cássia Chamaecrista.—*Family*, Pulse. *Color*, bright yellow. *Leaves*, pinnate; from 10 to 15 pairs of leaflets and 1 terminal, all somewhat sensitive, folding together when plucked. A pair of cup-shaped glands at the base of the 2 lowest leaflets. Stipules present. *Time*, late summer.

Sepals, 5. *Petals*, 5, spreading. The papilionaceous corolla is not found in this flower, but the spreading petals are unequal in size; 2 or 3 have a purple spot at the base. *Stamens*, 10, 4 with yellow anthers, 6 with purple, all opening by 2 pores at the apex. *Pod*, flat, many-seeded, with cross-partitions.

The showy, bright flowers, on slender pedicels, grow in small clusters under the leaves. Stems spreading, about 1 foot long.

From Massachusetts to New Jersey; more common southward.

33. Wild Sensitive Plant

C. nictitans bears very small, yellow flowers in clusters on



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2

HYSSOP-LEAVED THOROUGHWORT (*Eupatorium hyssopifolium*)

(See page 426)

short pedicels. Stamens, 5. Leaflets, 10 to 20 pairs, sensitive.

Shelley's famous poem, "The Sensitive Plant," refers to the *Mimosa pudica*, a European plant, whose leaves are more sensitive than those of our *cassias*. All of this genus fold their leaflets and "sleep" at night. In the partridge-pea each pair folds together, and they then lie along their main stem, flattening themselves closely against it, so as scarcely to be distinguishable at night from the branches.

"A sensitive plant in the garden grew,
And the young winds fed it with silver dew;
And it opened its fan-like leaves to the light,
And closed them beneath the kisses of night."

The leaves of our species are feather-like rather than fan-like.

These plants are common from New Jersey and Long Island southward. In their season they make bright with color the dry land along the railroads, extending into the fields and lining the waysides.

34. Hyssop-leaved Thoroughwort

Eupatorium hyssopifolium.—*Family*, Composite. *Color*, dirty white. *Leaves*, narrow, long, crowded and bunched at intervals on the stem, almost whorled in appearance. *Time*, August and September.

Corolla, tubular. A common, plebeian plant, with the typical thoroughwort flowers in close, flat heads.'

Growing in sandy, sterile soil in Massachusetts, on Long Island, southward to Virginia and Kentucky. Height, 1 to 2 feet. The flower has neither beauty of color nor fragrance.

35. Kuhnia

Kuhnia eupatorioides.—*Family*, Composite. *Color*, cream-white. *Leaves*, alternate, entire or toothed, lance-shaped to linear. *Time*, September.



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SWEET GOLDEN-ROD (*Solidago odora*)
(See page 428)

Corollas, tubular. A plant with minute down, 2 to 3 feet high. It resembles the thoroughworts. The flowers are in heads of paniced corymbs.

Found in New Jersey, southward and westward to eastern Kansas.

36. Sweet Golden-rod

Solidâgo odôra has a slender stem, sometimes reclining, 2 or 3 feet long. Its leaves are bright green, entire, long, narrow, and *dotted*. The panicle of flowers is small, 1-sided, broad and short, rather a dull yellow. When the leaves are crushed they give forth a pleasant, anise-like fragrance. One variety is scentless.

Maine to Kentucky.

37

S. pubérula is 1 to 3 feet high, with a fine, soft hairiness over the flowers, which are crowded into a dense, pyramid-shaped bunch on the end of the stem. Leaves smooth, tapering, long, entire. Plant 1 to 3 feet high.

From Maine to Virginia, near the coast.

38. Slender-leaved Golden-rod

S. tenuifôlia is one of the most delicate and graceful of the golden-rods, although so common as almost to be called a weed. It is low, or tall. Its flowers grow in little buttons or clusters, all of which together make a flat-topped corymb. The numerous leaves are long, thin, narrow.

Range from Massachusetts to Illinois and southward, especially near the coast.

39

S. strîcta, with its tall, wand-like stem, is found in the New Jersey pine barrens and southward. It is smooth, but very



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SLENDER-LEAVED GOLDEN-ROD (*Solidago tenuifolia*)

leafy. The leaves, thick and somewhat broad below, grow upward on the stem into mere bracts. The heads of yellow flowers are small, crowded, spiked, or racemed.

40

S. pilosa is a tall species, 3 to 7 feet, with the same range as the last. The stem is stout and hairy. Leaves rough, lance-shaped, sessile. Heads of flowers in a dense, pyramid-shaped, recurved panicle. Rays few and short.

41. Golden Aster

Chrysopsis falcata.—*Family*, Composite. *Color*, golden yellow. *Leaves*, stiff, entire, narrow, long, sessile, crowded irregularly on the stem, hairy, smooth when old, often curved and scythe-shaped. *Time*, August and September.

Corollas, tubular. *Rays*, present. Both rays and disk a showy, golden color. *Flowers*, large, resembling asters. The plant is often delicate in stem and leaves, and again rough, woolly, thickened, and misshapen, 8 or 10 inches high.

42

Frequently found growing with the above is *C. Mariana*, a smoothly silky plant, with broader, oblong leaves and heads in flattish clusters on glandular peduncles.

These are handsome flowers, adorning many sterile spots with beauty from Massachusetts and Long Island southward to Pennsylvania, not far from the coast.

43. Showy Aster

Aster spectabilis.—*Family*, Composite. *Color*, bright purple. *Leaves*, ovate, pointed, long.

One of our finest asters, with broad, purple flowers, at times 2 inches across. The involucreal leaves under the flower turn



GOLDEN ASTER (*Chrysopsis falcata*)

backward, and are rough and bristly in appearance. The disk is small, of a bright yellow.

Very common in dry soil from Massachusetts and Long Island southward. The stem is thick and rough, flowers few or single on the upper branches.

44

A. cóncolor has showy, dark-violet rays in heads which make a simple or compound, straight, narrow raceme. The leaves are soft and silky, grayish on both sides, oblong, 1 inch long below, crowded, and pressed close against the stem, the upper ones being small bracts. Stem 2 or 3 feet high.

Found in Long Island and New Jersey and southward in the late summer or early autumn.

45

A. ericoides bears tiny white flowers, becoming pinkish, with fine, hair-like rays and yellow, compact disks. It might be a small daisy. Leaves small, narrow, the lower broader and somewhat toothed. The stems are slender and wiry, from 1 to 3 feet high. Branches spreading and bearing flowers upon the upper side.

An early and late flowering aster, being one of those found in the October woods. Common from Connecticut and Rhode Island southward and westward.

46

A. multiflorus is a low, bushy plant, 1 foot tall, with small heads of whitish flowers much crowded in racemes on the ends of the branches. Leaves small, bract-like above, sessile, thick and rigid, lying close to the stem, rough on the margins.

Common in dry, sandy soil. A pale-green, homely species.

47. Narrow-leaved Sunflower

Heliánthus angustifolius.—*Color*, rays bright yellow; disk



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GOLDEN ASTER (*Chrysopsis Mariana*)
(See page 430)

brownish. *Leaves*, long, narrow, entire, sessile, with the edges slightly rolled backward. *Time*, August and September.

A rough, tall-stemmed species, often 6 feet high. Stem and leaves usually rough. Large heads of flowers in loose clusters on peduncles of varying lengths near the ends of the branches.

Long Island to New Jersey, and southward.

48

H. divaricatus is lower, from 1 to 4 feet high, with a comparatively smooth stem. Both disk and rays are yellow, the rays 1 inch long. The involucral scales around the flower are narrow, few, and unusually long. Leaves opposite, sessile, standing out, 5 or 6 inches long, with broad, rounded bases, tapering to a sharp-pointed apex, rough, toothed, 3-nerved.

These are among the flowers that help to round out the beauty of the autumn plant-life with rich, heavy, golden color.

49

Tetragonotheca helianthoides.—*Family*, Composite. *Color*, pale yellow. *Leaves*, opposite, sessile, their bases sometimes meeting and joining around the stem. Coarsely toothed. *Time*, June.

Rays, 6 to 9, 1 inch long. *Flowers*, in large, single heads on peduncles terminating the simple flower-stem. Underneath, 4 broad involucral scales, 1 inch long, unite and make a 4-angled cup around the flower. A second row within is composed of small, chaffy scales.

Virginia and southward.

50. Blue Toad-flax

Linaria Canadensis.—*Family*, Figwort. *Color*, light blue. *Leaves*, upper ones bract-like; lower linear, entire; root-leaves dissected. *Time*, July.

Calyx, 5-parted. *Stamens*, 4. *Pistil*, 1. A small blue



NARROW-LEAVED SUNFLOWER (*Helianthus angustifolius*)

(See page 432)

flower, 2-lipped, with a thread-like, crooked spur on the lower lip of the corolla.

The flowers grow in terminal racemes on slender stems, unbranched, tall, 2 feet or so high. A rosette of cut leaves is often found growing at the base of the stem. General appearance, much like Indian tobacco (*Lobelia inflata*), and not at all like its nearest cousin, the more showy butter-and-eggs. Found on the edges of gardens and along sandy roadsides.

51. Narrow-leaved Vervain

Verbena angustifolia.—*Family*, Vervain. *Color*, purple. *Leaves*, narrow, lance-shaped, sessile, acute, somewhat toothed, rough. *Time*, July and August.

Calyx, 5-toothed. *Corolla*, tubular, 5-cleft, the border spreading. *Stamens*, 4, the upper pair sometimes without anthers. *Style*, 1. *Stigma*, 2-lobed. *Flowers*, in much-crowded spikes, the fruits forming quickly and overlapping each other. Stems 6 to 18 inches high, generally simple, sometimes branched.

Massachusetts south to Florida, and westward.

52. False Pennyroyal

Isanthus caeruleus.—*Family*, Mint. *Color*, pale blue. *Leaves*, lance-shaped to oblong, 3-nerved, small. *Time*, July and August.

Calyx, bell-shaped, with 5 equal lobes. *Corolla*, small, about $\frac{1}{4}$ inch long, with nearly equal, blunt, spreading lobes. *Stamens*, 4. *Flowers*, 1 to 3, on peduncles in the leaf-axils. Whole plant low, much branched, downy, somewhat clammy.

Maine to Illinois, and southward.

53. Entire-leaved Skullcap

Scutellaria integrifolia.—*Family*, Mint. *Color*, blue. *Leaves*, long, narrow, obtuse, entire, or slightly toothed, with short petioles. *Time*, July and August.



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WILD SUNFLOWER (*Helianthus divaricatus*)

(See page 434)

Calyx, bell-shaped, 2-lipped, the upper lip with the helmet-like swelling which marks this genus. *Corolla*, 2-lipped. *Blossoms*, large, 1 inch long, in terminal, leafy panicles. *Stem*, 1 to 2 feet high, generally unbranched. Whole plant soft-downy.

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S. parvula is a small species, not over 6 inches high, much branched, with a tiny blue flower single in the axils of the upper, sessile leaves. Some of the leaves heart-shaped, $\frac{3}{4}$ inch long.

55. Slender Lady's Tresses

Gyróstachys or *Spiranthes grácilis*. — *Family*, Orchid. *Color*, white. *Leaves*, near the base of the simple stem, with short petioles, ovate to lance-shaped, generally perishing before the flowers appear. *Time*, August to October.

Sepals, rather longer than the spreading, wavy, and crisp-margined lip. *Flowers*, small, in slender, twisted spikes, fragrant. *Stem*, simple, from 8 to 20 inches tall, smooth, with bracts below and among the flowers, from a cluster of long tuberous roots.

Nova Scotia to Florida and westward.

56. Little Lady's Tresses

G. simplex has a smooth and very slender low stem, from 5 to 9 inches tall, and a few small flowers in a terminal short spike. *Flowers*, white. *Leaves*, from the base of the stem, ovate, narrowed into a short petiole. Perishing before or at the time of flowering. *Root*, a single, long, and narrow tuber. *Time*, August and September.

Range limited, from Massachusetts to Maryland.

57. Twisted Yellow-eyed Grass

Xyris torta. — *Family*, Yellow-eyed Grass. *Color*, yellow

Leaves, long, narrow, twisted, from a broad, thickened base.
Time, summer.

Flowers, in a long and narrow head, each one subtended by a broad bract.

From southern New Jersey south to Florida, and westward.

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CHAPTER XIII

VINES

*“Soft gales
Stole from a peaceful ocean, whose bright waves
Rolled gently into music, and they blew
Through woven trellises of all-sweet flowers,
And sported round long wreaths of festooned vines
Hung with the gayest blossoms.”*

PERCIVAL.

THE ELM AND THE VINE

“‘Uphold my feeble branches
By thy strong arms, I pray’—
Thus to the Elm her neighbor
The Vine was heard to say—
‘Else, lying low and helpless,
A wretched lot is mine,
Crawled o’er by every reptile,
And browsed by hungry kine.’
The Elm was moved to pity;
Then spoke the generous tree:
‘My hapless friend, come hither,
And find support in me.’
The kindly Elm, receiving
The grateful Vine’s embrace,
Became, with that adornment,
The garden’s pride and grace;
Became the chosen covert
In which the wild-birds sing;
Became the love of shepherds,
And glory of the spring.”

BRYANT.

VINES

1. Common Virgin's-bower

Clematis Virginiana. — *Family*, Crowfoot. *Color*, white. *Leaves*, opposite, divided into 3 leaflets, each deeply serrate, more or less heart-shaped at base. *Time*, July and August.

There are no petals in this flower, but the 4 small, whitish sepals take their place. *Pistils* and *stamens*, in different flowers, on separate plants. The centre of the flower is a head of feathered achenes. As the fruit ripens these become very plumose. A vine growing over shrubs, by means of the turning and twisting of the leaf-stalk, making a veritable bower.

The plant has a very wide range, from New England southward and westward. It often forms a thick mass of tangle over alders, hazel, and other shrubs. Its chief beauty lies in its hoary, plumed seeds, which become feathery, soft, and downy in early September. It requires wet, springy soil.

2. Whorled Clematis

C. verticillaris. — *Color*, bluish purple. *Leaves*, 3-divided, the leaflets somewhat heart-shaped, entire, or toothed or lobed. *Time*, May.

Petals, none. *Sepals*, 4, thin, spreading, colored. Flower, large, 2 or 3 inches across, showy, growing singly on pedun-

cles, each between a pair of leaves on opposite sides of the stem.

If one comes across this climber in the woods of western Connecticut, he has found a real treasure, a rare and beautiful flower. Range, southward to Virginia.

3. Leather-flower

C. Viórna has pinnate leaves and climbing stems. No true petals, but large purple sepals, petal-like, 1. inch long, thick, giving the popular name. Leaflets 3 to 7.

In Pennsylvania and southward this plant may be found blossoming all summer, in rich soil.

4

C. crísps, also a Southern species, bears still larger flowers, whose richly colored bluish-purple sepals, with thin, wavy margins, open widely, curving backward. Leaves thin, divided into many leaflets. *Time*, May to August.

5. Moonseed

Menispérmum Canadénsé. — *Family*, Moonseed. *Color*, white. *Leaves*, alternate, shield-shaped, the stalks attached underneath, near one edge. *Time*, June and July.

Sepals, 4 to 8. *Petals*, 6 to 8. *Stamens* and *pistils* borne in different flowers on the same plants. The 2 to 4 pistils on a short receptacle make, in fruit, fleshy, round, black drupes, covered with bloom. The wrinkled, flattish stone inside is crescent- or ring-shaped. The paniced flowers are not very noticeable, but the bunch of grapy-looking fruit in September adds beauty to the tangled growth beside our streams.

6. Climbing Fumitory

Adlùmia cirrhòsa. — *Family*, Fumitory. *Color*, white, pink,



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COMMON VIRGIN'S-BOWER (*Clematis Virginiana*)

(See page 443)

or purplish. *Leaves*, alternate, 3-pinnate, the delicate leaflets incised. *Time*, summer and fall.

Sepals, 2, scale-like. *Petals*, 4, irregular, in 2 pairs, double-spurred. The inside pair is narrower than the other, all united, becoming sponge-like, enclosing the pod. *Stamens*, 6, in pairs above, united into a tube below. *Pod*, 1-celled.

A lovely plant, with fine, delicate leaves and drooping, paniced blossoms, climbing by means of its tender leaf-stalks.

7. American Ivy. Virginia Creeper. Woodbine

Ampelopsis quinquefolia.—*Family*, Vine. *Color*, greenish. *Leaves*, compound, with generally 5 leaflets attached to the apex of the stalk. *Time*, July.

Flowers, in clusters, small.

A well-known vine, with woody stems, climbing by means of rootlets and suckers on the ends of tendrils. These flat disks adhere to smooth or rough surfaces, and pull the plant over trunks of trees, stone-walls, etc.

In October small, dark berries appear. Sometimes it is mistaken for poison-ivy, which has 3 instead of 5 leaflets.

This is not only harmless, but is often transplanted into our gardens, where it mingles with other vines, covering gate-posts and old stumps. It is adapted to every variety of soil. I have been surprised to find it on the very tops of the sand dunes, where it must catch the salt spray, and nothing else but coarse grass can grow. And in the autumn it paints whatever it covers with glorious masses of scarlet.

8. Northern Fox-grape

Vitis Labrusca.—*Family*, Vine. *Color*, greenish. *Leaves*, simple, large, rounded, or deeply lobed, distantly toothed, covered underneath with rusty wool. *Time*, June. Fruit ripe in September or October.

Flowers, some perfect, others lacking pistils. *Calyx*, short,

obscurely 5-toothed. *Corolla*, of 4 to 5 petals. Alternating with the 5 *stamens* are 5 nectar-bearing glands. *Pistil*, with or without style, and a 2-divided stigma. *Fruit*, a 2-celled, 4-seeded berry of a dark purple color, with thick skin and tough pulp, $\frac{3}{4}$ inch in diameter.

By means of tendrils opposite the leaves the vine climbs over trees, sometimes reaching 100 feet in length. Flowers in close panicles. The bark of an old stem becomes loose and hangs in strips. It is a strong, aggressive vine, and makes a thicket of its many branches wherever it grows. Its main stem may have a diameter of 6 to 10 inches. It is the origin of many of our cultivated grapes—Concord, Isabella, Catawba, etc.

The word *grape* means bunch, or cluster, from the old French *grappe*.

9. Summer Grape

V. aestivalis has a pleasant-flavored, smaller berry, ripe in September. It may be at once known by the omission of a tendril opposite every third leaf. Leaves deeply and obtusely 3 to 5-lobed.

10. Frost Grape

V. cordifolia has deeply heart-shaped, shiny, entire leaves, hairy on the mid-rib. It blossoms in May and June. It ripens small, black, 1 to 2-seeded fruit late in autumn.

II

V. riparia, with 3-lobed leaves and toothed, persistent stipules, has larger berries in closer clusters. A touch of frost sweetens the wild grape's taste. These last two grow beside rivers.

12. Muscadine. Southern Fox-grape

V. rotundifolia bears large purple berries, with a thick, leathery skin. *Leaves*, heart-shaped at base, generally not lobed. Taste, musky. The fruit ripens early. This is the original of the Scuppernong grape.

13. Cissus

Cissus Ampelopsis.—*Family*, Vine. *Color*, greenish. *Leaves*, coarsely and sharply toothed, pointed at apex, heart-shaped at base, simple, not cut or lobed.

Sepals and *petals*, 4 or 5. *Fruit*, a berry with little pulp, not edible, bluish or greenish, 1 to 3-seeded. *Flowers*, small, in a loose, slender panicle, appearing in June.

Along river banks from Virginia southward.

14. Climbing or Shrubby Bittersweet. Waxwork.
Climbing Staff-tree

Celastrus scandens.—*Family*, Staff-tree. *Color*, greenish yellow. *Leaves*, alternate, on petioles, elliptical or oval, somewhat rounded at base, pointed at apex, finely toothed, 2 to 5 inches long. *Time*, June.

Pistillate and staminate flowers, often on different plants. *Calyx*, 5-divided. *Corolla* of 5 expanding petals, slightly fringed. *Stamens*, 5.

It is the fruit which makes this a favorite plant, a scarlet aril, containing several seeds in an orange-colored, 3-parted saucer. Underneath is a 5-parted, persistent calyx.

A twining shrub, growing often 15 or 20 feet in length, and covering rocks, bushes, and trees. It buries its roots by the waters of some roadside spring, and its yellow leaves, with its rich golden fruit, make one of the most beautiful touches of autumn.

15. Blue Vetch

Vicia Cracca.—*Family*, Pulse. *Color*, blue, becoming purplish. *Leaves*, pinnate, of 10 to 12 pairs of sharply pointed leaflets, with 1 or more tendrils on the end.

Corolla, papilionaceous. *Calyx*, short, with unequal teeth.

Flowers, $\frac{1}{2}$ inch long, in 1-sided, crowded, axillary, long-peduncled spikes.

Found not infrequently along roadsides and in borders of thickets, where its bright blue flowers are conspicuous. From New England to New Jersey and westward.

16

V. Caroliniana has smaller, more thinly clustered flowers than the blue vetch, with whitish blossoms, the keel tipped with blue, and 8 to 24 obtuse, oblong leaflets.

17

V. Americana has rather large, purplish flowers, 4 to 8 in a spike, with leaves of 5 to 7 pairs of very abrupt, ovate, or oblong leaflets.

18. Butterfly-pea

Clitoria Maritima. — *Family*, Pulse. *Color*, light blue. *Leaves*, of 3 leaflets, each on separate stalks. Stipules and bracts long, thin. *Time*, July.

Corolla, papilionaceous, large, handsome, 2 inches long. *Pod*, knotty and long, tipped with the base of the style; 1 to 3 flowers, borne on a common, short peduncle.

The plant climbs by twining, or is self-sustaining. In dry soil, from New York to Florida and westward.

19. Ground-nut. Wild Bean

Apios tuberosa (a "pear," from the shape of the tubers). *Family*, Pulse. *Color*, brownish-purple or chocolate. *Leaves*, divided into 3 to 7 long, narrow, pointed leaflets with small stipules. *Time*, August into September.

Calyx, slightly 2-lipped, the 2 upper teeth short, the 2 lateral ones nearly invisible, the lower one long. *Corolla*, papilionaceous, with a broad, turned-back *standard*, and scythe-

shaped *keel*. *Flowers*, in short, thick racemes, on axillary peduncles, pleasantly scented. *Stems*, slender, somewhat hairy, with a little milky juice, climbing and massing over bushes. Pods produce kidney-shaped beans, variously and prettily marked and colored.

This plant bears strings of underground, edible tubers, joined by offshoots. It is of prolific growth. Found in low, generally wet grounds, from New England to Florida and westward.

20. Kidney-bean

Phaseolus perennis.—*Family*, Pulse. *Color*, purple. *Leaves*, 3-divided, with roundish to ovate-pointed leaflets. *Time*, July to September.

Calyx, 5-toothed, the 2 upper divisions somewhat united. *Corolla*, papilionaceous, with a spirally coiled keel, including stamens and style. *Pod*, long, curved, 4 to 5-seeded, tipped with the base of the style.

Flowers in short or long racemes, often crowded. One of our prettiest climbers, overtopping shrubs and stout herbs, displaying handsome flowers and graceful leaves, making many rough and bare spots soft and beautiful. Roadsides, thickets, etc., from Connecticut to Illinois, southward to Florida.

The garden kidney or string bean, *P. vulgaris*, was probably imported from South America by Spanish slave-traders.

From before the time when Daniel and his three friends begged for a diet of pulse (beans) in exchange for the king's table, this vegetable has been esteemed a valuable food.

21. Hog-peanut

Amphicarpaëa monoïca.—*Family*, Pulse. *Color*, pink or purplish. *Leaves* of 3 thin, delicate, ovate, pointed leaflets. *Time*, August and September.

Corolla, papilionaceous. *Flowers*, numerous, in nodding racemes. *Pod*, 1 inch long. Low plants with twining stems, which are covered with brown hairs.

Besides the ordinary flowers there are lower ones on thread-like stems near the base, or underground, without corolla. These produce a one-sided, swollen, very fruitful pod. Hogs are fond of them and uproot them, from which the common name has arisen.

"If we carefully uproot the soil the peanut is soon disclosed—a small, 1-seeded, rounded pod, pallid, beset with fine brown hairs, and which not one person in a thousand of those who know this common plant has ever seen. These are the seeds that plant the soil for next year's vines, and are the fruits of queer little underground blossoms, bearing no more resemblance to those at the 'other end' than is seen in the pods."—W. H. GIBSON.

22. Low Blackberry. Dewberry

Rubus Canadensis ("red").—*Family*, Rose. *Color*, white. *Leaves* of 3, 5, or 7 small leaflets radiating from a common centre, sharply toothed, not prickly. *Time*, May.

Sepals and *petals*, 5. A smaller and more seedy berry than the high blackberry.

It is a shrubby, trailing plant, growing in the dust by roadsides or in dry fields, preferring rocky or sterile soil. Prickles few and weak, the stem sometimes quite smooth. From Newfoundland to Virginia, and westward.

23. Running Swamp-blackberry

R. hispidus.—*Color*, white. *Leaves* of 3 leaflets, coarsely toothed, rather thick and smooth, somewhat shiny and evergreen. *Time*, May.

Sepals and *petals*, 5.

A small-flowered species with weak, prickly, trailing stems, sending up flower-bearing, leafy shoots. It is a delicate, pretty vine, not valuable for its fruit, which is small, consisting of few red or black drupes. The leaves turn a fine shade of red in autumn and mingle with other vines and shrubs with pretty effect. Nova Scotia to Georgia in swampy, grassy grounds, or moist woods.

24. Passion-flower

Passiflora lutea.—*Family*, Passion-flower. *Color*, greenish yellow. *Leaves*, alternate, with 3 obtuse, entire lobes.

Sepals, 5, united at base, colored, a fringed crown at the throat. *Petals*, 5, joined to the calyx. *Stamens*, 5, their filaments united, making a tube below, which surrounds the long stalk of the ovary; separated above, with large anthers. *Fruit*, a berry, $\frac{1}{2}$ inch in diameter. *Flowers*, 1 inch across, on jointed peduncles in the leaf-axils.

Pennsylvania southward.

25

P. incarnata, in dry soil, from Virginia southward, bears large white flowers, with a purple and pink crown. *Fruit*, called maypop, is an oval, yellowish berry the size of a small apple, edible.

The passion-flower vine is better known North in cultivation. The flower was named by Roman Catholic missionaries in South America, who fancied they found in it symbols of the passion of our Saviour—"the crown of thorns in the fringes of the flower, nails in the styles with their capitate stigmas, hammers to drive them in the stamens, cords in the tendrils."

26. One-seeded Bur-cucumber

Sicyos angulatus.—*Family*, Gourd. *Color*, white. *Leaves*, heart-shaped at base, 5-lobed, or 5-angled. *Time*, July to September.

Flowers, of 2 kinds, pistillate, in roundish, peduncled heads, staminate in corymbs, from the same leaf-axils. *Petals*, 5, large, united below, with spreading border. *Stigmas*, 3. *Style*, 1. *Fruit*, a prickly, bur-like receptacle for a single seed.

The fruit of the gourd family is called pepo. The melon, squash, cucumber, pumpkin, and gourd are examples. This plant

climbs by means of 3-forked tendrils. It is hairy, not pretty, sometimes a weed in shaded yards.

Dr. Coulter, speaking of a section in Indiana, says, "The single-seeded cucumber (*Sicyos angulatus*) mats all bushes and vegetation within 10 feet of its roots into a thicket, or climbs up a neighboring tree to the distance of 63 feet.

27. Wild Balsam-apple

Echinocystis lobata ("hedgehog" and "bladder," from the prickly, swollen fruit).—*Family*, Gourd. *Color*, greenish white. *Leaves*, deeply 5-lobed, thin. *Time*, July to October.

Staminate and pistillate flowers, separate, from the same leaf-axils, the former in compound racemes (often 1 foot long), the latter in clusters or single. The flower is of 6 petals united at the base, with open, spreading lobes. The fleshy, oval fruit, 2 inches long, is covered with weak prickles.

A smooth-stemmed, tall climber, with 3-forked tendrils, found beside rivers from west New England to Pennsylvania. Often cultivated as a veranda climber.

28. Hairy Honeysuckle

Lonicera hirsuta.—*Family*, Honeysuckle. *Color*, pale yellow outside, orange within the tube. *Leaves*, dull green, large, broadly lance-shaped or oval, rounded at base, hairy along the margins and mid-ribs, the upper pair completely united, the others on short, winged petioles. *Time*, June and July.

Calyx-tube with 5 small teeth. *Corolla*, clammy from minute glands on the outside; a tube more than $\frac{1}{2}$ inch long, with the lower lip narrow, and covering the other in bud; the upper divided into 4 roundish lobes. *Stamens*, 5, protruding. *Stigma*, round, green, terminating a long style. *Berries*, bright orange, with the calyx teeth left upon them.

Flowers, sessile, in whorls of about 6, from the upper leaf-axils forming an interrupted, leafy spike.

A hardy climber over rocky banks or moist grounds, reaching a length of 20 to 30 feet. The branches are reddish. Maine to Pennsylvania, and westward.

29. Trumpet Honeysuckle

L. sempervirens is often found in cultivation. It is wild from Connecticut southward. Flowers scentless, with tubular corollas 2 inches long, red outside, yellow within, in spiked whorls. Berries deep orange-red. The upper leaves join around the stem; the lower are on short petioles; all bright, shining, evergreen, smooth, oblong or broadly oval. A twining and climbing shrub.

30. Sweet Wild Honeysuckle

L. grata has tubular flowers, 1 inch long, purple or pink, with a whitish border, becoming yellowish, the flowers whorled in the leaf-axils above, and very fragrant. *Time*, May.

Often cultivated, but found growing wild in rocky woodlands in New England, New Jersey, and southward.

31. Climbing Hempweed

Mikania scandens.—*Family*, Composite. *Color*, pink. *Leaves*, opposite, heart-shaped or triangular, toothed at base, with petioles. *Time*, July to September.

Corollas, tubular, 5-toothed. Heads of 4 flowers, with 4 involucre scales.

The only climbing Composite. It twines around bushes and forms a tangle of green, intermixed with pretty pink clusters of flowers. They have a way of lying flat over the tops of bushes and forming areas of deep pink. They can be seen in almost any wet place on Long Island or in New Jersey, to Kentucky and southward. The leaves wilt quickly after being picked.

32. Yellow Jessamine, or Jasmine

Gelsemium sempervirens.—*Family*, Logania. *Color*, bright



CLIMBING HEMPWEED (*Mikania scandens*)

golden yellow. *Leaves*, small, shining, ovate or lance-shaped, short-petioled, evergreen. *Time*, March and April.

Calyx, 5-parted. *Corolla*, tubular, 1 to 1½ inches long, the border deeply 5-parted into broad lobes. *Stamens*, 5, with arrow-shaped anthers. *Style*, 1. Short stamens and long style in one flower, corresponding to long stamens and short style in another. A high climber over trees.

This is one of the most beautiful of our vines, deservedly dear to the Southern heart, the profusion of bright, deliciously fragrant, axillary-clustered flowers, in shape somewhat like the Northern foxglove, contrasting finely with the richly colored evergreen leaves. Low grounds, from Virginia to Florida and Texas.

33. Field Bindweed

Convólulus arvensis ("to twine").—*Family*, Convolvulus. *Color*, white, or with a pink tinge. *Leaves*, smooth, ovate to oblong, arrow-shaped, alternate. *Time*, June.

Calyx, bractless, of 5 sepals. *Corolla*, twisted in the bud, open, funnel-form, or bell-shaped in the blossom, nearly 1 inch long. *Stigmas*, 2, thread-like.

A common trailing or twining vine, becoming a weed near the coast. The flowers, single, on long peduncles, open with sunlight and close at night. Imported from Europe.

34. Hedge Bindweed

C. sepium bears light-pink or white morning-glory-like blossoms about 2 inches long. *Calyx*, surrounded by 2 broad, leafy bracts. *Leaves*, triangular in outline, arrow or halberd-shaped at base, with lobes toothed or wavy.

A smooth (or downy) trailing or twining plant, matting on the ground if it cannot climb; but it prefers to cover bushes and small herbs, spreading by running rootstocks, increasing very fast, and furnishing along streams or in moist thickets delicate color to masses of green. North Atlantic States and westward.



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COMMON DODDER (*Cuscuta Gronovii*)
(See page 458)

35

Variety *repens* is lower and more prostrate, with flower white or light pink, and *leaves* with narrower, arrow-shaped basal lobes. Stem somewhat softly downy. Common.

36. Common Dodder

Cuscuta Gronovii.—*Family*, Convolvulus. *Color*, yellowish white. *Leaves*, none. *Time*, summer.

Our commonest parasite, and very troublesome in clover and alfalfa fields, or wherever it obtains a hold. The seed—a coiled thread, a worm-like embryo—germinates in the ground. When the yellow stem which springs from this seed is 2 inches high, it reaches for any neighboring herb or shrub. Once in touch, it develops haustoria, or suckers, which penetrate the bark of the host, and thence draw the plant's juices, already assimilated, appropriating them for its own. The part in the ground now dies and falls away, leaving the plant wholly parasitic. It quickly entwines itself around the whole shrub, reaching out for others near by, and thus we often see tangled mats and masses of yellow threads in the woods, by the roads, everywhere. Under the magnifying-glass the small, cabbage-like flowers show 5 divisions of calyx and corolla, with a 2-celled ovary, and thus they are brought within the family which includes the apparently most dissimilar morning-glory and sweet-potato.

Being parasitic, the plants possess no green leaves, but yellowish scales instead. By twining too tightly around the bark they inflict additional injury. Dr. Gray gives 10 species of dodder, besides the flax and clover dodders. The most common, *C. Gronovii*, varies considerably in size of blossom and coarseness of stem. It is a curious, but repulsive, plant.

From Canada southward to Florida and Texas.

37

C. inflexa bears small flowers, few scales, and is parasitic on hazel and other shrubs or coarse herbs.

Southern New England to Nebraska.

38

C. arvensis has pale, yellow stems with large, deeply fringed scales.

Dry soil from New York to Florida, and across the continent.

In that singular book by Dr. Erasmus Darwin, *Loves of the Plants* (published in 1791), he says of the cuscutas :

“With sly approach they spread their dangerous charms,
And round their victims wind their wiry arms :
So by Scamander, where Laocoon stood,
Where Troy's proud turrets glittered in the wood,

* * * * *

Two serpent forms, incumbent on the main,

* * * * *

Ring above ring, in many a tangled fold,

Close and more close their writhing limbs surround.”

39. Wild Potato-vine

Ipomœa pandurata.—*Family*, Convolvulus. *Color*, white, with purple centre. *Leaves*, heart or fiddle shaped, pointed, petioled. *Time*, summer.

A wild member of the morning-glory genus, with a tubular, spreading corolla 3 inches long. It is a trailing or twining vine, and produces from 1 to 5 blossoms on rather long peduncles. The root is tuberous, very large, from which it gets another of its common names, “man-of-the-earth.”

40. Common Morning-glory

I. purpurea, in its varying shades of white, blue, or crimson, is sometimes reduced to a wild state, having escaped from cultivation. Twining and leafy.

41. Cypress-vine

I. qudmoclit has delicate leaves parted into thread-like, par-

allel lobes, and long-tubed, red (sometimes white) corollas; the *flowers* solitary, on peduncles.

Cultivated northward, this is sometimes found wild in the South.

42. Bittersweet

Solànum dulcamàra.—*Family*, Nightshade. *Color*, bluish purple. *Leaves*, on petioles, the upper ones deeply parted near the base into opposite, ear-like leaflets; the lower ones heart-shaped, acutely pointed at apex. *Time*, June to September.

Calyx and *corolla*, 5-parted. Corolla wheel-shaped, the points often turning backward much like a potato blossom; a pair of green spots on the base of each lobe. *Stamens*, 5, their filaments short, anthers closing around the style, opening by 2 chinks at the top. *Fruit*, an oval, red berry.

A woody-stemmed plant, climbing or twining over fences and stone-walls along roadsides. The cymes of delicate flowers give place to crimson, showy berries in fall.

43. Trumpet-creeper

Técoma radicans.—*Family*, Bignonia. *Color*, orange and red. *Leaves*, pinnate, with 4 to 5 pairs, and 1 odd, terminal-toothed, pointed, large, ovate to lance-shaped leaflet. *Time*, July and August.

This plant, which is a troublesome weed in Ohio and other Western States, is cultivated with us. The corolla is large, trumpet-shaped, flame-colored. *Stems*, strong, woody. The plant climbs by little rootlets springing from the stem, and so vigorously as to suffocate grape-vines or whatever weaker plant lies in its way. Once established it is very difficult to extirpate. The flitting humming-bird may occasionally be seen nesting among the branches and sipping nectar from these bright, trumpet-shaped blossoms.

44. Pipe-vine. Dutchman's-pipe.

Aristolòchia Sìpho.—*Family*, Birthwort. *Color*, brownish

purple. *Leaves*, roundish, heart-shaped, downy beneath, the older ones 8 to 12 inches broad. *Time*, May.

Calyx, tubular, bent and curved like a Dutch pipe, $1\frac{1}{2}$ inches long, swollen below, narrowed above, with a short, somewhat 3-lobed border. *Corolla*, none. *Stamens*, 6, each pair of anthers joining under one of the 3 short, thick, stigmatic lobes of the pistil. *Flowers*, drooping, on axillary peduncles, a bract clasping the base of the peduncles.

Tall, twining shrubs, found wild in rich woods from Pennsylvania southward, and cultivated in the more northern States.

45

A. tomentosa, also a Southern species, has very veiny and downy heart-shaped leaves, 3 to 5 inches long, yellowish flowers, and more slender stems than the preceding.

46. Hop-vine

Humulus Lupulus ("a little wolf," "because it grows among and twines around the willows and chokes them as the wolf does a flock of sheep").—*Family*, Mulberry. *Color*, green. *Leaves*, opposite, serrate, deeply 3 to 7-lobed below, becoming alternate and entire above; on long petioles, 1 to 3 inches, with stipules. *Time*, July to August. Fruit ripe in September and October.

Flowers, of two kinds, the staminate in loose racemes or panicles, with a calyx of 5 sepals. The pistillate flowers grow in short, roundish spikes, 2 beneath a single, broad, thin calyx-leaf or fruiting-bract. These bracts, closely grouped and overlapping each other, become the scales of the hop-fruit or *strobile*. Fruit an achene. The calyx bears resinous dots, which give the hop its special bitter flavor and odor.

The soporific hop-vine, useful in making yeast and malt liquors, is familiar both as a wild and cultivated vine. The young shoots have been cultivated and eaten like asparagus.

Nova Scotia to New York, southward along the mountains to Georgia, westward to the Rocky Mountains, in thickets and along streams.

The mulberry-trees and osage orange belong to this family.

47. Climbing False Buckwheat

Polygonum scandens.—*Family*, Buckwheat. *Color*, yellowish green or whitish. *Leaves*, heart or halberd-shaped, pointed, 1 to 6 inches long, with petioles and conspicuous sheaths.

Calyx, 5-cleft, the 3 outer divisions reflexed in fruit. *Stamens*, 8. *Stigmas*, 3.

A loose, straggling sort of vine, with small, dull flowers on long pedicels in loose racemes. The fruit, an achene, hangs loosely from the older flowers.

In woods and thickets from Nova Scotia to Florida, and westward.

48. Crested False Buckwheat

P. cristatum is a more slender, twining species, 12 to 20 inches long. *Leaves*, triangular, with rather sharp basal angles and pointed apex, long-petioled. Flowers generally in leafless racemes on jointed pedicels, greenish white.

In sandy woods and rocky banks from southern New York to Georgia, westward to Tennessee and Texas.

49. Wild Yam-root

Dioscorea villosa.—*Family*, Yam. *Color*, greenish yellow. *Leaves*, stalked, ovate, heart-shaped, pointed, in fours or pairs, or alternate, 9- to 11-ribbed, 2 to 6 inches long. *Time*, July.

Flowers small, inconspicuous, the sterile thickly clustered, in panicles; the fertile racemed; drooping from the leaf-axils. *Root*, large, tuberous.

Among the twining vines which make our dense thickets is this our only member of the yam family. About 150 species are classified and known—mostly tropical—of which 4 form a staple

article of food for the half-civilized peoples of Africa and Malaysia. The fleshy rootstocks are eaten baked, boiled, or fried. These plants are cultivated in Japan, Siam, and East India islands.

50. Greenbrier. Catbrier. Horsebrier

Smilax rotundifolia.—*Family*, Smilax. *Color*, greenish. *Leaves*, nearly round, sharply pointed, 5-nerved, thin at first, becoming thick and shining, alternate, petioled. *Time*, April to June.

Flowers, of 2 sorts, regular, somewhat bell-shaped, the perianth 6-divided, staminate with 6 stamens; pistillate with 1 to 3 stigmas and a 3-celled ovary. Fruit a round, black berry, 1 to 3-seeded.

The stems of this vicious vine are square, 4-angled, covered with stout prickles which turn backward. Occasionally the thorns are wanting. The plant climbs by means of tendrils at the base of the leaf-petioles. If a catbrier bars one's way it is best to turn aside. Some plants are uncompromising, and this is one of them.

Woods, New England to Florida.

51. Hispid Greenbrier

S. hispida has the upper part of the stem covered with very many slender, straight, fine prickles. Leaves much like the last, but more heart-shaped at base, 7-nerved, with petioles. Flowers in umbels on flattened peduncles. Fruit a bluish black berry. Much the same range as the last.

52. Carrion-flower

S. herbacea has rounded or ovate leaves, obtuse or slightly heart-shaped at base, very acute at top, 7- to 9-nerved, 2 to 5 inches long. The stem has no prickles. Flowers in umbels, many together, and they may be positively known by the carrion-like odor which they emit.

53. Bristly Greenbrier

S. bona-nox is a very prickly species, the leaves being spiny on their margins and underneath on the veins. Leaves often narrowed in the middle, distended at base, pointed at apex, smooth and shiny. Flowers numerous, in small umbels; berries bluish black, 1-seeded. Upright branches springing from rootstocks, which bear large tubers.

Massachusetts to Florida and Texas.

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CHAPTER XIV

SHRUBS

Our native American shrubs are among the finest in the world. Imagine them all taken away, and only the forest trees, grand though these are, and the smaller herbaceous plants left. Then our birds, which love best of all to hide in thickets of shrubbery, often choosing the densest spots for their nests, would greatly suffer. Many of our shy wild flowers, which nestle in cool copses, and our pretty climbers, which love to weave their soft embraces around low shrubs, would perish. The spring, deprived of the snowy clusters of viburnums and honeysuckles, would lose one of its charms, and the bright foliage and gayly-hued berries of many shrubs would be sadly missed from the gorgeous landscape-painting of autumn, when

*“Great oaks in scarlet drapery reach
Across the crimson blackberry vine
Towards purple ash and sombre pine;”*

*“The orange-tinted sassafras
With quaintest foliage strews the grass,
Witch-hazel shakes her gold curls out
'Mid the red maple's flying rout.”*

LUCY LARCOM.

SHRUBS*

1. Small Magnolia. Swamp-laurel. Sweet-bay

Magnolia glauca.—*Family*, Magnolia. *Color*, white. *Leaves*, at first enclosed by the stipules which fall when the leaf expands, leaving rings around the branch. Entire, elliptical, on short petioles, soft, leathery, feather-veined. Pale underneath. *Time*, summer.

Sepals, 3, petal-like. *Petals*, 6 to 9, in rows, 3 in a row, delicate, round, concave. *Stamens*, very numerous, spirally arranged on the thick, conical, green receptacle, the outer ones often transformed into petals. Filaments short; anthers long, pointed, opening within. *Styles*, many, with long yellow stigmas, standing well above the anthers.

This beautiful shrub is found occasionally in swamps, from 4 to 20 feet high. Its pure white flower, almost as fragrant as a pond-lily, and firm, handsome leaves, make it a favorite. It is sometimes sold on the streets of New York, gathered probably from New Jersey swamps. If it were better known, too ardent admiration might cause its extermination. At present it is comparatively safe in its deep hiding-places, from Massachusetts southward to Pennsylvania, near the coast.

* The study of shrubs is a fascinating department of botany.

This chapter has been carefully prepared, the general appearance, bark, leaf, inflorescence, fruit, and height being described, and the range given, of the common shrubs of our Atlantic seaboard.

2. North American Papaw

Asimina triloba.—*Family*, Custard-apple. *Color*, dull purple. *Leaves*, alternate, thin, inversely ovate to lance-shaped, entire, acute, feather-veined, with a disagreeable odor when crushed. *Time*, April and May.

Calyx, of 3 sepals. *Petals*, thick, 6, in 2 rows, the outer ones much longer than the sepals, $1\frac{1}{2}$ inches across. *Stamens*, many, crowded together. *Pistils*, few. *Flowers*, single, from the axils of last year's leaves. *Fruit*, yellowish, 3 to 4 inches long, looking like a small banana, ripe in autumn, sweetish and edible. Stems of the young shoots softly downy, becoming, later, smooth.

A shrub or small tree, from 10 to 20 feet high, growing on the banks of rivers, from western New York to Pennsylvania, Illinois, and southward. The family is represented by many species in the tropics.

3. Common Barberry

Berberis vulgaris.—*Family*, Barberry. *Color*, yellow. *Leaves*, alternate, inversely ovate, in tufts, springing sometimes from the axils of spines. From the centre of the rosette of leaves racemes of flowers spring. *Time*, May and June.

Sepals and petals, 6. Bractlets below the sepals. *Stamens*, 6. *Pistil*, 1. *Fruit*, a long, acid berry, containing one or two hard seeds. They are often preserved, and make a refreshing drink.

The stamens are curiously sensitive. Kolreuter was the first to discover the fact that when the filaments are touched, the anthers bend towards the pistil and come in contact with its stigma, straightening up again soon after. This phenomenon is best seen in dry weather. It is a device to secure cross-fertilization, a visit from an insect causing the anthers to shed their pollen upon its body, to be borne to another flower. The barberry is supposed to be injurious to wheat, being invested with a mildew (*Acidium berberidis*), which in a different form becomes the rust (*Uredo*) of

wheat. A law in Massachusetts once compelled farmers who cultivated wheat to cut down all barberry bushes near their fields.

To those not interested in wheat cultivation, the yellow racemes of flowers and scarlet fruit of the barberry make it a welcome attendant of our drives, found, as it is, in exposed situations, bordering woods and fields. Its range is throughout New England, as far north as Canada and Newfoundland. It keeps near the coast, in gravelly soil.

Shrub 5 to 8 feet high, with grayish bark. It has been planted with success for hedges. It is used to tan leather, and for a yellow dye.

4. American Barberry

B. Canadensis is of lower growth than the last, 1 to 3 feet high. *Leaves*, wavy-margined and toothed. *Petals*, notched. Fruit an oval berry.

Found in the Alleghany Mountains, in Virginia, and southward.

5. Loblolly-bay

Gordonia Lasianthus.—*Family*, Tea, or Cammellia. *Color*, white. *Leaves*, leathery, lance-shaped to oblong, finely toothed, smooth, shiny. *Time*, May to July.

Sepals and *petals*, 5, the latter 1½ inches long. *Stamens*, in clusters at the base of each petal. *Style*, 1. *Pod*, 5-valved. *Flowers*, showy, borne on long peduncles, in the axils of the leaves.

A shrub or small tree, found in Virginia swamps and southward.

6. Shrubby St. John's-wort

Hypéricum prolificum.—*Family*, St. John's-wort. *Color*, deep yellow. *Leaves*, narrow, and 1 to 2 inches long, dotted, opposite, obtuse, many. *Time*, July to September.

Sepals, 5. *Petals*, 5. *Stamens*, many, conspicuous, standing up from the wide-spreading petals. *Styles*, 3, and red pod 3-celled. The flowers are clustered at the ends of the branchlets. Its height varies from 1 or 2 feet to 4 or 5.

New Jersey to Michigan, and southward.

7

H. densiflorum is tall, often 6 feet, densely leaved, very much branched above, with flowers $\frac{1}{2}$ inch long, closely clustered in compound cymes.

Found in New Jersey pine barrens, southward to Kentucky and Arkansas.

8. Shrubby Trefoil. Hop-tree

Ptèlea trifoliàta.—*Family*, Rue. *Color*, greenish white. *Leaves*, 3-divided, the leaflets pointed, ovate. *Time*, June.

Calyx, *petals*, and *stamens*, 3 to 5. *Style*, 1, bearing 2 stigmas. *Fruit*, a round-winged, 2-celled, 2-seeded *samara*, bitter, used as a substitute for hops. *Flowers*, unpleasantly scented, in compound, flat clusters terminating the branches.

A tall shrub found in rocky soil from Long Island southward.

9. Black Alder. Winterberry

Ilex verticillàta.—*Family*, Holly. *Color*, white. *Leaves*, alternate, oval, broad at base, pointed, serrate, on short petioles. Two to 3 inches long. *Time*, May and June.

Flowers, of 2 sorts. Staminate flowers with a calyx of 6 small sepals, crowded in clusters of 3 to 12 in the axils of the leaves. *Corolla*, with petals united, 6 or 7, spreading, recurved. Pistillate flowers, single or clustered. These have false stamens, with white filaments and anthers containing no pollen. *Fruit*, bright, scarlet berries, each filled with 6 or 8 seeds, round, clustered along the stem, remaining after the leaves have fallen. *Flowers*, on short peduncles.

This shrub, so beautiful in fall, is very common in the thickets bordering roadsides—those thickets for which Mrs. Olive Thorne Miller enters a plea that they be left as coverts for our birds. She says the careful farmer who clears away all his shrubbery will have few song-birds around his place.

10. Smooth Winterberry

I. laevigata is a fine shrub of the same family, with sterile flowers in the axils of the leaves, on peduncles about 1 inch long, and fertile flowers nearly sessile. The fruit is a conspicuous, orange-red berry. Leaves alternate or clustered, on short petioles, lance-shaped, broader at base, somewhat toothed, 2 to 3 inches long, light green on both sides. Shrub 5 to 10 feet high, with grayish, dotted branches.

Maine to Virginia, in wet grounds.

11. Inkberry

I. glabra is an elegant shrub, with delicate foliage, considerably cultivated. Its leaves are evergreen, black dotted beneath, lance-shaped, small, about 1 inch long and half as broad, pointed at apex, tapering at base, slightly toothed above. The fertile flowers, white, are single in the leaf-axils, on minute, hairy peduncles; sterile flowers, clustered, 3 to 6.

Calyx and *corolla*, 6 or 7-lobed. *Stamens*, with white filaments and brown anthers. *Berries*, black and shining.

A low shrub, 2 to 3 feet high, growing in sandy soil not far from the coast.

Other species are:

12. Cassena. Yaupon

I. Cassine, with small, lance-shaped, evergreen leaves, which formerly made the "black drink" of North Carolina Indians, and are still used for that purpose by people living along the coast. Fruit, a red berry.

13. Dahoon Holly

I. Dahoon, found in Virginia swamps, has evergreen leaves 2 or 3 inches long, with the margins turned back. Fruit like the last, a red berry.

14

I. monticola grows in moist woods among the Catskills to western New York and Pennsylvania. Leaves 3 to 5 inches long, acute, sharply serrate. Pistillate flowers short-peduncled. Calyx hairy.

15

The American holly, *I. opaca*, is a tree of this family, 30 to 40 feet high, with evergreen, spiny-toothed leaves and red berries. The English holly is prettier, with brighter-colored berries and glossier leaves.

16. Mountain Holly

Nemopánthes fasciculàris.—*Family*, Holly. *Color*, white or greenish. *Leaves*, oblong, or broadly oval, tapering at base, acute at apex, smooth, pale green, distantly toothed, on slender petioles. *Time*, May and June.

Flowers, of 2 sorts, very small, on long, slender peduncles, single, or a few clustered. *Calyx*, minute in the staminate flowers. *Corolla*, of 4 or 5 oblong petals, soon dropping. *Stamens*, 4 or 5, with large anthers on long, slender, protruding filaments. *Berry*, pale crimson, ripe in August, containing 4 or 5 strong nutlets in yellow pulp. Shrub 6 or 8 feet high, with dark-grayish or purplish bark on the older stems which are often covered with brown or grayish lichens.

Found in low, wet woods from Maine to Virginia, and Wisconsin.

17. Strawberry-bush

Euónymus Americànus.—*Family*, Staff-tree. *Color*, greenish purple. *Leaves*, opposite, sessile, thick, and glossy green. *Time*, June.

Sepals, 4 or 5. They are united at base, short and spreading. *Petals*, 5. *Stamens*, 5, very short. The seeds, sur-

rounded by red pulp (an *aril*), are attached to a crimson, rough, depressed pod.

A shrub 2 to 5 feet in height, irregular, very striking when in fruit. I have found it in New Jersey, on thickety, dry roadsides.

New York southward, and westward to Illinois.

A variety, *obovatus*, trailing, and with branches rooting, is said by Dr. Gray to be a commoner form. It has thin leaves and grows 2 feet high.

18. Burning-bush. Wahoo

E. atropurpureus bears a dark-purple flower with 4 sepals and petals, and oval to oblong, petioled leaves. *Flowers*, in loose clusters in the axils of the leaves, long-peduncled. Later the bush is very brilliant, covered with its deeply lobed, crimson, drooping pods. From 6 to 14 feet high.

Indigenous from New York southward, and frequently cultivated.

19. Alder-leaved Buckthorn

Rhámnus alnifòlia.—*Family*, Buckthorn. *Color*, greenish. *Leaves*, oval, prominently veined, acute at both ends or rounded at base, toothed. *Time*, June.

Petals, none. *Calyx-lobes*, 5, its tube cup-shaped. *Stamens*, 5. *Fruit*, 3-seeded, black, fleshy, pear-shaped. *Flowers*, in the axils of the lower leaves, in clusters, staminate and pistillate, often on separate plants. Shrub low and spreading, with stout, leafy stems 3 or 4 feet high, in swamps or wet grounds.

20. Carolina Buckthorn

R. Caroliniàna may be found in New Jersey swamps. It has narrow leaves, 3 to 5 inches long, pinnately veined, with flowers in umbel-like clusters or solitary in the axils of the leaves. Flowers with their parts in fives appearing in June. Sometimes becomes a small tree.

21. Common Buckthorn

R. cathartica is a thorny bush often cultivated for hedges.

22. New Jersey Tea. Red-root

Ceanòthus Americànus. — *Family*, Buckthorn. *Color*, white. *Leaves*, alternate, 3-ribbed, on short petioles, about 2 inches long, toothed, the teeth tipped with a brown, glandular point; oblong or egg-shaped, smooth, except along the veins, which are covered with rusty down. *Time*, July.

Sepals, 5, white, incurved, rounded. *Petals*, 5 little hoods, mounted on slender claws. In the centre of the flower is a fleshy disk, to which the sepals are attached. *Stamens*, 5. *Pistil*, 1, with 3-lobed stigma. Fruit, a 3-seeded, 3-celled berry, opening from the centre and splitting into 3 carpels. Flowers with white pedicels in small clusters, with long, common peduncles crowded along the upper branches from the axils of the leaves. They are small, and the effect of the umbel is light and feathery, a pure white.

Shrub low, 1 to 3 feet high, with pale-green stems, which are striped with brown. Growing in dry, woodland places, along borders of roads, often well up a hillside.

The leaves were used for tea during the American Revolution. The root-bark, a bright red color, has astringent qualities, and has been used in medicine.

It furnishes a brown dye.

23. American Bladder-nut

Staphylèa trifòlia. — *Family*, Soapberry. *Color*, white. *Leaves*, opposite, pinnate, of 3, sometimes 5, broad, pointed, toothed leaflets, on channelled or grooved petioles. *Time*, May.

Calyx, 5-parted, often tinged with a pink color. *Corolla*, of 5 petals, contracted into a tube below, somewhat hairy. *Sta-*



POISON IVY. POISON OAK. MERCURY-VINE
(*Rhus toxicodendron*)
(See page 478)

mens, 5, with long, slender filaments, and yellow anthers opening inward. *Styles*, 3, long as the stamens. *Fruit*, a 3-celled, membranous pod, like 3 pods grown together, each tipped with a style, nearly 2 inches long, bursting, when ripe, at the top, and disclosing 1 to 4 bony seeds. These pods have a smell like pea-pods.

This is a large, irregular shrub, from 8 to 12 feet high, with its flowers in drooping racemes, terminal or opposite in pairs, growing on the edges of damp woods. The bark of the older branches is greenish brown, with lighter stripes. The main stem is gray, with long white cracks in the bark.

24. Poison Ivy. Poison Oak. Mercury-vine

Rhús toxicodéndron.—*Family*, Cashew. *Color*, greenish or yellowish white. *Leaves*, of 3 variously shaped leaflets on a common long petiole. The terminal leaflet is stalked; lateral leaflets generally sessile. They are broadly ovate, wavy-toothed, pointed, often lobed. *Time*, June.

Sterile and fertile flowers on different plants. The former have 5 *sepals* and *petals*, the outer ones greenish, the inner white, veined with purple.

Stamens, 5. The pistillate flowers have 5 greenish white sepals, and 5 yellowish white petals. *Fruit*, a dull, whitish berry. Flowers in loose panicles in the axils of the leaves.

This too well-known climbing shrub is gaining ground in certain sections of the country. Formerly it was unknown in New England, but now it infests many farms and roadsides there, as in New York and New Jersey. It flourishes in salt air, and in every kind of soil. By means of tiny rootlets on its stem it climbs to the very tops of high trees, enveloping their trunks in a mass of hard-stemmed, 3-leaved foliage; or it covers fences, stopping at the posts for extra decorative effects. It carries itself flauntingly and gaudily, in fall faintly imitating the Virginia creeper, with sickly hues of red and yellow. When it cannot climb it masses itself on the ground.



POISON DOGWOOD. POISON SUMACH. (*Rhus venenata*.)

(See page 480)

The juice of the plant is thick and yellowish, becoming black after being exposed to the air. It produces an exceedingly irritating eruption upon the skin of persons susceptible to the rhus poison, often dangerous and difficult to heal. Even of persons who are "immune" to this poison, if the juice of the plant is brought in contact with the blood, abscesses and painful sores will almost certainly be produced.

It should be rooted out with hoe and plough by every self-respecting land-owner.

25. Poison Dogwood. Poison Sumach

R. venenata is the most poisonous plant of our country, and it possesses, moreover, the fatal gift of beauty, often alluring unsuspecting persons in the autumn to fill their arms with its brilliantly colored leaves. With the swamp maple, it adds, most of all plants, to the glory of the swamps. Insanity and even fatal results have been known to follow the handling of its branches. Many people are wholly immune to this plant's evil effects, while others are poisoned simply by passing the shrub. Especially if the pores of the skin are opened by perspiration, it is dangerous to stand near the poison-sumach. Ignorance in such a case is culpable, and yet how few have really taken pains to learn this common plant, growing by our roadsides and along our favorite wood-paths! A few simple things are all that it is necessary to remember. First, the leaf-stalks are red, with from 7 to 13 sessile, pointed, feather-veined leaflets rather far apart from each other. Second, the blossoms are a dull white, in loose panicles from the leaf-axils, *never terminal*. Third, the fruit is a white, not red, berry. Fourth, the bark is gray, and the height of the shrub varies from 8 to 15 feet. Lastly, it grows in swampy places.

We have 3 species of harmless sumach among our finest shrubs. Fertile and sterile flowers, frequently on different plants.

26. Stag-horn Sumach

R. typhina is a tall shrub, sometimes becoming a tree. The ends of the irregular branches, covered with a soft, velvety down, give the name stag-horn. *Flowers*, yellowish, with a central orange-red disk, 5-parted *calyx*, 5-petalled *corolla*, 5 *stamens*, 3 *styles*, and 3 short purple *stigmas*. *Fruit*, a close bunch of globular berries covered with crimson hairs. *Stems*, yellowish.

Leaflets, 11 to 31, sessile, feather-veined, lance-shaped, serrate, pointed.

27. Smooth Sumach

R. glabra is our most common species, lining the roadsides and covering barren fields, the foliage turning a rich dark crimson color in fall.

This shrub rarely reaches a height of 10 feet. Its pinnate leaves are often 1 foot long, leaflets numbering 11 to 31, sharply toothed, the veins ending in the sinuses. Flowers in large, close, compound, terminal clusters, forming a bunch of small velvety, crimson-haired berries, of an acid, pleasant taste.

28. Dwarf or Mountain Sumach

R. copallina is a low shrub, from 3 to 5 feet high. This is the most beautiful of the genus, owing to the bright, glossy, dark green of the leaflets, on broadly winged petioles. Pyramidal bunches of white flowers stand up from the ends of the branches during the summer, followed by a bunch of roundish red berries, gray dotted. Leaflets, 9 to 21, unequal at base, generally entire. The bark of all members of this family is highly charged with tannin; hence is useful in tanning leather. *R. coriària*, a foreign species, is most used for this purpose, and finds a market in Great Britain, being exported from Sicily and Italy.

29. Dyer's Green-weed. Woad-waxen. Whin

Genista tinctoria.—*Family*, Pulse. *Color*, yellow. *Leaves*, lance-shaped.

Bushy plants, thornless, not without a certain bright beauty, imported from Europe. To this genus belongs the common broom of the old country.

Eastern New York and Massachusetts, on hills.

A "Scotch Broom," *Cytisus scoparius*, grows in the South, 4 or 5 feet high, a stiff, much-branched shrub with yellow flowers, single or in pairs, forming leafy racemes on the upper branches.

30. Wild Senna

Cassia Marilandica.—*Family*, Pulse. *Color*, bright golden yellow, growing paler. *Leaves*, compound, of 8 to 10 pairs of oval leaflets. *Time*, July and August.

The papilionaceous type of corolla is lost here. The *petals*, 5 in number, are unequal, wide open and spreading, large, made more conspicuous by the ten stamens of different lengths, with their large dark-brown, almost black, anthers. No tendrils or odd leaflets terminate the pinnate leaves. A small club-shaped gland marks the joining of each leaf to the main stem on the upper side of the leaf. The flowers terminate the branches in short axillary racemes. The corolla drops off easily, and a specimen gathered for the herbarium must be quickly dried. It grows 3 to 4 or 5 feet high, a handsome herbaceous shrub, with long, slender, hairy pods, 3 inches long, following the blossoms.

Collected and dried, the pods and leaves form the American senna, used in medicine. New England to Florida, and westward.

31. Rose Acacia. Bristly Locust

Robinia hispida.—*Family*, Pulse. A shrub indigenous south of Virginia, and cultivated in the Northern States. It

grows from 3 to 8 feet high, and bears large, rose-colored blossoms, on bristly stalks, with papilionaceous corolla.

The Common Locust (*R. pseudacacia*) is a tall tree, found in every part of Long Island, growing wild and cultivated. Its white blossoms emit a delicate perfume. In early June, when this tree is in blossom, the locust-trees make our woods softly and fragrantly beautiful. The lightly waving, fine leaflets of the thick foliage, with the drooping racemes of white flowers, make an exquisite forest picture.

It is a common opinion among farmers that lightning will strike a locust-tree quicker than any other, and that, therefore, one planted near a house may serve as a lightning-conductor. The numerous charred trunks of locust-trees observed in a walk in the forest would seem to bear out this idea.

A curious provision for the protection of tender buds is furnished by trees and shrubs of this genus. The base of the present leaf-stalk is hollow, like a thimble, and it fits over the bud. One has only to pluck a locust-leaf to discover next season's bud forming under it and growing in as perfect a nest as could be devised.

32. Beach Plum

Prunus maritima.—*Family*, Rose. *Color*, white. *Leaves*, alternate, with stipules, oval, small, petioled, with finely cut edges, softly downy beneath. *Time*, May.

Calyx of 5 sepals, united below. *Petals*, 5. *Stamens*, many. *Pistil*, 1. *Fruit*, a stone enclosed in fleshy pulp, a *drupe*. Just before being ripe it is crimson, and when fully ripe is a dark purple, covered with a whitish powdery bloom, as large as a good-sized marble. Edible.

A compact, low, spreading bush, from 2 to 6 feet high, found in large numbers on sea-beaches from Maine to Virginia. When found farther inland the fruit is smaller. Bark, dark purple with light dots.

33. Wild Yellow or Red Plum

P. Americana is a tall shrub or tree, 20 feet high, with

orange or reddish plums, edible, but with tough and acid skin. Bark thorny. *Leaves*, ovate, pointed, toothed, smooth, and veiny.

Along river-banks.

34. Chickasaw Plum

P. Chickasa is 8 to 10 feet high, with a small, reddish fruit, and leaves long, narrow, finely toothed.

A Southern species.

35. Choke-cherry

P. Virginiana has flowers and fruit in close racemes terminating the branches. *Flowers* in May, and fruit in July and August. When ripe the cherries are dark red, harsh, acid, and astringent to the taste. *Leaves*, alternate, large, pointed, finely serrate, thin, oval to oblong.

A shrub 2 to 15 feet high, found on the banks of rivers, from New England to Georgia. Bark dark colored.

36. Black Wild Cherry

P. serotina is a tall shrub or small tree, a symmetrical plant, with smooth, thick, shining leaves, serrate, with the teeth curving inward, bearing in late summer long strings of small black berries, bitter but pleasant in flavor. Used as a remedy for pulmonary complaints.

In dry soil, from Massachusetts to Florida.

37. Dwarf or Sand Cherry

P. pumila is a trailing shrub, from 1 to 6 feet high. A few flowers grow together, followed by dark-red, edible cherries.

In sandy or rocky soil, from Maine to Virginia and westward.

38. Meadow-sweet. Queen-of-the-meadows

Spiræa salicifolia.—*Family*, Rose. *Color*, white, with a



2
—
3

MEADOW-SWEET. QUEEN-OF-THE-MEADOWS
(*Spiraea salicifolia*)

tinge of light pink. *Leaves*, alternate, strongly toothed, oval or lance-shaped, on short petioles. *Time*, May and June.

Calyx, 5-cleft. *Petals*, 5. *Stamens*, many. *Pods*, 5.

A slender, reddish-stemmed shrub, 2 to 6 feet high, growing along fence-rows and roadsides in wet soil. The dry fruit of last year is sometimes found on the bush among the flowers of this year.

From New England southward, among the mountains, to Georgia, and westward.

Dora Read Goodale writes

“And near the unfrequented roads,
By waysides scorched with barren heat,
In clouded pink or softer white
She holds the summer’s generous light,
Our native meadow-sweet.”

39. Hardhack. Steeplebush

S. tomentosa is the pink (rarely white) species, common throughout New England and southward. Leaves thick, dark green above; underneath, and the stem also, covered with a soft, brownish, rusty down. Flowers in stiff, upright, pointed, close spikes.

40. Ninebark

Physocarpus opulifolius.—*Family*, Rose. *Color*, white and pink. *Leaves*, alternate, roundish or heart-shaped, palmately 3-lobed. *Time*, spring.

Sepals and *petals*, 5. *Stamens*, many. *Flowers*, small, in abundant umbel-like clusters, on short peduncles. *Pods*, dark, inflated, membranous, more showy than the flowers. The bark becomes loose and every year separates, hanging in thin layers, whence the common name.

An ornamental shrub, often cultivated, 5 to 7 feet high, with branches curving backward. From New England to Florida, along banks of streams.



PURPLE-FLOWERING RASPBERRY (*Rubus odoratus*)

(See page 488)

41. Purple-flowering Raspberry

Rubus odoratus.—Family, Rose. Color, deep pink. Leaves, alternate, 3 to 5-lobed, the middle lobe longer than the others, all finely toothed, acute. Time, June and July.

Calyx, 5-parted, its lobes tipped with a long, fine point; very clammy and hairy, often reddish. *Petals*, 5, large. *Flowers*, 2 inches across, several together, clustered. *Fruit*, like a raspberry, of many small grains, flat and reddish, falling away from the receptacle. Stem and petioles sticky with glandular hairs, without thorns.

A shrub 3 to 5 feet high. From northern New England to New Jersey and Georgia, west to Michigan.

42. Wild Red Raspberry

R. strigosus.—Color, white. Leaves, 3 to 5 pinnately divided, on bristly petioles; the side leaflets sessile, downy underneath. Time, June.

Calyx, 5-parted. *Petals*, 5, soon falling. *Stamens*, many. *Fruit*, red, of fleshy, roundish, edible drupelets mounted on a spongy receptacle, from which later they fall. *Stem*, woody, 3 feet high, with straight, rigid bristles. The leaf-stalks, when young, are bristly, glandular, smooth.

43. Black Raspberry. Thimbleberry

R. occidentalis has 3-divided leaves, the leaflets ovate, doubly serrate, the side ones with short stalks, white-downy underneath, clothed with hooked prickles. Sepals longer than the petals. Stems with many prickles. Fruit nearly black, ripe in July.

A common species, especially in New England.

From these 2 wild species most of our cultivated 150 varieties are obtained. The raspberry is an obliging little fruit, coming

after the strawberry, and consoling us for the departure of that "best berry which the Lord ever made."

Wild raspberries grow in rocky land, up hillsides, along fence-rows, in all the Eastern States.

44. High Blackberry

R. villosus.—*Color*, white. *Leaves*, of 3 to 5 leaflets; when 5, radiating from a common centre. Leaflets pointed, toothed, ovate, stalked, the terminal ones more or less heart-shaped, hairy underneath.

Sepals and petals, 5. The *fruit* of the blackberry is a collection of small fruits, each a drupe, all clinging to a long, juicy, edible receptacle, green, becoming red, then, when ripe, black. Flowers several in a raceme, and the large, tempting berries in clusters. The bush is very prickly, from 6 to 8 feet high, with furrowed, bending branches. The flavor of a perfectly ripe, well-developed high blackberry is finer than any cultivated variety.

Found in fence-rows, borders of thickets, and old fields all over the Northern and Middle States. It is the origin of some 20 cultivated species.

45. Sand Blackberry

R. cuneifolius is about 3 feet high, with large white flowers, 2 to 4 together. *Leaflets*, 3 to 5, thick, toothed near the apex. Small branches and under sides of the leaves white-woolly.

New York to Pennsylvania and Florida.

46. Low Bush Blackberry

R. trivialis is reclining, very prickly. Leaves nearly evergreen, leathery. Leaflets ovate to oblong, serrate. Flowers single or 2 or 3 together, large.

Virginia southward in sterile soil.

47. Swamp Rose

Rosa Carolina.—*Family*, Rose. *Color*, pink. *Leaves*, of 5 to 9 leaflets, very finely toothed, acute at apex, dull green above, paler beneath, with narrow stipules. *Time*, June to September.

Calyx, an urn-shaped tube, narrowed at the top, within which, attached to its lining, are the numerous pistils which form the achenes in fruit. The "rose-hip" is the calyx-tube grown fleshy. This species is often 7 feet high, with curved, strong spines, and pretty, rose-colored, 5-petalled blossoms.

Found on the edges of swamps and streams in all the Atlantic States, and westward.

48. Dwarf Wild Rose

R. lucida, generally low, but sometimes 4 or 5 feet high, has coarsely toothed, dark-green, shining, smooth leaves parted into about 7 leaflets, and flowers in corymbs or single. Spines hooked, stout. The outer sepals are often lobed.

Found in swamps and wet places from Pennsylvania and New York northward.

This species is more fragrant than the preceding. It grows sometimes in masses an acre in extent. One bush aglow with blossoms is a pretty sight. In autumn the leaves turn a rich yellowish brown, and the crimson fruit is conspicuous.

49

R. humilis is a low, bushy species, with slender spines, narrow stipules, leaflets usually 7, coarsely toothed, thin and pale green. Blossoms single, with the outer sepals somewhat lobed.

50

R. nitida is a low bush, with smooth leaves and mostly single flowers of a light rose-pink. Branches and stem covered with

weak prickles. The deep pink buds of our wild roses are even prettier than the open flowers which quickly droop and lose their petals.

51. Sweetbrier. Eglantine

R. rubiginosa is prized not so much for its small pale blossoms as for the delicate fragrance given out by its leaves. These are divided into doubly serrate, oblong to ovate leaflets, downy, covered with small, dark glands which exhale the pleasant aroma. Branches very prickly. Time, June to August.

When the dew is upon the sweetbrier rose, or after a shower, the atmosphere around is filled with the fragrance. Often cultivated, but found also in woods from New England to South Carolina, westward to Tennessee.

That the rose was originally supposed to be white, the following bit of verse would indicate :

“ As erst in Eden's blissful bowers
 Young Eve surveyed her countless flowers,
 An opening rose of purest white
 She marked with eye that beamed delight.
 Its leaves she kissed, and straight it drew
 From beauty's lips the vermil hue.”

52. Chokeberry

Pyrus arbutifolia. — *Family*, Rose. *Color*, white or tinted with rose or purple. *Leaves*, simple, alternate, 1 or 2 inches long, elliptical or ovate, finely toothed, smooth, glossy green, with dark glands on the mid-ribs. *Time*, spring.

Calyx, tubular, with 5 divisions. *Petals*, 5, concave. *Stamens*, many, with white filaments and purple anthers. *Flowers*, in compound cymes. *Fruit*, a pome, like the apple or pear, which belong to this genus ; size of a whortleberry, round or slightly elongated, red or purplish, acid, dry, and sweetish.

A shrub 2 or 3 feet high, growing in wet ground, moist thickets, or swamps, from New England to Florida, westward to Minnesota and Louisiana.

53. Dwarf Thorn

Crataegus parvifolia.—*Family*, Rose. *Color*, white. *Leaves*, alternate, inversely ovate, simple, thickish, shining above, roundish-toothed, nearly sessile. *Time*, May.

Calyx, a tube, with 5 points the length of the petals. *Petals* and *styles*, 5. *Stamens*, many. *Fruit*, a yellowish, pear-shaped pome, enclosing 5 hard seeds. *Flowers*, short-peduncled, 1 to 3 together.

The hawthorn division of the rose family contains many beautiful trees, with fine, close foliage, and small, cherry-like blossoms. The only one distinctively a shrub is the dwarf thorn, from 3 to 6 feet high, growing in dry, sandy soils from New Jersey southward.

54. June-berry. Service-berry. Shad-bush

Amelanchier Canadensis.—*Family*, Rose. *Color*, white. *Leaves*, ovate, pointed, rounded or notched at base, finely toothed, 2 or 3 inches long, on petioles, pale green underneath. *Stipules*, long and narrow, and with the bud-scales silky downy, falling with the scales. *Time*, April or May. *Fruit* in June.

Calyx, 5-parted. *Petals*, long, narrow, notched, tapering at base, 5. *Stamens*, many. *Fruit*, a dark-crimson, 10-seeded, edible berry, with the calyx points remaining on the tip. The flowers grow in spreading racemes with leaves or bracts among them. They come early in spring, their pure white contrasting prettily with the pale green, glossy, silky leaves, and the pretty crimson of the investing scales. They have a fishy smell. The name shad-bush refers to the time of the approach of the spring shad in our waters.

This often attains the proportions of a small tree. It grows in dry soil, in light woods or thickets, or along the roadsides.

55

A. oblongifolia, a smaller shrub, with very downy young leaves, shorter petals, and rounder fruit than the preceding, is made by Dr. Gray a separate variety.

It is mostly found in wet, swampy soil from Virginia northward.

56

A. oligocarpa bears few long-pedicelled flowers in a raceme. Fruit dark purple covered with a bloom. Leaves 1 to 2 inches long, thin, oblong, acute at each end, finely toothed.

Found northward, in New England and New York, in cold swamps and bogs, often in the mountains.

57. Swamp or Wild Gooseberry

Ribes lacustre. — *Family*, Saxifrage. *Color*, greenish. *Leaves*, alternate, deeply 3 to 5-lobed, heart-shaped at base. *Time*, June.

Calyx, 5-lobed. *Petals*, 5, small, flat, spreading, *Stamens*, 5, alternate with the petals. *Fruit*, a small bristly berry, not agreeable to the taste. *Flowers*, 4 to 9, small, in a nodding raceme. A low shrub, whose stems when young bear weak thorns and very many prickles.

Found in cold woods and swampy places in New England, New York, westward to Michigan.

58. Prickly Gooseberry

R. cynosbati has clustered, 3 to 5-lobed, roundish, heart-shaped leaves and usually prickly, round berries. Flowers appear in May, 1 to 3, on peduncles.

In rocky woods from Maine to North Carolina.

59

R. oxycanthoides bears a smooth, small, purple, edible berry. *Leaves*, deeply cleft, often heart-shaped, serrate. A few soli-

tary, whitish spines grow on the stem. *Flowers*, green, 1 or 2 on short peduncles. A species sometimes found in gardens, but not much improved by cultivation.

The finest gooseberries are raised in the gardens of the operatives of the factories in Lancashire, England. There the berries are sometimes 2 inches in diameter. In Scotland, also, the fruit is large and delicious. It is eaten, when ripe, uncooked, and considered one of the most desirable of fruits. Our climate, with its extreme summer heat, is not favorable to the best development of the gooseberry, which requires coolness and dampness.

60. Red Currant

R. rubrum is a wild currant found in cold swamps in New England and New Jersey. Flowers and red berries in drooping racemes. *Leaves*, 3 to 5-lobed, serrate, downy underneath, with whitish veins, especially when young.

Cultivated, this species becomes the red currant of our gardens. From the dictionary we learn that the currant is so called "from the city of Corinth, in Greece, whence, probably, the small, dried grape (seedless raisin) was imported, the *ribes* fruit receiving its name from its resemblance to that fruit."

61. Wild Black Currant

R. flbridum bears whitish flowers, which are large, showy, and abundant, in racemes. *Leaves*, alternate, sharply 3 to 5-lobed, dotted, somewhat heart-shaped, toothed. *Time*, May. * * *Fruit*, nearly round, black, smooth, no prickles upon the stem or calyx. The taste of the berry is insipid and too sweet. It is cultivated, but not so much esteemed as the red currant.

Found in New England woods, southward to Virginia and Kentucky.

62. Fetid Currant

R. prostratum has deeply lobed, 5- to 7-divided, heart-shaped leaves. *Fruit*, a light-red berry. Plant low, with prostrate

stems ; pedicels and fruit bristly and glandular. When bruised the plant gives out a fetid smell.

Found in cold, damp, rocky woods in all the States east of the Rocky Mountains.

63. Mock-orange. *Syringa*

Philadélphus inodórus.—*Family*, Saxifrage. *Color*, white. *Leaves*, opposite, pointed, ovate to oblong, with scattered teeth or entire. *Calyx*, 4 to 5-parted. *Petals*, 4 or 5. *Stamens*, numerous. *Styles*, 3 to 5, more or less united. *Flowers*, single or a few, borne on the ends of branches.

Virginia southward, in the mountains.

64. Large-flowered *Syringa*

P. grandiflórus is taller, with larger flowers. The branches often curve backward.

Along streams in the South.

The sweet syringa, or mock-orange, of our gardens, with flowers in terminal spikes, is *P. coronárius*.

65. Wild Hydrangea

Hydràngea arboréscens.—*Family*, Saxifrage. *Color*, whitish. *Leaves*, ovate, acute, petioled, smooth, toothed.

Flowers, like the common garden hydrangea, in compound cymes, those along the margin containing showy, petal-like sepals and stamens, sometimes pistils. The central flowers are complete with stamens and pistils, minute calyx-lobes, and small, greenish petals. Occasionally all the flowers in the centre are staminate. June, July. Sometimes September.

This showy shrub is found in rocky woods from Pennsylvania to Florida.

66. Sweet-scented Shrub. Strawberry-shrub.
Carolina Allspice

Calycánthus flóridus.—*Family*, Calycanthus. *Color*, purplish brown. *Leaves*, opposite, entire, oval, downy underneath. *Time*, June.

Petals and *sepals* alike, in many rows, lance-shaped, joined to the top of the calyx-tube. *Stamens*, many, some of them without anthers. *Pistils*, growing, like those of the rose, from within the calyx-tube. This cup enlarges, and when ripe encloses the achenes. When crushed or held in the hand for a short time, the flowers give forth the fragrance of a strawberry.

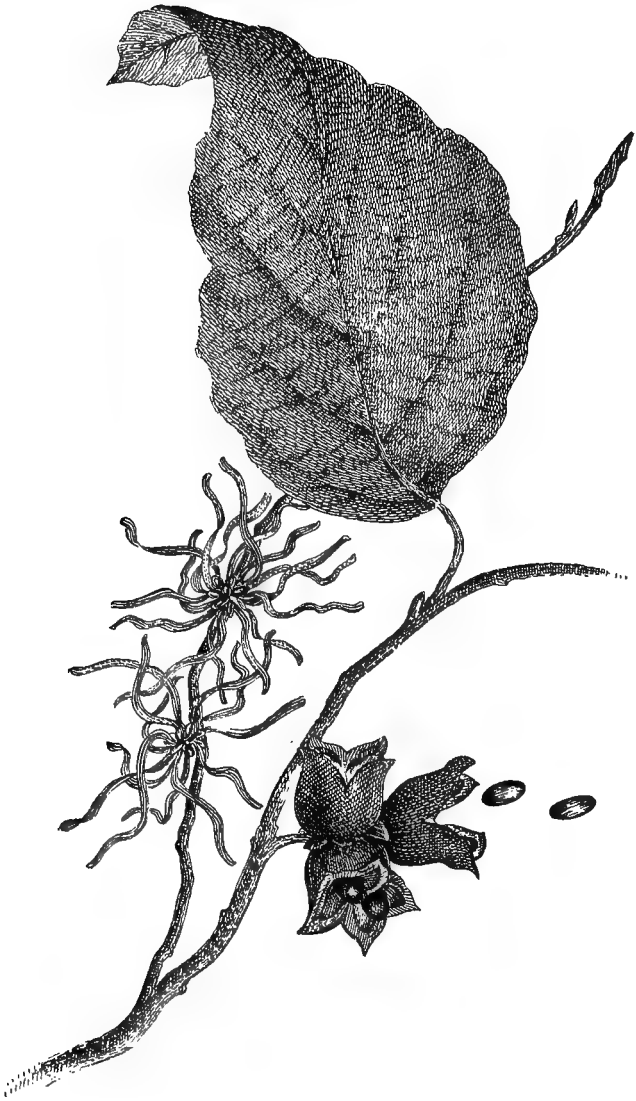
A shrub indigenous in Virginia and southward, but known by cultivation in Northern gardens. Thickly branching, and, with its dark-brown flowers, rather handsome.

67. Witch-hazel

Hamamèlis Virginiàna.—*Family*, Witch-hazel. *Color*, yellow. *Leaves*, alternate, straight-veined, simple, oval or ovate, wavy-margined, downy beneath. *Time*, August to October.

Calyx, 4-cleft, with bractlets underneath. *Petals*, 4, long, narrow, strap-shaped, sometimes twisted. *Stamens*, short, 4 perfect and 4 without anthers. *Styles*, 2. *Fruit*, a 2-horned capsule. *Seeds*, 2 in each capsule, hard, black, tipped with white. *Flowers*, sessile, 3 or 4 in axillary clusters, with a scale-like, 3-leaved involucre underneath.

A slender shrub with crooked branches, sometimes attaining the size of a tree 10 to 30 feet high, but seldom growing like a tree with a single trunk. By blossoming in the fall, while the leaves are dropping, and maturing seed the next summer, this plant reverses the seasons. The seeds, when ripe, are often ejected from the pod with considerable force—"sometimes," says Mr. Gibson, "to a distance of 40 feet." He writes: "I had been at-



WITCH-HAZEL (*Hamamelis Virginiana*)

tracted by a bush which showed an unusual profusion of bloom, and while standing close beside it in admiration I was suddenly stung on the cheek by some missile, and the next instant shot in the eye by another, the mysterious marksman having apparently let off both barrels of his little gun directly in my face. I soon discovered him, an army of them—in fact, a saucy legion—all grinning with open mouths and white teeth exposed, and their double-barrelled guns loaded to the muzzle and ready to shoot whenever the whim should take them."

Within my memory the twigs of this shrub have been used to detect the presence of water beneath the ground. I recall an old man solemnly stalking over my father's place with a magic witch-hazel wand in his hand. I followed him expectantly, hoping to see the rod tremble. Whether in this instance the old farmer's sign was distrusted, or whether the twig did not shake, I cannot remember. The well was never dug.

As Pond's Extract the witch-hazel is esteemed a valuable household remedy.

68. Round-leaved Cornel

Cornus circinata.—Family, Dogwood. Color, white. Leaves, opposite, round or oval, distinctly pointed, veins curving and parallel, downy beneath. Time, June.

Calyx, minutely 4-toothed. *Petals*, 4. *Stamens*, 4, with slender filaments. *Style*, 1. *Flowers*, gathered into broad, open, flat cymes, without the involucre which belongs to the flowering dogwood (*C. florida*), a well-known, common tree. Berries light blue. Shrub 6 to 10 feet high, with greenish, warty-dotted branches.

One of the pretty bushes which line our drives through woods, in rich or poor soil, edging thickets, from Maine to Virginia, westward to Missouri.

69. Silky Cornel. Kinnikinick

C. sericea has flowers and fruit much like the last. Leaves, narrower, ovate or elliptical, pointed, silky-downy, pale green.



SILKY CORNEL. KINNIKINICK. (*Cornus sericea*)

Branches, dark red. Whole shrub silky or often rusty. *Berries* blue. Flowers in June.

It grows in wet places in all the Atlantic States.

70. Red-osier Dogwood

C. stolonifera may be known by its bright-red branches, especially when young. *Leaves*, rounded at base, ovate, short-pointed, whitish underneath, rough on both sides. *Flowers*, in June, few, in small, flat cymes. *Berries*, white or grayish white. This is a shrub that makes thick clumps of growth, by means of underground or prostrate suckers. Height, 3 to 6 feet.

Common throughout New England and across the continent northward.

71. Panicked Dogwood

C. paniculata has gray, smooth branches. *Leaves*, pointed, ovate to lance-shaped, pale underneath. *Flowers*, white, in elongated cymes or short panicles. *Fruit*, white, on pale-red stalks. A slender shrub, 4 to 8 feet high, found on river-banks and beside streams.

The leaves of the shrubs of this family turn beautiful shades of yellow and deep red in fall.

72. Stiff Cornel

C. stricta is a Southern species, 8 to 15 feet high, with gray branches, ovate to narrow leaves, flowers in loose cymes, and fruit blue. *Time*, April and May.

In swamps from Virginia to Florida.

73. Elder. Elderberry

Sambucus Canadensis. — *Family*, Honeysuckle. *Color*, white. *Leaves*, pinnate; leaflets pointed, serrate, 5 to 11; some 3-divided. *Time*, June and July.

Calyx, small, tubular, with very small teeth. *Corolla*, urn-

shaped, with 5 spreading lobes at the top. *Stamens*, 5. *Stigmas*, 3. *Fruit*, a juicy, berry-like drupe with a winy flavor, containing 3 seed-like nutlets. Stem hollow, filled with white pith.

A showy plant, 6 to 10 feet high, with soft, misty-looking, flat, large cymes of flowers, growing on the edges of swamps and in rich soil everywhere. Shrubby, with woody stems rather than a true shrub.

74. Red-berried Elder

S. racemosa is taller than the last, with warty bark, flowers in paniced clusters and fruit of bright-red berries, sometimes white, ripe in June. Stem filled with brown pith, 2 to 12 feet high.

Common, eastward and westward across the continent, in rocky woods.

75. Hobble-bush. American Wayfaring-tree

Viburnum lantanoïdes. — *Family*, Honeysuckle. *Color*, white. *Leaves*, opposite, roundish, heart-shaped at base, pointed, toothed, unevenly divided by the mid-rib, covered with reddish scurf. *Time*, May.

Calyx, 5-toothed. *Corolla*, 5-lobed. *Stamens*, 5. *Stigmas*, 3. *Flowers*, like those of the garden hydrangea, arranged in flat cymes, those around the border neutral, without stamens and pistils, with large, flat corollas. *Fruit*, a crimson drupe, becoming darker when ripe. The winter leaf-buds are without covering.

A large, irregularly branched shrub, found in cold, wet woods from New England to North Carolina, where it ascends into the mountains, and westward. The lower drooping branches often take root, making loops to trip up the careless pedestrian.

76. Dockmackie. Maple-leaved Arrow-wood

V. acerifolium. — *Color*, white, the flowers all alike, in slender-peduncled cymes, appearing in May and June. The op-

posite leaves are 3-ribbed, roundish, 3-lobed, resembling those of a maple, soft and downy underneath, sometimes heart-shaped at base, toothed, 2 to 4 inches long. Fruit crimson, becoming purple, the berries borne on slender stalks.

This is a shrub 3 to 6 feet high, found in cool, rocky woods, quite common in all the Atlantic States to North Carolina and westward.

77. Withe-rod

V. cassinoides is common in swamps or beside streams, flowering early, bearing bluish-black berries in flat clusters clothed with a bloom. The thickish leaves are entire, or roundishly toothed, with veins not prominent, and no stipules. Branches very tough, formerly somewhat used by farmers in tying bundles.

A shrub 6 to 12 feet high, found in New England, southward to New Jersey, and westward.

78. Downy Arrow-wood

V. pubescens, a species found in rocky ground North and West, is a low, irregular shrub with nearly sessile, ovate to oblong, acute or tapering, obscurely veined leaves, their under surface softly downy on short petioles. Flowers in June, all alike, in cymes, and the fruit dark purple.

79. Arrow-wood

V. dentatum is a tall shrub, 5 to 15 feet, with gray bark, pale green, broadly ovate, toothed, pointed leaves with prominent, straight veins, on long and slender petioles. Often hairy tufts fill the axils. Fruit blue or purplish in peduncled clusters.

Common in wet soil along the Atlantic coast as far as Georgia. The wood was formerly used by Indians for making arrows.

80. Black Haw

V. prunifolium is a tall (6 to 12 feet) shrub, found along the

coast from Massachusetts to Georgia. Compound, sessile cymes of flowers appear early in spring. Leaves small, oval, finely serrate, pointed. Fruit dark blue, sweetish to the taste.

81. Cranberry-tree

V. Ópulus has 3-lobed, strongly veined leaves, broadly wedge-shaped or truncate at base, the lobes toothed near their apex, entire in the notches. Two glands appear at the top of the petioles. Flowers in peduncled clusters, followed by clusters of bright-red drupes, edible, sour, like cranberries, whence the name. Bark smooth. Height, 10 feet or less.

Found along streams from Maine to Pennsylvania and westward.

Cultivated and growing large, this becomes the bush known in gardens as snowball-tree or guelder-rose, in which all the flowers are neutral, forming very large, showy clusters of white bloom in June.

82. Early Fly-honeysuckle

Lonicera ciliàta.—*Family*, Honeysuckle. *Color*, pale greenish yellow. *Leaves*, thin, downy beneath when young, on somewhat hairy, short petioles, opposite, oblong or ovate, pointed, often heart-shaped at base. *Time*, May.

Calyx, with 5 short teeth. *Corolla*, funnel-form, with a slight, spur-like swelling at base, $\frac{3}{4}$ inch long, with 5 nearly equal lobes. *Stamens*, 5. *Fruit*, a pair of bright-red, oblong berries.

A straggling shrub 4 to 6 feet high, growing in cold, moist, or rocky woods from Maine to Pennsylvania, westward.

83. Mountain Honeysuckle

L. caerulea is a bush 1 to 2 feet high, growing in bogs and mountain woods in New England and westward. Its leaves are oval, entire. Flowers in May, yellowish, a pair at the summit of short peduncles in the leaf-axils. Fruit, 2 blue berries united into 1. Leaves, oval, small, downy when young.

84. Swamp Fly-honeysuckle

L. oblongifolia has a yellowish-white, tubular, $\frac{1}{2}$ -inch-long, deeply 2-lipped corolla. *Flowers*, in June, in pairs at the ends of branches, on long, slender peduncles. *Berries*, purple, generally united, sometimes separate.

A shrub 2 to 5 feet high, growing in bogs in New England, New York, and westward.

85. Bush Honeysuckle

Diervilla trifida.—*Family*, Honeysuckle. *Color*, deep yellow. *Leaves*, opposite, short-petioled, oval or elliptical, finely toothed, tapering at apex, round at base, slightly fringed along the margins. *Time*, June to August.

Calyx-tube, long, with 5 long, narrow segments above. *Corolla*, tubular, opening and spreading above into 5 narrow lobes. *Stamens*, 5. *Pistil*, with a long, projecting style, and button-like stigma. *Flowers*, small, fragrant, 3 together, short-pedicelled, on a common peduncle, from the upper, opposite leaf-axils. *Fruit*, long, crowned with the calyx-teeth. *Stems*, grayish, somewhat 4-angled.

A pretty, low shrub, 2 to 4 feet high, found in rocky places, especially on the tops of mountains, from New England southward to North Carolina, and westward.

The weigela of our gardens, an early flowering shrub with red or yellow showy flowers, is a Japanese species of diervilla.

86. Button-bush. River-bush

Cephalanthus occidentalis.—*Family*, Madder. *Color*, white. *Leaves*, opposite or in threes, with short stipules between, oval or broadly lance-shaped, 3 to 5 inches long, on channelled petioles, entire, but wavy-margined, pointed, bright green above, paler below. *Time*, July and August.

Calyx-tube, 4-lobed. *Corolla*, a slender tube, hairy within,

4-parted, at first white, then brown, its lobes tipped with black. *Stamens*, fastened to the tube of the corolla. *Pistil*, long, extending far out of the flower, with a button-like stigma. Flowers gathered into a close head, 1 inch in diameter, around a fleshy receptacle, the head long-peduncled, springing from the leaf-axils.

This bush has unusually strong roots and grows beside ponds and streams, often quite in water, its lowest stems being immersed. Height, 5 to 10 feet. Bark rough, gray, spotted on the older stems. A handsome shrub, common; much prized and cultivated in Europe.

87. Groundsel-tree

Baccharis halimifolia.—*Family*, Composite. *Color*, white, with a purplish tint. *Leaves*, wedge-shape, tapering to the base into short petioles, pointed above and coarsely, roundly toothed. *Time*, late summer and autumn.

Flowers, all tubular, collected in loose heads, the pistillate and staminate on different plants, the heads growing in leafy panicles. *Corolla*, in the fertile blossom, long, narrow, thread-like; in the staminate broader, 5-lobed.

After the plant has gone to seed, the pappus of the fertile flowers becomes long and full, conspicuous, giving the whole shrub a hoary, plummy look in late autumn. It is a light-colored bush, 6 to 15 feet high, the only shrub among the composites, growing along sea-beaches from Massachusetts to Virginia and southward.

88. Black Huckleberry. Whortleberry

Gaylussacia resinosa.—*Family*, Heath. *Color*, white, with sometimes a reddish tint. *Leaves*, entire, alternate, ovate, with short petioles or none, profusely dotted underneath with resinous, yellowish spots. *Time*, May.

Calyx, resinous-dotted, 5-pointed, the points crowning the ripened berry. *Corolla*, bell-shaped, contracted above, 5-parted. *Stamens*, 10, the anthers opening by a pore at the apex. *Fruit*,

a black, berry-like drupe formed by the calyx clinging to the ovary, 10-celled, each cell containing 1 bony seed. Many of these fail of coming to perfection, only 2 or 3 maturing. A much-branched shrub, 1 to 3 feet high.

This is the common black huckleberry of the markets, a glossy-black, hard-seeded fruit. There are many varieties, one with larger berries, one with leaves and berries covered with a blackish bloom.

Of the genus *gaylussacia* there are nearly 80 species, some of them trees, most of them bearing edible berries.

Whortleberry means hart's-berry, from the Saxon heort-berry. Along the Atlantic seaboard there are but 3 species, not confounding them with blueberries, which are now considered a separate genus. All turn bright red in fall, and are among those shrubs which help to cover the fields, pastures, and roadsides with masses of fine color.

89. Blue Tangle. Dangleberry

G. frondosa is a species with large, pale-green, blunt-pointed leaves and flowers hanging or *dangling* from long, slender peduncles in irregular clusters. *Fruit*, round, large, bluish-black berries with a whitish bloom, ripening later than the preceding.

The sweetest and finest of these fruits is found growing on bushes in moist woods or by the sides of lakes or slow streams, along the coast of New England southward, in the mountains of Pennsylvania—where it attains its greatest perfection—to the Gulf.

90. Dwarf Huckleberry

G. dumosa is a branching bush 1 to 5 feet high, with creeping base and hairy and glandular stems. *Flowers*, 5 in a cluster, in June. *Corolla*, large, waxy white, sometimes tinged with pink. Anthers brown, nearly divided to their base, on white filaments. Shrub resinous-dotted. The round, black fruit is rather insipid.

In sandy swamps all along our coast.



BLUE TANGLE. DANGLEBERRY. (*Gaylussacia frondosa*)

91. Deerberry. Squaw Huckleberry

Vaccinium stamineum.—*Color*, whitish or greenish. *Leaves*, oval or ovate, pointed at apex, round or heart-shaped at base, slightly turned back along the margins, on short, downy petioles, whitish underneath. *Time*, May and June.

Calyx, 5-toothed, clinging to the ovary and forming a berry with a 5-rayed star at the top, as in gaylussacias. *Corolla*, bell-shaped, open. *Stamens*, 8 or 10, protruding. *Flowers*, single or in racemes, with leafy bracts. *Fruit*, a large, greenish or yellowish, few-seeded, pear-shaped berry, scarcely edible.

This bush is about 2 feet high, found in dry woods from Maine to Florida and westward.

92. Farkleberry

V. arboreum is a Southern species, with oval or oblong, entire, pointed, glossy leaves, evergreen in the far South. *Corolla*, bell-shaped, 5-lobed, white. *Berries*, black, many-seeded, mealy.

A tall and smooth shrub, 6 to 25 feet high. Found in North Carolina and Florida to Texas, in sandy soil.

93. Blue Huckleberry

V. virgatum is one of our commonest species, growing in rocky woods, furnishing sweet, delicious fruit in August. The berries are large, covered with blue bloom, 10-celled, flattened. They grow in rather close clusters along the ends of the leafless branches. The younger, reddish berries and maturer black or blue grow together, and in such numbers that the plant often appears to have more fruit than leaves. *Flowers*, whitish, tinged with pink, open, bell-shaped. A plant 2 to 3 feet high, with pale green, broadly-elliptical leaves. Of edible blueberries we have 5 species.



BEARBERRY (*Arctostaphylos uva-ursi*)

(See page 510)

94. Low Blueberry

V. Pennsylvanicum can be distinguished by its close bunches of light-blue, very sweet berries, growing near the ends of the branches, attended by many leaves. Branches of this low shrub are rather irregular and angular, smooth, with light-green, white-dotted bark. *Leaves*, small, oval, pointed at both ends, very finely toothed.

95. Canada Blueberry

V. Canadense is much like the last. *Leaves*, oblong to lance-shaped, and with the small, crowded branchlets softly downy. Low, 1 or 2 feet high.

Found in swamps and moist woods from New England to Pennsylvania and westward.

96. Low Pale Blueberry

V. vacillans, low, 1 to 3 feet high, has yellowish branches, pale and dull oval or ovate leaves; berries ripening late.

These two last are scarcely more than varieties of *V. Pennsylvanicum*.

97. Swamp Blueberry. Tall Blueberry

V. corymbosum is the finest of this genus. It grows 8 to 9 feet tall, in swamps or low grounds, bearing great quantities of large, delicious fruit, $\frac{1}{2}$ bushel on a single bush. The berries arrive late, in the last of August or first of September. *Leaves*, large, dark green, paler beneath, oval, pointed, entire. Flowers and fruit on short peduncles in close clusters, borne on short branches which are the growth of the previous year; 1 to 2 yellowish bracts at the base of each.

98. Bearberry

Arctostaphylos uva-ursi ("a bear and a grape or berry").
—*Family*, Heath. *Color*, nearly white. *Leaves*, alternate,

thick, evergreen, broader at apex, narrower at base, entire, smooth, dark green. *Time*, May.

Calyx, 5-parted. *Corolla*, urn-shaped, with 5 short teeth, turning backward. *Stamens*, 10; anthers with minute bristles near the top, opening by terminal pores. *Fruit*, a red, berry-like drupe, with 5 to 10 bony seeds. These berries make winter food for birds. Flowers in a raceme on the ends of trailing stems, with scaly bracts underneath.

This plant is a near relative to the trailing arbutus, and must be the one meant by the poet, rather than the *epigaea* in the lines—

“Beneath the various foliage, widely spreads
The arbutus, and rears his scarlet fruit
Luxuriant, mantling o'er the craggy steeps.”

It is a lover of bare rocks, sandy soil, and hills, from Pennsylvania and New Jersey northward and westward.

99. Alpine Bearberry

A. alpina is a dwarf, tufted species, with black fruit, found in New England, upon alpine summits.

100. Water Andromeda

Andr meda polif lia.—*Family*, Heath. *Color*, white, or tinted with light pink. *Leaves*, linear or lance-shaped, on short petioles, with revolute margins, thick, glossy, evergreen, pointed, *white underneath*. *Time*, June.

Calyx of 5 nearly separate divisions. *Corolla*, round, tubular, nearly closing at the mouth, 5-angled. *Stamens*, short, with divided, brown anthers opening in pores at the top. *Fruit*, a 5-celled, many-seeded capsule. A low, smooth shrub, 6 to 18 inches high, with terminal umbels of flowers.

Linn us himself named it after the fabled Andromeda. He came across it in Lapland, and says: “*Andr meda polifolia* was now (June 12th) in the highest beauty, decorating the marshy

grounds in a most agreeable manner. The flowers are quite blood-red before they expand, but when full grown the corolla is of a flesh-color. Scarcely any painter's art can so happily imitate the beauty of a fine female complexion. . . . As I contemplated it I could not help thinking of Andromeda, as described by the poets. . . .

"This plant is always fixed on some little turf-hillock in the midst of the swamps, as Andromeda herself was chained to a rock in the sea, which bathed her feet, as the fresh water does the roots of this plant. Dragons and venomous serpents surrounded her, as toads and other reptiles frequent the abode of her vegetable resembler. . . . As the distressed virgin cast down her blushing face through excessive affliction, so does this rosy-colored flower hang its head, growing paler and paler, till it withers away. . . . At length comes Perseus, in the shape of summer, dries up the surrounding water, and destroys the monsters."

Wet, boggy places in Pennsylvania, New Jersey, northward and westward.

101. Stagger-bush

A. Mariàna, 2 to 4 feet high, has thin leaves, and flowers nodding in racemose clusters on naked shoots.

It is a fine shrub, found in low grounds in every direction around New York. It is thought to poison lambs and calves which browse upon its tender leaves. Rhode Island to Florida, in low grounds.

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A. ligustrina is taller, 3 to 10 feet, with flowers similar to the last. Leaves entire, or with a few teeth, inversely egg-shaped. The flowers grow in leafy or naked racemes.

103. Swamp Leucothoë

Leucothoë racemosa.—*Family*, Heath. *Color*, white. *Leaves*, lance-shaped to oblong, acute, petioled, minutely toothed. *Time*, May and June.

Calyx of 5 nearly separate sepals, attended by white, scaly



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CASSANDRA (*Cassandra calyculata*)
(See page 514)

bracts underneath. *Corolla*, united into a tube below, 5-toothed. *Stamens*, 10. *Fruit*, a 5-celled capsule.

A tall shrub, 5 to 10 feet high, with flowers nearly sessile, in close, one-sided racemes terminating the branches, and a few in the leaf-axils.

Moist woods, from Massachusetts to Florida, along the coast.

104. Dwarf Cassandra

Cassánda calyculàta. — *Family*, Heath. *Color*, white. *Leaves*, evergreen, leathery, resinous-dotted (especially underneath), small, oblong, obtuse, flat. *Time*, early spring.

Calyx, of 5 stiff, rigid sepals. *Corolla*, tubular, cylindrical, 5-toothed. *Stamens*, 10, anthers opening by a hole at the top. *Capsule*, 5-celled. The waxen-white, close, bell-shaped flowers droop upon slender sprays springing from the axils of the small, upper leaves.

The shrub often flowers before the snow is off the ground. Nearly related to andromeda. It is found in New England bogs and New Jersey barrens, southward to Georgia.

Cassandra, daughter of Priam and Hecuba, was a beautiful prophetess. One of the legends connected with her is that she and her brother, while asleep in the sanctuary of Apollo, had their hearing changed so that they could understand the voices of birds. Because Cassandra refused to obey the god Apollo, he ordained that her prophecies should meet with no belief. Therefore, when she predicted the ruin of Troy, the indignant Trojans shut her up in a mad-house.

105. Mountain Laurel. Spoonwood. Calico-bush

Kálmia latifòlia (named from Peter Kalm, a pupil of Linnæus, and a distinguished botanist).—*Family*, Heath. *Color*, white or rose-color. *Leaves*, thick, evergreen, alternate, oblong, pointed, on short petioles, opposite, scattered or clustered. *Time*, May and June.

Calyx, 5-parted, clammy, covered with glutinous hairs. *Corolla*, first tubular, then expanding, wheel or umbrella shaped, with 10 horn-like projections on the outside, in which repose the 10 anthers on white filaments. When they are slightly jarred, as by a visiting insect, they spring up and fling their pollen over the insect's body, which thence flies to another flower and rubs against its pistil, thus securing cross-fertilization. *Capsule*, 5-celled, many seeded. *Flowers*, large, showy, delightfully fragrant, in heavy corymbose heads on stout peduncles from the axils of the leaves, from which also one or more pairs of opposite, leafy branches spring.

Many regard this as our most beautiful American shrub. The color of the great masses of flowers varies from white to deep pink. The top-shaped buds are of a still deeper color, 10-ridged, the ridges meeting at the centre. In deep mountain ravines it may attain the height of 20 feet; usually it is 4 or 5 feet high. It often covers acres with a close growth of luxuriant, rich foliage. We should take pains in its season to visit our laurel groves, where its rolls of blossoms, mixed with clumps of azalea, border a lake or stream, or stray up a mountain-side.

106. Sheep-laurel. Lambkill. Wicky. Narrow-leaved *Kalmia*

K. angustifolia.—Thoreau always speaks of it as "lamb-kill." He says (June 13th):

"The lambkill is out. I remember with what delight I used to discover this flower in dewy mornings. All things in the world must be seen with the morning dew upon them, must be seen with youthful, early-opened, hopeful eyes."

And this is how he writes of the flower at evening: "How beautiful the solid cylinders of the lambkill now, just before sunset—small 10-sided, rosy-crimson basins about 2 inches above the recurved, drooping, dry capsules of last year!" Most people would not agree with him that it is "handsomer than the mountain-laurel."

This is a low shrub, 1 foot or more high, with narrow, ever-

green leaves in whorls of three. *Flowers*, from their axils, in corymbs of a deep crimson color, the dark anthers nestling in their pockets, having the effect of spots.

Supposed to be poisonous to young animals and hurtful to cattle and horses. Stags eat the leaves, digging them from under the snow. The Indians make a decoction of kalmia leaves (says Dr. Barton) with which to commit suicide.

Atlantic States to Georgia.

107. Pale Laurel

K. glauca, with its mostly opposite, narrow, long leaves, whitish underneath and turned back on the margins, and its few terminal rosy flowers on long red stalks, is to my mind prettier than Thoreau's lambkill.

A straggling bush, 1 foot high, growing in swamps, almost in water, with the cotton-grass and andromeda.

Newfoundland, southward to Pennsylvania, and westward.

108. Clammy Azalea. White Swamp-honeysuckle

Rhododéndron viscosum.—*Family*, Heath. *Color*, white. *Leaves*, alternate, oblong, smooth, except the margins and mid-rib, which are bristly. *Time*, June and July.

Calyx, small, 5-parted. *Corolla*, tubular, with 5 spreading lobes, shorter than the clammy, sticky tube. *Stamens*, 5, with long, protruding, red filaments. The *anthers* open by a round, terminal pore. *Style*, hairy. *Fruit*, a 5-celled capsule. *Flowers*, large, showy, deliciously fragrant, in clusters, which grow from early spring flower-buds of numerous, overlapping scales. Six to 12 blossoms springing from the same point, all on a short stalk, make a corymb-like cluster. At the base of each flower-stalk there are bract-like scales. The tube is beset with clammy, viscous, brown hairs.

This plant takes readily to cultivation, and our florists have in



PALE LAUREL (*Kalmia glauca*)

bloom about Easter time great pots of magnificent azalea blooms to mingle warmth and fire with the soft, pale, cold, Easter lilies. Maine to Florida, not far from the coast.

109. Pink Azalea. Pinxter-flower. Swamp-pink

R. nudiflorum has bright, pink flowers appearing very early in April, before the leaves of the shrub are fairly out. This is similar to the white azalea, without the sticky calyx-tube, and less fragrant than *R. viscidum*. Both fill our swampy woods with beautiful bloom in their season. Upon each appear "May-apples," an edible, pulpy excrescence, formerly supposed to be the work of insects, now admitted to be a legitimate growth, a modified bud. Says Mr. Gibson, in his inimitable way,

"The May-apple, which hangs among the clusters of the wild, fragrant, pink swamp-azaleas, has no mission in the world except to melt in the mouth of the eager, thirsty small boy. He knows little and cares less what it really is. He only knows that it beckons him as he passes through the May woods, and its cool, translucent, pale-green pulp is like balm to his thirsty lips. How it makes the corners of my jaws ache with thirsty yearning as I think of it! and what a pink whiff of the swamp May-blooms its memory brings!"—*Sharp Eyes*.

110. Great Laurel. American Rose-bay

R. maximum has leaves thick and leathery, with stiff, turned-back margins, evergreen, oblong or broadly elliptical, glossy green (when old, rusty brown), 4 to 8 inches long, on hollow, flattened petioles. Time, July.

Calyx, 5-parted. *Corolla*, tubular. *Stamens*, 10.

A near relative to the azalea, with great broad bunches of blossoms, white or pink, the petals spotted. Corolla 1 or 2 inches across. In cultivation the flower becomes very large, and is of white, yellow, pink, and red colors, one of the finest shrubs of our city parks. I have found its large, shiny leaves and showy blos-



WHITE ALDER. SWEET PEPPER-BUSH. ALDER-LEAVED
CLETHRA. (*Clethra alnifolia*)

(See page 520)

soms wild on the borders of lakes in New Jersey. It is low and spreading, growing in clumps in moist, cold, shady places. In the Southern States, where it is more common, it attains a height of 20 to 25 feet. Stem grayish, and leaf-stalks yellow or yellowish green, covered with a hoary down. Common through the Alleghanies, from New York to Georgia; rare in New England.

III. Labrador Tea

Lèdum latifòlium.—*Family*, Heath. *Color*, white. *Leaves*, evergreen, oblong or elliptical, alternate, entire, margins turned back, with reddish wool underneath, on short petioles. *Time*, June.

Calyx, 5-toothed. *Corolla* of 5 distinct, oblong, spreading petals. *Stamens*, 5 to 10. *Style*, white, turning red.

A shrub 2 or 3 feet high, whose leaves, when crushed, exhale a pleasant, tea-like fragrance. The flowers are small, in flat, terminal bunches, arising from the centre of a scaly bract which is resinous-dotted. It grows in moist woods, on hillsides, in bogs, from New England to Pennsylvania, and northward.

112. White Alder. Sweet Pepper - bush. Alder-leaved Clethra

Clethra alnifolia.—*Family*, Heath. *Color*, white. *Leaves*, toothed from below the middle to the apex, entire towards the base, alternate, sharp-pointed, ovate or wedge-shaped. *Time*, July and August.

Calyx of 5 sepals united into a cup, which closes around the ovary. *Corolla* of 5 spreading petals. *Stamens*, 10, of unequal length, with arrow-shaped anthers, which are upright in the bud, turned downward in the flower. *Flowers* very fragrant, almost too sweet, in long terminal, erect spikes, remaining long on the bush before withering. They are followed by dry, 3-celled capsules.

A beautiful shrub, 2 to 8 feet high, seeking wet soil by slow streams, massing in thickets. Near the coast, from New England to Virginia and southward.



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SPREADING DOGBANE (*Apocynum androsaemifolium*)

(See page 522)

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C. acuminata is a Southern large shrub or small tree, 10 to 20 feet high, found in the Alleghany Mountains, southward to Georgia. Oval, pointed, finely toothed leaves are 3 to 7 inches long. Petioles rather short, slender. Flowers sweet-scented, in drooping racemes, with long bracts. *Time*, July and August.

114. Spreading Dogbane

Apocynum androsaemifolium.—*Family*, Dogbane. *Color*, pale pink. *Leaves*, opposite, oval, pointed, often with red petioles and veins. *Time*, June and July.

Calyx, 5-parted. *Corolla*, 5-lobed, bell-shaped, with triangular bodies below the throat, opposite the lobes. *Stamens*, 5, with short filaments situated on the base of the corolla. *Stigma*, sessile, 2-lobed. Fruit, long and slender pods. Seeds furnished with a tuft of long silky hairs. Bark composed of tough fibres. *Flowers*, few and small, like tiny bells, in terminal cymes.

A loosely branched, spreading shrub, growing in light, moist, or dry soil, everywhere, more northward.

115. Indian Hemp

A. cannabinum is a shrub 2 or 3 feet high, with closely clustered, erect, greenish-white flowers at the ends of the branches, overtopped by the oblong, ovate, lance-shaped, or slightly heart-shaped leaves.

A common and variable bush, growing on banks of streams.

116. Fever - bush. Spice - bush. Benjamin - bush.
Wild Allspice

Lindera Benzoin.—*Family*, Laurel. *Color*, greenish yellow. *Leaves*, alternate, 2 to 5 inches long, broad near the apex, pointed, tapering to the base, short-petioled, entire, the mid-

rib often dividing the leaf unequally, turned backward, pale beneath, softly hairy along the margin, spicy and aromatic in odor and taste. Leaf-buds scaly. *Time*, March and April.

Stamens and *pistils* in different flowers. *Calyx* of 6 sepals, greenish yellow, petal-like. *Corolla*, none. Sterile blossoms, with 9 stamens in 2 or 3 rows, all with large, 2-celled anthers, the inner row of filaments glandular at base. The pistillate flowers have a roundish ovary, surrounded by many rudimentary stamens. *Flowers*, peduncled, 3 to 6, clustered along the branches, the cluster subtended by a 4-leaved involucre. *Fruit*, at first retaining the style in a little pit at its apex, dropping this when ripe, and becoming a large, red, oval drupe.

A graceful, tall bush, 4 to 12 feet high, smooth-stemmed, with brittle branches. The yellow flowers appear before the leaves. Found in moist woods, from New England to Michigan, and southward.

To this family belongs the aromatic sassafras-tree, sometimes a shrub, with similar flowers.

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L. melissaefolia, 2 to 5 feet in height, has oblong leaves, obtuse or heart-shaped at base, with young branches and leaves softly downy, and few umbels of flowers.

North Carolina to Florida, in low, wet grounds.

118. Leatherwood. Moosewood

Dierca palustris.—*Family*, Mezereum. *Color*, light yellow. *Leaves*, alternate, oval, or inversely ovate, almost smooth. *Time*, April.

No *corolla*, but a colored, tubular, funnel-shaped, 4-toothed *calyx*. 4 long and 4 short *stamens*, inserted on the calyx, stand out from the flower. *Fruit*, a reddish berry. The numerous flowers emerge, before the leaves, from a thick, scaly bud, which remains as an involucre, and later gives rise to a leafy branch.

The shrub has exceedingly tough bark, which was once used for thongs by Indians ; but the wood is soft, white, and brittle.

Found in moist, rich woods in all the Atlantic States and westward.

119. American Mistletoe

Phoradendron flavescens.—*Family*, Mistletoe. *Color*, of stems, yellowish green; of berry, white. *Leaves*, opposite, leathery, thick, 1-ribbed, entire, oval or oblong, blunt, with short petioles, 1 to 2 inches long. *Time*, May to July.

Staminate flowers, with 3-lobed calyx, and 1 stamen with a 2-celled sessile anther at the base of each lobe. Pistillate flowers, a single berry-like ovary, surrounded by a 3-lobed calyx. *Fruit*, a fleshy berry. *Flowers*, in axillary clusters.

Shrubs parasitic on trees, especially the tupelo and red maple, from central New Jersey southward. The mistletoe sold so much on our city streets at Christmas time is *Viscum album*, imported from England. It grows on many fruit and forest trees, especially the apple-tree, being not specially injurious to them, the Lombardy poplar alone being exempt. It bears yellow flowers in February or March, and ripens fruit the next autumn. Birdlime is derived from the viscid pulp of the berries. Birds are the propagators of this parasite, since they eat the berries and wipe their bills upon the branches of trees, leaving a seed to germinate. It was held sacred by the ancient Druids, when found, as it seldom is, growing upon an oak.

120. Small Mistletoe

Razoumófskya pusilla, or *Arceuthobium pusillum*, is a singular parasitic plant on spruce twigs in northern parts of New Hampshire to northern New York, and in the Pocono region of Pennsylvania. It is small, less than 1 inch long, consisting of roundish, somewhat branched, brown or greenish, fleshy, smooth stems, scattered over the host plant like excrescences. Flowers of 2 kinds, sometimes in different plants. Staminate flowers, with a 2 to 5-parted fleshy calyx with an equal num-

ber of stamens, an anther sessile on each lobe, opening by a round slit. Pistillate flowers, with a 2-parted calyx. Fruit, a fleshy, ovoid berry.

Named after a Russian botanist.

121. Bayberry. Waxberry

Myrica Carolinensis.—*Family*, Bayberry. *Color*, of catkins, green. *Leaves*, inversely lance-shaped, narrow at base, toothed above, shining, stiff, pleasantly fragrant, 2 to 4 inches long. *Time*, May.

A familiar shrub, found along the coast from Nova Scotia to Florida. The 2 kinds of flowers are in separate catkins, each with a bract and second pair of bractlets. The pretty leaves have a pleasant fragrance, owing to resinous drops on both sides. The nut-like fruit bears grains of wax, which used to be collected by country people, melted down and burned as candles.

Sandy soil, near the sea-shore; also found in bogs in New Jersey and Pennsylvania.

122. Sweet Gale

M. Gale has greenish flowers in catkins, which appear in early spring, before the long, narrow, obtuse, wedge-shaped, mostly entire leaves.

A fragrant, woody, tenacious shrub, 4 or 5 feet high, with bark something like black birch, often small-dotted. The stiff, hard heads of nuts formed from the fertile catkins of flowers might be tiny pine cones. Each nutlet, under the magnifying-glass, shows 3 points, 2 being made from "scales" which cover the seed from the base. Small resinous bits of wax (seen only under the glass) dot the nutlets. The cones, $\frac{1}{2}$ inch long, are crowded together on the fruiting branch. A shrub of the swamps from Maine to Virginia.

Robert Beverly, in *History of Virginia* (published 1705), states that "at the mouths of their rivers, and all along upon the sea and bay, and near many of their creeks and swamps, the myrtle grows, bearing a berry of which they make a hard, brittle wax of

a curious green color, which by refining becomes almost transparent. Of this they make candles, which are never greasy to touch, and do not melt with lying in the hottest weather; neither does the snuff of these ever offend the sense like that of a tallow candle, but, instead of being disagreeable, if an accident put a candle out, it yields a pleasant fragrance to all who are in the room, insomuch that nice people often put them out on purpose to have the incense of the expiring snuff."

123. Sweet Fern

Comptonia peregrina, or *Myrica asplenifolia*, is the favorite common, low shrub whose leaves are cut into long, lance-shaped, fern-like divisions; when crushed, pleasantly fragrant. They wilt quickly after being picked. *Time*, April and May.

The fertile flowers are in ball-like catkins, the fruit bears a little hard green nut, surrounded by 8 long, awl-shaped, persistent green scales. In the sterile catkins the scales are pointed, heart- or kidney-shaped below.

Found in all our woods and on our hillsides, in light soil.

124. Low Birch

Bétula pumila.—*Family*, Birch. *Leaves*, broad, oval, roundish, sometimes narrowed at base, coarsely toothed, prominent veins reaching to the teeth, short-petioled, pale green below, $\frac{1}{2}$ to $1\frac{1}{2}$ inches long. *Time*, May and June.

Many flowers in bracted catkins of 2 sorts, without corolla. Pistillate catkins peduncled, about 1 inch long, with 2 or 3 flowers in the axils of 3-lobed bractlets. Staminate flowers 3 together, of 2 stamens, surrounded by a 4-toothed, membranous calyx, with 2 bractlets lying underneath. Fruit a small winged nut.

A shrub found in bogs, 2 to 15 feet high, with brown bark on twigs, the young branches and leaves softly downy and bristly. From New England to New Jersey, and westward.

125. Glandular or Scrub Birch

B. glandulosa is a Northern species, found in the mountains of New England, New York, and far to the northward. It is a low shrub 1 to 4 feet high, with erect, smooth branches, dotted with resinous, wart-like glands. Leaves roundish, less than an inch long, crenately toothed, petioled.

126. Smooth Alder

Alnus rugosa or *serrulata*.—*Family*, Birch. *Color*, greenish. *Leaves*, oval or inversely ovate, narrowed at base, rounded at apex, rather thick, very finely serrulate, 3 to 5 inches long, short-petioled, straight, regularly veined. *Time*, April.

The flowers of this shrub come in clustered catkins earlier than the leaves; sterile catkins elongated, drooping; fertile, short and thick. These are formed one summer, remain uncovered through the winter, and are developed the next.

The shrub grows on hillsides and in wet places, as borders of streams, where it makes close thickets. Farther south it attains the size of a small tree, usually 5 to 20 feet high.

127. Green or Mountain Alder

A. Alnobétula, 2 to 10 feet high, has oval or ovate, finely serrulate leaves, 2 to 5 inches long, softly downy on the veins, short-petioled. Catkins appearing with the leaves, the pistillate from scaly buds, slender-peduncled, short, crowded; staminate slender, naked, 1 to 2 inches long.

Newfoundland to Massachusetts, and westward.

128. Speckled or Hoary Alder

A. incana sometimes becomes a small tree, but is usually a shrub from 8 to 20 feet high. Leaves finely serrulate, with some of the teeth larger than the others, pale green, whitish, downy or dotted beneath, with the veins prominent on the lower surface, dark green above. Catkins appearing from the

naked buds before the leaves, the pistillate about $\frac{1}{2}$ inch long, the staminate 3 inches long, or less.

Found in wet places in southern New York, Pennsylvania, and northward.

129. Hazel-nut

Corylus Americana.—*Family*, Birch. *Color*, greenish. *Leaves*, oval or ovate, heart-shaped or rounded at base, long-pointed at apex, evenly and finely toothed, smooth above, soft beneath, thin, short-petioled. *Time*, March and April.

Staminate flowers in catkins at the ends of the old twigs (of the previous season), coming long before the leaves, 3 to 4 inches long, each flower consisting of 4 or more stamens and 2 bractlets, without calyx. Pistillate flowers in clusters at the end of this season's branches, consisting of a calyx, a 2-celled ovary, a short style, and 2 stigmas. Underneath are 2 large bractlets, which in fruit enlarge and cover the edible nut, growing beyond it, leaf-like, fringed, and torn around the edges. Shrub 4 to 8 feet high, leafy, branched.

In dry thickets, from Maine to Florida, and westward to Kansas.

130. Beaked Hazel-nut

C. rostrata differs from the last in having broader leaves, with their serrulate margins regularly incised, hairy on the veins beneath. The involucral bractlets surrounding the nuts unite at the summit and are prolonged into a bristly, tubular beak, much longer than the fruit, torn at the apex.

Common, like the preceding, throughout all the Atlantic States.

The filbert is a European species (*C. avellana*), whose nuts, ripening in October, grace our Thanksgiving table. One species of hazel-nut becomes a tree, 50 feet in height (*C. colurna*).

131. Prairie Willow

Salix humilis.—*Family*, Willow. *Color*, greenish or red-

dish. *Leaves*, long, inversely lance-shaped, pointed at base, petioled, 2 to 4 inches long, the margins slightly turned back, dark green and softly downy above, often grayish-woolly underneath.

Flowers in catkins, appearing much earlier than the leaves, the pistillate about 1 inch long, without perianth, but attended by 1 bract; staminate of 2 stamens on long filaments. Capsule much longer than its pedicel.

Shrub 2 to 8 feet high, growing in dry soil throughout the Atlantic States. This species frequently bears leafy cones on the ends of branches, produced probably by insects.

132. Glossy Willow. Shining Willow

S. lucida is a tall shrub, 8 to 15 feet, or sometimes a small tree, 20 feet high, with ovate, lance-shaped, sharply and finely toothed leaves, long and tapering at the apex, green, glossy on both sides, 3 to 5 inches long, on stout, short petioles. *Stipules* rather prominent, heart-shaped, glandular.

Flowers, in catkins, leafy-bracted. The staminate are feathery, with 5 stamens in each flower; pistillate denser, harder, longer, 2 to 3 inches long, often remaining far into the spring. Twigs smooth, polished, yellowish or dark green. *Time*, April and May.

One of our prettiest willow shrubs, of regular, bushy form, found in swamps and along the borders of streams, from New Jersey northward.

133. Dwarf Gray Willow. Sage Willow

S. tristis is the smallest of the genus, a tufted species, 1 or 2 feet high. Leaves very narrow, 1 to 2 inches long, whitish below, green and smooth above, with revolute margins, on short petioles. *Stipules* inconspicuous. Sessile catkins appear before the leaves, few-flowered, small, $\frac{1}{2}$ inch long or less. Staminate flowers consist of 2 stamens on smooth fila-

ments; pistillate of 2 sessile stigmas raised above the ovary on a thread-like stalk.

From Maine to Florida, in dry soil.

134. Bog Willow. Pussy Willow. Glaucous Willow

S. discolor has broader leaves than the preceding, finely serrate near the middle, entire near the apex and base, bright green above, smooth and whitish below, with petioles and conspicuous stipules, at least on the younger leaves, partly heart-shaped, as long as the petioles. Catkins sessile, coming before the leaves in early spring, soft, hairy, glossy, the pistillate 2 to 3 inches long.

A shrub about 15 feet high, variable in form, found in low meadows or swamps, common, from Maine to Delaware.

135. Silky Willow

S. sericea bears rather long-petioled, finely toothed, narrow leaves, 3 to 4 inches long, very soft and silky, especially when young. Catkins sessile, with a few leafy bracts at their base, about 1 inch long. The leaves turn black or dark brown when dried. Young twigs red or purplish.

In swamps or beside streams, from Maine to Virginia.

Many willow-trees attain very large size, and live a long time. About 160 species of the genus are known, existing mostly in the temperate and arctic regions. Very few are found in tropical countries. There is considerable difference of opinion among botanists as to the naming and defining of the species, one alone having over 100 synonyms. They grow mostly in wet places, and so are of use in holding the soil of sloping river banks together, also for forming wind-breaks. The osier willows are used for baskets and wicker-work. It is said that Alexander Pope planted the first willow in England, by taking a twig which was in a box of figs from the Levant and thrusting it into the ground.

136. Broom Crowberry

Corèma Conrãdii.—*Family*, Crowberry. *Color*, purple and

brown. *Leaves*, long, needle- or heath-like, clustered or scattered. *Time*, April.

Flowers, staminate and pistillate, in terminal heads, surrounded by several scaly bractlets, without calyx and corolla. Stamens, usually 3, with long, purple, tufted filaments and brownish anthers, showy. *Style*, 3 - divided, with sometimes toothed stigmas. Fruit, a small, dry drupe, enclosing 3 or 4 nutlets.

A small, curious shrub, from 6 inches to 2 feet high, found in a few places near the coast, Long Island, New Jersey, and Massachusetts to Newfoundland, where it makes, says Thoreau, "pretty green mounds, 4 or 5 feet in diameter by 1 foot high—soft, springy beds for the wayfarer."

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136. Broom Crowberry (<i>Corema Conradii</i>), purple and brown. |
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9. Parasities

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| 119. American Mistletoe (<i>Phoradendron flavescens</i>), white. | 120. Small Mistletoe (<i>Razoumofskya pusilla</i> , or <i>Arceuthobium pusillum</i>). |
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GLOSSARY OF BOTANICAL TERMS

(Some of these are taken from *Recreations in Botany*)

- Achene* or *akene*.—A small, dry, indehiscent, 1-seeded fruit.
- Anther*.—That part of the stamen which contains the pollen, usually consisting of 2 cells which, when the pollen is ripe, open by a slit.
- Axil*.—The upper angle at the junction of stem and branch.
- Bloom*.—A soft, whitish, powdery appearance on fruit, leaves, etc.
- Bract*.—A small leaf at the base of or upon the flower-stalk.
- Calyx*.—The outer flower-leaves, usually green.
- Capsule*.—The dry, dehiscent fruit of a compound pistil, as in poppy.
- Chaff*.—Bracts or scales which become dry and thin. Used especially of a scale accompanying the small flowers of the composite family.
- Claw*.—The long, narrow base of a petal, as in pinks.
- Cleistogamous*.—Closed fertilization. Applied to inconspicuous blossoms which are self-fertilized before the bud opens, as in stemless violets. Such plants bear other more showy blossoms, which are often fruitful.
- Corolla*.—The flower-leaves standing next within and above the calyx.
- Corymb*.—A cluster of flowers, flat or convex at top, blossoming first at the circumference, last at the centre.
- Crenate*.—With roundish teeth.
- Cyme*.—A cluster of flowers, flat or convex at top, the central ones blossoming first; those around the margin last.
- Cymose*.—With the general inflorescence of the cyme.
- Dehiscent*.—Splitting open of capsules into regular valves, for the discharge of seeds. Dehiscent fruits contain more than one seed.
- Disk* or *disc*.—The central part of composites, as distinguished from ray-flowers.
- Drupe*.—A stone-fruit, as the cherry and plum.

Filament.—The stamen-stalk bearing the anther. It is not an essential part of the flower.

Floret.—Diminutive of flower. Applied to the small flowers of composite plants.

Glabrous.—Smooth, without hairs or bristles.

Inflorescence.—Flowering; having reference to method, and where there are several flowers, their relation to each other and the stem.

Involucel.—When an umbel of flowers is compound, the bracts under the secondary umbels are called involucels.

Involucre.—Leaves, sometimes petal-like, as in flowering dogwood, surrounding a single flower or a group of small flowers. Generally bract-like and green, as in the parsley family.

Keel.—Applied to the two united petals in the front part of such flowers as those of the pea and bean.

Labellum or *lip*.—The name of the large petal of orchids.

Leaflet.—When a leaf is cut down to the mid-rib it is a compound leaf, each division is a leaflet. Such a compound leaf is that of the common locust.

Legume.—The fruit of the pea and bean family, usually opening on both sides.

Lip.—The upper petal of orchids. Also applied to each division of divided flowers, as mints or figworts.

Lyrate.—Lyre-shaped. Leaves cut, with a large central, terminal and smaller ones along the side, as in some mustards.

Mid-rib.—The central, large vein of a leaf.

Ovate.—Egg-shaped. Broader above, tapering below.

Palmate.—Leaves spreading from the tip of a common stalk.

Panicle.—A compound flower-cluster, irregularly branching. Grasses and lilies-of-the-valley are examples.

Papilionaceous (corolla).—The peculiarly shaped flowers of the papilionaceous family, having standard, wings, and keel.

Pappus.—The calyx of composites; the down of thistles and dandelions.

Pedicel.—The stalk of each flower of a cluster of flowers.

Peduncle.—The naked stalk of a flower. When flowers are clustered on their common stalk is the common peduncle.

Perianth.—The floral envelopes (sepals and petals), taken collectively.

Petal.—A division of the corolla.

Petiole.—The foot-stalk of a leaf.

Pinnate leaves are compound leaves, in which the leaflets are arranged on a common stalk, which answers to the mid-rib of a simple leaf.

Pistil.—The central, seed-bearing flower organ, including ovary, style, and stigma, the style not being an essential part.

Placenta.—That part of the ovary which bears ovules or seeds.

Raceme.—Numerous flowers on separate pedicels, upon an elongated axis. Beneath each flower is, usually, a small bract.

Rachis.—The principal axis or stem in an elongated spike or cluster of flowers.

Receptacle.—The tip of the flower-stalk, upon which the floral parts are regularly arranged.

Rootstock.—A prostrate or underground stem, usually erect at apex, rooting at nodes.

Samara.—A winged, indehiscent fruit, as of the maple.

Scape.—A flower-stalk arising from the root, without true leaves.

Sepal.—Division of the calyx.

Serrate.—Like the edge of a saw, teeth pointing forward.

Serrulate.—Finely toothed.

Sessile.—Sitting. Of a leaf or flower destitute of stalk.

Spadix.—A spike of flowers with a fleshy, long axis.

Spathe.—A large leaf-like bract, enfolding a flower cluster or single flower.

Spike.—Sessile, or nearly so, small flowers arranged upon an elongated axis.

Stamen.—The pollen-bearing organ of the flower, standing next outside the pistil, consisting of anther and filament, the latter not always present.

Standard.—The posterior, large petal of the flower of the pulse family, enfolding the others in bud.

Stem.—The leaf-bearing part of a plant; erect, prostrate, or subterranean.

Stipules.—The appendages which sometimes grow on the opposite sides of a leaf, at the base of its petiole. Sometimes they sheathe the stem, as in buckwheat. Sometimes, as in clover-leaves, they extend along the leaf-stalk. Often they are like small leaves or bracts.

Umbel.—The kind of inflorescence which includes several flowers springing from the same point.

Umbellet.—Smaller, secondary umbels.

Wings.—The side-petals of the papilionaceous corollas.

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Steironema ciliatum, 156.
Stellaria borealis, 142.
 longifolia, 236.
 media, 234.
 uliginosa, 36.
Streptopus amplexifolius, 393.
 roseus, 393.
Strophostyles angulosa, 424.
 peduncularis, 422.
Stylophorum diphyllum, 357.
Stylosanthes elatior, 422.
Suaeda linearis, 106.
Symplocarpus foetidus, 85.

Tanacetum vulgare, 267.
Taraxacum officinale, 246.
Tecoma radicans, 460.
Tephrosia hispida, 420.
 spicata, 419.
 Virginiana, 419.
Tetragonotheca helianthoides, 434.
Teucrium Canadense, 162.
Thalictrum dioicum, 277.
 polygamum, 137.
 purpurascens, 278.
Thaspium aureum, 322.
 barbinode, 7.
Thymus Serpyllum, 269.
Tiarella cordifolia, 284.
Tiedemannia rigida, 54.
Tillaea simplex, 7.
Tipularia discolor, 347.
 unifolia, 347.
Tragopogon porrifolius, 267.
Trichostema dichotomum, 218.
 lineare, 218.
Trientalis Americana, 376.
Trifolium agrarium, 240.
 arvense, 240.
 pratense, 265.
 procumbens, 240.
 repens, 265.
Trilisa odoratissima, 326.

Trillium cernuum, 400.
 erectum, 400.
 erythrocarpum, 402.
 grandiflorum, 400.
Triosteum perfoliatum, 364.
Trollius laxus, 32.
Tussilago Farfara, 14.
Typha angustifolia, 112.
 latifolia, 84.

Unifolium Canadense, 396.
Urtica dioica, 255.
 gracilis, 255.
 urens, 255.
Utricularia cornuta, 126.
 inflata, 124.
 resupinata, 124.
 subulata, 124.
 vulgaris, 124.
Uvularia grandiflora, 396.
 perfoliata, 394.
 puberula, 396.
 sessilifolia, 396.

Vaccinium arboreum, 508.
 Canadense, 510.
 corymbosum, 510.
 macrocarpon, 67.
 Oxycoccus, 66.
 Pennsylvanicum, 510.
 vacillans, 510.
 virgatum, 508.
Vagnera racemosa, 398.
 stellata, 398.
 trifolia, 398.
Valisneria spiralis, 126.
Veratrum viride, 171.
Verbascum Blattaria, 212.
 Lychnitis, 212.
 Thapsus, 249.
Verbena angustifolia, 436.
 hastata, 216.
 urticaefolia, 216.
Vernonia noveboracensis, 148.
Veronica Anagallis, 18.
 officinalis, 338.
 peregrina, 250.
 scutellata, 70.
 serpyllifolia, 214.
 Virginica, 379.
Viburnum acerifolium, 501.
 cassinoides, 502.
 dentatum, 502.

- Viburnum lantanoides*, 501.
 Opulus, 503.
 prunifolium, 502.
 pubescens, 502.
Vicia Americana, 449.
 Caroliniana, 449.
 Cracca, 448.
 hirsuta, 240.
 sativa, 240.
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 • *Viola blanda*, 140.
 • *Canadensis*, 360.
 • *canina* (var. *Muhlenbergii*), 361.
 • *lanceolata*, 140.
 • *odorata*, 262.
 • *palmata*, 179.
 • *pedata*, 412.
 • *primulaefolia*, 142.
 • *pubescens*, 309.
 • *rostrata*, 360.
- Viola rotundifolia*, 360. †
 sagittata, 413.
 striata, 142. •
 tricolor, 262. •
 var. *cucullata*, 179.
Vitis aestivalis, 447.
 cordifolia, 447.
 Labrusca, 446.
 riparia, 447.
 rotundifolia, 447.
- Wolffia*, 132.
- Xanthium Canadense*, 244.
 spinosum, 244.
 strumarium, 244.
- Xyris Caroliniana*, 84.
 fimbriata, 84.
 flexuosa, 82.
 torta, 438.

COLOR AND MONTH INDEX TO CHAPTER I

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

Blue or Purplish Blue	Yellow	White or Pale Blue or Pale Lilac	Green or Greenish Yellow
2 VI-VIII	1 IV-VI	4 IV, V	13 VII-IX
18 VI-VIII	3 VI-VIII	10 VI, VII	33 VII-IX
19 VI-VIII	5 VII	11 VII	35 IV-VI
21 VI, VII	6 VII-IX	20 VII-IX	36 VI
22 VI, VII	9 V, VI	23 VIII	7 VII-VIII
24 VIII	12 VI, VIII	25 VII-IX	8 VII-IX
26 VII, VIII	14 VIII, IX	34 VII-IX	Pink or Red
27 VII	15 VIII, IX	37 VI-VIII	17 VIII
28 VII	16 IV, V	38 VII, VIII	32 VIII, IX
29 VI-VIII			
30 VII, VIII			
31 VIII			

COLOR AND MONTH INDEX TO CHAPTER II

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

	Blue	Red or Pink <i>(continued)</i>	White <i>(continued)</i>	Yellow <i>(continued)</i>
	70 VI-VIII	18 VII, VIII	43 VII, VIII	51 VII, VIII
	97 V, VI	28 VIII	44 VIII	52 VII, VIII
		29 VIII	45 VIII	53 VIII
	Mixed	33 VII, VIII	46 VII, VIII	58 VII, VIII
		37 VIII	47 VI-VIII	59 VIII
	96 VI	38 VII, VIII	48 VI-VIII	60 VII, VIII
	104 III, IV	39 VIII	49 VI-VIII	61 VII, VIII
		66 VII	50 VI-VIII	62 VIII, IX
	Brown	72 VI-VIII	64 VI, VII	71 VIII, IX
	102 VI-VIII	73 VII, VIII	65 VI	91 VII
		74 VII, VIII	67 VI-VIII	98 VI, VII
		83 VI, VII	68 VII, VIII	99 VI-VIII
	Purple	84 VI, VII	75 VII, VIII	100 VI-VIII
	7 VI	85 V, VI	79 VI-VIII	101 VI-VIII
	20 VI-VIII	93 VII, VIII	81 VII	
	30 VII, VIII		88 VII	
	31 VI-VIII		90 VII	
	55 VIII			Greenish
	56 VIII	White		23 V, VI
	63 VI-VIII	4 V	Yellow	24 IV, V
	69 VI-VIII	5 V	1 IV, V	25 VI-VIII
	94 V, VI	6 V, VI.	2 VI-VIII	34 VII, VIII
	95 VI, VII	9 V, VI.	3 VI-VIII	57 VI, VII
	103 IV, V	10 VI-VIII	8 VI-VIII	76 VI-VIII
		11 V-VII	13 VI-VIII	77 VI-VIII
		26 VII, VIII	16 VI-VIII	78 VI, VII
	Red or Pink	27 VI-VIII	19 VII, VIII	79 VI, VII
	12 VII, VIII	32 VI-VIII	21 VII, VIII	82 VII
	14 VIII, IX	40 VI-X	22 VI-VIII	86 VI, VII
	15 VIII	41 VIII	35 VIII, IX	87 VI, VII
	17 VII, VIII	42 VIII	36 VII, VIII	89 VII
				92 VII

COLOR AND MONTH INDEX TO CHAPTER III

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

Yellow	Purple (<i>continued</i>)	Greenish (<i>continued</i>)	White (<i>continued</i>)
1 VI-VIII	12 VII-IX	37 VII-X	40 V
3 V, VI	15 VIII, IX	42 VII	41 V
14 VIII, IX	17 VIII, IX		
27 V-VII	18 VIII, IX	Brown	Red or Pink
29 V	21 VIII, IX	44 VI, VII	8 VI-VIII
43 VII-IX	22 VI		11 VII, VIII
		White	23 VIII
Blue			24 VIII
16 VIII	Greenish	5 V-VIII	25 VIII, IX
	4 VI-VIII	6 V-VIII	26 VIII, IX
Purple	30 VI-VIII	7 V-VIII	32 VI-VIII
2 VII-IX	31 VI-VIII	10 VIII, IX	33 VI-VIII
9 VI, VII	34 VII-IX	13 VI-VIII	36 IX
	35 VII-IX	20 VI-VIII	38 VII-IX
		28 V, VI	39 VII-IX

COLOR AND MONTH INDEX TO CHAPTER IV

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White	White <i>(continued)</i>	Yellow <i>(continued)</i>	Purple
1 V-VIII	29 VII, VIII	16 IX, X	4 VI-VIII
6 VI-VIII	31 V, VI	19 VI-VIII	21 VI-VIII
9 VI-IX	33 VII-X	20 VI-VIII	
10 VI, VII		22 VI-VIII	
11 VI, VII	Yellow	23 VI-VIII	
12 VII, VIII	2 V-VII	27 VI-VIII	Greenish
17 VI-VIII	3 VI, VII	32 IV, V	13 VI
18 VI-VIII	5 VI-VIII	Blue	15 V-VII
26 VI-VIII	7 VI-VIII	25 VII-IX	24 VII
28 VII, VIII	8 VI, VII		30 V, VI

COLOR AND MONTH INDEX TO CHAPTER V

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White	Yellow	Red or Pink <i>(continued)</i>	Blue or Lilac
1 VII-IX	2 VI-VIII	25 VIII	19 VII
6 IV-VI	3 VI-VIII	27 VIII	35 VII-IX
7 VI, VII	4 V-VIII	34 VI-VIII	36 VII
9 IV, V	5 VI-VIII	41 VI-VIII	39 VII, VIII
11 IV, V	15 VII, VIII	46 VIII, IX	40 IX
14 VI-VIII	16 VII	47 VII, VIII	43 VII-IX
23 VII-IX	17 VI	48 VII-IX	44 VII-IX
28 VI-VIII	21 VI-VIII		52 VI-VIII
30 VII	37 VI-VIII		53 VI-VIII
31 VII	38 VI-VIII		
42 VIII	45 VI	Purple	
49 VII	58 VI, VII	18 VI-VIII	
50 IX, X	59 VIII	20 V-VII	
51 VII, VIII		26 VIII	Green
54 VII	Red or Pink	32 VIII	
55 VII	13 VI-VIII	56 VII	61 VII, VIII
60 V-VII	22 VI	57 VI-VIII	62 V-VII

COLOR AND MONTH INDEX TO CHAPTER VI

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White		White (continued)	Yellow (continued)	Blue or Purplish (continued)			
1	VI-VIII	95	V-VII	62	VII, VIII	32	VIII
4	IV, V	98	VII, VIII	63	VI-VIII	42	VIII
5	IV, V			66	VI-VIII	43	VIII, IX
10	VI-VIII			72	VI-VIII	46	V
12	VI, VII		Yellow	76	IV-VI	54	VIII
13	V, VI	2	V-VIII	77	VI, VII	60	VII-IX
14	V-VII	6	IV-VIII	78	V-VIII	61	VI-VIII
15	V-VII	7	VI-VIII	79	VI-VIII	68	VIII
18	V	17	VI-VIII	80	VI-VIII	69	VIII
28	VII	19	VI, VII	99	VI-VIII	70	VII
29	VI-VIII	20	V-VII			71	VII
38	VII	21	VII, VIII		Red or Pink	73	VI, VII
39	VII	22	VI-VIII	3	VI-VIII	81	VI, VII
40	VIII, IX	23	VI-IX	11	VI-IX	82	VI-IX
41	VIII, IX	24	VI, VII	26	VIII	85	VII, VIII
44	VIII, IX	25	VI, VII	27	IX, X	86	VII, VIII
45	VII-IX	33	VIII	31	VIII	87	VII, VIII
47	VIII	34	VIII	57	VII-IX	88	VII, VIII
52	VIII, IX	35	VIII	67	VI-VIII	89	VI-VIII
53	VI-VIII	36	VIII	83	VII, VIII	91	VII
64	VIII, IX	37	VIII	94	VIII-IX	92	VI-X
65	VIII, IX	48	VIII	96	VII-IX	93	VIII, IX
74	VII	49	VII			95	V-VII
75	V-VIII	51	VIII, IX		Blue or Purplish		
79	VI-VIII	55	V, VI	8	V		
80	VI-VIII	56	VII-X	9	V		Greenish
84	VII, VIII	58	VII, VIII	16	VI-VIII	50	VIII, IX
90	VII, VIII	59	VIII	30	V, VI	97	VII-IX

COLOR AND MONTH INDEX TO CHAPTER VII

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

Yellow	White	Red or Pink	Purple or Blue <i>(continued)</i>
1 VI-VIII	7 V-VII	9 VI-VIII	56 V-X
2 V-VII	8 VI-VIII	10 VI, VII	71 VI-X
3 V-VIII	10 VI, VII	11 VI-VIII	
4 VI-VIII	12 VI-VIII	42 VI-VIII	Green
5 VI-VIII	13 V-VIII	44 VII, VIII	
6 VI-VIII	14 V-VII	45 VII, VIII	34 VI-VIII
16 V-VII	15 VII, VIII	61 VI-VIII	36 VI-IX
17 VI-IX	18 VI-VIII	67 V-IX	37 VI-IX
19 VI-VIII	21 VI-XI	68 VI-X	57 VIII-X
20 VII, VIII	28 VI-IX	70 VII-IX	58 VIII, IX
22 III-XI	29 VI-VIII		59 VIII-X
25 V-VII	30 VII	Purple or Blue	60 V-VIII
26 V-IX	31 VII-X	23 VI-VIII	63 VI-VIII
35 VI-IX	32 VI-VIII	24 VI-IX	64 VI-VIII
38 VI-VIII	33 VI, VII	27 V-VIII	65 VI-VIII
39 V-VIII	40 VI-IX	43 VI, VII	66 V-VII
41 III-V	49 VII-IX	47 VI-VIII	72 VII-IX
46 VI-VIII	50 VI-X	48 VI-VIII	73 VII-X
51 VI-VIII	53 IV-VI	54 V-VIII	74 VI-X
52 VI-VIII	62 VII-IX		75 V-IX
55 VI-VIII			
69 VII-IX			

COLOR AND MONTH INDEX TO CHAPTER VIII

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White	Yellow	Red or Pink	Blue or Purple <i>(continued)</i>
1 V-VIII	4 V-VII	2 VII-IX	12 VI-VIII
7 VI-VIII	9 VIII-X	5 VII	14 VI, VII
8 VI-VIII	13 VII	6 VI-VIII	21 VI-VIII
11 V-VIII	17 VI-IX	8 VI-VIII	23 VI-IX
15 VI-VIII	18 VI-VIII	20 VI-VIII	24 VI-VIII
26 VI-VIII	19 VI-VIII	27 VI-VIII	25 VI, VII
28 VIII	22 VI-VIII	34 IV, V	
32 V, VI	31 VII-IX	Blue or Purple	Green
33 V, VI	35 VII	3 IV, V	29 V-IX
	36 VII, VIII	10 VI-VIII	30 V-VIII

COLOR AND MONTH INDEX TO CHAPTER IX

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White	Yellow	Purple or Blue	Greenish or Greenish White <i>(continued)</i>
6 V, VI.	5 V-VII	3 V, VI	19 VI
9 V-VIII	21 VI	12 VII	34 VII
10 IV-X	22 VI-VIII	14 VI	38 VI-VIII
11 VI, VII	23 V	27 VIII	43 VII, VIII
15 VI-VIII	25 VIII, IX	33 VI, VII	
16 IV-VI	26 VIII, IX	36 VIII, IX	
18 IV, V	31 V-VIII	37 V	
20 V, VI	32 VI-VIII	39 VIII, IX	Mixed Red and Yellow
24 VII, VIII	38 VI-VIII		1 IV-VI
28 VI-VIII	41 V, VI		4 V-VIII
29 VIII, IX	42 V, VI		
30 III-V	Red or Pink	Greenish or Greenish White	
37 V	13 V-IX	2 IV, V	Red and White
39 VIII, IX	37 V	7 IV, V	35 VI
	40 V, VI	8 VI-VIII	

COLOR AND MONTH INDEX TO CHAPTER X

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White	Yellow <i>(continued)</i>	Red or Pink <i>(continued)</i>	Purple or Blue <i>(continued)</i>
2 VI-VIII	37 VI-VIII	65 VI-VIII	83 VII, VIII
4 IV, V	38 VI-VIII	66 IV, V	84 VII, VIII
5 III-VI	48 VIII-IX		85 VIII
10 V	49 IX, X	Purple or Blue	86 VIII, IX
11 IV, V	50 IX, X	1 V	87 VIII
12 IV, V	51 VIII, IX	6 III-V	88 VIII
32 V-VIII	52 VIII, IX	7 III, IV	91 VII, VIII
33 VI-VIII	56 VIII	20 IV-VII	94 VI-VIII
36 V, VI	57 VIII, IX	23 VI, VII	95 VII, VIII
39 VII	58 VII, VIII	24 VI-IX	
40 IV-VI	59 VII, VIII	25 VII-IX	Greenish or Greenish White
43 VI, VII	60 VII-IX	26 VIII, IX	2 VI-VIII
44 VII, VIII	61 VII-IX	27 VI-IX	3 VI-VIII
45 VII, VIII	67 VI	28 VII-IX	14 VI
47 VIII, IX	71 V-VII	29 VII-IX	41 V, VI
63 IV, V	73 VII, VIII	30 VIII	42 VII, VIII
65 VI-VIII	74 VII, VIII	31 V-VI	70 VI-VIII
66 IV, V	75 VII, VIII	46 IX, X	95 VI-VIII
84 VII, VIII	76 VI-VIII	53 VIII-IX	96 VII, VIII
89 VI-VIII	92 VIII	54 VIII, IX	
90 VI-VIII	93 VI-VIII	55 VIII	Mixed Yellowish Brown
99 V-VII		62 VIII, IX	78 V, VI
	Red or Pink	68 V, VI	
Yellow	15 V, VI	69 VI-VIII	Brownish, Purple, and White
8 V, VI	16 IV, V	70 VI-VIII	
9 IV, V	17 IV, V	72 VII	97 VII-IX
13 V	20 IV-VII	77 VIII, IX	
18 VII, VIII	21 V	79 IV-V	Orange and Red
19 VI-VIII	22 VII	80 VI-VIII	98 VII, VIII
34 VII-IX	63 IV, V	81 VI-VIII	
35 VII-X	64 VI	82 VI-VIII	

COLOR AND MONTH INDEX TO CHAPTER XI

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White	White (continued)	Red or Pink (continued)	Greenish, or Greenish White, or Yellowish Green (continued)
1 VII	100 V-VI	99 IV-VI	61 VI-VIII
3 IV, V	101 IV-VI	101 IV-VI	62 VII
4 IV, V	104 III-V		64 VII-IX
5 IV, V		Blue or Purple	65 VII-IX
9 IV	Yellow	2 VII	67 V-VII
10 IV	8 V	3 IV, V	78 VIII
11 V	12 V	13 IV, V	79 VII, VIII
14 IV, V	22 VI	15 V-VII	85 V-VII
16 VI-VIII	31 VII, VIII	17 VI-X	97 V-VII
18 VI, VII	33 VII-IX	26 VI	98 V, VI
19 VI	34 IX	30 VI, VII	109 IV-VI
20 IV, V	38 VIII	50 V	110 IV-VI
21 VI	60 VII-IX	53 V	
23 V	75 VI-VIII	57 VII	Mixed Pink and White
24 V	76 VI	58 VI-VIII	27 VI
28 VI, VII	82 VI	59 VI-VIII	41 V
29 VI-VIII	87 V, VI	66 V-VII	Red and Yellow
32 VII, VIII	89 V, VI	70 VII-IX	49 VI, VII
35 VIII	90 IV-VI	71 VII-IX	Brown and Purplish
36 VIII	91 V, VI	72 VII	68 V, VI
37 VIII	92 V, VI	74 VI	Purple and White
39 VII-IX	94 VI	80 VII, VIII	69 V, VI
40 VI	95 V-VII	86 V-VII	73 III-V
41 V	103 III-V	99 IV-VI	83 IV-VI
42 VI	Red or Pink	104 III-V	Brown
43 VI-VIII	17 VI-X	105 VI-X	63 V
45 V	20 IV, V	106 VI-X	Purple and Yellow
46 V, VI	27 VI	107 V-VIII	81 V, VI
47 V	42 VI	108 VI-VIII	Pink, White, and Purple
50 V	44 VII, VIII	Greenish, or Greenish White, or Yellowish Green	84 VI, VII
54 VI-VIII	46 V, VI	6 IV, V	
55 VI-VIII	51 V, VI	7 IV, V	
56 VII, VIII	52 VI	25 VI	
77 VII, VIII	86 V-VII	48 VI-VIII	
88 V, VI			
93 V, VI			
96 V-VII			

COLOR AND MONTH INDEX TO CHAPTER XII

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

White	Yellow <i>(continued)</i>	Red or Pink	Blue or Purple <i>(continued)</i>
1 III-V	9 VI-VIII	49 VI	44 VIII, IX
6 VI-VIII	10 VI-X	57 VI-VIII	50 VII
7 VI	11 VI-IX	13 V-VIII	51 VII, VIII
14 V, VI	12 VI-X	16 VIII, IX	52 VII, VIII
27 VIII, IX	18 VII	17 VII-IX	53 VII, VIII
28 VIII, IX	19 VII	21 VII	54 VII, VIII
34 VIII, IX	29 VI-VIII		
35 IX	32 VII-IX	Blue or Purple	Greenish White and Purple
45 IX, X	33 VII-IX	4 V	15 VI-XI
46 VIII, IX	36 VIII, IX	5 V	31 VI-VIII
55 VIII-X	37 VIII, IX	17 VII-IX	Lemon and Rose
56 VIII, IX	38 VIII, IX	22 V-VIII	20 VI, VII
	39 VIII, IX	23 VIII, IX	White and Purple
Yellow	40 VIII, IX	24 VIII	30 VI-VIII
2 VI-VIII	41 VIII-IX	25 VIII, IX	
3 VI-VIII	42 VII-IX	26 VIII, IX	
8 VI-VIII	47 VIII, IX	43 VIII, IX	
	48 VIII, IX		

COLOR AND MONTH INDEX TO CHAPTER XIII

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming.]

	White	Yellow or Greenish Yellow <i>(continued)</i>	Blue or Purple <i>(continued)</i>	Greenish <i>(continued)</i>
	1 VII, VIII	32 III, IV	40 VI, VII	11 VI
	6 VI-X	36 VI-VIII	42 VI-IX	12 V, VI
	16 V-VII	37 VI-VIII		13 VI
	22 V	38 VI-VIII	Red or Pink	46 VII, VIII
	23 V	45 V		47 VIII, IX
	25 V-VII	49 VII	6 VI-X	50 IV-VI
	26 VII-IX		21 VIII, IX	51 V-VII
	27 VII-X		30 V	52 IV-VI
	33 VI	Blue or Purple	31 VII-IX	53 IV-VII
	34 VI	2 V	34 VI	
	39 VI-VIII	3 VI	40 VI, VII	Chocolate
	48 VIII-X	4 V-VIII	41 VI	19 VIII, IX
		15 VI-VIII	Greenish	44 V
	Yellow or Greenish Yellow	17 V-VIII	7 VII	Red and Yellow
	14 VI	18 VII	8 VI	29 VI, VII
	24 V-VII	20 VII-IX	9 VI	43 VII, VIII
	28 VI, VII	21 VIII, IX	10 V, VI	
		30 V		

COLOR AND MONTH INDEX TO CHAPTER XIV

[The figures on the left refer to the numbers of the flowers in the chapter. Roman numbers indicate the months of blossoming. Most of our shrubs are white-flowered.]

White	White <i>(continued)</i>	Yellow	Greenish <i>(continued)</i>
1 VI-VIII	71 V, VI	3 V, VI	58 V
5 V-VII	72 IV, V	4 V, VI	59 V-VII
8 VI	73 VI, VII	6 VII-IX	60 V, VI
9 V, VI	74 V, VI	7 VII-IX	62 V, VI
10 V, VI	75 V	26 VI	91 V, VI
11 VI, VII	76 V, VI	29 VI-VIII	121 V
12 V	77 V, VI	30 VII, VIII	122 V
13 V	78 VI	67 VIII-X	123 IV, V
14 V	79 VI	82 V	124 V, VI
15 IV-VI	80 IV, V	83 V	125 V
16 V, VI	81 VI	85 VI-VIII	126 IV
22 VII	84 VI	116 III, IV	127 IV
23 V	86 VII, VIII	117 IV	128 IV
32 V	87 VIII-X	118 IV	129 III, IV
33 IV, V	88 V		130 III, IV
34 IV	89 VI	Purple	131 III, IV
35 V	90 VI	2 IV, V	132 IV, V
36 V	91 V, VI	17 VI	133 IV, V
37 IV, V	92 V, VI	18 VI	134 III, IV
38 V, VI	93 VI†		135 III, IV
40 VI*	94 VI	Brown	
42 VI	95 VI	66 VI	Pink
43 V, VI	96 VI		31 V, VI
44 V, VI	97 VI	Purple and Brown	39 VII-IX
45 V-VII	98 V	136 IV, V	41 VI, VII
46 VII, VIII	99 VI		47 VI-IX
52 IV, V*	100 VI†	Greenish	48 VI-VIII
53 V	101 VI	19 VI	49 V-VII
54 IV, V	102 VI	20 V, VI	50 VI, VII
55 IV, V	103 V, VI	21 V, VI	51 VI, VII
56 V	104 IV, V	24 VI	105 V, VI
61 IV, V†	105 V, VI	25 VI	106 VI
63 VI	108 VI, VII	27 VI-VIII	107 VI
64 VI	110 VII	28 VI-VIII	109 IV, V
65 VI, VII	111 VI	57 VI	110 VII
68 VI	112 VII, VIII		114 VI, VII
69 V-VII	113 VII, VIII		
70 VI	115 VI		

* White and Pink.

† Greenish White.

‡ Pinkish White.

THE END

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