

Weeds of Maine : a synopsis of the principal weeds found growing in Maine, arranged according to the natural system adopted by Gray in his manual / by Frank L. Scribner.

Lamson-Scribner, F.

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Weeds of Maine

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WEEDS OF MAINE.

A SYNOPSIS OF THE PRINCIPAL WEEDS FOUND GROWING IN MAINE: Arranged according to the Natural System adopted by Gray in his Manual.

BY FRANK L. SCRIBNER.

SERIES I.

Flowering plants, those producing true flowers—*Phœnogamous*.
CLASS I. Plants which increase by annual additions to the outside; and the embryo furnished with a pair of opposite cotyledons or seed leaves—*Dicotyledonous* or *Exogenous*. SUB-CLASS I. Plants with the seeds inclosed in an ovary or pericarp—*Angiospermous*.
DIVISION I. Plants having the divisions of the corolla separate—*Polypetalous*.

ORDER 1. CROWFOOTS—*RANUNCULACEÆ*. A large family, chiefly natives of Europe. They are mostly acrid plants, and some of them, as the Monks-hood, (*Aconitum*) are acrid narcotic poisons.

1. COMMON MEADOW RUE—*Thalictrum cornuti*. Root perennial. Stem three to six feet high, much branched, furrowed, and hollow. Leaves large, ternately-decompound, leaflets roundish, obovate and three lobed. Flowers white, showy, arranged in large and very compound panicles.

The meadow rue is a worthless weed, found only in meadows which have become too moist for the growth of any crop worth the harvesting. Proper drainage and cultivation will eradicate it as well as encourage the growth of more valuable plants.

2. BRISTLY CROWFOOT—*Ranunculus Pennsylvanicus*. Stem clothed with stiff spreading hairs, 2-3 feet high. Leaves ternately parted, the divisions stalked and cleft. Flowers small, yellow.

A homely native species, with inconspicuous flowers; growing in wet meadows and along the borders of streams. It is not common enough to be very troublesome or injurious to crops.

3. KIDNEY-LEAVED CROWFOOT—*Ranunculus abortivus*. Root of thick tufted fibres. Stem smooth, about one foot high, simple or branching. Leaves of the root on long stalks, kidney-shaped, one to two inches in diameter. Flowers small and inconspicuous.

This species, which is also a native, I have seen quite abundant in moist meadows and fields, especially on a clayey-loam soil; its presence indicates a want of draining.

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[Augusta 1869]

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4. BULBOUS CROWFOOT—*Ranunculus bulbosus*. Stem erect, rising from a bulb-like base to the height of about one foot. Radical leaves, three-divided, the side divisions sessile, the terminal one-stalked, and three-parted. Flowers deep glossy yellow, often more than an inch broad.

A weed of European origin, which has made itself perfectly at home with us, growing in fields, meadows and pastures throughout the eastern States. The juice is very acrid, especially in the bulb, and it is said that the "Beggars in Europe use it for the purpose of causing ulcers in order to excite sympathy." "Before the introduction of Spanish flies, this and other species were used to produce blisters; being uncertain in their operation they are now seldom employed," (*Darlington's American Weeds and Useful Plants*.) Wherever it makes its appearance it should be eradicated as soon possible, "as it is a troublesome weed when fully established."

5. CREEPING CROWFOOT—*Ranunculus repens*. Stem at first erect, finally sending out creepers or runners to the distance of two or three feet. Leaves in three divisions, which are, at least the terminal one, long stalked and cleft. Flowers often larger than those of the common Buttercups, and of a bright, shining yellow.

A low native species, very common in many parts of the State, growing in abundance by the sidewalks and by the roadsides; as well as in moist meadows and along the borders of streams, which are its more common places of growth. By cultivation this plant becomes perfectly double, and presents a very pleasing appearance.

6. COMMON BUTTERCUPS—*Ranunculus acris*. Root perennial. Stem one to three feet high. Flowers about an inch in diameter, bright yellow.

An introduced species—the most common of its genus, growing in meadows and pastures, sometimes so abundant as to make the field appear at a distance like a sea of gold. It has become thoroughly naturalized. The juice of this species also, is very acrid and bitter when green, and cattle will not eat the plant until it has become dry, when it loses its volatile acrid principle. Buttercups make very poor fodder at best, and are generally considered a nuisance by farmers. The best mode of eradication is by a rotation of *Spring* crops. Both *R. bulbosus* and *R. acris* become perfectly double by the transformation of their organs of fructification into petals, and are sometimes cultivated in gardens.

ORDER 2. POPPIES—PAPAVERACEÆ. Mostly natives of the temperate parts of the northern hemisphere. They are principally herbs with a milky juice, which, in most species, is acrid and narcotic.

7. COMMON POPPY—*Papaver somniferum*. Root annual. Stem smooth, covered with a greenish white mealliness. Leaves clasping the stem, the wavy margin incised and toothed. Flowers large, generally purple or rose, sometimes white, with a black or deep purple mark at the bottom of each petal. Pod or capsule roundish, flattened below and surmounted by a crown-like expansion—the persistent stigma—which is marked by numerous diverging rays.

This annual plant is often seen in gardens and in waste places about dwellings. It is an introduced species from Europe, and has become partly naturalized in many places. The plant was *originally* a native of the warmer parts of Asia. It produces the opium of commerce. The capsules possess *anodyne* properties, and when boiled in water are employed as fomentations to ulcerated surfaces. Its extirpation is most readily effected by hand weeding.

8. COMMON CELANDINE—*Chelidonium majus*. Root spindle-shaped, perennial. Stem one to two feet high, branched from near the base, brittle, somewhat hairy. Leaves three to five inches long, with five to seven segments. Flowers small, yellow. Pods about an inch long, swelled out in obtuse ridges.

This plant is a native of all Europe, with the exception of Lapland. It is probably an introduced plant with us, and it is said to have become quite an abundant weed in some places, growing about dwellings and in waste grounds. The saffron colored juice, which exudes from the fresh stem when broken, is very sour and bitter, and was formerly much used as an application to warts, ringworms, and the like. As the Celandine is a perennial, it must be eradicated root and branch.

ORDER 3. FUMITORIES—FUMARIACEÆ. An unimportant order, numbering about fifteen genera. A few species are possessed of much beauty, and are highly valued as garden plants. The members of this family are chiefly remarkable for their singularly irregular flowers.

9. FUMITORY—*Fumaria officinalis*. Annual. Stem herbaceous, at first erect, finally becoming much branched and spreading. Leaves finely parted and very delicate. Flowers small, pale red, tipped with deep red or purple, and arranged in dense racemes.

This little plant is exceedingly annoying in many flower gardens. The seeds are carried from one garden to another on the roots of garden plants, and when it first makes its appearance it is much admired, and its growth is encouraged. But in a short time it spreads over all the garden, giving much trouble to its unwitting benefactor, who, too late, had found out the plant's true character. It should be known and carefully pulled up before it has time to blossom and mature its seeds, for by these alone is it propagated.

The leaves of the Fumitory are saline and bitter to the taste. The expressed juice has been used in medicine to correct acidity in the stomach, and an infusion of the leaves has been used as a cosmetic to remove freckles and clear the skin.

ORDER 4. MUSTARDS—CRUCIFERÆ. But few species of this important family are natives of North America. The more useful plants of the order, such as the cabbage, turnip, cauliflower, &c., as well as those classed with weeds, have been introduced from Europe. "It is the universal character of the cruciferæ to possess antiscorbutic and stimulant qualities, combined with an acrid flavor."—(*Lindley*.) In all the species the parts of the flower are in fours, and opposite each other in the form of a cross, whence the Latin name *cruciferæ*, which means "bearing a cross."

10. HEDGE MUSTARD—*Sisymbrium officinale*. Root annual. Stem one to two feet high, branched. Lower leaves runcinate, upper ones somewhat hastate. Flowers small, yellow. Racemes elongated after flowering. Pods erect, half an inch or more long, awl-shaped, appressed to the rachis.

This troublesome little foreigner is an unwelcome intruder in our gardens, and in waste places. The plant is warm and acid to the taste, and when cultivated has been used as a pot herb. "It was formerly held in some repute in Europe as a remedy for coughs, the hoarseness of singers, and the like." It is said to be a useful remedy in ulcerations of the mouth and throat. As this plant is propagated by seed it should be removed from the grounds before flowering.

11. FIELD MUSTARD, CHARLOCK—*Brassica Sinapisstrum*. Annual. Stem simple, or branched, twelve to thirty inches high, bristly with stiff recurved hairs. Leaves oval or oblong, lower ones somewhat pinnatifid, all toothed. Flowers quite large and showy, of a sulphur yellow color. Pods knotty, ascending on spreading stalks; beak two-edged, fully one third the length of the pod.

The authors state that this plant is found as a noxious weed in grain fields, from Pennsylvania and New York westward. I was hoping that it had not been introduced into this State; but while in Waterville the past season I saw a grain field thickly sprinkled with the yellow blossoms of this most unwelcome intruder, which seemed to have taken possession of the ground and made itself as much at home as though the field had been cultivated expressly for its own benefit. Todd, in his excellent work, the "*Young Farmer's Manual*," says: "We know of no weed in the grain-growing districts of New York that is so difficult to exterminate as this.

Canada thistles, daisies and dock can be eradicated with facility, in comparison. * * * The seeds will remain in the ground a lifetime without losing their vitality. We have cultivated a field sixteen successive seasons, allowing no mustard to go to seed; but deep plowing brought seed to the surface the seventeenth year, so that the ground was nearly covered with the young plants. * * There are two things indispensably necessary to exterminate mustard. One is to allow no seeds to mature; and the other is to cultivate such crops as will induce all the seed to vegetate, that the plants may be destroyed. * * When mustard comes up very thick, harrow the ground thoroughly, as soon as the crop of grain has been removed. After a few weeks have elapsed harrow it again. This will destroy most of the young plants in the seed leaf. After this use a cultivator instead of a harrow. These repeated scarifyings will cover the seed and bring others to the surface, so that a large portion vegetates and dies before winter. The next season harrow the ground early in the Spring, so as to start a new crop of seed. Plow it soon after the time for plowing for Indian corn. Harrow again in about two weeks. After another fortnight plow, and sow buckwheat; as soon as the buckwheat is harvested harrow the ground again. The next season manure well, and raise a hoed crop; and allow no mustard to go to seed. Next sow a crop of winter grain. The mustard may now appear quite thick, but none of it will have time to ripen before winter, when every plant will die. A limited number of plants will appear the next season among the standing grain. When they are in full blossom let every one be pulled. A careful, faithful man will be able to pull all the mustard in a day that will appear on several acres, after the soil has been treated in the manner recommended. After this any kind of grain may be raised. But for more than twenty years mustard will come up every season, and must be pulled before it ripens. This is the only way that our cultivatable fields can be rid of this pestiferous plant. Incessant vigilance from year to year will exterminate it effectually."

If the Charlock, as well as many other weeds, be not exterminated by the above method no blame can be laid to the cultivator.

12. BLACK MUSTARD, COMMON M.—*Brassica nigra*. Root annual. Stem three to six feet high, smooth, much branched. Leaves petiolate; lower ones large, lyrate and scabrous; upper ones narrow and entire. Flowers yellow, arranged in elongated racemes. Pods appressed to the rachis, about three-fourths of an inch long.

A native of Europe, cultivated, or found in abundance in fields

and waste places. The seeds are black, like those of Charlock, and are possessed of equal vitality, as they will remain buried in the ground to the depth of three or four inches for ages without germinating. If this plant becomes too abundant and troublesome, as it surely will if not checked, it may be eradicated much in the same manner as Charlock.

13. SHEPHERD'S PURSE—*Capsella Bursa-Pastoris*. Root annual. Stem six inches to two feet high, often several from the same root. Leaves of the root in a rosulate cluster, mostly pinnatifid; those of the stem arrow-shaped. Pods inversely heart-shaped.

A well known plant from Europe. It has become very troublesome in gardens and cultivated grounds. It can be "suppressed by careful culture, and inducing the growth of more useful plants."

14. WILD PEPPERGRASS—*Lepidium Virginicum*. Stem a foot high or more. Flowers very small. Pods roundish and notched at the end.

"This plant is a native of the southern portion of this country, and is abundantly naturalized in many parts of Europe, thus making a partial return for the abundant supply of weeds which have crossed the ocean to our shores. * * The reddish brown seeds are sometimes found in clover seed, and excite apprehensions of some pernicious intruder; but, although a worthless little weed, if there be nothing worse among the clover seed the farmer need not be alarmed."—(*Darlington*.)

15. WILD RADISH. JOINTED CHARLOCK—*Raphanus raphanistrum*. Root annual. Stem low, much branched. Leaves rough, lower ones lyre-shaped. Flowers yellow, turning white or purplish, veiny. Pods necklace form.

A plant naturalized from Europe, troublesome in some places, though probably not very common.

ORDER 5. ST. JOHN'S WORTS—HYPERICACEÆ. This family is very generally distributed, flourishing in all localities, on mountains and valleys, marshes and dry plains, meadows and heaths, in Europe, America, Asia, Africa and Australia. The leaves are opposite and punctate with pellucid dots. A gargle for sore throat is prepared from *Hypericum connatum*, a native of Brazil.

16. COMMON ST. JOHN'S-WORT—*Hypericum perforatum*. Root perennial. Stem one to two feet high, branched, smooth. Leaves from half an inch to an inch and a half long, narrowly oblong in outline, full of pellucid dots. Flowers in open cymes, numerous, yellow, the edges of the petals are marked with small black dots.

An introduced species, growing to the height of about two feet. It has become thoroughly naturalized with us, and is very common in pastures and by the roadside, and also in meadows. The flow-

ers tinge spirits and oils to a fine yellow color. "The common people of France and Germany gather it with great ceremony on St. John's day, and hang it in their windows as a charm against storms, thunder, and evil spirits. * * * In Scotland it was formerly carried about as a charm against witchcraft and enchantment."—(*Loudon.*) Many years ago this plant was considered the cause of cutaneous ulcers, which affected white cattle, and horses with white feet and noses, during the pasture season. But either the plant has lost its power, or the above idea was erroneous, which is the most likely; for the plant still remains too common, but the above mentioned sores have not been noticed for a number of years past. A general rule for its extermination, which will also apply to many other plants, is: *Let none go to seed; and cultivate well the soil.* There are two other species of *Hypericum* (*H. mutilum* and *H. canadense*), found on low grounds and by the roadside quite common. They are small species and not very troublesome.

ORDER 6. PINKS—CARYOPHYLLACEÆ. Mostly herbs with swollen or tumid joints, and opposite leaves. Many species are cultivated in gardens, and are among the most fragrant of cultivated plants. Most of the species growing wild here are weeds, although, with few exceptions, they are not very troublesome.

17. BOSTON PINKS—*Saponaria officinalis*. Root perennial. Stem about a foot high, smooth. Leaves one to three inches long, lanceolate, sessile. Flowers large, often double, rose-colored, in dense terminal clusters.

The roots of the *Saponaria*, as well as the leaves, form a *lather* when swashed about in water, which is said to be a sure cure for blisters produced by *Mercury* or *Poison Ivy*. I have tried it with satisfactory results. It is an introduced plant from Europe, and has become quite troublesome in many places where it has been allowed to take root. The roots spread extensively, making the plant quite difficult of eradication. "Its presence gives a very slovenly appearance to the farm, and no tidy farmer will allow this nuisance to disfigure his premises." Common Soap-wort, and Bouncing Bet are other names for this plant.

18. CORN COCKLE, OR ROSE CAMPION—*Agrostemma Githago*. Plant clothed with appressed hairs. Root annual? Stem two to four feet high, branched. Leaves linear, three to five inches long. Flowers large, reddish purple.

Frequently found in abundance in grain fields, especially wheat. The numerous, rough, black seeds "are injurious to the quality

and appearance of the manufactured flour." They also injure the looks of the cleaned grain. To exterminate it no seeds should be sown with the grain. If this cannot be avoided, the plants should be pulled as soon as they are about a foot high, or at least before they go to seed.



COMMON CHICKWEED.

19. COMMON CHICKWEED—*Stellaria media*.

Too well known to need describing. A very common foreigner from Europe, found in moist, cultivated and waste grounds, especially where it is moist and shady. It is very hardy, remaining green and even flowering during the winter months. Small birds and poultry eat the seeds as well as the whole herb. The latter may be boiled for the table like spinach. Frequent underdraining and cultivation will exterminate it.

20. MOUSE-EAR CHICKWEED—*Cerastium viscosum*. Perennial. Stem six to fifteen inches long, hairy, spreading. Leaves about an inch long, sessile, rather broad at the base. Flowers forked-umbellate, rather crowded.

A worthless stranger from Europe, common everywhere, in highly cultivated grass-lands as well as in neglected fields and pastures.

21. TARES. CORN SPURREY. DEVIL'S FLAX—*Spergula arvensis*. Annual. Stem about a foot high, erect or spreading, smooth. Leaves one to two inches long, numerous, thread-like, in whorls. Flowers white.

A foreigner from Europe, where it is cultivated as a forage plant, sheep and cattle being very fond of it. It is said to greatly enrich the milk of cows; and mutton fed on it is considered preferable to that fed on turnips. "Hens eat Spurrey greedily, and it is supposed to make them lay a great number of eggs." The seeds of *Spergula saliva* are large, and smooth, and afford on expression a good lamp oil. The flour obtained from them is frequently used in Norway and Gothland for edible purposes, and when mixed with wheat or rye makes a healthful food. With us the Spurrey is considered only a pernicious weed, found in grain fields and cultivated grounds.

22. CARPET WEED—*Mollugo verticillata*. Annual. Stem prostrate, branching in all directions, forming patches a foot or more in diameter. Leaves spatulate, clustered in

whorls at the joints, about an inch long. *Flowers* small, white, in the axils of the leaves, forming little clusters.

A weed introduced from the South. Frequently troublesome in sandy soil.

ORDER 7. PURSLANES—PORTULACACEÆ. Plants of this order grow mostly in arid or dry situations. They possess no remarkable properties.

23. COMMON PURSLANE—*Portulaca oleracea*. *Annual*. *Stem* six to fifteen inches long, prostrate, fleshy, smooth and branching, reddish. *Leaves* fleshy, about one inch long, wedge-shaped. *Flowers* small, yellow.

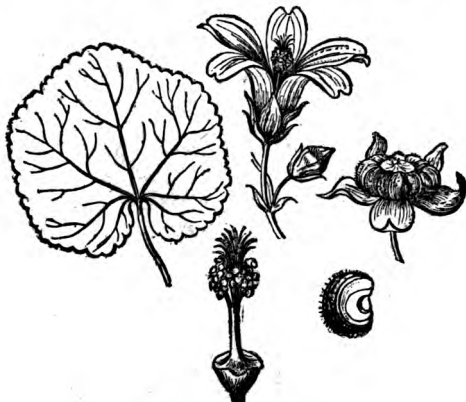


COMMON PURSLANE.

This is one of the most common and pernicious of garden weeds. It is doubtless a naturalized stranger with us, thought to have been introduced from Europe. It is considered native west of the Mississippi. The name *purslane* comes from an old French name for the plant, *pourcellaine*. The specific name *oleracea*, is derived from the Latin *olus*, a *pot herb*, indicating that the plant was formerly used as food. It is even now used as such by some people. The purslane is very tenacious of life, continuing to grow even after having been kept between papers for weeks. This makes the plant very difficult to eradicate, for the stems, if not removed from the ground, will quickly take root again.

ORDER 8. MALLOWS—MALVACEÆ. This family is most abundant in the tropics. The important and well known *Cotton plant* is a member of this order. Many of the species from their beauty are much sought for by florists.

24. COMMON MALLOW—*Malva rotundifolia*. Perennial. Stem one to three feet long, prostrate or spreading from a deep root. Leaves one to three inches in diameter, round, kidney-shaped, on very long petioles. Flowers small, nearly white.



COMMON MALLOW.

Naturalized in many places; introduced from Europe. Found about dwellings in waste places, frequently quite troublesome. It should not be overlooked in the general destruction of weeds.

ORDER 9. GERANIUMS—GERANIACEÆ. The true Geraniums are mostly natives of the Northern temperate zones. Species of this order are found everywhere cultivated as ornamental plants. The wood-sorrels are noticeable for their sour juice.

25. BALSAM-WEED—*Impatiens fulva*. Also called *Celandine* and *Jewel-weed*. Stem two to four feet high, very smooth, green, at length rather tawny. Leaves two to three inches long, tawny underneath. Flowers deep orange, sprinkled with numerous brown spots, loosely paniced at the ends of the branches, hanging gracefully on their slender nodding stalks. Valves of the pods coiling elastically and scattering the seeds violently when they burst.

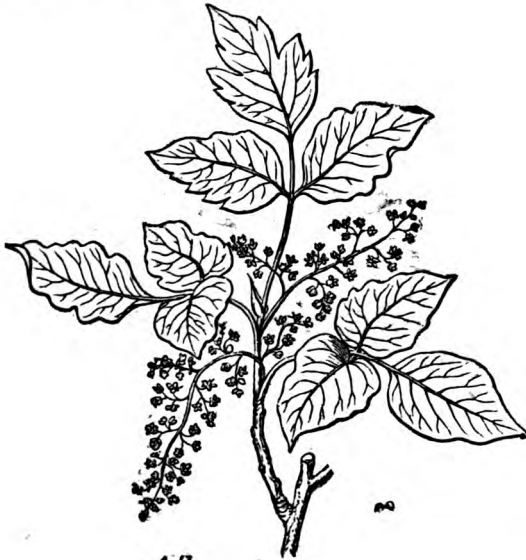
A native of swamps and low grounds, yet frequently abundant about dwellings in moist rich soil. Its presence greatly mars the appearance of one's grounds. Though not particularly troublesome it is of course eradicated by all neat farmers. The mature capsules, or pods, are a source of amusement to children, as they burst with considerable force at the slightest touch, whence the name, *touch-me-not*, by which it is sometimes known.

26. **YELLOW WOOD SOBREL**—*Oxalis stricta*. *Roots* producing long, underground, branching stolons, which throw up at intervals new plants. *Stem* three inches to a foot in height, branching. *Leaves* divided into three heart-shaped divisions. *Flowers* yellow, on long stalks.

A very common native plant, found in fields and pastures. The plant has a pleasant acid taste, and is often eaten by children. Probably not very troublesome.

ORDER 10. SUMACKS—ANACARDIACEÆ. Mostly natives of the tropics. The plants abound in a resinous juice, which in some species is very poisonous. "In several the juice is white and clammy, and afterwards turns black, and may be used as a varnish," (*Emerson*.) Some species furnish a good indelible ink.

27. **POISON IVY. POISON OAK**—*Rhus toxicodendron*. *Perennial*. *Stem* shrubby, one to three feet high, climbing by rootlets over rocks and stumps, or ascending trees. *Leaves* divided into three ovate leaflets; these from two to six inches long. *Flowers* small, yellowish green, in slender racemose clusters.



POISON IVY.

This species is noticed here on account of its being very poisonous to many persons, as swollen and blistered hands, &c., have often borne witness. I notice the following cure for the poison of this plant in the "Gardener's Monthly," Vol. XI. (1869) page 248: "Simply bathe the parts affected with hot water, as hot as can be borne; keep increasing the temperature till it can no

longer be used without burning. Press a soft towel against the parts, so as to absorb the water, and avoid rubbing; then apply a rather strong solution of strong navy, or plug chewing tobacco, on the poisoned places, and let it dry. The solution is best when the water is hot. I have tried it, and have been cured, or very nearly so, in two days—four days at the most." For another cure see Boston Pinks. The woodbine (*Ampelopsis quinquefolia*) is often mistaken for this plant, but the two may be readily distinguished by observing that a woodbine leaf has five oblong leaflets, while the leaf of the poison ivy has but three. The poison ivy "should not only be known to the farmer, but diligently expelled from his premises," (*Darlington.*)

ORDER 11. LEGUMINOUS PLANTS — LEGUMINOSÆ. The members of this family are very generally distributed throughout the world. It numbers about 6500 species. It is one of the most important orders, whether we regard the beauty or the utility of the species embraced in it. Among the more useful plants may be mentioned, peas, beans, clover and lucerne. Many species are important in medicine. Indigo is obtained from one species.

28. RABBIT-FOOT OR STONE CLOVER—*Trifolium arvense*. Annual. Stem two to ten inches high, much branched. Leaves composed of three narrow leaflets, on short, hairy stalks. Flowers in oblong or cylindrical heads, which become very soft, silky and of a grayish or redish color.

A naturalized species from Europe, frequent in dry, barren soil. "Its presence is a pretty sure indication of a thin soil, and neglected agriculture; and the appropriate remedy is to improve both."—(*Darlington.*)

ORDER 12. ROSEWORTS—ROSACEÆ. Another large and important family, producing many, valuable fruits, and many plants cultivated for ornament. It numbers about one thousand species.

29. WATER AVENS. CHOCOLATE—*Geum rivale*. Root perennial, jointed, about six inches long. Stem twelve to eighteen inches high, somewhat hairy. Radical leaves interruptedly pinnate, four to six inches long, terminal leaflet large, roundish and lobed. Stem-leaves in three segments. Flowers nodding, yellowish purple, petals veined. Carpels in a stalked head, very hairy.

Quite common in meadows and low grounds. The whole plant is purplish in color. The dried roots have an astringent and bitterish taste, and as a domestic medicine are used in diarrhoea, and dyspepsia. They are also sometimes used as a substitute for coffee.

30. POTENTILLA—*Potentilla Norvegica*. Annual. Stem one to three feet high, rather coarse and stout. Leaves in three divisions. Flowers numerous, yellow, petals soon falling off.

A coarse native plant, very common in pastures, waste places about dwellings, and in well cultivated grass lands. Not troublesome.

31. FIVE-FINGER CINQUEFOIL—*Potentilla Canadensis*. Root perennial. Stem six to twenty inches long, slender, producing runners. Leaves in five divisions, like a hand; divisions one to three inches long. Flowers yellow.

A worthless native plant, common in dry, gravelly fields and pastures. Its prevalence in grass lands is indicative of poor soil and neglected agriculture. "Some land when kept as pasture fields seem to have an almost incurable tendency to lose the valuable grasses, and to become speedily overrun with Cinquefoil. Lime and manure, however, will work wonders in the worst of soils."—(*Darlington*.)

32. SILVERY CINQUEFOIL—*Potentilla argentea*. Perennial. Stem procumbent or ascending, with white-woolly, slender branches. Leaves in five divisions, which are about half an inch long, green above, white with silvery wool beneath. Flowers small, yellow; petals soon falling off.

This native herb is common in dry, sterile fields and pastures. A worthless and harmless weed, of much the same character as the preceding.

ORDER 13. ONAGRADS—ONAGRACEÆ. None of the species are of any agricultural importance. The Fuchsia and Clarkia are cultivated for ornament.

33. FIRE-WEED. WILLOW-HERB—*Epilobium angustifolium*. Perennial. Stem four to six feet high. Leaves two to five inches long, with purple veins. Flowers numerous, pink-purple, very showy.

A native species found on low waste grounds, and especially on newly cleared land where it has been burnt over. I do not know that it is at all troublesome.

34. COMMON EVENING PRIMROSE—*Oenothera biennis*. Annual or perennial. Stem erect, two to five feet high, stout. Leaves three to six inches long. Flowers numerous, quite large and showy; yellow.

A coarse native herb of variable appearance, producing several well marked varieties, as the *Oenothera b.* var. *grandiflora*, which is sometimes tolerated in and about flower gardens. The evening primrose is a conspicuous and rather common weed in fields and by the roadside. Small evening primrose (*O. pumila*), is a small half-erect species with a slender stem six to ten inches long, and small flowers. It is abundant in pastures and grass lands.

ORDER 14. HOUSE-LEEKS—CRASSULACEÆ. An order of no particular importance.

35. LIVE-FOR-EVER, GARDEN ORPINE—*Sedum Telephium*. Perennial. Stem two feet high, stout, very leafy. Leaves oval, thick and fleshy. Flowers dark purplish, in dense terminal leafy clusters.

This partly naturalized plant from Europe is a very troublesome weed when it has once got a firm foothold in gardens or fields. It is very difficult to eradicate, and quite injurious to the growth of valuable crops. Unchecked, it spreads rapidly. Often it is introduced into gardens for its showy flowers and oddity of appearance; but whoever does this has to pay pretty dear for his whistle, for it is quite sure to cause much labor to keep it within bounds. The herb is so tenacious of life, that even after being severed from the root it will continue to grow and blossom for weeks, if kept in a shady place. It should be eradicated, roots and all, before it matures its seeds; otherwise it will remain in the soil and soon be as troublesome as ever.

36. DITCH STONE-CROP—*Penthorum sedoides*. Perennial. Stem ten to eighteen inches high, with a few short branches. Leaves two to three inches long, narrow. Flowers greenish, placed on the upper side of several spreading branches.

A homely native weed, common everywhere in ditches and moist places. Unlike the Live-for-ever, this plant is not fleshy.

ORDER 15. UMBELWORTS—UMBELLIFERÆ. A large and well defined order, chiefly natives of the cooler portions of the globe, very few species being found within the tropics. Many of the Umbelliferæ are poisonous or have narcotic properties. Among these we may mention the *Conium maculatum*, presently to be described, *Cicuta maculata*, and *Æthusa cynapium*. Among the useful members of this order we might name the carrot, parsnip, celery and parsley. "Some medicinal gums are furnished by this order, such as Asafoetida, Galbanum and Ammoniac."—(*Darlington.*)

37. COMMON CARROT. WILD CARROT—*Daucus carota*. Root spindle-shaped, biennial. Stem two to three feet high, striate, branching. Leaves numerous, pale green, cut into many small leaflets. Flowers white or cream color, with one dark purple, abortive flower in the centre of each little umbel.

The common garden carrot, *Daucus carota*, var. *sativa* of *De Candolle*, is the cultivated form of our wild carrot, sometimes troublesome on clayey loam in fields and by the roadside, where it has been allowed to become established; indicating a "careless,

slovenly farmer." It is a partially naturalized herb from Europe; spreads rapidly and should be diligently eradicated before it matures its seed. The flowers, which appear during July and August, are arranged in slightly convex umbels. When in fruit these are dense and deeply concave, much resembling a bird's nest. "In case of snow, with a smooth surface crust, the mature umbels break off and are driven by the winds to a great distance, and thus annoy an extensive district."—(*Darlington.*)

38. COMMON WILD PARSNIP—*Pastinica sativa*. Root biennial, spindle shaped, large and fleshy. Stem three to five feet high, stout, hollow, branched. Leaves much dissected. Flowers yellow, in large terminal umbels. Fruit thin or very flatly compressed on the back, with a thin single winged margin.

A well known homely weed, common in waste places and by the roadside. The root of the parsnip in its wild state is much smaller than when cultivated, of a hard texture, acrid and poisonous, and is by no means edible. It is an unsightly and often troublesome weed, and should be carefully eradicated.

39. GREAT ANGELICA—LIFE OF MAN—*Archangelica atropurpurea*. Root perennial, large and fleshy. Stem four to six feet high, furrowed, smooth, hollow, sometimes dark purple. Leaves very large, one to three feet wide, two to three ternately compound; leaflets toothed, terminal one, sometimes three lobed. Leaf stalks (petioles) large, with much inflated sheaths at the base. Flowers greenish-white, arranged in large spherical umbels, which are six to eight inches in diameter.

This is an exceedingly large and coarse looking native herb, often found in low meadows and by the wayside, in moist rich soil, especially along the banks of streams. It is native from New England to Pennsylvania, Wisconsin and northward. The root is held in some repute as a domestic medicine. The presence of this weed gives one's grass lands a slovenly appearance. Proper cultivation and drainage will quickly exterminate it.

40. POISON HEMLOCK—*Conium Maculatum*. Root biennial, spindle-shaped, whitish and fleshy. Stem two to seven feet high, round and hollow, streaked with green and yellow, and often spotted with dark purple. Flowers small, white, in terminal umbels.

"This foreigner is partially naturalized in many places, and being a powerful narcotic poison, it ought to be known by every person on whose premises it may occur. The plant, when bruised, emits a disagreeable odor. It is supposed to be the herb with which the ancient Greeks put their philosophers and statesmen to death, when they got tired of them. An extract prepared from this plant was formerly used for the treatment of scrofula and malignant tumors, but it is now believed that the only benefit, if any, derived from it was that of a palliative anodyne."—(*Darling-*

ton's *American Weeds and Useful Plants*.) The poison hemlock grows only in waste and uncultivated fields, especially meadows, and ditches near towns. It is easily destroyed by cultivating the ground for a season, or by cutting the stems just before seeding.

41. CARAWAY—*Carum carui*. Well known plant, needs no description.

Caraway seeds have a pleasant odor, and a warm aromatic flavor, and are much used in seed cakes. The plant often spreads, becoming quite a troublesome weed. It should be carefully kept within bounds.

ORDER 16. GINSENGS—ARALIACEÆ. This family is represented in the Eastern States only by the genus *Aralia*. The European Ivy—*Hedera Helix*—cultivated here for ornament, is a member of this order. Some of the species possess well known medicinal properties, viz., spikenard, sarsaparilla and ginseng.

42. BRISTLY SARSAPARILLA. WILD ELDER—*Aralia hispida*. Perennial. Stem one to three feet high, shrubby at the base, and covered with stiff prickles; herbaceous above, much branched. Leaves with numerous leaflets, ending in a long point. Flowers greenish in simple globose umbels. Fruit of dark colored nauseous berries.

A native plant, common along the borders of fields, and around stumps and stone heaps. The dark purple or black berries are about the size of peas, and have a sickening sweetish taste. The whole plant has a rather disagreeable smell. It is probably not very troublesome, yet no neat farmer will tolerate it.

DIVISION II. THE PETALS OF THE COROLLA MORE OF LESS UNITED—*Monopetalous*.

ORDER 17. MADDERWORTS—RUBIACEÆ. "A very large family, the greater part, and all its most important plants (such as the coffee and Peruvian bark trees,) tropical."—(Gray.) "The madder, one of the most important dyes, is furnished by the root of *Rubia tinctoria*. * * * Coffee is the hard albumen of the seeds of *Coffea arabica*, a tree of moderate size, with a light brown trunk, and a conical-shaped head. Leaves shining, light green. Flowers white, fragrant. The berries are black when ripe. Coffee is said to have been used in Ethiopia from time immemorial. In Paris and London it seems to have been in general use earlier than the year seventeen hundred."—(Wood.)

43. BLUEETS INNOCENCE—*Houstonia cœrulea*. Biennial. Stems three to five inches high, slender. Leaves about half an inch long, oblong. Flowers light blue, fading to white, with a yellowish centre.

A pretty little native, frequently very abundant in dry sterile fields and by the roadsides. In May we have seen barren fields literally white with the small but showy flowers of the *Houstonia*. It generally forms patches of greater or less extent. Good cultivation will soon eradicate it.

ORDER 18. COMPOSITÆ. — SUN-FLOWERS. — ASTER-WORTS—COMPOSITÆ. A brief description of this truly Royal Family of plants will greatly abridge the specific descriptions.

Mostly *herbs*. *Leaves* never truly compound. *Flowers* few to many, crowded on a compound receptacle, into a close head, surrounded by numerous leaflets or scales, forming an involucre. The separate flowers are often furnished with bracelets (*chaff* or *paleæ*). The limb or border of the calyx is divided into bristles, hairs, or scales (*pappus*). The Corolla is either tubular and five lobed or strap-shaped and five toothed.

This vast family comprises about a tenth part of all flowering plants; numbering about one thousand genera and nine thousand species. The whole family may be known at a glance by their capitata (arranged in heads) flowers and united anthers. The flowers are either *polygamous*, *monœcious*, *diœcious*, or all perfect. The plants of this family are diffused throughout the world. According to Humboldt, they constitute about one-seventh of the flowering plants of Germany; one-eighth of France; one-fifteenth of Lapland; one-sixth of North America (north of Mexico); and one-half of Tropical America. All the composite plants of the temperate regions are herbaceous, while towards the tropics they gradually become shrubs and even trees. "A bitter astringent principle pervades the whole order; which in some species is tonic, as in *Chamomile*, the *Boneset* or *Thoroughwort*; in others combined with mucilage, so that they are demulcent as well as tonic, viz: *Elecampane* (*Inula Helenium*) and *Colt's-foot* (*Tussilago Farfara*); in others aromatic and extremely bitter (as *Wormwood* and all species of *Artemisia*); sometimes accompanied by acrid qualities (*Tansy* and *May-weed*), the bruised fresh herbage of which blisters the skin. The species of *Liatris* (*Button Snakeroot* or *Blazing-Star*), which abound in terebinthine juice, are among the reputed remedies for the bites of serpents; so are some species of *Mikania* in Central America. The juice of *Silphium* and of some sunflowers is resinous. The leaves of *Solidago odora*, which owe their pleasant anisate fragrance to a peculiar volatile oil, are infused as a substitute for tea. From the seeds of sunflower, and several other plants of the order, a bland oil is expressed. The tubers of *Heli-*

anthus tuberosus are eaten under the name of *Jerusalem artichokes*; *Girasola*, the Italian name for sunflower, having become anglicized into Jerusalem. True *artichokes* are the fleshy receptacle and imbricated scales of *Cynara Scolymus*. The flowers of *Carthamus tinctorius*, often called Saffron, yield a yellow dye, much inferior in quality to true saffron. The Ligulifloræ, or Cichoraceæ, all have milky juice, which is narcotic, and has been employed as a substitute for *opium*. The bland young leaves of the garden Lettuce are a common salad. The roasted roots of the Wild Succory (*Cichorium Intybus*), are extensively used to adulterate coffee; and the roots of some species of *Tragopogon* (Salsify, Oyster-plant) and *Scorzonera* are well known esculents."—(Gray.) When the heads have the outer flowers strap-shaped or ligutate, and the middle flowers tubular they are called *radiate*, when all the flowers are tubular the head is called *discoid*. As has been said, the scales which grow upon the receptacle, among the flowers, are called *chaff*; when destitute of these the receptacle is *naked*.

44. IRON-WEED—*Veronia Novboracensis*. Perennial. Stem two to six feet high, reddish, becoming firm and woody with age. Leaves three to seven inches long, numerous, somewhat tough and leather-like. Flowers dark purple, in discoid heads. Involucre shorter than the flowers, the inner scales longest. Receptacle naked. Pappus of many capillary bristles.

This plant is probably most abundant near the seashore. Darlington says in his valuable little work, edited by Prof. Thurber, that this plant is quite common in moist low grounds and along fence rows. From its worthless character and coarse hard stem it is justly regarded as an obnoxious weed. "The root of this must be cut like the Canada thistle before the flowering season in spring, or the danger will be imminent of its overrunning the whole area in a short period by means of its floating seeds."

45. THOROUGHWORT—*Eupatorium perfoliatum*. This well known plant is frequently so abundant in wet meadows and low grounds as to be considered an objectionable weed. Its presence is rather an indication of a careless farmer. The medicinal properties of the plant are well known in domestic medicine. Purple boneset, also known as trumpet weed and joe-pie, is found in similar situations as thoroughwort. It is a stouter plant, with light purple flowers and large leaves in whorls of three to five at the joints.

46. ASTERS. The genus is characterized as follows: *Heads radiate, many-flowered. Scales of the involucre, more or less imbricated, usually with herbaceous or leaflike tips.*

Receptacle flat, with little pits or cells like a honeycomb (alveolate.) *Pappus* of capillary bristles.

Mostly perennials; flowering in autumn, with white, purple, or blue rays, and yellow disk flowers. FROST WEED, *Aster puniceus*, is a native plant, growing in swales and meadows. It has a stout and much branched stem, four to six feet high; the branches, especially on the sunny side, generally dark purplish; the flowers are abundant and showy, with blue rays. It is called frost weed from the fact that it is often seen in full bloom after severe frosts. There are about twenty species of Asters known to be natives of Maine. Many of these are merely worthless weeds, abundant in thin sterile soil, and may be readily eradicated by cultivation; while many others are well worth introducing into flower gardens for their beauty.

47. HORSE-WEED. BUTTER-WEED—*Erigeron Canadense*. Annual. Stem six inches to five feet high. Leaves narrow, one to three inches long. Heads very numerous, small. Rays inconspicuous. Flowers white.

A native plant common in pastures and waste places, worthless and comparatively harmless. "It has disseminated itself more or less abundantly all over our country, and it is said all over Europe. * * * Good farming is the mode for smothering out such intruders."—(*Darlington*.)

48. DAISY.—FLEABANE—*Erigeron strigosum*. A well known biennial weed with rather small heads, furnished with numerous narrow, white rays. Common in grassy fields and by the roadside. The fleabane is particularly abundant in the first crop of upland meadows after a series of grain crops. Formerly the fleabane had the reputation of expelling fleas and insects by its smell. The DAISY—FLEABANE or SWEET SCABIOUS (*Erigeron annuum*), is found common with *E. strigosum*. They are both equally worthless and unwelcome weeds.

49. GOLDENRODS—*Solidago*. Perennial herbs. Stems erect, generally branching near the top. Leaves alternate. Heads few to many flowered, interterminal or axillary racemes. Flowers, with one exception, yellow. Ray-florets few, pistillate; disk-florets tubular and perfect.

The genus *Solidago* is very large, affording many worthless weeds. They bloom from August to October, and are the characteristic flowers of autumn. The name *solidago* is derived from the Latin word *solidare*, signifying to unite, in allusion to reputed vulnerary qualities. *S. bicolor* is quite a common species, remarkable for having white or cream-colored rays.

50. ELECCAMPANE—*Inula Helenium*. Root perennial, thick and elongated. Stem stout, three to six feet high. Radical leaves one to three feet long, ovate, petiolate; stem leaves smaller, partly clasping the stem. Heads very large, yellow, many flowered, with a single row of very narrow rays.

A coarse European plant, partly naturalized, common along road-sides and in pastures. The roots of the Elecampane possess well known medicinal properties, and are thought to be beneficial in *Dyspepsia* and *Chronic Catarrh*. The presence of this plant gives to one's premises a very slovenly appearance.

51. BITTER-WEED.—RAG-WEED.—ROMAN WORMWOOD—*Ambrosia artemisiæfolia*. A well known annual plant, with twice pinnatifid leaves. It is very common in gardens, cultivated grounds, and waste places. Frequently it springs up in great abundance among the stubble after a crop of grain. "If the land be good, the plant seems to be smothered or choked out the next season by the crop of clover and timothy."—(*Darlington*.) This plant is sometimes called Hog-weed. *Ambrosia trifida*, a coarse native weed, is often found in waste places.

52. COCKLEBUR.—CLOTBUR—*Xanthium Strumarium*. Annual. Stem two to three feet high, bristly. Flowers few together, terminal, globular, green. Pistillate flowers in sessile axillary tufts. Fruit, a hard two-celled bur, nearly an inch long, covered with stiff, hooked prickles.

A coarse, vile weed, found in barn-yards and waste places. The burs often adhere to the wool of sheep. It is easily subdued by cultivation.

53. THORNY CLOTBUR—*Xanthium spinosum*. Annual. Stem one to three feet high, with slender, yellow, three-parted spines at the base of the leaves. Leaves one to three inches long, white-downy beneath. Sterile flowers in the upper axils of the leaves, fertile in the lower.

This plant is said to be found in this State, probably in the Southern part, and not far from the sea-shore. *Darlington*, in speaking of this plant says: "It may frequently be seen along the sidewalks and waste places in the suburbs of some of our northern seaport towns, and is a vile nuisance wherever found. I have understood that the authorities of one of our cities, a few years since, enacted an ordinance against the plant, in which enactment it was denounced by the name of the Canada Thistle! The misnomer probably did not impair the efficiency of the ordinance; yet I cannot help thinking it would be decidedly preferable that both lawgivers and farmers should avoid confounding objects which are essentially distinct, and learn to designate even weeds by their proper names." Like most introduced plants, this intruder is

steadily advancing inland, especially towards the west; but it is hoped "that all good cultivators will see that he does not reside long enough with them to be able to get his naturalization papers."



THORNY CLOBBER.

54. CONE-FLOWER.—"NIGGER HEADS."—YELLOW-WEED—*Rudbeckia hirta*. Perennial? Stem simple or branched from the base, one to four feet high. Leaves two to three inches long. Heads large and showy. Disk-flowers dark purple. Rays twelve to fifteen, bright yellow. Receptacle conical.

Not many years ago this plant was almost unknown in this State, but within a few years it has become very abundant in our grass lands. Each succeeding season it seems to be more prevalent than the one previous. It is a more villainous plant than the white-weed, for the more the ground is cultivated the more abundant it will be. Last season we saw a grass field under good cultivation, just yellow with the showy flowers of the cone flower. This plant was introduced in grass seed from the West.

55. JERUSALEM ARTICHOKE. COMMON ARTICHOKE—*Helianthus tuberosus*. Root, bearing oblong tubers, perennial. Stem four to six feet high, stout, and clothed with stiff hairs. Leaves four to seven inches long. Heads rather large, with yellow rays.

The artichoke is a native of Brazil, introduced to this country for its fleshy tubers, which were pickled and used as a condiment.

The tubers when cooked form a good substitute for potatoes, and are by some preferred. Many animals eat them with avidity, and they are especially recommended for sheep.—(*Penny Ency.*) In the Report of the Secretary of the Maine Board of Agriculture for 1866, the Jerusalem artichoke is suggested as worthy attention in some cases as a cheap and profitable farm crop for feeding stock. The plant is frequently troublesome about old gardens, where it was formerly cultivated. When once established it is very difficult to eradicate, as any one of the many tubers will continue the plant.

56. COMMON BEGGAR-TICKS. BUR MARIGOLD—*Bidens frondosa*. Hardly needs a special description. It is a disagreeable weed, very common about barns and in moist, rich, cultivated grounds. The flat seeds are furnished with two barbed awns, and are the cause of much annoyance, for they adhere to the clothing with great tenacity, and to the fleeces of sheep. The seeds are thus carried from place to place. *B. chrysanthemoides* has large bright yellow rays, and is the species found common in low wet meadows and ditches. As these plants are both annuals, they would soon be exterminated if not allowed to go to seed.

57. MAY-WEED. FETID CHAMOMILE. DOG'S FENNEL—*Maruta Cotula*. Annual. Stem much branched, six to fifteen inches high. Leaves divided into a multitude of narrow segments. Rays white, at first spreading horizontally, but finally turning back towards the stem, reflexed. Disk florets yellow.

A strong scented weed, very common in hard dry soils, by the roadside, and in yards. Though very nauseous, the May-weed is sometimes employed as a substitute for *chamomile*. Linnæus says "it is grateful to toads, drives away fleas, and is annoying to flies." The plant was originally introduced from Europe. Eradicated by thorough cultivation.

58. COMMON YARROW. MILFOIL. SNEEZEWORD—*Achillea Millefolium*. Root creeping, with smooth, reddish, subterranean shoots, perennial. Stem erect, about a foot high. Leaves twice pinnatifid, the divisions very narrow, toothed, pointed. Heads numerous, small, arranged in a dense flat-topped cluster. Rays short, white. Disk florets whitish.

A thoroughly naturalized plant from Europe, having rather an agreeable taste and smell. On account of its creeping roots it is generally considered a "bad weed," yet it has been recommended for cultivation by some English writers. Its nutritive properties are, however, much inferior to those of some other plants, equally adapted to light soil. An ointment made from the leaves of the yarrow is recommended for the scab in sheep.

59. **OX-EYE DAISY. WHITE-WEED**—*Leucanthemum vulgare*. Root branched, tough, and woody, with many fibres, perennial. Stem one two two feet high, often several stalks from the same root. Flowers in large, showy heads. Rays white. Disk flowers yellow.

This almost omnipresent weed was quite rare thirty years ago. "It is a positive injury to any soil, and any location. The richer the land the less apparent damage; while a farm that is naturally cold and poor is decreased in value by its presence and growth at least *twenty per cent.*" "Dried daisies for fodder are about as nutritious as an equal quantity of fine *brush*. Pity the sorrows of the poor animal that is compelled to subsist on daisy hay!"—(*Todd.*) "The seeds are very tenacious of life, and will germinate after passing through the stomach of an animal. Various means have been suggested for destroying it, one of which is to feed it down by sheep. But this is never to be recommended, as the sheep will grow poor upon it, and more will thus be lost than will be gained by ridding pastures and fields of the weed. Thorough cultivation is the only thing that will completely eradicate it, which can be given as follows: The first year plow the sod thoroughly, plant with corn, hoe and cultivate well once a week. The next year sow and plow in two crops of buckwheat, and on the third year manure well and plant corn again, then again two crops of buckwheat for two years more. This will completely exterminate the daisies, and the land will be left in excellent condition."—(*Mr. S. L. Boardman.*) The number of seeds which a single root of the ox-eye produces is immense. In one head over four hundred seeds have actually been counted. There are from fifty to four or five hundred heads from one root. Estimating the number of seeds in a head to be two hundred, and the number of heads to a plant to be seventy-five, we have *fifteen thousand* seeds as the product of a single root. These, as well as the seeds of many other pernicious intruders, are often introduced into one's fields in the grass seed. It is therefore quite important that farmers should be able to tell foul seed, and thus avoid much trouble. "The white daisy has a seed considerably larger than timothy seed, shaped somewhat like the seed of a carrot, but smooth and destitute of fuzz. Its color is light drab and brown, in parallel stripes, running from one end of the seed to the other. When once known it is easily detected."—(*J. J. Thomas.*)

60. **COMMON TANSEY**—*Tanacetum vulgare*. A coarse, ill-smelling plant, too well known to need describing. Partially naturalized

from Europe. Escaped from cultivation, assuming the character of a weed in many places. It was formerly much cultivated for its aromatic and tonic qualities.

61. POVERTY-WEED—EVERLASTING—*Gnaphalium decurrens*. Perennial. Stem woolly, stout, one to two feet high, branched. Leaves linear-lanceolate, sessile, with the two edges continued down the stem (decurrent). Heads numerous. Flowers whitish. Rays none.

A native, homely weed, common in pastures and by the wayside. *G. polycephalum*, is an annual, common with the last; the leaves are not decurrent, and the plant has a strong agreeable odor. *G. uliginosum*, or LOW CUD-WEED, is a small spreading species, covered with whitish down, common in moist ditches and low grounds by the roadsides. Root annual.

62. EVERLASTING—PEARLY EVERLASTING—*Antennaria margaritacea*. Perennial. Stem one to two feet high, leafy, clothed with white and cotton-like down. Leaves very narrow, taper-pointed. Heads many flowered, surrounded with numerous pearly-white and opaque scales. Flowers yellowish. Rays none.

This plant is very abundant in dry pastures and by the roadsides. It is collected for winter bouquets, for the flowers are fadeless, or, as the name implies, everlasting. PLANTAIN-LEAVED EVERLASTING OR MOUSE-EAR, is a smaller species, flowering in early spring; common on sterile knolls in pastures and fields. The heads are somewhat fragrant, and have a peculiar taste, thought by some to resemble that of brown-bread.

63. FIRE-WEED—*Erechtites hieracifolia*. Annual. Stem one to six feet high, grooved, succulent and tender when young. Leaves three to eight inches long, toothed. Heads numerous, many flowered. Rays none.

This plant is almost always abundant in newly cleared districts, especially where the ground has been burned over, whence the name *fire-weed*. When bruised the plant exhales a strong and disagreeable odor.

64. GOLDEN RAGWORT—SQUAW-WEED—*Senecio aureus*. Root perennial. Stem one to two feet high, branched, striate. Leaves one to three inches long, varying in form on the different varieties; petioles, or leaf-stalks of the radical leaves one to seven inches long; stem leaves sessile or partly clasping. Heads many flowered, with yellow rays.

The Golden rag-wort is often found in abundance in low meadows. It is a worthless though probably not a troublesome weed. There are many varieties.

65. COMMON THISTLE—*Cirsium lanceolatum*. Altogether too common to need a description. The flowers are purple in erect terminal heads which are about an inch in diameter. The plant is sometimes called *Bull Thistle*. It is an introduced plant from Europe, very

common by the roadsides and in pastures. The seeds, if allowed to mature, are disseminated far and wide by the winds. "During the first year of its growth a cut with the hoe, or a table spoonful of salt applied to the crown of the plant will destroy it." (*American Agriculturist*.) It is biennial, and produced only from seed.

66. CANADA THISTLE—CURSED T.—*Cirsium arvense*. *Rhizoma* or root-stalk perennial, creeping horizontally six inches to six feet below the surface of the ground, and sending up numerous erect branches. *Stem* one to three feet high, slender and smoothish, branched above. *Leaves* oblong or lancelet, prickly-margined. *Heads* much smaller than the preceding, numerous. *Flowers* rose purple.

This is no doubt the worst weed with which the farmer has to contend, and like most of our troublesome weeds, was brought from Europe. About two hundred years ago a Scotchman brought some of the seeds to Canada, and sowed them in his garden; in due time some seeds were blown by the winds to his neighbors' lands, where they took root, and now "it is a pest, decreasing the annual products, when abundant, from *twenty-five to fifty per cent.*" It delights in a rich soil, but will grow in almost any if not too wet. The following mode of eradication is taken from Vol. III, page 101, of the "*Illustrated Annual Register of Rural Affairs*," by J. J. Thomas. "*The roots cannot live unless they breathe through their lungs, the leaves.* Keep the portion of the plants above ground from growing, and the whole patch may be destroyed in a single year. This may be accomplished in several ways. Small patches may be smothered by covering with boards, closing the joints with a second layer, to prevent a single plant from finding its way through. Sawdust, tan, or straw will accomplish the same end if laid on thick enough. If a single plant, however, escapes, it will sustain life in a portion of the roots. Another way is to cut the plants off daily even with the surface of the ground, so that not a single leaf can grow. The best way for common practice is to plow them under, and continue the plowing often enough to keep them smothered. If well and deeply done, once a month will answer the purpose. This mode succeeds best on heavy or clayey soils, which do not permit the thistles to find their way readily upwards. But even on such soils, the work must be very carefully performed, for if a portion of the weeds are but partly covered, they cannot be destroyed. On gravelly and other porous soils it is more difficult to destroy them by plowing. The operation must therefore be more frequent on such soils, and greater care taken to do it deeply, and in the

most thorough manner." It is a law in France, and a most excellent one it is too, that a man may sue his neighbor who neglects to destroy the thistles on his grounds at the proper season, or he may hire it done at the other's expense. It is hoped that some such law will be passed here, and rigorously enforced. We have a few other species of thistle, but none of much importance compared with the above.

67. COMMON BURDOCK—*Lappa officinalis*, var. *major*. Root long and thick, biennial. Stem two to four feet high, stout and much branched. Leaves of the root one to two feet long, of a triangular shape, and light green color; stem leaves smaller, and more or less ovate. Involucre scales coriaceous at the base, tipped with a spreading awl-shaped, hook-pointed appendage. Flowers purple.

A coarse homely weed, common in waste ground, by waysides, and among rubbish. The herbage is very bitter, and the bruised leaves are sometimes applied by nurses to the soles of the feet in hysterics. The large, so called, burs of this plant often become entangled in the wool of sheep, hair of horses and cattle, and in the clothing. The burdock is easily eradicated by cutting off the root a few inches below the surface of the ground. This should be done just before the flower buds form.

68. SUCCORY OR CICHORY—*Cichorium Intybus*. Root perennial, long and tapering. Stem two to three feet high, much branched. Radical leaves four to ten inches long, numerous. Heads few-flowered. Flowers and rays bright blue or varying to purple.

A well known plant, becoming quite common in some parts of this State. It is a native of Europe, and is extensively cultivated in Belgium, Holland and Germany. It is recommended to be cultivated as a forage plant by some of our trans-Atlantic agricultural writers. But it imparts a bad taste to the milk of cows fed upon it; which of course is a great drawback to its cultivation. The dried root is often used as a substitute for coffee. True lovers of the beverage, however, will not be likely to substitute it for the genuine article.

69. HAWKBIT.—FALL DANDELION—*Leontodon autumnale*. Perennial. Acaulescent. Leaves more or less toothed, spreading, about six inches long. Flower stalk (scape) six to eighteen inches high, hollow, much thickened near the flowers. Heads yellow, about one inch in diameter, much resembling the Common Dandelion.

An introduced plant, common in many parts of the State, found by the roadsides, and in grass plots. The blossoms begin to appear in June and continue until the frosts.

70. COMMON DANDELION — *Taraxacum Dens-leonis*. Too well known to need describing. The dandelion is an indigenous peren-

nial plant, common in door yards, by the roadsides, in fields and in pastures. The root is long and tapering, full of milky juice, and quite difficult to exterminate; it is employed medicinally, and is frequently used as a substitute for, or to mix with coffee. The leaves and flower buds are used for greens; for this purpose it would be much better to cultivate the plants in the garden. The name *dandelion* is a corruption of the French name *dent de lion*, or lion's tooth. The seeds are furnished with copious hairs—the persistent pappus—which enable them to be carried to a great distance by the winds. To exterminate the dandelion it is necessary to cultivate the soil well, with three or four years rotation of crops.

71. WILD LETTUCE—*Lactuca Canadensis*. Biennial. Stem two to nine feet high, thick and hollow, leafy, smooth, often purple. Leaves deeply cut and toothed, three to eight inches long, the upper ones narrow, entire. Heads very numerous. Florets yellow, varying to purplish.

A coarse rank weed, common in rich damp soil along the borders of fields and thickets. A thick milky juice exudes from the stem when broken. It is often known by the name of Milk-weed. For its extermination, allow none of it to go to seed.

72. COMMON SOW-THISTLE—*Sonchus oleraceus*. Annual. Stem one to three feet high, hollow, tender. Leaves three to eight inches long—lower ones deeply cut with spiny teeth, on short stalks—upper ones clasping the stem. Involucre dilated at base. Flowers yellow.

This introduced plant is quite common in some sections, growing in gardens, waste grounds, and among rubbish. The juice is milky and bitter. In England the leaves are often eaten with other culinary herbs; and the roots have sometimes been made into bread.

ORDER 19. LOBELIADS—LOBELIACEÆ. A small family of about three hundred and seventy-five species, which are all more or less poisonous. The CARDINAL-FLOWER (*Lobelia cardinalis*) is one of the most beautiful native plants.

73. INDIAN TOBACCO—EYE BRIGHT—PUKE-WEED—*Lobelia inflata*. Annual. Stem ten to eighteen inches high, much branched, clothed with spreading hairs, and very tough. Leaves one to three inches long, ovate or oblong in form. Flowers rather inconspicuous, pale blue. Pod much inflated.

A native plant, common in fields, and woods, and by the roadsides. The plant is acrid and poisonous, but is used by so called "botanical doctors." When employed in medicine it should be used with great caution. It has been surmised by some persons that this plant caused the ptyalism or "slabbering" of horses. This

supposition, however, is doubted by good authority, for the horse is remarkable for the care and skill with which it selects its food.

ORDER 20. PLANTAINS—PLANTAGINACEÆ. Mostly acaulescent herbs, with no important properties.

74. COMMON PLANTAIN—WAY-BREAD—RIBWORT—*Plantago Major*. Perennial. Stem none. Leaves three to eight inches long, strongly nerved or ribbed smooth. Scape one to two feet high. Flowers in a long slender spike, greenish white.

This naturalized foreigner abounds wherever civilized man has settled, growing along his footpaths and around his dwellings. It is also very apt to spread and become very troublesome in grass fields. Vast numbers of the seeds are devoured by small birds. The bruised leaves are much used for dressing sores and blisters, like that produced by *poison ivy*. *Plantago lanceolata*, rib-grass, has long narrow leaves, and is quite common in grass fields and pastures. This species is frequently allowed to grow and even encouraged as a forage plant; but this is by no means profitable. They may both be eradicated by cutting off the root beneath the surface, or by a rotation of crops.

ORDER 21. FIGWORTS—SCROFULARIACEÆ. A large family, numbering about 1800 species, very generally distributed throughout the world, "from the equator to the regions of perpetual frost." The snap dragon, musk plant, and fox-glove, with many others, are cultivated in gardens. We have three species noticeable as weeds.

75. COMMON MULLEIN—*Verbascum Thapsus*. A well-known plant with a stout, woolly stem, and yellow flowers, in a long dense spike. The plant is annual, and spreads only by seed. It is often very abundant in dry pastures and by the roadside. It is sometimes seen in the grass fields of careless farmers. It can only be kept in subjection by a careful eradication while young. "If neglected, the soil becomes so full of seeds that the young plants will be found springing up in great numbers, for a long succession of years."—*Darlington*.

76. TOAD FLAX—BUTTER-AND-EGGS—RAMSTED—*Linaria vulgaris*. Perennial. Stem one to three feet high, very leafy, with numerous short branches. Flowers in a dense raceme, yellow, with the palate of the lower lip bright orange color, furnished with a long tail or spur.

A showy but pernicious plant, originally from Europe, common in old fields and by the wayside, escaped from cultivation. Cattle,

it is said, will not eat it nor the grass it grows with. The woody roots creep extensively, and are very tenacious of life, thus making it very difficult to eradicate. For exterminating it, J. J. Thomas recommends repeated plowing and harrowing. Todd says: "Never let a plant go to seed. Mow it in pastures and meadows, and plant Indian corn one year, and sow buckwheat the next. This will destroy it."

77. LOUSEWORT—WOOD BETONY—*Pedicularis canadensis*. Perennial. Stem one foot high, clustered around the root. Leaves three to six inches long, mostly radical. Flowers greenish yellow and purplish, arranged in a short, dense spike. Pods flat, somewhat sword-shaped.

This plant we noticed very common in neglected sandy fields and pastures in Waterville, and it is probably found in similar situations throughout the State. The plant may be readily recognized by its dark reddish brown or purple color, especially when young. The blossoms appear from May to July. Easily eradicated by thorough cultivation.



TOAD FLAX.

ORDER 22. MINTS—LABIATÆ. Mostly herbs with square stems, and two-lipped flowers (corollas). It numbers about 2350 species, chiefly natives of the temperate regions. "Not one species is poisonous, or even suspicious. Many are cultivated for ornament; and a large number are well known for their medicinal properties, as the *Horsemint*, *Peppermint*, *Pennyroyal*, *Lavender*, *Sage*, *Catmint*, and *Horehound*.

78. WATER HOREHOUND—BUGLE-WEED—*Lycopus Virginicus*. Perennial. Stem six to eighteen inches high, obtusely four angled, sides concave. Leaves narrowly oblong, toothed and short stalked. Flowers minute, in small capitate clusters.

An extremely bitter plant, common in moist shady places, and in ditches. A variety of *Lycopus Europæus* is also abundant in moist soil.

79. AMERICAN PENNYROYAL—*Hedeoma pulegioides*. Annual. Stem about six inches high, much branched. Leaves oblong-ovate, opposite, on short petioles. Flowers very small, bluish.

A well known fragrant herb, native in barren fields and pastures. Its prevalence in grass lands is a pretty sure indication of a poor soil or neglected agriculture or both.

80. CATMINT OR CATNIP—*Nepeta cataria*. A partially naturalized plant from Europe, much branched, and clothed with a whitish down. The flowers are nearly white and dotted with purple; they are arranged in spiked clusters, around the stalks at certain distances. From the fact that cats are exceedingly fond of rolling on this plant, and chew it with seeming avidity, it has received the name *Cat-mint* or nip. It is considered a somewhat troublesome weed, and is found common about farm buildings, especially in old settlements. Another species (*Nepeta Glechoma*), commonly called Ground Ivy or Gill-over-the-ground, has procumbent stems, and kidney-shaped leaves. The flowers are light blue or bluish purple, generally three together in the axils of the leaves. The ground ivy makes a very pretty hanging plant. It is quite common in damp waste grounds near dwellings.

81. COMMON SELF-HEAL OR HEAL-ALL—*Brunella vulgaris*. Perennial. Stem six inches to two feet high. Leaves one to three inches long. Flowers violet purple (rarely white), arranged in a short dense spike, at the top of the stem.

A native plant, which can hardly be ranked with the troublesome weeds, yet from its abundance in fields and pastures we thought best to call attention to it. In ancient times it had the reputation of healing wounds, whence its common name.

82. HEMP-NETTLE—*Galeopsis tetrahit*. Annual. Stem one to three feet high, much swollen just below the joints, bristly-hairy. Leaves ovate, hairy on both sides. Flowers purple or variegated, in dense whorls in the axils of the floral leaves.

A very common and troublesome weed in waste and cultivated grounds. The teeth of the calyx are tipped stiff and sharp spines, which make the plant a very disagreeable thing to handle, particularly after it has become dry, for these spines are numerous and almost as bad as those of the Canada Thistle. It is best destroyed by allowing none to go to seed.

83. MOTHERWORT—*Leonurus Cardiaca*. Perennial. Stem three to five feet high, square with concave sides, much branched. Leaves palmate-lobed; upper leaves narrow and three-cleft. Flowers hairy, purplish, in close whorls in the axils of the leaves.

“A native of Tartary, whence it was first introduced into Europe and thence to America, ever following the footsteps of civilized man.”—(*Wood*.) It abounds in cultivated grounds and waste places. The calyx teeth, like those of the Hemp Nettle, are tipped with sharp spines. “It is an utterly worthless weed—unsightly and disagreeable—and speedily gives a forlorn appearance to the premises of the slothful and slovenly farmer.”—(*Darlington*.) The Motherwort is well known in domestic medicine.

ORDER 23. BINDWEEDS — CONVULVULACEÆ. Chiefly herbs, with trailing or twining stems, numerous species parasitic. The well known *sweet potato*, a native of the South, belongs here. Many species are cultivated for ornament.

84. RUTLAND BEAUTY—HEDGE BINDWEED—MORNING GLORY—*Calystegia sepium*. *Perennial*. Stem twining six to twelve feet high. Leaves two to four inches long, triangular, halberd-shaped. Flowers large, two inches long, white, or generally tinged with flesh or rose color.

A rank twining plant, often introduced into yards and gardens for its beauty; but soon it becomes a most detestable weed, quite as troublesome, and as difficult to eradicate as *twitch grass* or *couch grass*, (*Triticum repens*.) It is a native of this State, and is frequently found along the moist banks of streams and on low grounds. The white and somewhat fleshy roots creep extensively like those of twitch-grass. Farmers should try every means to destroy this plant, as it is very injurious to crops. A method of eradication similar to that recommended for the extermination of *Cirsium arvense* (Canada thistle, on page 263.)

85. FLAX DODDER—*Cuscuta Epilinum*. *Annual*. Stem thread-like, reddish orange colored. Leaves, none. Flowers yellowish white, in small, dense clusters.

We are not aware that this curious plant is troublesome, or even found in this State; we will make a few observations, however, in regard to its habits, so that any one finding the plant may be able to recognize it. It is a parasite on flax, and does much injury to that crop in Europe. It is said to be sparingly introduced with flax seed into the Northern United States. *Devil's guts* and *hell weed* are common names for this rascally plant, and are also applied to the next.

86. THE AMERICAN CUSCUTA, DODDER, or LOVE-WEED—*Cuscuta Gronovii*—is found abundantly in many parts of the State, on low grounds, especially in shady places, and is parasitic chiefly on the coarser herbs and small shrubs. The seeds of the dodder take root in the soil, and soon the young plants are tall enough to seize the stem of some fated golden-rod, around which it quickly coils. At all places of contact with other plants the dodder sends out short sucker-like roots, which penetrate the bark of the doomed plant, and absorb the needed food. When a few turns have been made around one plant, the dodder reaches out for another and another, until it appears like a tangled mass of brass or copper wire. We have seen patches of this plant several

yards in extent. As the roots soon become useless they wither away.

ORDER 24. NIGHTSHADES—*SOLANACEÆ*. "An order comprising plants with widely different properties; sometimes the foliage and fruit are highly poisonous, while on the other hand it affords some of our most valuable esculents" (*Darlington*), as the potato and tomato.

87. COMMON NIGHTSHADE—*Solanum nigrum*. *Annual*. *Stem* one to two feet high, branched. *Leaves* ovate, two to three inches long, the margin cut as if gnawed by insects. *Flowers* white. *Berries* globose, black.

Not uncommon about rubbish, in old fields, and in waste places. It is a homely weed, and said to be poisonous. It should be carefully eradicated. BITTERSWEET—*Solanum Dulcamara*. A well known species, found on moist banks and about dwellings. The stem is shrubby. Plant perennial. Flowers blue. Berries red, said to be poisonous.

ORDER 25. GENTIANWORTS—*GENTIANACEÆ*. A family presenting many beautiful species. A bitter-tonic principle pervades the whole order.

88. BLUE FRINGED GENTIAN—*Gentiana crinita*. *Annual?* *Stem* six to sixteen inches high, smooth. *Leaves* one to two inches long, broadest at base. *Flowers* bright bluish-purple, the segments finely fringed around the margin.

A truly beautiful and interesting plant, yet growing in such abundance when it has once got foothold that it may be considered a most pernicious weed. It delights in cool, low grounds, and, in such situations, we have seen fields fairly blue with its blossoms. The flowers appear in August and September. The seeds are frequently introduced in clover and grass-seed. The plant should be carefully eradicated upon its first appearance, before any seeds have matured. This may be accomplished on a small scale by hand-pulling, during the month of August.

ORDER 26. DOG-BANES—*APOCYNACEÆ*. The Oleander and Periwinkle represent this order in our gardens. The juice is milky and often exceedingly poisonous. One of the most violent poisons is extracted from the seeds of *Strychnos Nux vomica* of India,—the Strychnine of commerce.

89. SPREADING DOGBANE—*INDIAN HEMP*—*Apocynum androsaemifolium*. *Perennial*. *Stems* smooth, branched above, reddened by the sun, about three feet high. *Leaves* two

to three inches long, opposite ovate. *Flowers* pale rose-color, open bell-shaped, very numerous.

A common native plant, growing along the borders of fields and thickets. The juice is thick and pure white. This plant, as expressed in the common name, spreads very rapidly when not checked. It should be vigilently watched, and thoroughly extirpated if possible. Both the species above described, and *A. cannabinum*—a plant growing along the banks of rivers and lakes—are well known in medicine.

ORDER 27. MILKWEEDS—ASCLEPIDACEÆ. Chiefly a tropical family, of about nine hundred and ten species, noticeable for their singular flowers. Many species are useful in medicine. The milky juice has a bitter acrid taste, and contains caoutchouc. The fibre of the inner bark is long, fine, and very strong.

90. COMMON MILKWEED—SILKWEED—WILD COTTON—*Asclepias Cornuti*. *Roots* much branched, perennial, long and fleshy. *Stem* two to three feet high, stout, leafy. *Leaves* four to eight inches long, and two to three inches wide, oval, on short stalks. *Flowers* greenish purple, in large globular umbels four to five inches in diameter. *Pods* large (three to five inches long), opening by a longitudinal slit. *Seeds* flat, furnished with a long tuft of silky hairs.

A native plant, often plentiful, and exceedingly troublesome. When the stems are cut or broken an abundance of thick milky juice exudes from the wound, whence the common name of *Milkweed*. The plant is often called *silk-weed*, on account of the copious hairs attached to the seeds. By means of these hairs the seeds are wafted by the winds to a great distance. Owing to the deep running roots, which are very tenacious of life, the milkweed is quite as difficult to extirpate as the Canada Thistle. To effect its thorough destruction, pull or cut up every plant as soon as it appears above ground, thus allowing it no chance to breathe through its lungs, the leaves. (See page 263.)

DIVISION III. PLANTS DESTITUTE OF PETALS OR COROLLA—*Apetalous Exogens*.

ORDER 28. POKEWORTS—PHYTOLACCACEÆ. A small order of twenty genera, pretty generally distributed throughout the world. Their properties are either purgative or emetic.

91. COMMON POKE OR SCOKE—GARGET—PIGEON BERRY—*Phytolacca decandra*. *Root* very large, perennial. *Stem* smooth, four to eight feet high, filled with a large pith, deep purple when mature. *Leaves* about five inches long, oval. *Flowers* greenish white,

in clusters or racemes which are from three to six inches long and borne opposite the leaves. *Berry* dark purple, almost black, flattened, ten-seeded, filled with an abundant rich purple juice

- In low situations, along the borders of fields and clearings, this native plant frequently becomes troublesome. It has become naturalized in Europe, thus making a small return for the many weeds which that country has sent us. The root of the pokeweed is highly medicinal. The young and tender shoots are often used as a substitute for asparagus. The pith is peculiar for being divided into horizontal layers, which are easily separated after the stem has been killed by the frost. The pokeweed is readily destroyed by cutting the root just below the surface of the ground with a stiff hoe.

ORDER 29. CHENOPODS—CHENOPODIACEÆ. “Mostly inert or innocent, weedy plants; several are pot-herbs, such as spinach and beet.”—(*Gray.*) Soda is obtained from the common saltwort (*Salsola*), and saltwort or samphire (*Salicornia*), maritime plants.

92. PIGWEED—*Chenopodium album*. *Annual*. *Stem* three to five feet high, angular or grooved. *Leaves* one to two inches long, whitish-mealy, especially on the under side. *Flowers* mealy, in dense clusters.

A well known weed, plentiful in gardens and cultivated grounds. It is known in some localities as *white goose-foot* and *lamb's quarters*. Sheep and cattle will eat it, and hogs devour it greedily. In some parts of England it is said to be used as a pot-herb. We would not, however, recommend that it be cultivated for such a purpose, or even permitted to grow of its own accord. The rapidity with which this weed would multiply under favorable circumstances is astonishing. The following is in the American Agriculturist for May, 1861: “A single pigweed (*Chenopodium album*), if left undisturbed, will ripen more than ten thousand seeds, each capable of producing a successor. * * * This is not mere guess work, for pains-taking investigators have actually counted and calculated the increase. A single pull at the commencement of the season will destroy the whole progeny.” We see that by the above rate of multiplication—10,000 seeds to a plant—we should have for the fourth years' crop, 10,000,000,000,000 seeds, which might the fifth year produce plants enough to cover a little more than 18,365,472,910 acres, allowing 100 plants to a square foot!

“Now rid your fields of one year's seeding
And save the toil of seven years' weeding.”

Some weeds are much more productive than the Pigweed. The extirpation of the Pigweed is easily effected, when the plants are small, by simply cleaning the ground, of them with a hoe or cultivator.

ORDER 30. AMARANTHS—AMARANTHACEÆ. “Genera 46, species 480, most abundant within the tropics. The properties are not important. A few are cultivated for their richly-colored imperishable flowers; others are mere weeds.”—(*Wood.*)

93. GREEN AMARANTH.—PIGWEED—*Amaranthus retroflexus*. Annual. Stem two to four feet high, branched. Leaves two to five inches long, ovate or rhombic-ovate. Flowers green, small, in close clusters in a stiff panicle. Bracts awned.

Equally prevalent with the *Chenopodium album*, and should be destroyed in a similar manner.

ORDER 31. SORRELWORTS—POLYGONACEÆ. According to Meisner, this order contains 690 species. They are chiefly natives of the northern temperate zone. The juice is watery; acrid or rubefacient in the Smartweed, Water-pepper, Knotweed, &c.; agreeably acid in the Sorrel (*Rumex*), and Rhubarb. The seeds of the Buckwheat furnish a nutritious flour.

94. LADY'S THUMB.—SPOTTED KNOTWEED.—SMARTWEED—*Polygonum Persicaria*. Annual. Stem one to two feet high, smooth, branched, often purplish. Leaves two to four inches long, lanceolate, usually marked with a dark triangular or lunar spot near the middle. Flowers generally rose colored, in a dense spike one to two inches long.

A very common and troublesome weed, naturalized from Europe, growing in waste and cultivated grounds, about buildings, fences, &c. The *P. Pennsylvanicum* much resembles the Spotted Knotweed, but may be distinguished by its larger growth and unspotted leaves. Both species are worthless weeds, and should be carefully eradicated. POLYGONUM HYDROPIPER.—WATER PEPPER.—SMARTWEED, may be known from the two preceding by its minutely pellucid punctate leaves, and slender, nodding, loosely-flowered spikes. It generally inhabits moist grounds and ditches, but is frequently found with the preceding. Like the *P. Pennsylvanicum*, it is indigenous. The juice is extremely acrid, “sometimes causing obstinate ulcerative inflammation when incautiously applied to the skin.”—(*Darlington.*)

95. GOOSE-GRASS—DOOR-WEED—KNOT-GRASS—*Polygonum aviculare*. Root annual, long and fibrous, very tough. Stem spreading in every direction, generally prostrate, much branched, leafy. Leaves alternate, one half an inch to an inch and a half long,

lanceolate or oblong. *Flowers* small, two or three together in the axils of the leaves, white.

The most common weed in door-yards and along foot-paths; frequently abundant in cultivated fields. The seeds are acutely three-angled, black, and are much eaten by small birds, whence it is sometimes called bird's knot-grass. As a domestic medicine, it has been strongly recommended for diarrhœa. A variety,—var. *erectum*,—is abundant in rich, shady places.

96. ARROW-LEAVED TEAR-THUMB—SCRATCH-GRASS—*Polygonum sagittatum*. *Annual*. *Stem* two to four feet long, slender, four-angled, angles very rough, with fine and exceedingly sharp, saw-toothed prickles. *Leaves* one to three inches long, half an inch to an inch wide, arrow-shaped. *Flowers* in small terminal clusters, whitish.

A native species common in wet grounds and ditches, about buildings, &c. The prickles on the angles of the stem will cut the hand if drawn against it.

97. BLACK BINDWEED—KNOT BINDWEED—*Polygonum Convolvulus*. *Annual*. *Stem* twining or procumbent, two to three feet long. *Leaves* one to two inches long, halberd-heart-shaped. *Flowers* whitish.

A naturalized species from Europe, common in grain fields, climbing around whatever it can lay hold of, doing much damage to the crops. In gardens it is exceedingly troublesome and quite difficult to destroy. Do not let any plants go to seed and it will soon become scarce.

98. BUCKWHEAT—*Fagopyrum esculentum*. This useful plant often becomes a troublesome weed, about places where it has been formerly cultivated. It is an annual, and should have the same treatment as Black Bindweed.

99. CURLED DOCK—*Rumex crispus*. *Root* spindle-shaped, yellow, long, perennial. *Stem* two to four feet high. *Leaves* lanceolate, wavy-curved margin, eight to fifteen inches long. *Flowers* green.

Too common a weed in cultivated and waste grounds, naturalized, from Europe. Other common names, than the one given above, for this plant are, *Yellow Dock*, *Sour Dock*, *Narrow Dock*. It is highly esteemed as a domestic remedy for cutaneous diseases. *RUMEX OBTUSIFOLIUS*—*Bitter Dock*, is another introduced species, common with the preceding, more worthless, but not so prevalent. *RUMEX SANGUINEUS*—*Bloody-veined Dock*, is also a foreigner. It grows in cultivated and waste grounds, though less common than either of the above species. It is readily distinguished by its *red-veined* leaves.

100. SHEEP SORREL—FIELD SORREL—*Rumex Acetosella*. Roots perennial. Stem six to twelve inches high, slender, branching. Leaves one to two inches long, acid. Flowers small, numerous, reddish or brownish.

A despicable little foreigner, which may almost be classed with *Canada thistles* or *witch grass* for troublesomeness, and is quite as difficult to eradicate. We have seen this weed so abundant in certain fields as to present an unbroken appearance of brownish-red when in blossom. To keep one's land free from this most contemptible plant, the introduction of the seed should be scrupulously guarded against. Under the present perfection of seed-separators, one can have but small excuse for sowing foul seed, no matter what it is. A machine has been constructed by S. Adams, Esq., which will separate *twelve* different kinds of seeds at once. If the sorrel has taken full possession of the field, the best and only way to make *sure* work is to thoroughly cultivate the ground, applying barn-yard or stable manure freely. Sorrel and three tons of hay can not grow on the same acre; and where wheat yields thirty bushels to the acre sorrel is a rare plant. There is no greater fallacy than that which teaches that where sorrel is abundant the land is sour and needs an alkali to neutralize the acid. Because the leaves of the sorrel are sour, we are not to suppose that the soil upon which it grew is sour also, any more than to believe that the soil upon which crab-apples are grown must be sour. Very sweet and exceedingly sour apples are not unfrequently found on the same tree. The acidity which we find in certain plants is not drawn directly from the soil, but is a vegetable product. Sorrel will grow upon a limey soil as well as upon any other. The only effect which the application of lime has to eradicate sorrel is in its promoting the growth of other plants which tend to choke it out. The prevalence of this plant is a strong indication of a light or impoverished soil, and its extirpation can only be effected by high cultivation or rotation of crops.

ORDER 32. SPURGEWORTS—EUPHORBIAEAE. A large (2,500 species, *Lindley*) and interesting order, affording many valuable species. From the roots of the Mandioc (*Janipha Manihot*) is obtained a starch which affords the tapioca of commerce. Croton oil is procured from the seeds of *Croton Tiglium*, an Indian plant. The *Siphonia elastica* yields the true caoutchouc or gum elastic. Boxwood, so invaluable to the engraver, is afforded by *Buxus sempervireus*. From the *Crotophora tinctoria* we have the beautiful

purple dye known as turnsole. Nearly all the species have an acrid milky juice.

101. PETTY SPURGE—*Euphorbia Peplus*. Annual. Stem erect or ascending, five to twelve inches high, becoming greatly branched. Leaves ovate, tapering towards the short petioles, thin. Flowers greenish. Seeds curiously sculptured with two longitudinal grooves on the inner face, and four rows of little pits around the back, less than a twelfth of an inch long.

We fain would omit this pretty little plant from our general denouncement of weeds, but our conscience will not permit us. We must include it among the "devoted to destruction." We are unacquainted with this leafless plant outside of our own flower garden, where, a few years ago, it was introduced with some seeds, and we permitted it to grow for a season on account of its beauty—it has a truly elegant shade of green on its profuse foliage—and its pleasing effect in bouquets. We soon found, however, that we were entertaining a very impertinent fellow—we had given it an inch and it began to take an ell, in a most wholesale manner, for some of our beds were completely covered by this saucy little intruder. It is a native of Europe, and is said to be almost "rare" in this country, and it is hoped that it will long remain so. We nearly eradicated it by pulling the plants before they had ripened their seeds.

102. CYPRESS SPURGE—*Euphorbia Cyparissias*. Perennial with extensively creeping root-stalks. Stem smooth, much branched, very leafy, six to twelve inches high. Leaves one-half to three-quarters of an inch long, one-twelfth of an inch wide, crowded. Flowers yellowish green, becoming reddish.

This, like the preceding, is an introduced species from Europe. As yet it is not common. It spreads rapidly by its running root-stalks, and should, therefore, be regarded with suspicion. It has the character of a pernicious weed. As it delights in a dry sterile soil it can, probably, be destroyed by high cultivation.

ORDER 33. NETTLEWORTS—URTICACEÆ. A large order, mostly tropical, comprising the elm, the plane tree, nettles, hops, hemp, and the fig tree.

103. STINGING NETTLE—*Urtica dioica*. Root perennial. Stem two to three feet high, obtusely four-angled, clothed with stinging hairs. Leaves ovate, heart-shaped, two to five inches long, on short stalks. Flowers small, green, in branching axillary clusters.

It was a saying of that quaint old herbalist, Culpepper, that "nettles might be found by *feeling* on the darkest night." There are not a few who can testify to the truth of his remark. Nothing

gives one's premises a more slovenly appearance than the prevalence of nettles. TALL NETTLE or SLENDER NETTLE—*Urtica gracilis*—is, like the preceding, common in waste places, along fence rows, and by the roadside. The stem grows from three to seven feet high, four-sided, and slightly hispid with a few stinging hairs. Leaves four to ten inches long, lanceolate sharply toothed along the margin. Flowers green, in axillary branched panicles.

RICHWEED or CLEARWEED—*Pilea pumila*—is a low species with a shining succulent stem, three to eighteen inches high, destitute of stings; leaves smooth, on long stalks; flowers green, in short clusters. A native weed, abundant in moist waste places, where it is cool and shady.

CLASS II. INSIDE GROWERS—ENDOGENS.

ORDER 34. AROIDS—ARACEÆ. A small family of about 240 species, mostly tropical. "An acrid volatile principle pervades the whole order, which is, in some instances, so concentrated as to become poisonous. The corms and rhizomas abound in starch, which in some cases, when the volatile acidity is expelled in drying or cooking, is edible and nutritious, as in Colocasia, and the like."—(Wood.)

104. SKUNK CABBAGE—*Symplocarpus foetidus*. Root perennial, with fleshy fibres from a thick truncate rhizoma. Acaulescent. Leaves appearing after flowering, at first roundish, becoming ovate and very large—often two feet long, and a foot wide. Flowers in a compact orbicular head, enclosed in a little hood or spadix.

This native plant, found quite abundant in wet meadows and low grounds, is quickly known by the strong skunk-like odor, which it emits when bruised.

105. SWEET FLAG—CALAMUS—*Acorus calamus*. Root (rhizoma) perennial, thick and spongy, very aromatic, as well as the rest of the plant. Leaves two to three feet high, narrow, sword-shaped. Flowers in a sort of fleshy spike which issues from the side of a leaflike scape, presenting a very curious appearance.

The Sweet Flag—well known by its aromatic and pungent root-stalk—frequently becomes quite troublesome, as it spreads extensively. Thorough under-draining, and seeding with red-top or herds-grass, will extirpate it.

ORDER 35. TYPHADS—TYPHACEÆ. A small and unimportant order, of about thirteen species.

106. COMMON CAT-TAIL or REED-MACE—*Typha latifolia*. Well known to every one. Common along the muddy borders of ponds, and on

marshes. We also remember to have seen it growing in abundance in "Mr. Slack's" meadow, where proper under-draining would have destroyed it, and put the land in good condition for valuable grass crops.

ORDER 36. IRIDS—IRIDACEÆ. This order affords several garden plants, as the Iris, Tiger-flower, Parodanthus, Crocus and Gladiolus. We have two species which may be classed as weeds.

107. COMMON BLUE FLAG—*Iris versicolor*. A well known plant, growing, generally, in wet grounds; with sword-shaped leaves; and blue or purple flowers. We have observed this weed growing in abundance in dry upland pastures. Near Waterville there is a small marsh completely covered with Blue Flags, so that when they are in blossom it presents an unbroken surface of blue. When troublesome on wet lands we would recommend draining and thorough cultivation.

108. BLUE-EYED GRASS—*Sisyrinchium Bermudiana*. This is a little harmless weed, having a grass-like appearance, with small bright blue flowers. Its stems are from six to twelve inches high. It is quite common in grass lands, especially in yards about houses.

* ORDER 37. LILYWORTS—LILIACEÆ. Among the useful plants of this large order, we will mention the Asparagus, the Onion and the Garlic; among those cultivated for ornament, the Tulip, the Lily, the Solomon's Seal, and the Hyacinth.

109. INDIAN POKE—AMERICAN WHITE HELLEBORE—*Veratrum viride*. *Roots* perennial, fibrous, very poisonous. *Stem* two to four feet high, stout and leafy. *Leaves* broadly oval, lower ones about twelve inches long and half as wide, strongly veined, and plaited. *Flowers* yellowish green, numerous, in dense spike-like racemes forming a pyramidal panicle.

This coarse looking weed is common on low grounds and in swamps. We have noticed in meadow hay from Hebron a great abundance of this vile plant. It is utterly worthless for fodder, and should be carefully exterminated. It should be treated in the same manner as Common Blue Flag. (See number 107.)

110. WILD YELLOW LILY—*Lilium Canadense*. This plant, though beautiful when in flower, and well worth garden culture, deserves to be classed as a weed from its frequency in moist meadows. If abundant it greatly injures the sale and quality of the hay with which it is cut. LILIUM PHILADELPHICUM—*Wild orange-*

red lily—is plentiful on dry sandy soil, especially in the vicinity of water.

ORDER 38. RUSHES—JUNCACEÆ. Sedge-like in appearance, neither possessing beauty or value; growing chiefly in wet places.

111. SOFT RUSH—BULLRUSH—*Juncus effusus*. Perennial. Scapes, or culms, two to three feet high, soft and pliable. Flowers small, green, in a loose spreading panicle, which protrudes from a fissure opening in the side of the culm about half way up.

A very common species in ditches and wet meadows. Its prevalence in the latter situation is a sure indication that the land needs draining.

112. TOAD RUSH—*Juncus bufonius*. Annual. Stem low and slender (three to nine inches high) tufted. Flowers greenish. Pods oblong obtuse.

This is a most rascally little weed, growing by the roadside and in hard worn paths, seeming to thrive best when most trodden upon. A friend of ours, who is noted for his neatness, and whose garden is a perfect model, as far as the entire absence of all weeds is concerned, remarked that the Toad Rush was the most troublesome weed he had to contend with, as it was the most difficult to eradicate. It would grow in spite of all his efforts to keep it down. A species much resembling the Toad Rush is the *Juncus tennis*—slender rush—and it abounds in similar situations. It has tough wiry stems, nine to eighteen inches high.

ORDER 39. SEDGES—CYPERACEÆ. The sedges are grass-like, or rush-like herbs, with fibrous roots and solid stems (not jointed as in the grasses.) Leaves grass-like, with closed sheaths. Flowers green, rarely white or yellow, each in the axil of a little glume (or bract,) forming spikes.

This family numbers about 120 genera, and 2,000 species, distributed generally throughout the world, growing principally in moist meadows, marshes and swamps. Few species rank higher than worthless weeds; all are destitute of the rich nutritive qualities which so characterize the grasses, and make them so valuable to the agriculturist; and none are worthy of cultivation. According to Prof. G. L. Goodale, there are nine genera and about 120 species of this family found in Maine. Among the most obnoxious species inhabiting meadows we might mention Diandrous Sedge, Bullrush—*Scirpus pungens*—Cotton Grass, and the like. Of the genus *Carex*, which affords to Maine over eighty-five species, the most noticeable ones are, first, the Fox Sedge, often

very abundant in wet meadows; the stems are about two feet high; the ovate oblong spikes are about three inches in length. Second, the long-pointed sedge (*Carex tantaculata*,) common in low wet meadows and swamps. It grows to the height of from twelve to eighteen inches; whole plant somewhat yellowish; spikes usually three in number, oblong-cylindrical, about two inches long and a half an inch in diameter. Third, Tussock sedge, the most troublesome and most common of all. Darlington, in speaking of this sedge, says: "It is true that a pedestrian, in crossing neglected boggy meadows, finds its dense tufts quite a convenience to step on, yet it is decidedly more farmer-like to provide good walking in such places by ditching and draining. The tussocks formed by the matted fibrous roots of this species of *Carex*, are often very large and very durable. I once hauled a quantity of them into the barnyard, with a hope that they might decompose and make manure; but they effectually resisted decomposition, and were tossed about the yard for years, as large, and almost as indestructible, as so many hatters' blocks. The best way to dispose of them, is to collect them, when cut out and dried, into a heap, and burn them, taking care afterwards, by appropriate draining, to prevent the growth of others." The prevalence of sedges in meadows is a pretty sure indication that the land is insufficiently drained, or that its agriculture has been sadly neglected.

ORDER 40. GRASSES—GRAMINEÆ.

Roots annual or perennial, fibrous. *Stems* hollow, round and jointed, joints closed. *Leaves* alternate with split sheaths. *Flowers* held in two-rowed bracts or glumes, the inner bracts are called paleas, arranged in spikes or panicles.

This vast order comprises about 230 genera and 3000 species, distributed throughout the whole world. It is by far the most important family in the vegetable kingdom both to man and beast, for their nutriment is largely drawn from it—from the herbage as well as the seeds. From the Sugar Cane we obtain the most of our sugar. Rye, Oats, Barley, Wheat, Corn and the like supply us with flour and meal. Rice is grown in the the warmer climates, where it is almost the sole food of whole races of men. Among the most important grasses cultivated for fodder are the Timothy or Herds-grass, Bent-grass, Red-top, Orchard-grass, Goose-grass, June-grass and Meadow Foxtail. Besides the many valuable plants which this order affords to man, there are several species which

are worthless weeds, and one which is thought by some persons to be the most pernicious of all weeds—this is the Couch-grass, (*Triticum repens*).

113. CHEAT OR CHESSE—*Bromus secalinus*. Annual. Stem or culm smooth, two to four feet high. Leaves rather narrow, six to twelve inches long, rough. Flowers in a spreading, drooping panicle.

A partly naturalized weed from Europe, too common in grain fields—wheat especially—and in waste places. That Chess is degenerate wheat is a vulgar error, and we presume that there are few who entertain such an idea in the present state of knowledge. Wheat belongs to an entirely different genus from that of chess. It would be much more reasonable to consider Twitch or Witch-grass degenerate wheat, for they are very nearly related, belonging to the same genus. Several years ago, when Cheat was first introduced from Europe, it was known as Willard's Chess, and fabulous prices were offered for the seed, but it was not long before the true character of the plant was found out and the people became aware that they had been doubly "cheated," for the grass was both too meagre in quantity and too poor in quality for cultivation, and they had been encouraging the growth of a troublesome weed.

To exterminate Cheat, simply sow clean seed, and keep the waste grounds clear of the plant. The seed of Cheat is much smaller than that of wheat, from which it is readily separated, by the modern fan-mills, of which Nutting's is said to be the best.

114. COUCH GRASS—QUITCH GRASS—QUACK GRASS—QUICK GRASS—TWITCH GRASS—WITCH GRASS—DOG GRASS—CHANDLER GRASS—*Triticum repens*. Perennial. Culm two to five feet high. Leaves three to six, flat, lance-linear. Flowers in spikes, as seen in the accompanying cut.

"This is the most catholic of all grasses in its tastes and habits, in so much that scarcely a garden or field, pasture or roadside, be the soil what it may, which is not occupied by it to a greater or less extent; and if permitted, its long creeping roots—or more properly, *rhizomes* (under ground stems)—pushing in every direction, will soon have full possession, and monopolize all the plant food within its reach."—(*Goodale*.)

Besides the long list of names above given for this grass, are Quack Grass and Squitch Grass. As Couch Grass is the name most generally used, we will adopt it in preference to all the others, which are merely local. The leaves of the Couch Grass, and those of one other species, are eaten by dogs for their medic-

inal qualities in exciting vomiting. This plant is considered by good farmers, a most troublesome and obstinate weed, in comparison with which, all others pass into insignificance. There are



COUCH GRASS.

a few exceptions to this statement, however; for some men have said that they would use every means in their power to introduce it upon their farms if they were without it.

For hay, Couch Grass is much inferior to most other grasses, as it stands thin, exhausts the soil, and "binds out" all other plants. Corn may be grown with tolerable success on land infested with this weed, but potatoes grown on it are generally a failure.

Many methods of destroying this pest have been proposed. We select the following from the "Illustrated Annual Register of Rural Affairs," Vol. III: "The best mode of eradication, is to

select a time when the weather and soil are in the driest state, and plow, harrow and rake the roots into heaps, with a spring-toothed or other horse-rake, and when dry burn them. Repeat the operation till all are extirpated. Or the roots may be fermented and killed in layers, with manure, forming compost. As every fragment of the roots will vegetate in moist soil, harrowing will only extend the evil in such soils. E. Marks, of Onondaga Co., N. Y., states in a former number of *The Cultivator*, that he destroyed this grass in one season by *smothering*—plowing it under seven times during the season, each successive plowing being a little deeper until ten inches was attained.”

115. OLD WITCH GRASS—*Panicum capillare*. Annual. Culm upright, often branched from the base, and forming a tuft. Leaves and their sheaths very hairy. Flowers in a large pyramidal, hairy compound, and very loose panicle, often purple.

A very common grass in dry gravelly fields and waste places—frequently abundant in corn fields. It appears during the latter part of summer. “In autumn the dry culms break off and the light divaricate panicles are rolled over the fields, by the winds, until they accumulate in great quantities along the fences and hedges.” (*Darlington*.)

116. BARN-YARD GRASS—*Panicum Crus-galli*. Annual. Culms two to five feet high, rather coarse, smooth. Leaves nine to fifteen inches long, half an inch broad. Flowers in alternate spikes, arrayed in a dense panicle.

A coarse, homely, foreigner from Europe,—very abundant in moist, rich or manured soils, along sink drains, in gardens, and the like. “Some experiments have been made to cultivate this common species in the place of millet, to cut for green fodder. It is relished by stock, and is very succulent and nutritive, while its yield is large.” (*Flint*.) It can easily be eradicated by pulling, before it matures its seeds.

117. FOXTAIL GRASS—*Setaria viridis*. Annual. Culm one to three feet high, branching near the base. Leaves three to eight inches long, lanceolate, flat. Flowers in a cylindrical spike, green. Spike bristly.

A common grass in cultivated and waste grounds, sometimes called Wild Timothy, from the general resemblance of the spikes. BOTTLE GRASS—*Setaria glauca*—is rather more common than the preceding, especially in the stubble of grain fields. There are often several stems from the same root. The spikes are from two to four inches long furnished with tawny or orange colored bristles. Both species are from Europe. If they are not allowed to go to seed they will soon disappear.

SERIES II.

FLOWERLESS OR CYPTOGAMOUS PLANTS.

CLASS III. GROWING FROM THE APEX—ACROGENS.

ORDER 41. HORSETAILS—EQUISETACEÆ. A small order of one genus and about ten species.

118. COMMON HORSETAIL—*Equisetum arvense*. *Roots* perennial, deep *Fertile stems* erect, simple, hollow, of a light brown color, furnished at the joints with a sort of sheath of a darker color. Spores (seeds) in a cone-like head at the top of the stem. *Sterile stems* green, eight to sixteen inches high, hollow, grooved, bearing at the joints long and slender drooping branches.

The fertile stems of this plant appear in April and May, growing in low damp grounds often in great abundance; after they have shed their spores they die away. About this time the sterile or barren stems appear and continue through the season. From their resemblance to miniature pine trees, they are sometimes called low pine and ground pine. We have noticed this plant in greater profusion on the sandy banks of railroads than any where else. The common horsetail, or as it is sometimes called, the field horsetail, is thought by many to be very injurious to horses, causing the disease called "staggers," and that cattle and sheep eat it with a decided relish and without injury. Others consider it injurious only to cattle and sheep. Some writers say it is perfectly harmless to any kind of stock. We will not, however, discuss this question here, but refer to the "*Agriculture of Maine*" for 1867, page 223, and to "*Todd's Young Farmer's Manual*," Vol. 2, page 399, where it is discussed at length. The horsetail may be considered a bad weed, which ought to be eradicated. Thorough draining and good culture will effect its destruction.

ORDER 42. FERNS—FELICES. The ferns constitute a large family, distinguished by their elegant plume-like foliage. In the temperate regions they are of low habits, but within the tropics there are some species which attain the height of fifteen to twenty-five feet, presenting a very beautiful appearance.

119. COMMON BRAKE—*Pteris aquilina*. A well known and abundant plant in woods, pastures, and waste grounds, often quite troublesome. There are numerous species, the prevalence of which imparts a slack or neglected appearance to one's lands.

CLASS V.—PLANTS WITH NO DISTINCTION OF STEM AND FOLIAGE—THALLOPHYTES.

It was not our intention to notice these mostly minute organisms, considering them entitled to an article by themselves. Therefore we will only mention a few of the more important species.

ORDER 43. LICHENES—LICHENS. No species of this order can be considered as weeds. They grow on the ground, on the bark of trees and on rocks. They draw their nourishment directly from the air.

ORDER 44. MUSHROOMS, MOULDS, ETC—FUNGI. Plants of this order are parasitic, generally drawing their nourishment from living, though more commonly languishing plants and animals; but often appropriating the organized matter of dead and decaying animal and vegetable bodies. Puff-balls and mushrooms belong to this family.

Gooseberry Cluster-Cups (*Æcidium Grossulariæ*) may be found on the leaves and fruit of the Currant and Gooseberry in June.

Mildew or Rust (*Puccinea Graminis*) is often very injurious to the herbage of corn, grains and grasses, in damp muggy weather.

Blight, Smut or Brand (*Ustilago segetum*, Ditm.) is the cause of much damage to the ears of corn and grain, filling the kernels with a copious black dust.

Bean Rust (*Trichobasis Fabæ*). On beans in August and September.

Potato Mould (*Peronospora infesta*). Very common since about the year 1845, on the leaves, stems and tubers of the potato, causing the potato murrain.

Erysiphe Martii, is the mildew or blight which effects the leaves of peas, imparting to them a chalky appearance.

SHRUBS.

In the foregoing pages we have noticed, with one exception, only herbaceous plants, thinking it more eligible to notice the shrubs by themselves.

1. POISON SUMACH—*Rhus venenata*. A shrub or small tree, frequent in swamps and low grounds. The trunk is often several inches in diameter. The leaf-stalks are red, bearing seven to thir-

teen leaflets, which are about three inches long. The small green flowers are arranged in axillary panicles. The fruit is greenish yellow, about the size of peas.

This plant is even more poisonous than its near relative, the *Rhus Toxicodendron*, described on page 249, and should therefore be known. It is sometimes called Poison Elder, and Poison Dogwood. Many persons are badly poisoned even by standing in the immediate vicinity of this plant, as its pernicious effluvium taints the air to some distance around. If it occurs on one's premises, a person who is not affected by its properties should be engaged to eradicate it, root and branch.

2. COMMON SUMACH—*Rhus typhina*. Is a common species, on dry rocky hills and around the borders of rocky fields. The young branches are thick and densely clothed with soft velvety hairs, and have a slight resemblance to young stag's horns, whence the plant is sometimes called *Stag's-horn Sumach*. The leaves are one to three feet long, divided into from eleven to thirty-one leaflets. The berries—or more properly *drupes*—are in a dense cluster, covered with very acid crimson down. It is a plant to be eradicated from the field-borders, as its prevalence imparts a neglected appearance to the premises, and the roots, which creep extensively and send up numerous suckers, are really troublesome.

3. HARDHACK — STEEPLE-BUSH—*Spiræa tomentosa*. This well known shrub is frequently very abundant in dry rocky pastures, and by the roadsides. The light purple or rose-colored flowers are very numerous, forming a slender pyramidal cluster of considerable beauty. If it was extirpated from the field-borders and pastures, where it may be considered a weed, and found only in the gardens where it is truly an attractive shrub, it would be a decided change for the better. "This plant possesses considerable astringency, and is in common use in New England as a domestic remedy in diarrhœa and other complaints where astringents are required."—(*Thurber*.)

Another species of *Spiræa*—*Spiræa salicifolia*—having white flowers, in a more or less spreading panicle, is more common along the borders of low fields and in meadows.

4. COMMON HIGH BLACKBERRY—BRAMBLE—*Rubus villosus*. A common shrub along the borders of fields and on newly cleared lands. In the former situation it is often very troublesome, spreading extensively by its large creeping roots, which send up

at short intervals new plants. The fruit of the common blackberry is delicious, yet it would be better to cultivate some of the more valuable varieties, which produce much finer berries, and destroy the wild plants.

5. WILD RED RASPBERRY—*Rubus strigosus*. Produces red berries, which "are in the market" a few weeks earlier than those of the blackberry. As a weed, it has a similar character to the preceding plant, though may be not so troublesome, nor so difficult to eradicate.

6. DEWBERRY—RUNNING BRIER—LOW BLACKBERRY—*Rubus Canadensis*. "There is scarcely a farmer's boy in Pennsylvania who is not well acquainted with our plant from having encountered its prickly, trailing stems with his naked ankles while heedlessly traversing the old fields where it abounds."—(*Darlington*.) If Dr. Darlington had said *Maine*, instead of Pennsylvania, his statement would have been just as true. If the land were properly cultivated this plant would soon disappear.

7. SAMBUCUS—COMMON ELDERBUSH—*Sambucus Canadensis*. This shrub is often quite troublesome along fences, &c. It spreads rapidly, and is very tenacious of life. The plant is well known in domestic medicine. "If the bushes are cut early in the summer, and the brush burned upon the stubs, and then all the sprouts pulled up the moment they appear, the roots will soon perish."

8. SHEEP LAUREL—LAMBKILL—DWARF LAUREL—*Kalmia angustifolia*. A native evergreen shrub, frequent on rocky hills and pastures, growing to the height of two to three feet. In June it bears a profusion of bright crimson flowers. It can hardly be considered a troublesome plant, but from the fact that it is supposed to be poisonous to sheep we decided to notice it. Two of the popular names—Lambkill and Sheep Laurel—have arisen from the general impression that it possesses deleterious properties. That this plant has ever been injurious to stock has been doubted by good authority. It may be destroyed in the same manner as the common elderbush.

9. COMMON ALDER—*Alnus incana* and *serrulata*. Along brooks and streams and around ponds this shrub is most abundant. It is a worthless plant, and its prevalence is a sufficient indication of a slovenly farmer. "If cut closely during the last half of the summer for two or three seasons, they are destroyed."

10. COMMON JUNIPER—GROUND HEMLOCK—ROUND HEMLOCK—*Juniperus communis*. The more common form of this evergreen shrub is the prostrate, having the long branches extending in every direction, close to the surface of the ground, forming beds five to fifteen feet in diameter. It often grows in the form of a slender pyramid. The leaves are numerous and very sharp pointed. The juniper grows on dry sterile hills, and in sandy fields and pastures, is often quite troublesome.

GLOSSARY

OF THE PRINCIPAL BOTANICAL TERMS EMPLOYED IN THE DESCRIPTIONS.

- Acaulescent*: having no apparent stem, stemless.
- Acerose*: narrow and needle-like, as the leaves of firs.
- Achenium*: a dry seed-like fruit.
- Acotyledonous*: destitute of seed-leaves.
- Acrogenous*: growing only from the summit, as in the ferns.
- Acuminate*: ending in a narrow tapering point.
- Acute*: ending in a sharp point.
- Alternate*: not opposite.
- Apetalous*: having no petals, destitute of a corolla.
- Appressed*: lying flat against, or close to the stem.
- Auriculate*: having ear-like lobes at the base.
- Awn*: a slender bristle-like appendage, like the beard of barley, wheat, &c.
- Axil*: the angle between the leaf and stem, on the upper side.
- Barb*: a straight process, armed with one or more teeth pointing backwards.
- Beak*: a process, like the beak of a bird, terminating the fruit of certain plants.
- Biennial*: living only two years.
- Blade*: the *blade* of a leaf.
- Bract*: a small leaf or scale, from the axil of which a flower or its pedicel arises.
- Bristles*: short stiff hairs.
- Calyx*: the exterior leaves of a flower, usually green.
- Capitate*: collected in a head, or a globular mass.
- Capsule*: a seed-vessel opening when mature by regular valves.
- Carpel*: a simple pistil, or one of the parts of a compound one.
- Cauline*: relating, or belonging to the stem.
- Chaff*: small membranous scales or bracts on the receptacle of the Asterworts.
- Compound flower*: a cluster of flowers on a common receptacle, as in the Dandelion and other Asterworts.
- Compound leaf*: a leaf composed of several leaflets articulated to a common petiole—as the clover.
- Cordate*: heart-shaped.

- Corolla*: the inner of the two floral envelopes, generally colored.
- Cotyledons*: seed-leaves.
- Creeping*: running on or beneath the ground and putting forth small roots.
- Cruciate* or *cruciforme*: cross-shaped, like the flowers of the Mustard family.
- Culm*: a straw, or straw-like stem.
- Deciduous*: falling at the end of the season.
- Decomound*: several times compound or divided.
- Decurrent*: said of a leaf whose base extends downward along the stem.
- Depressed*: flattened from above.
- Dicotyledonous*: having two seed-leaves.
- Diffuse*: much divided and spreading.
- Diœcious*: staminate and pistillate flowers on separate plants—as in the Sheep-Sorrel.
- Downy*: clothed with fine hairs.
- Echinate*: having sharp points, bristled; hedgehog-like.
- Elliptic* or *Elliptical*: oval, with the two ends narrowing equally.
- Endogens*: inside growers, increasing by central or internal deposits of new matter.
- Exogens*: outside growers, increasing by annual additions to the outside.
- Fibrous*: consisting of fibres.
- Fronde*: the foliage of ferns.
- Fusiform*: round and tapering to a point.
- Gamopetalous*: having the petals more or less united.
- Gamosepalous*: having the sepals more or less united.
- Genus*: an assemblage of species possessing certain characters in common, by which they are distinguished from all others.
- Glabrous*: entirely smooth; destitute of any hairiness.
- Glumaceous*: chaff-like, having chaff or glums.
- Habit* of plants: their general appearance and mode of growth.
- Hirsute*: clothed with stiff hairs.
- Hispid*: bristly, with rigid, spreading hairs.
- Incised*: divided deeply as if cut.
- Indigenous*: native, growing originally in a country.
- Inflorescence*: the arrangement of the flowers on a plant.
- Inserted*: attached to; growing out of.
- Insertion*: the place or mode of attachment.
- Involucre*: a set of bracts or modified leaves surrounding the flower cluster.

Irregular: the component parts differing in size and shape.

Lanceolate: lance-shaped.

Legume: a fruit like that of the pea-pod.

Ligneous: of a firm woody texture.

Ligulate: strap-shaped, as the floret of the dandelion.

Linear: long and narrow, with the two margins parallel.

Lyrate: pinnatifid with the upper lobes much larger than the lower.

Maculate: spotted or blotched.

Male flowers: flowers furnished only with stamens.

Metamorphosis: the transformation of one organ into another, as the transformation of the stamens into petals.

Monocotyledonous: having but one cotyledon or seed leaf.

Monœcious: having the staminate and pistillate distinct, but on the same plant.

Monopetalous: having the petals more or less united.

Monosepalous: same as gamosepalous.

Obovate: inversely ovate.

Obovoid: inversely ovoid.

Officinal: applied to plants, &c., used in medicine or the arts.

Ovate: having the outline of a longitudinal section of an egg; broadest near the base.

Ovoid: egg-shaped.

Pannicle: a form of inflorescence, in which the cluster is much and irregularly branched, in a branched raceme, as in oats and some of the grasses.

Pappus: the calyx of composites, usually hairy-like or plumose, e. g. thistle-down.

Pedicel: the stalk of a particular flower.

Peduncle: the flower-stalk; also the common foot-stalk of a compound inflorescence.

Perennial: lasting for more than two years.

Petal: a leaf of the corolla.

Petiole: the stem or foot-stalk of a leaf.

Pistil: the central organ of a fertile flower.

Pistillate: those flowers which have pistils, but not stamens.

Pollen: the fertilizing powder contained in the anthers.

Punctate: appearing as if perforated with many small holes.

Raceme: a flower-cluster with short and equal lateral one-flowered pedicels, as in the currant.

Rachis: axis of inflorescence.

- Radical*: belonging to, or growing immediately from, the root.
- Receptacle*: the end of the flower-stalk, on which the parts of a flower are inserted.
- Revolute*: rolled backwards.
- Rhizoma*: a root-like subterraneous stem.
- Runcinate*: having large teeth pointing backward, as in the dandelion.
- Scape*: a stalk which arises from the root, supporting flowers and fruit but no leaves, as in the dandelion.
- Sepal*: the leaflet, or distinct portion of a calyx.
- Serrate*: notched like the teeth of a saw.
- Sessile*: inserted directly upon the main stem, without any pedicel or foot-stalk.
- Solitary*: standing alone.
- Species*: a group comprising all similar individuals; it is the lowest division of natural objects.
- Spike*: a prolonged, indefinite inflorescence in which the flowers are sessile or nearly so; ex. mullein.
- Stamen*: thread-like organs situated between the corolla and the pistils.
- Staminate*: flowers bearing stamens but no pistils.
- Stemless*: see acaulescent.
- Sterile flower*: having no pistils.
- Stolon*: a sucker; a weak trailing stem given off at the summit of the root, and taking root at intervals.
- Strap-shaped*: see ligulate.
- Succulent leaves*: juicy; full of juice; or pulpy.
- Syngenesious*: stamens united by their anthers.
- Truncate*: terminating abruptly as if cut off.
- Tuber*: a short, thickened underground branch, as the potato or arrow-root.
- Tumid*: enlarged like a swelling.
- Tussock*: a dense tuft formed at the root.
- Umbel*: a kind of inflorescence in which the flower-stalks diverge from one centre like the sticks of an umbrella; as in the carrot.
- Whorl*: a set of organs arranged in a circle around an axis, or stem.


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PAMPHLET BINDER

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