

E. J. Parkin

The "How to Know" Series

How to Know the Wild Flowers

By M. PARKINSON



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HOW TO KNOW THE
WILD FLOWERS

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BY
M. PARKINSON
Editor, CANADIAN TRACHER



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PREFACE.

Now when every school has its nature class, an acquaintance with our common wild flowers is expected of both teachers and children. In order that all may familiarize themselves with the "flower friends" of our woods and fields, some inexpensive manual is a necessity. The absence of such a book is the only excuse for preparing this little volume.

The author puts forward no claim to originality. The matter has been selected, condensed and adapted with considerable care from the best known volumes on our flora.

The author would refer his readers to the following works for a fuller treatment of the subject, and at the same time would acknowledge his own indebtedness to them.

The High School Botany: by H. B. Spotton (\$1.00).

This volume will enable the student to identify all Canadian flowering plants.

An Illustrated Flora of the Northern United States and Canada: by Britton and Brown (3 vols. \$9.00).

These volumes describe and give illustrations of 4162 different flowers. Identification is a certain and simple matter with the aid of this work. It will long remain the standard authority.

Nature's Garden: by Neltje Blanchan (\$3.00).

This gives a popular treatment of the subject. Profusely illustrated in colors. Every child becomes an enthusiast under the witchery of its pages.

How to Know the Wild Flowers: by Mrs. Wm. Starr Dana (\$1.75).

Another popular treatment; 156 illustrations.

A Guide to the Wild Flowers: by Alice Lounsberry (\$2.00).

A popular treatment; well illustrated.

The illustrations have been largely copied from the above works.

M. PARKINSON.

TORONTO, APRIL, 1905.



Skunk Cabbage (*Symplocarpus foetidus*).

Flowers—Minute, perfect, fetid; many scattered over a thick, rounded, fleshy spadix, and hidden within a swollen, shell-shaped, purplish-brown to greenish-yellow spathe, close to the ground, that appears before the leaves.

Leaves—In large crowns like cabbages, broadly ovate, often one foot across, malodorous.

Preferred Habitat—Swamps, wet ground.

Flowering Season—March and April.

Distribution—Nova Scotia to Ontario.

It is the hardiness of the skunk cabbage that appeals most to the flower hunter. Deny it who may, the skunk cabbage is the first flower of the year, long in advance of all the others. Does it not well typify Canadian pluck and hardihood?

If you visit the nearest colony of skunk cabbages, while the drifts and ice still lie on the swamp, you will find smoothly rounded openings in the snow, at the bottom of which you will see the tops of skunk cabbage hoods. Plunging a thermometer into one of these openings, you will find a difference of from 4 to 7 degrees between the temperature of the plant and that of the surrounding air. Truly that is a hardy plant which can generate heat enough to not only keep off the attacks of Jack Frost, but melt out a breathing hole for itself through the ice and snow of March.

The entire plant is impregnated with an odor that combines a suspicion of skunk, putrid meat and garlic. This is supposed to have been supplied by Nature to attract certain flies which delight in foul odors. These flies enter the hood of the skunk cabbage, seek the florets on the rounded spadix within, become dusted over with pollen, and fly out to carry this pollen to another cluster of florets, thus bringing about cross-fertilization.

After the time of flowering, the vivid green crowns of leaves, often of great size, spread themselves to the air of May.



HEPATICA (*Hepatica triloba*). LIVERWORT. LIVER-LEAF.

(1) Whole plant. (2) Section of flower. (3) Fruit.

Flowers—Blue, lavender, purple, pinkish, or white; 6-12 petal-like, colored sepals (not petals as they appear to be); numerous stamens; pistils numerous; 3 small sessile leaves, forming a whorl under the flower; might be mistaken for a calyx.

Leaves—3-lobed and rounded, leathery, evergreen; new leaves appearing after flowers.

Preferred Habitat—Woods; light soil on hillsides.

Flowering Season—March and April.

Distribution—Nova Scotia to Manitoba.

THE HEPATICA.

7

The drifts of winter may still lie in the shaded valleys, but on the sunny slopes

"The liver-leaf puts forth her sister blooms
Of faintest blue ———"

It has pushed up its delicate stems through its rusty-looking leaves that have remained over the winter, as though impatient to be the first to greet the spring. Even under the snow itself it bravely blooms, wrapped in fuzzy furs as if to protect its nodding buds from cold. After the never-tardy skunk-cabbage, that ought scarcely to be reckoned among true flowers, the hepatica is the first blossom to appear. Winter sunshine, warming the hillsides and edges of the woods, opens its eyes,

"——blue as the heaven it gazes at,
Startling the loiterer in the naked groves
With unexpected beauty; for the time
Of blossoms and green leaves is yet afar."

"There are many things left for May," says John Burroughs. "But nothing fairer, if as fair, as the first flower, the hepatica. I find I have never admired this little firstling half enough. When at the maturity of its charms, it is certainly the gem of the woods. What an individuality it has! No two clusters alike; all shades and sizes. A solitary, blue-purple one, fully expanded and rising over the brown leaves or the green moss, its cluster of minute anthers showing like a group of pale stars on its little firmament, is enough to arrest and hold the dullest eye."



TRAILING ARBUTUS (*Epigaea repens*). MAYFLOWER. GROUND LAUREL.

Flowers—Pink, fading to nearly white, very fragrant, few or many in clusters at ends of branches. Corolla salver-shaped, the slender, hairy tube spreading into 5 equal lobes; 10 stamens; 1 pistil with a column-like style and a 5-lobed stigma.

Stem—Spreading over the ground; woody, the leafy twigs covered with rusty hairs.

Leaves—Alternate, oval, rounded at base, smooth above, more or less hairy below, evergreen.

Preferred Habitat—Light, sandy loam in woods, especially under evergreen trees, or in mossy, rocky places.

Flowering Season—March to May.

Distribution—Nova Scotia to the North-West Territories.

THE TRAILING ARBUTUS. 9

Can words describe the fragrance of the very breath of spring—the delicious commingling of the perfume of the arbutus, the odor of the pines, with the smell of snow-soaked soil just warming into life ?

Mayflower seems an ill-chosen name for this plant, whose waxy blossoms and delicious breath are among the earliest prophecies of perfume-laden summer. But in the New England States, at least, the name seems to have become established. We are told that it was so called by the Pilgrim Fathers, whether, because found first in May, or in memory of the historic vessel which had brought them to the "stern New England coast," we may never know. However, we do not look for the arbutus in May ; but in April, under the dead, brown leaves of last year ; while, yet, little melting patches of last winter's snow may be found in shaded nooks.

It grows in limited areas, but when found is quite abundant. Its blossoms, now pure white, again delicately pink, sometimes expose themselves freely to the sunlight, and seem to give out their fragrance the more generously for its warmth ; but oftener we find them hiding beneath the dead, fallen leaves.

The arbutus cannot be coaxed to grow in our gardens. It is wild as a hawk, an untamable creature, that soon pines to death when brought into contact with civilization.

"Within the woods
Tufts of ground laurel, creeping underneath
The leaves of the last summer, send their sweets
Upon the chilly air."



SPRING BEAUTY (*Claytonia virginica*).

Flowers—White, veined with pink, or all pink, several borne in a terminal loose raceme, the blossoms mostly turned one way. Calyx 2 sepals; corolla 5 petals slightly united at the base; 6 stamens, one inserted at the base of each petal; style 3-cleft.

Stem—Weak, erect or reclining, springing from a deep, tuberous root.

Leaves—Stem leaves 2, opposite, linear, shorter than the basal leaves, which are 3-7 inches long.

Preferred Habitat—Moist woods, open groves, low meadows.

Flowering Season—March to May.

Distribution—Nova Scotia to the Rocky Mountains.

What flower is so bashful, so pretty, so flushed with rosy shame, so eager to defend its modesty by closing its blushing petals when carried off by the despoiler, as the spring beauty? These dainty blossoms expand to the sunshine alone; at nights and on cloudy days they close their delicate petals to protect their nectar and pollen from rain and pilferers. Plucked by ruthless hands, the whole plant droops, the blossoms close with indignation; nor will any coaxing but a combination of hot water and sunshine induce them to open again.

Notice the exquisite tracing of pink lines converging near the base of each petal, and ending in a yellow blotch. These serve as pathfinders for the bumblebees.

One wonders, as he examines a newly opened flower, with its five stamens surrounding its three cleft style, how the busy pollen carriers could do other than sprinkle pollen from the anthers of a blossom on its own pistil and thus bring about self-fertilization—the bane of the flower race. But on closer examination we find that, when the pollen of a certain flower is in condition for removal by bees and flies, the stigmatic surfaces of the three-cleft style are tightly pressed together, and not a grain of pollen dust can touch them. And when the anthers of this flower have shed their pollen, the three stigmatic arms branch out to receive the fertilizing dust carried to them from the anthers of younger flowers by their busy friends.



BLOODROOT (*Sanguinaria Canadensis*). INDIAN PAINT. RED
PUCCOON.

Flowers—Pure white, golden centred. 1-1½ inches across, solitary, at the end of a smooth, naked scape 6-14 inches high. Calyx of 2 early, falling sepals; corolla of 8-12 early falling petals; stamens numerous; 1 pistil, short, composed of 2 carpels.

Leaves—Rounded, palmate, deeply 5-9 lobed.

Rootstock—Thick, fleshy, several inches long, filled with orange-red juice.

Preferred Habitat—Rich woods, low hillsides.

Flowering Season—April to May.

Distribution—Nova Scotia to Manitoba.

How carefully Nature has guarded the blossom of the bloodroot! In early April the curled-up leaf, wrapped in its papery sheath, pushes its firm tip through the moist earth and dead last-year leaves. In this silvery-green leaf-cloak lies enfolded the solitary, erect flower-bud. When the perils of early life are passed and a safe height is reached, the deeply lobed leaf unfurls; the bud slowly rises from its embrace, sheds its sepals, and slowly swells into an immaculate golden-centred blossom that, poppy-like, offers but a glimpse of its fleeting loveliness ere it drops its snow-white petals and is gone.

How fair it is only those who have seen it unfold its pure, spotless beauty can know. Its very transitoriness enhances its charm. Were the flowers less ephemeral, were we always certain of finding its colonies starring the woodland, would it be so bewitching? Here to-day, if there comes a sudden burst of warm sunshine; gone to-morrow, if the spring winds, rushing through the nearly leafless woods, are too rude to the fragile petals. We must watch the hill-sides and wood-borders with jealous care if we would not have it escape us altogether.

Wound the plant in any part, and there flows an orange-red juice. This was dropped by old-fashioned mothers on lumps of sugar and administered when their children had coughs or colds. Is it not strangely incongruous that the juice of this plant, with its enchantingly pure blossom, should have been used as a war-paint by savage Indians?



DOG'S-TOOTH VIOLET (*Erythronium americanum*). YELLOW
ADDER'S TONGUE.

Flowers—Solitary, light-yellow, sometimes spotted at base, 1-2 inches long, nodding from the summit of a naked scape, rising 6-9 inches high, from an ovoid corm. Perianth bell-shaped, of 6 petal-like, distinct segments; stamens 6, inserted one on each division of the perianth; style club shaped.

Leaves—Only 2, unequal, usually mottled with brown, 3-8 inches long, narrowing into clasping petioles.

Preferred Habitat—Moist, open woods, brooksides.

Flowering Season—April to May.

Distribution—Nova Scotia to the Rocky Mountains.

THE DOG'S-TOOTH VIOLET. 15

The sheltered hill-side is already starred with the blood-root and anemone when we are first delighted by a glimpse of the yellow adder's tongue. We have wandered into one of those hollows in the wood, watered by a clear gurgling brook in which the trout hide, and which must ever appeal unresistingly to the country-loving heart, when there, where the pale April sunlight filters through the leafless branches, nod myriads of these yellow "trout-lilies," each one guarded by a pair of sentinel-like leaves.

In the afternoons, when the fragile spring beauty has closed its starry blossoms, the hive-bees, the great droning *Bombus*, and the common yellow butterflies, come to court this nodding damsel with the yellow petticoats. Guided by the lines of dark dots to the nectaries at the base of the flower, clinging with slumbrous music to the pendent stamens while they suck, or fall out, these busy visitors become dusted with the golden pollen only to carry it to the style of an adjoining plant. Thus cross-fertilization is insured. Crawling pilferers, who would rob our dainty maiden of her sweets, and bring no needful service in return, seldom think it worth their while to slip and slide on the smooth flower stalk, and risk an ignominious tumble when it curves to allow the flower to nod.

This flower, in common with its race, loves the sun. Watch it turn its stalk to follow the great orb of light and warmth during the day. Notice its gently closed bell when vespers have been chimed, and night's curtain has been rolled down and pinned with the evening star.



ANEMONE (*Anem'one nemoro'sa*). WOOD ANEMONE. WIND FLOWER

(1) Whole plant. (2) Fruit. (3) Carpel. (4) Section of Ovary.

Flowers—Solitary, about one inch across, white or purplish without. Calyx of 4-9 oval, petal-like sepals; no petals; stamens and carpels numerous.

Stem—Simple, slender, 4-9 inches high, from thick horizontal rootstocks.

Leaves—On slender petioles, in a whorl of 3-5 below the flower, each leaf 3-5 parted. A long petioled 5-parted leaf appears direct from the rootstock later than the flowering stem.

Preferred Habitat—Woodlands, hillsides, light soil, partial shade.

Flowering Season—April to June.

Distribution—Nova Scotia to Rocky Mountains.

THE ANEMONE (WIND FLOWER). 17

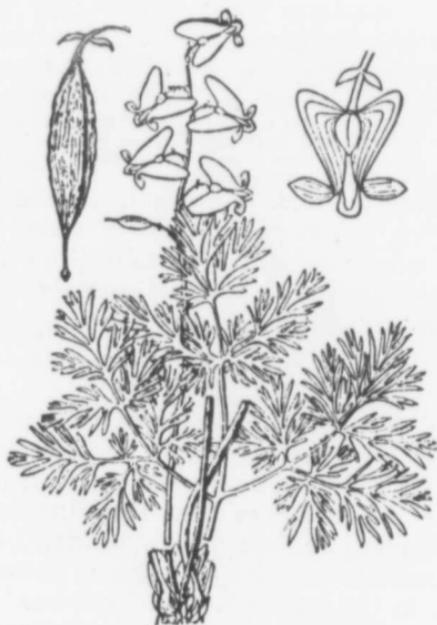
Venus, weeping over the body of the slain Adonis, according to the Greek tradition, sprinkled nectar on the blood, and these beautiful flowers arose, where her tear-drops fell. Or, according to another poetical legend, Anemos, the wind, employs these exquisitely delicate little star-like namesakes as heralds of his coming in the early spring, while woods and hill-sides still lack foliage to break his rude force.

"Wind flowers we since these blossoms call,
So very frail are they,
Tear-drops from Venus' eye let fall,
Our wood anemone."

The appropriateness of the name, wind flower, will not be questioned by one who in the feathery foliage of the spring woods has seen the tremulous beauty of the slender-stemmed anemones.

"— Within the woods,
Whose young and half transparent leaves scarce cast
A shade, gay circles of anemones
Danced on their stalks."

What different emotions are called up at sight of this fragile flower! The doctor thinks of naught but its acrid and poisonous juice. The European peasant flees past the innocent blossoms, believing the very air is tainted by them. The Chinaman calls it the "death flower," and plants it on the graves of his loved ones. While the Romans, centuries ago, ceremonially plucked the first anemone of the year, with an incantation supposed to guard against fever. To us the slender anemone, anchored in the light soil by its horizontal rootstock, trembling and bending before the wind on its pliable stem which no blast can break, shall ever be an emblem of the goodness of God, who careth for even the humble flower of the forest.



DUTCHMAN'S BREECHES (*Dicentra cucullaria*).

Flowers—White, tipped with yellow, nodding in a one-sided raceme, borne on a slender scape 5–10 inches high, springing from a bulbous root. Corolla of 4 petals, in 2 pairs, outer pair with spreading tips and deep spurs, inner small with spoon-shaped tips uniting over the anthers.

Leaves—Finely cut, thrice compound, pale beneath, all radicle.

Preferred Habitat—Rich, rocky woods.

Flowering Season—April to May.

Distribution—Nova Scotia to Manitoba.

THE DUTCHMAN'S BREECHES. 19

The soft, warm spring days load the air with a subtle fragrance, and from the rich leaf mould between the crevices among the rocks springs this strikingly refined, but coarse-named flower. Nothing could be more singularly fragile and spring-like than its heart-shaped blossoms that hang trembling along the slender flower stalk like pendants from a lady's ear. Its finely dissected, lace-like leaves add to the impossibility of associating this ethereal plant with the staid old Dutchman's trousers, and we cannot help concluding that the often applied name of "White Hearts" would be infinitely prettier and much more appropriate.

Owing to the depth of its spurs, in which the nectar is secreted, only the long-tongued female bumblebee can taste of this flower's sweets. We see her hanging from the white heart, thrusting her long tongue first into one spur, then into the other, pressing her head forward to drain the last luscious drop, and in the effort dusting her hairy underside with the pollen of younger flowers, which she will carry to the maturing stigma of an older flower on her next flight.

But what are those jagged holes, circular openings, and clean-cut slits which we notice in so many of the nectar-laden spurs? If we watch we shall see the male short-tongued bumblebee ripping open the first, the deft yellow-bodied wasp puncturing the second, while the skilled carpenter bee is busy cutting the third, in order that these pilferers may steal the nectar of which Nature has otherwise denied them possession.



CRINKLE-ROOT (*Dentaria diphylla*). TOOTHWORT. PEPPER-ROOT.

Flowers—White, about one-half inch across, in a terminal, loose cluster.

Stem—8-15 inches high, leafless below, bearing two leaves above.

Rootstock—5-10 inches long, crinkled, toothed, fleshy, crisp, edible.

Leaves—The 2 leaves are opposite, or nearly so, compounded of 3 ovate and toothed leaflets; sometimes larger, broader leaves on stouter petioles spring direct from the rootstocks.

Fruit—Flat, lance-shaped pods an inch long.

Preferred Habitat—Rich leaf mould in woods.

Flowering Season—May.

Distribution—Nova Scotia to Lake Superior.

Down by the side of the little brook, that trickles from the hillside, you will find the crinkle-root, with its three-divided leaves, and its white, cress-like flowers springing from the moist, rich, black mould. The pretty, white, cross-shaped flowers, clustering on the tops of the smooth stems, give an added charm to the shaded valley.

Country children, on their way to school through the woods, dig up the long, white, crisp roots of the toothwort to eat with their bread and butter at noon recess ; and many a picnic party of grown-ups have nibbled at it with their sandwiches, fancying that its pungent, woodland flavor added a new relish to their holiday.

Another crinkle-root (*Dentaria laciniata*), found throughout the same range, has an equally edible rootstock. It is scarcely toothed, but somewhat jointed, giving its little tubers the appearance of beads strung into a necklace. The white or pale, purplish-pink, cross-shaped flowers, are loosely clustered at the end of an unbranched stem, bearing a whorl of three thrice-divided leaves. This variety appears somewhat earlier in the spring than the *Dentaria diphylla* described above, and may always be readily distinguished by its whorl of three leaves. The larger, longer petioled leaves that rise directly from the rootstock are rarely developed at flowering time.

We should sadly miss the pretty flowers from the May woods should they learn the trick of wandering and stray away from us.



COMMON BLUE VIOLET (*Viola cucullata*).

- Flowers*—Borne singly on a scape, irregular, the lower 2 of the petals spurred; sepals 5, persistent; stamens 5.
Stem—Low, rising from a short, thick rootstock.
Leaves—Cordate or reniform, on long, slender petioles.
Preferred Habitat—Woods, marshes, and meadows everywhere.
Flowering Season—April to June.
Distribution—Nova Scotia to Manitoba.

THE COMMON BLUE VIOLET. 23

The violet is the best-beloved, as well as the best-known of the early wild flowers.

"Violets!—deep-blue violets!
April's loveliest coronets!
There are no flowers grow in the vale,
Kiss'd by the dew, woo'd by the gale,—
None by the dew of the twilight wet,
So sweet as the deep-blue violet."

The violet links itself with our childhood days. Fair and slender it grew beneath the pink-and-white blossoms of the old orchard, among the long grasses of the mysterious swamp, and close to eager, childish feet, along the well-remembered lane. But perhaps we love it best because it ran rife in the old graveyard.

"——Where like an infant's smile over the dead
A light of laughing flowers among the grass is spread."

Royal in color, and royal in the lavishness of its profusion, it blossoms everywhere—in woods, waysides, meadows, and marshes; but if we would see the violet in all its glory let us seek the cool, shady dells where the carpet of soft mosses is flecked with the sunlight filtering through the greenery of the elms and water maples—there we shall find the blossoms richer, and fresher, and more beautiful.

An interesting feature of the violet family is their cleistogamous flowers. These are small and inconspicuous blossoms, which never open, but which are self-fertilized, ripening their seeds in the dark. They are usually found near or beneath the ground, and are often taken for immature buds.



MARSH MARIGOLD (*Caltha palustris*).

Flowers—Bright, shining yellow, 1-1½ inches across, a few in terminal and axillary clusters. No petals; usually 5 (often more) oval, petal-like sepals; stamens numerous; many pistils without styles.

Stem—Stout, smooth, hollow, branching, 1-2 feet high.

Leaves—Mostly from root, rounded, broad, and heart-shaped at base, or kidney-shaped.

Preferred Habitat—Springy grounds, low meadows, swamps, river banks, ditches.

Flowering Season—April to June.

Distribution—Newfoundland to the Rocky Mountains

Doubtless this flower received its name (*Mary's Gold*) from its use in church festivals during the Middle Ages, as one of the blossoms devoted to the Virgin Mary.

"And winking Mary-buds begin
To ope their golden eyes,"

sing the musicians in Shakespeare's *Cymbeline*. We are told that those who have seen the watery Avon meadows in April, yellow and twinkling with marsh marigolds, when "the lark at heaven's gate sings," fully appreciate why the commentators have identified Shakespeare's Mary-buds with the *Caltha* of these and our own marshes.

Nothing could be more strikingly beautiful than a glimpse of one of our bogs in April, with the bright marsh marigolds huddled together in their little yellow islands. Nothing could be more beautifully musical than the sound of many honey-bees breakfasting on these flowers, sucking only enough nectar to aid them in storing pollen, or the snoring buzz of the great bumblebee feasting for his own benefit, not for the weal of his descendants.

Hawked about our city streets in tight bunches, these beautiful blossoms—crushed, wilted, with half their yellow sepals already dropped—are the most familiar signs of spring.

"Hark! Hark! the lark at heaven's gate sings,
And Phœbus 'gins arise,
His steeds to water at those springs
On chalic'd flowers that lies;
And winking Mary-buds begin
To ope their golden eyes;
With everything that pretty is—
My lady sweet, arise!
Arise, arise."

—*Cymbeline*



EARLY SAXIFRAGE (*Saxifraga Virginien'sis*).

Flowers—White, small, numerous, spreading into a loose panicle.
Calyx 5-lobed; petals 5; stamens 10.

Scape—4-12 inches high, naked, sticky, hairy.

Leaves—Centred at the base, rather thick, toothed.

Preferred Habitat—Hillsides, rocky woodlands.

Flowering Season—April to May.

Distribution—New Brunswick to Manitoba.

THE EARLY SAXIFRAGE. 27

The Saxifrage (*Saxum*—a rock ; *frango*—I break) received its name from the fact that it is often found rooted firmly in the clefts of rock which, therefore, appears to have been broken by this vigorous plant.

In April we notice its rosettes of fresh green leaves, and soon the rocky cliffs and bare hillsides begin to whiten with its blossoms. It slips into the woods quietly, with a timorous, hesitating beauty, as though fearful that if it made a noise or attracted too much attention, Jack Frost might send someone to punish the early spring visitor.

At first a small ball of green buds nestles in the leafy tuffet. Then upward pushes a naked scape covered with sticky hairs, opening its tiny, white, five-pointed star flowers as it ascends. Having reached its allotted height, it scatters its blossoms in a spreading cluster, tempting the small bees to visit its stores of nectar.

How wonderfully Nature has protected even this frail daughter from the attacks of crawling pilferers ! The ant, that tries to ascend to the wells of plenty in the blossoms above, finds his feet ensnared among the sticky hairs of the clammy scape, and soon gives up his marauding expedition in disgust. Anon, the flower's busy benefactor comes, dusts himself over with the pollen from a blossom, the stigma of which is not yet developed, only to carry the life-giving grains to the mature stigma of the next blossom visited, thus ensuring the cross-fertilization upon which the perpetuation of the race depends.



EARLY MEADOW RUE (*Thalictrum dioicum*).

Flowers—Purplish and greenish, the calyx of 4 or 5 petal-like sepals; stamens indefinite in number, with linear yellowish anthers drooping on hair-like filaments; pistils 4-14; stamens and pistils occurring on different plants.

Stem—Smooth, pale and glaucous, 1-2 feet high.

Leaves—Alternate, decomposed, leaflets with 5-7 rounded lobes.

Preferred Habitat—Open woods everywhere.

Flowering Season—April and May.

Distribution—Nova Scotia to the Rocky Mountains.

THE EARLY MEADOW RUE. 29

The graceful, drooping foliage of this plant, suggestive of maidenhair, is its chief charm. The masses of soft, feathery, greenish-white flowers, borne in an elongated panicle of numerous lateral corymbs or umbels, possess a chaste beauty.

This is our first example of a *dioecious* flower. In all the plants we have so far studied the stamens and pistils were found on the same blossom. Here we find the flowers of one plant bearing stamens only, and not far away another plant the flowers of which bear only pistils.

The flowers of the Meadow Rue produce no nectar ; they offer no showy corolla advertisement to catch the eye of passing insects ; therefore, Nature had to provide some other agent to carry the pollen from the male (staminate) flowers, to the female (pistilate) flowers. This agent was found in the wind. Now you see why the Meadow Rue, with its innumerable anthers swinging on long pliable filaments produces such a superabundance of very light, dry pollen. With such an agent of transfer the pollen must be very light and powdery, and also very abundant, for it must come down almost like rain to be certain of reaching the pistils of the female flowers, it may be, rods away.

How marvellous is the beneficence of the great Father of all, and His ways how past finding out!



FALSE MITRE-WORT (*Tiarella cordifolia*). FOAM-FLOWER.

Flowers—White, small, feathery, growing in a close raceme at the top of a high, naked scape. Calyx white, 5-lobed; petals 5, clawed; stamens 10, long-exserted.

Leaves—Long petioled, all from the rootstock, heart shaped, 3-lobed.

Preferred Habitat—Rich, moist woods.

Flowering Season—April to May.

Distribution—Nova Scotia to Manitoba.

FOAM-FLOWER.

A little boy whose sister ran to him with her hands full of the fuzzy, bright, white foam-flowers that she had gathered in the woods, threw them down in disgust, saying: "Sister, they have forgotten their clothes." Just so may we miss the accustomed foliage, and become indignant at the long, naked stems. But yet, when the small, white blossoms, massed in soft clusters, spot the woods like flecks of foam, we must admit that the graceful racemes are well named.

A relative, the true Mitre-Wort, or Bishop's Cap (*Mitella diphylla*) may be found flowering side by side with the *Tiarella*. Its delicate, crystal-like blossoms, so small that we need a lens to see them properly, are more suggestive of snowflakes than of mitres. The slender, wand-like clusters, the fine petals deeply cut like fringe, and the two leaves seated opposite each other near the middle of the stem, will make the distinction between *Mitella* and *Tiarella* easy, even for the novice.

If it should be your fortune to stray across a snowy island of foam-flowers, interspersed by the fragile wands of the bishop's cap, all lit up by a sunbeam strayed in from the outer world, giving the shadowy flowers a halo of radiant loveliness, you will stand transfixed before the vision of beauty and exclaim:

"Bless the Lord, O my soul; and all that is within me, bless His holy name."



WAKE-ROBIN (*Trillium erectum*).

Flowers—Solitary, dark, dull purple, or purplish red, on erect or slightly inclined footstalks. Calyx of 3 spreading sepals; corolla of 3 oval petals; stamens 6; style 3-cleft.

Leaves—In a whorl of 3, broadly ovate.

Preferred Habitat—Rich, moist woods.

Flowering Season—April to June.

Distribution—Nova Scotia to the Rocky Mountains.

In the early spring, some weeks after the jubilant, alert robins have returned from the South, this beautiful young creature unfurls its attractive blossom. We cannot, however, be very sympathetic with it, in spite of its good looks, as it repels us by its almost fetid odour.

Bees and butterflies, with delicate appreciation of color and fragrance, let this blossom alone, since it secretes no nectar. But this *ill-scented* trillium seems well adapted to the common green flesh-flies which would naturally be attracted to a flower resembling in color and odor a raw beefsteak of uncertain age. These little creatures, the flower furnishes with a free lunch of pollen in consideration of the transportation of a few grains to another blossom.

Far different from this carrion-scented flower, is its twin sister, the Large White Trillium (*T. grandiflorum*). Its great white stars, often more than two inches across, gleam from shaded wood borders or the banks of some swift-flowing stream. Possessed of a chaste, dignified beauty, it lacks only fragrance to place it among our choicest wild flowers.

By the rule of three all the trilliums, as the name implies, regulate their affairs. Three sepals, three petals, twice three stamens, three styles, a three-celled ovary, the flower growing out of a whorl of three leaves, makes the identification of the wake-robin a simple matter even to the novice in botanic art.

In the late summer watch the woods for its reddish fruit.



BELLWORT (*Uvularia grandiflora*).

Flowers—Lemon-yellow, bell-shaped, 1-1½ inches long, drooping singly from the tips of the branches. Perianth of 6 petal-like segments; 6 stamens; style 3-cleft.

Stem—Pale-green, naked or with one or two leaves below the fork.

Leaves—Perfoliate, oblong, oval or ovate.

Preferred Habitat—Moist, rich woods.

Flowering Season—April to June.

Distribution—Quebec to the Rocky Mountains.

Like some naughty little girl who is continually constrained to hide herself behind her nurse's apron, the bellwort droops behind the leaf its footstalk pierces. So the eye often fails to find it where so many showy blossoms arrest attention in the May woods. It would be much pleasanter for everybody if the bellwort would not hide away under its leaves quite so much.

Slight fragrance helps to guide the long-tongued female bumblebee to the pale yellow bell. The tips of the perianth divisions spreading apart very little and the flower hanging pendant, how is she to reach the nectar secreted at the base of each of its six divisions? Nature has provided a ladder to which she may cling. The perianth-segments are slightly granular within, and this proves for her a secure foothold. Now securely hanging from within the inhospitable flower, her long tongue can easily drain the sweets, and in so doing she receives the pollen which will be deposited on the stygmatic style branches of the next bellwort entered.



SPRING CRESS (*Cardamine rhomboidea*).

Flowers—White, clustered in a terminal raceme. Calyx 4 sepals; corolla 4 petals in the form of a cross; stamens 6.

Stem—6-18 inches high, erect, smooth, from a tuberous base.

Leaves—Basal ones rounded, on long petioles, upper leaves oblong or lance-shaped, short-petioled, or seated on the stem.

Fruit—Very slender, erect pods, tapering at each end, the pods rapidly following the flowers up the stem.

Preferred Habitat—Wet meadows, low ground, near springs.

Flowering Season—April to June.

Distribution—Nova Scotia to Manitoba.

Beside some trickling, sparkling stream we find pretty masses of the spring cress. How like borders of garden candytuft they look! How the drone of small bees fills the air with slumbrous music! They know as well as if books had told them that this plant belongs to the cross-bearing family.

The watery, biting juice of the cress by no means protects them from preying worms and caterpillars; but ants, the worst pilferers of nectar known, let them alone.

The purple cress (*Cardamine purpurea*) formerly counted a mere variety of the preceding, has now been ranked as a distinct species. Its purplish-pink flowers, found about cold, springy places, appear a week or two earlier than the white spring cress.

The Ladies' Smock (*Cardamine pratensis*), or Cuckoo-flower, lifts its larger and more showy white or purplish-pink blossoms, that stand well out from the stem on slender pedicels, above our watery bogs in May.

"Lady-smock all silver white"

now paint our meadows with delight, as they did the marshes of Avon in the days of Shakespeare. The light and graceful growth, the pinnately divided foliage, give this plant a special charm.

In olden time these cresses were supposed to be a valuable remedy in hysteria and epilepsy. Therefore, Linnæus gave them the name *Cardamine*, from two Greek words signifying heart-strengthening.



WILD GERANIUM (*Geranium maculatum*). WILD CRANESBILL.

Flowers—Pale, pink-purple, rather large, solitary or in pairs. Calyx 5 pointed sepals; corolla, 5 petals woolly at base; stamens 10.

Stem—1-2 feet high, hairy, slender, simple or branching above.

Leaves—Basal leaves, long-petioled, 3-5 parted. Stem leaves 2, opposite, shorter petioled.

Fruit—A slender capsule pointed like a crane's bill.

Preferred Habitat—Open woods, shady roadsides.

Flowering Season—April to July.

Distribution—Newfoundland to Manitoba.

In spring and early summer the open woods and shaded roadsides are abundantly brightened by these graceful flowers. They are of peculiar interest because it was from a study of the hairy corolla of the common wild geranium of Germany that Sprengel, the great naturalist, was first led to see the relationship existing between plants and insects, which finally caused him to say : "The wise Author of Nature has not made even a single hair without a definite design."

A hundred years before, Nehemiah Grey had said that it was necessary for pollen to reach the stigma of a flower in order that it might set fertile seed. Linnæus came to his aid with conclusive evidence to convince a doubting world that this was true. Sprengel made the next step forward by concluding that a flower was fertilized by insects carrying pollen from anther to stigma. But it was left for the great Darwin to show that cross-fertilization—the transfer of pollen from one blossom to the stigma of another blossom, not from anther to stigma of the same flower—is the one great end to which so much marvellous mechanism is chiefly adapted. Cross-fertilized blossoms defeat self-fertilized flowers in the struggle for existence. Self-fertilization is impossible in the case of the geranium, for each individual flower sheds its pollen before it has developed a stigma to receive any.

In cold, stormy, cloudy weather a geranium blossom may remain in the male stage several days before becoming female ; while on a warm, sunny day, when plenty of insects are flying, the change sometimes takes place in a few hours.



PARTRIDGE BERRY (*Mitchella repens*). SQUAW-BERRY.

Flowers—Waxy, white (pink in bud), fragrant, growing in pairs at the end of the branches. Calyx usually 4-lobed; corolla funnel formed; stamens 4, inserted on corolla throat.

Stem—Slender, trailing, 6-12 inches long, with numerous erect branches.

Leaves—Opposite, entire, short-petioled, evergreen.

Fruit—A small, red, edible, double berry-like drupe.

Preferred Habitat—Woods, not generally dry ones.

Flowering Season—April to June.

Distribution—Nova Scotia to the Rocky Mountains.

A carpet of these dark, shining, little ever-green leaves, spread at the foot of forest trees, whether sprinkled in May with pairs of waxy, cream-white, pink-tipped, velvety, lilac-scented flowers that suggest attenuated arbutus blossoms or with coral-red "berries" in autumn and winter, is surely one of the loveliest sights of the woods. Transplanted to the home garden, no woodland creeper rewards our care with greater luxuriance of growth.

The blossoms are dimorphous—that is, occur in two different forms on distinct plants. This is a wonderful provision of Nature to secure cross-fertilization. In one form the style is low within the tube, and the stamens protrude; in the other form the stamens are concealed, and the style, with its four spreading stigmas, is exerted. No single flower matures both its reproductive organs.

Short-tongued, small bees and flies cannot reach the nectar reserved for the blossom's benefactors, because of the hairs inside of the tube, which nearly close it; but larger bees and butterflies coming to suck a flower with tall stamens receive pollen on the precise spot on their long tongues that will come in contact with the sticky stigmas of the long-styled form visited later, and there rub the pollen off. Truly, how wise is Nature!

The essence of the woodland is embodied in the gentle sister blossoms, the pretty fruit, and the bright trailing stems. Many a merry meal to laughing, joyous boyhood has the pulpy, red berries supplied.



SOLOMON'S SEAL (*Polygona tum biflorum*).

Flowers—Whitish or faint yellow, bell-shaped, 1-4, but usually 2, drooping on slender peduncles from the axils of the leaves. Perianth 6-lobed, but not spread; stamens 6; pistil 1.

Stem—Simple, slender, curving, 1-3 feet long.

Leaves—Alternate, oval, set close to the stem.

Fruit—A black berry.

Preferred Habitat—Woods, thickets, shady banks.

Flowering Season—April to June.

Distribution—New Brunswick to Manitoba.

The single, graceful, curved stem of the Solomon's Seal rises each spring from a many-jointed, thick rootstock. This stem withers after fruiting, and leaves on the rootstock a round scar. To the fanciful man who named the genus this scar resembled the impression of a seal upon wax ; but, why that used by Israel's wise king must ever remain a mystery to those that have not had some private information on the subject. You may know the age of a root by its seals, as you tell that of a tree by the rings in its trunk.

The graceful, leafy stems of the Solomon's Seal are among the most attractive features of our spring woods. The small blossoms, which appear in profusion during May, grow in pairs on a flower-stalk, which is so fastened into the axil of each leaf that they droop beneath, forming a curve of singular grace, which is sustained in later summer by the dark blue berries.

The dingy, little, straw-colored bells, hanging from the under side of the curved and leafy stem, may be either self-pollenized or cross-pollenized by the bumblebees to which they are adapted. The pendulous position of the flowers renders them safe from the pilfering of insects, but makes them perfectly convenient to the bumblebees which are the most efficient pollinators.

In May these faithful companions of the purple and green-veined canopies of the Jack-in-the-pulpit, and in September their leafy arches hung with black berries, are among the most attractive spoils of a woodland ramble.



COLUMBINE (*Aquilegia Canadensis*).

Flowers—Terminal, solitary, nodding from thread-like flower-stalks. Calyx of 5, red, ovate sepals; corolla of 5 united, obtuse, spurred petals, red on the outside, yellow within; stamens, numerous, projecting; pistils 5, the styles very slender.

Stem—12–18 inches high, branching, glaucous.

Leaves—The lower ones compound, on petioles, and divided twice or thrice into lobed leaflets. The upper ones simple, sessile, entire or lobed.

Preferred Habitat—Rocky places, rich woodlands.

Flowering Season—April to July.

Distribution—Nova Scotia to Rocky Mountains.

No other wilding of the woods has the elfin charm of the columbine. Dancing in red and yellow petticoats to the rhythm of the breeze, coquetting all day long with the whirling, flashing, ruby-throated humming birds, or the fussing booming, big, muscular bumblebees, this showy damsel seems to dare her ardent wooers to reach the sweets deep-hidden in her five horns of plenty.

But let us watch that flash of color, that vision of mist-like wings, as a ruby-throat whirs into sight before the group of swaying flowers. Poising before the first blossom and moving about it to drain one spur after another until the five are emptied, he flashes like thought to another group of inverted, red cornucopias, visits in turn every flower in the colony, and then flits away quite as suddenly as he came.

Presently, that "yellow-breeched philosopher" with his "mellow breezy bass," the bumblebee, booms along. Owing to his great strength, an inverted, pendent blossom, from which he must cling upside down, has no more terrors for him than a trapeze for a trained acrobat.

Can you see the five eagle's claws in the curved spurs, which the imaginative Linnæus saw when he gave the generic name *Aquilegia* (from the Latin *aquila*, an eagle) to this group of plants? Or can you see in the five red spurs the heads of five pigeons arranged in a ring around a dish, as the ancient painters placed them, and from which the common name Columbine (*colomba*, a dove) has been derived.

"O Columbine, open your folded wrapper,
Where the two twin turtle-doves dwell."



INDIAN TURNIP (*Arisaema triphyl'um*). JACK-IN-THE-PULPIT.

Flowers—Tiny, greenish yellow, clustered on the lower part of a smooth, club-shaped, slender spadix within a green and maroon or whitish-striped spathe that curves in a broad-pointed flap above it.

Leaves—2 only, of thin, ovate, pointed leaflets that rise far above the spathe.

Fruit—Smooth, shining, red berries, clustered on the thickened club.

Preferred Habitat—Moist woodlands.

Flowering Season—April to June.

Distribution—Nova Scotia to Manitoba.

" Jack in the pulpit preaches to-day,
Under the green trees just over the way."

Spring has hardly thrown her mantle of green leaves over her shoulders, when this quaint little preacher, standing erect in his parti-colored pulpit, with sounding-board over his head, speaks in language soft and solemn to the rustling elves and spirits of the woodlands. That he is loved by his people we know, or they would not so familiarly dub him "Jack." And, why should they not love him, for he has a rustic grace which is quite inimitable. The magic he exercises on children is equalled by the charms of the wily Piper of Hamelin town alone.

" Come, hear what his reverence rises to say
In his low painted pulpit this calm Sabbath day.
Fair is the canopy over him seen,
Pencilled by Nature's hand, black, brown and green.
Green is his surplice, green are his bands ;
In his queer little pulpit the little priest stands."

A far different view of our friend is obtained when we observe the dark purple stains upon his spathes. It is from these he gets his generic name, *Arisæma*, which signifies *bloody arum*. An old legend claims that these were received at the crucifixion :—

" Beneath the cross it grew ;
And in the vase-like hollow of the leaf,
Catching from that dread shower of agony
A few mysterious drops, transmitted thus
Unto the groves and hills their healing stains,
A heritage, for storm or vernal shower
Never to blow away."

The fact that the acrid bulb is made edible by boiling, and was used by the aborigines of Canada as a food, has won for the plant the name of Indian turnip.



STAR-FLOWER (*Trientalis America'na*). CHICKWEED. WINTER-GREEN.

Flowers—White, delicate, star-shaped, solitary or a few on a slender wiry foot-stalk above a whorl of leaves. Corolla wheel-shaped, one-half inch across, deeply cut into 7 (usually) petal-like segments.

Stem—A long, horizontal rootstock, sending up smooth stems, like branches, 3-9 inches high.

Leaves—5-10, in a whorl at summit of stem, thin, tapering at both ends.

Preferred Habitat—Moist shade of woods.

Flowering Season—May to June.

Distribution—Labrador to the North-West Territories.

Growing near the anemone, in the May woods, we often find this snow-white, starry-pointed blossom. Its appearance is crisp and pert-like, many times it evades us and hides its frosted, tapering petals behind its handsome leaves. Yet we hardly fancy it does so from shyness, but we rather conclude that this mischief-loving wilding is teasing its seeker and peeping out its bright face to laugh at him as he passes on.

We cannot help loving the wayward youngster. Is any other blossom poised quite so airily above its whorl of leaves, as this delicate, frosty-white little star-flower? No denizen of the wild wood, except the wind-flower, has a similar lightness and grace.

No nectar rewards the insect visitors; they get pollen only. Those coming from older blossoms to a newly opened one leave some of the vitalizing dust clinging to them on the moist and sticky stigma, which will wither to prevent self-fertilization before the flower's own curved anthers mature and shed their grains. What a mysterious provision of a kind and all-wise Nature!

Flowers which secrete no nectar offer an abundance of pollen. They usually are more or less erect, so that the pollen may not fall out, and the stamens are usually numerous. Insects which feed on the pollen of such flowers are certain to get their bodies dusted over, and in this way they carry the pollen from flower to flower.



FALSE SOLOMON'S SEAL (*Smilacina racemosa*). FALSE SPIKENARD.

Flowers—White or greenish, small, slightly fragrant, in a densely flowered terminal raceme. Perianth of 6 separate, spreading segments; 6 stamens; 1 pistil.

Stem—Ascending, 2-3 feet high.

Leaves—Alternate and seated on the stem, oblong, pointed at both ends, parallel-veined.

Fruit—A cluster of aromatic, round, pale red, speckled berries.

Preferred Habitat—Moist woods, thickets, hillsides.

Flowering Season—May to July.

Distribution—Nova Scotia to British Columbia.

THE FALSE SOLOMON'S SEAL. 51

The Solomon's Seals, True and False, flower side by side in our May woods, courting, as it were, comparison on the part of the confused novice. Despite their general resemblances, and the close proximity in which they are found, *Smilacina racemosa* has enough originality to deserve an independent title.

The position of the flowers is markedly different. Instead of the drooping twin bells of the *Polygonatum biflorum*, we have the feathery plume of greenish white blossoms crowning the somewhat zig-zagged stem in a compound raceme.

There are three other *Smilacinas* which you may find growing in luxuriant colonies in the cool, deep woods.

Smilacina stellata has larger, but fewer flowers in a *simple* raceme at the end of its low-growing stem. This readily distinguishes it from the *compound* raceme of *racemosa*.

Smilacina trifolia has fewer flowers than *stellata*. They appear in a simple raceme at the top of a stem 3 to 6 inches long, bearing, usually, *three leaves*.

Smilacina bifolia is a curious little plant. Growing in crowded colonies, many of the plants bearing only a solitary, long-petioled leaf, it forms beautiful, shining beds. From these green islands, under the cool arches of the deep woods, single individuals lift up a white-flowered raceme six inches above the ground, bearing on its zig-zagged stem, usually, *two leaves*. It is readily distinguished from the other *Smilacinas* by its four parted perianth and its four stamens.



TWISTED STALK (*Streptopus roseus*).

Flowers—Dull, purplish pink, solitary, on thread-like, curved footstalks, nodding from leaf axils. Perianth of 6 spreading segments; stamens 6.

Stem—From 1-2½ feet high, simple or forked.

Leaves—From 2-4½ inches long, thin, alternate, green on both sides, rounded at base.

Fruit—A round, red, many-seeded berry.

Preferred Habitat—Moist woods.

Flowering Season—May to July.

Distribution—Labrador to Alaska.

The twisted stalk presents a graceful group of forking branches and pointed leaves. No blossom is seen from above, but on picking a branch we find beneath each of its outspread leaves one or two slender, bent stalks, from which hang the pink, bell-like flowers. The generic name, *Streptopus* (*streptos*—twisted; *pous*—a foot or stalk) gives us the common name.

In the avoiding of angles, this plant has as truly the artistic instinct as though it had been bred in a French school of design. It resembles somewhat the Solomon's Seal, of which it is a connection.

In August, when the jewel-weeds hang their spurred, delicate pockets along the shaded streams, the beautiful red berries of this plant may be found hanging from thread-like peduncles, and following gracefully the curves of the stalk. These showy berries are a flaunting advertisement to the birds, who, it is confidently expected, will drop the seeds far and wide in the leafy mould of the deep woods.



COMMON CINQUEFOIL (*Potentilla Canadensis*). FIVE-FINGER.

Flowers—Yellow, growing singly from the axils of the leaves.

Stem—Slender, prostrate, sometimes erect.

Leaves—Five-fingered, the digitate, saw-edged leaflets, spreading from a common point, petioled.

Preferred Habitat—Dry fields, roadsides.

Flowering Season—May to August.

Distribution—Quebec to Manitoba.

This is our dearest little field blossom. Its yellow head peeps out among the grass in early spring. From spring to nearly midsummer the roads are bordered and the fields carpeted with its bright blooms.

Many unconsciously betray their recognition of the cinquefoil's relationship to the Rose family by claiming that they have found a yellow-flowered strawberry. In fact we will often find it growing near by where the patches of wild strawberries are in bloom.

The honey-bee, alighting in the centre of one of these blossoms, and turning round, passes his tongue over the entire nectar-bearing ring at the base of the stamens, then proceeding to another flower to do likewise, effects cross-fertilization regularly. On a sunny day these bright, rose-like yellow blossoms attract many visitors of the lower grade out after nectar and pollen, the beetles often devouring the anthers in their greed.

The plant gets its generic name, *Potentilla*, from the fact that during the Middle Ages, when almost every plant was credited with healing virtues, the *Potentillas* were considered most *potent* remedies. The shape of its pretty leaves has given us its common name, "Cinquefoil," from the French *cinq*—five, and *feuilles*—leaves



WOOD-SORREL (*Oxalis acetosella*). SHAMROCK.

Flowers—White or delicate pink, veined with deep pink, solitary
Sepals 5; petals 5; stamens 10, 5 longer, 5 shorter.

Stem—Slender, leafless, 2-5 inches high.

Leaves—Clover-like, of three leaflets on long petioles.

Preferred Habitat—Cold, damp woods.

Flowering Season—May to July.

Distribution—Nova Scotia to Manitoba.

The clover-like foliage of the wood-sorrel, studded with its rose-veined blossoms, makes a dainty carpet for our Canadian woods. At the very name comes a vision of mossy nooks where the sunlight only comes on sufferance, piercing its difficult path through the tent-like foliage of the forest, resting only long enough to become a golden memory.

How happy the little complaisant flowers are ! There are no disturbing elements about either their blooms or their leaves. This is because they do not subject themselves to any of the evils of dissipation. Every child knows how the wood-sorrel "goes to sleep" by drooping its three leaflets until they touch back to back at evening, regaining the horizontal at sunrise—a performance which protects the peculiarly sensitive leaf from cold by radiation.

The early Italian painters availed themselves of its chaste beauty. Mr. Ruskin says : "Fra Angelico's use of the *Oxalis acetosella* is as faithful in representation as touching in feeling. The triple leaf of the plant and white flower stained purple, probably gave it strange typical interest among the Christian painters."

In Europe it bears the name "Hallelujah." This title is said to have sprung from St. Patrick's endeavor to prove to his rude audience the possibility of a Trinity in Unity from the three-divided leaves. By many this ternate leaf is still considered the shamrock of the Irish.

The specific name, *acetosella*—vinegar salt, reminds us that from this plant the druggist obtains salts of lemon.



MAY-APPLE (*Podophyllum peltatum*). MANDRAKE.

Flower—White, solitary, large, unpleasantly scented. Calyx of 6 sepals; corolla of 6-9 petals; stamens as many as petals or twice as many.

Stem—About one foot high. Flowerless stems with one large 5-7 lobed, umbrella-like leaf, peltate in the centre. The flowering ones with 2 leaves, peltate near the edge. The flower nodding from the fork.

Fruit—Fleshy, edible, yellowish, egg-shaped, many-seeded, 2 inches long.

Preferred Habitat—Rich, moist woods.

Flowering Season—May.

Distribution—Quebec and Ontario

From the old fence-row near home, and from the open glades in the woods, the folded umbrellas of the may-apple break through the soil early in May. The flower bud comes first from the ground, borne aloft by the leaves. As the umbrellas spread out their ever stiffening ribs, the buds grow bigger, but not until the leaves spread wide apart does the bud droop on its lengthening stem and hide its face in their protecting shade.

The flower has a strange way of growing under its great protecting leaves. It seems as though its perpetual dread in life is to be wet by a thunder-shower.

The fruit which ripens in July has on account of its shape been called the "wild lemon." Its mawkish flavor still seems to find favor with the children, notwithstanding its frequently unpleasant after-effects. The leaves and roots are poisonous if eaten.

Dr. Asa Gray's statement about the harmless fruit "eaten by pigs and boys" aroused William Hamilton Gibson, who had happy memories of his own youthful gorges on everything edible. "Think of it, boys!" he wrote; "and think of what else he says of it: 'Ovary ovoid, stigma sessile, undulate, seeds covering the lateral placenta, each enclosed in an aril.' Now it may be safe for pigs and billy-goats to tackle such a compound as that, but we boys all like to know what we are eating, and I cannot but feel that the public health officer of every township should require this formula of Dr. Gray's to be painted on every one of these big loaded pills, if that is what they are really made of."



CLINTONIA (*Clinto'nia borea'lis*).

Flowers—Greenish yellow, less than an inch long, umbel 3-6, flowered, nodding on slender pedicels. Perianth of 6 spreading divisions, 6 stamens attached.

Scape—Scape naked, 6-15 inches high.

Leaves—Dark, glossy, large, parallel-veined, 2-5, usually 3, sheathing at the base.

Fruit—Oval, blue berries, on upright pedicels.

Preferred Habitat—Moist, rich, cool woods.

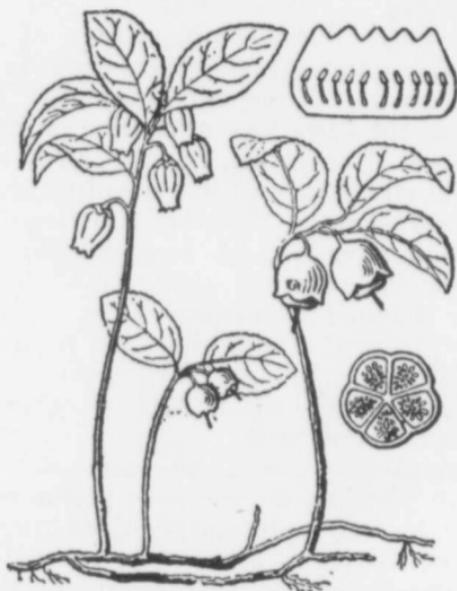
Flowering Season—May to June.

Distribution—Nova Scotia to Manitoba.

The great, dark, shining leaves of the Clintonia arrest our attention everywhere in the cool, moist woods. A slender scape rises from the midst of the three leaves, bearing on its summit an umbel of yellowish, bell-shaped flowers.

If this shy woodland flower had not been named *Clintonia* by Gray, the great American botanist, we should have long ago forgotten that De Witt Clinton, the practical governor of New York, was a devoted naturalist. The weary, overworked man of affairs often fled from care and worry to the woods and fields, pursuing in the open air the study which above all others delighted and refreshed him.

If we take a walk in these same rich woods in August, we shall see the glow of the red spikes of Jack-in-the-pulpit, and the tight little bunches of cornel berries. There, too, we will find the rich crimson fruit of the trillium, and the purple berries of the pokeweed. But not the least attractive will be the blue bullets of Clintonia, held aloft on their tall stalks, between the orchid-like leaves. And a pleasant sight it is, to sit and watch the busy birds gathering to the full of these luscious fruits.



WINTERGREEN (*Gaultheria procumbens*). TEABERRY.

Flowers—White, small, usually solitary, nodding from a leaf axil. Calyx 5-parted, persistent; corolla rounded, bell-shaped, 5-toothed; stamens 10.

Stem—Three to six inches high, slender, leafy at summit.

Leaves—Alternate, glossy, leathery, evergreen, the entire plant aromatic.

Fruit—Bright, red, mealy, spicy, berry-like.

Preferred Habitat—Cool woods, especially under evergreens.

Flowering Season—June to September.

Distribution—Newfoundland to Manitoba.

THE AROMATIC WINTERGREEN. 63

The trip to the woods for a handful of wintergreen is one of the most cherished memories of our boyhood days. The cool shade of the pine trees, the nodding wax-like flowers, the background of shining leaves, all remain a picture on "Memory's Wall" which will never be erased. The hot sun had melted the fragrance out of the pines high overhead, but the dim, cool, forest aisles were redolent of the commingled incense from a hundred natural censers. The wintergreen's little waxy bells hung among the glossy leaves that formed an aromatic carpet for our feet. No stone temple of man could equal Nature's grand cathedral. On such a day, in such a resting place, how one thrills with the consciousness that it is good to be alive!

Omnivorous children who are addicted to birch-chewing prefer these tender yellow-green leaves tinged with red, when newly put forth in June—"Youngsters" we used to call them. Later in the year, the glossy bronze carpet of old leaves dotted over with vivid red "berries" invite much trampling by hungry deer and bears, not to mention well-fed humans. Coveys of Bob Whites and packs of grouse will plunge beneath the snow for fare so delicious as this spicy, mealy fruit that hangs on the plant till spring, of course for the benefit of just such colonizing agents as they.

Little baskets of wintergreen berries bring none too high prices in the fancy fruit and grocery shops when we remember how many plants such unnatural use of them sacrifices.



SUPPLEMENTARY EXERCISES

FOR FOURTH CLASSES

- Canadian History Notes, 10c.
- British History Notes, 10c.
- Geography Notes, 10c.
- Physiology and Hygiene Notes, 10c.
- Exercises in Composition, 10c.
- Exercises in Grammar, 10c.
- How We Are Governed, 10c.
- Mental Arithmetic Exercises, Part II., 10c.
- Exercises in Arithmetic, 10c. teachers' edition with answers, 15c.
- Drill Arithmetic, 10c. teachers' edition, 15c.
- Summary of Canadian History in Verse, 5c.
- Manual of Punctuation, 10c.
- Entrance Examination Papers for the Past Five Years. 10c. or in lots of two or more, 7c.
- Map of Canals, 10c.

FOR FIFTH CLASSES

- Canadian History Notes, 10c.
- British History Notes, 10c.
- Astronomical and Mathematical Geography, 25c.
- Hard Places in Grammar Made Easy, 20c.
- Geography Notes, 10c.
- Exercises in Arithmetic, 10c. teachers' edition containing answers, 15c.
- Mental Arithmetic Exercises, Part II., 10c.
- Drill Arithmetic, 10c. teachers' edition, 15c.
- Exercises in Composition, 10c.
- How We Are Governed, 10c.
- Manual of Punctuation, 10c.
- Map of Canals, 10c.