QK
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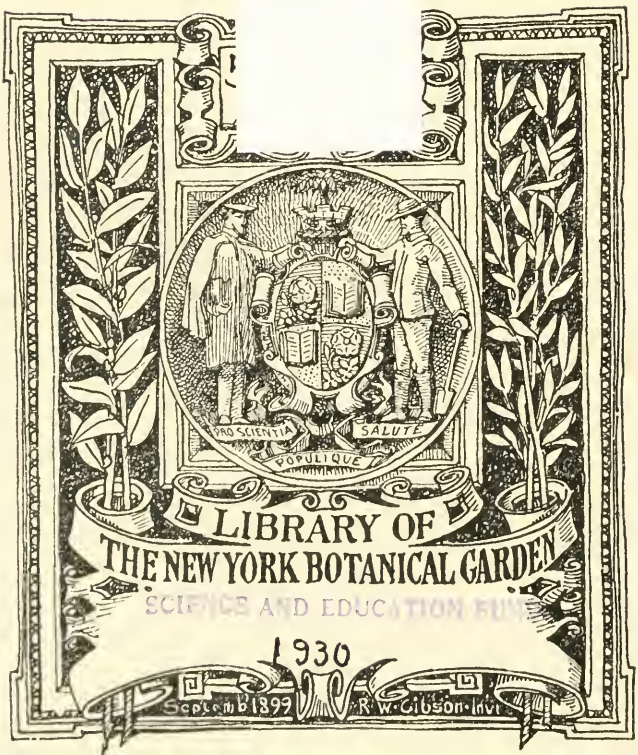
WILD FLOWERS.

BEAVER COUNTY

Edwin C. Jellett.



Edwin. C. Jellett.

Compliments

Ira. F. Mansfield

CONTRIBUTIONS

TO THE

Flora of Beaver County,

FROM THE

MANSFIELD HERBARIUM,

1865—1903.

BY IRA F. MANSFIELD,

Member of American Philosophical Society and A. A. A. S.

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.M35

"Herbarium! Herbarium, Who wrote it?
No, I never read Herbarium.
Then you have an immense pleasure to come."

MOUNTAIN LAUREL OR CALICO-BUSH.
(Kalmia latifolia).

TRAILING ARBUTUS OR MAYFLOWER.
(Epigaea repens).

FROM "NATURE'S GARDEN"
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PREFACE.

In preparing this check list it has been based upon a collection of wild flowers found within the county of Beaver, and for thirty-seven years many varieties have been carefully studied to prove they are indigenous to this locality. Although botany is taught quite generally in the various schools of our county, yet with few exceptions, little or no attention is given to the systematic preparation or preservation of native wild flowers. In carrying on the search and preparing herbarium, careful study has been made of geographical distribution, fertilization, and development. To assist teachers, young naturalists, and those who would like a botany in plain English; the list drops the orders, retaining the genera, with names of species in Latin. The object of this check list has been to localize the flora; giving a record of the author's own experiences, aided by careful references to the standard works, giving priority to old names; using Gray's botany in all disputed points. I am under obligations to Prof. Leo. Lesquereux, late of Columbus, Ohio, in naming many of the flora, ferns and mosses; Mrs. Lois H. Mansfield, Mrs. Mary K. Moody, Mrs. Olive C. Beauchamp and parties of lady school teachers, who have camped with me along the Ohio and Beaver rivers; all assisting in discovering and naming new species; also studying the problems as to nativity and objects of

life of all of our wild flowers. The influence of climate as to plants is plainly shown in our county. The Ohio river, with its low altitude, and mild influences, gives us many flowers that range through our southern states, even to Carolina and Georgia; while the high ranges of hills, with altitudes of 1300 feet, along Little Beaver river, with its colder climate, make the flora in many respects like that of the Lake region and Canada. Our entire county is covered with drift of shales and boulders from the ice age, alternating sands, clays and gravels, and the flora of any township depends chiefly on which of these soils happen to lie uppermost. Bordering the streams in every township, the hemlock spruce is abundant, and amid their gloomy recesses are found the club mosses, parasites, the handsome pink ladies' slippers Cypripediums, the Aspleniums and Phegopteris ferns in abundance. Along the low valleys and in the peat bogs of Pine swamp above New Gallilee, grow many varieties of Habenarias, with other orchids; also the three royal Osmunda ferns, with fronds six feet high. Each year there is less opportunity for collecting, the lumberman with his portable saw mill, moves on to fresh spoils, leaving behind an inextricably confused mass of tree tops, broken logs and upturned stumps. The best part of botany after all is not in the books, and to any who find the study dry, we commend camping out with nature herself; that boundless outdoor life, whose interest, beauty and mystery is with us from the cradle to the grave, forever stimulating inquiry, and ever richly rewarding patient and loving toil.

Beaver, Pa., January 1st, 1903.

COMMON PURPLE VIOLET.
(Viola obliqua.)

LIVERWORT.
(Hepatica hepatica.)

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CHECK LIST.

ACORUS,

CALAMUS ..... *Sweet Flag*

Pungent and aromatic, especially its thick creeping root-stalk which forms the officinal calamus aromaticus. This is now sparingly used as a stomatic, also in confections, distilling and brewing. Small bees and the Antiopa butterfly may be included as among the frequent early visitors.

ACTOEA,

ALBA ..... *White Baneberry*

RUBRA ..... *Red Baneberry*

ACTINOMERIS,

HELIANTHOIDES ..... *Actinomeris*

ACHILLEA,

MILLEFOLIUM ..... *Yarrow*

Tradition claims this plant used by Achilles to cure the wounds of his soldiers and the genus is named for that mighty hero. The Scottish highlanders claim its value in an ointment; the Swedes use it as a substitute for hops in beer, and the Swiss from it make the celebrated Alpine vinegar.

ABUTILON,

AVICENNAE ..... *Indian Mallow*

ADIANTUM,

PEDATUM ..... *Maiden Hair Fern*

AMARYLLIS,

HYPOXIS ..... *Yellow Star Grass*

AGRIMONIA,

EUPATORIA ..... *Common Agrimony*

PARVIFLORA ..... *Small Agrimony*

AGROSTIS,

VULGARIS ..... *Herd's Grass*

ALLIUM,

CERNUM ..... *Nodding Onion*

CANADENSE ..... *Nodding Garlic*

AMPELOPSIS,

QUINQUEFOLIA ..... *Virginia Creeper*

AMPHICARPOEA,

MONOICA ..... *Hog-pea-nut*

A graceful vine, bearing two sets of flowers and fruit. The upper flowers are delicate lilac, in drooping clusters; the subterranean ones without petals yielding fruit. The lower ones are fertilized by ants.

ANEMONE,

PENNSYLVANICA ..... *Thimble Weed*

VIRGINIANA ..... *Thimble Weed*

THALICTROIDES ..... *Wind Flower*

NEMEROSA ..... *Wind Flower*

CANADENSE ..... *Wind Flower*

Early and quite showy, the flowers are quite often bright rose color. Fertilized by bees and the small flies Syrphidœ. The fruit heads of the two first gives the common name.

ANTENNARIA,

MARGARITACEA ..... *Everlasting*

APLECTRUM—ORCHIS,

HYEMALE ..... *Adam and Eve*

BLOODROOT.

BY PER. HARRIET E. MIGLEY.
A. W. MUMFORD, PUBLISHER, CHICAGO

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APOCYNUM,

ANDROSAEMIFOLIUM .....*Dog Bane*

CANNABINUM .....*Indian Hemp*

APHYLLON,

UNIFLORA .....*Naked Broomrape*

Parasitic with slender one-flowered scapes, often called cancer root. The flowers have yellow folds in the throat and fragrant. The plant yields a bitter juice that is used as a tonic. Cross fertilized by bees and flies.

AQUILEGIA,

CANADENSIS ..... *Columbine*

COCCINEA ..... *Columbine*

The last species is quite distinct with larger flowers and short spurs, is found growing on south banks of Ohio river. The bird like claws of the blossoms furnishes the name. Largely visited at night by the moths and millers.

ARETHUSA—ORCHIS,

BULBOSA .....*Nymph of Diana*

ARABIS,

HESPERIODES .....*Rock Cress*

HIRSUTA .....*Hairy Cress*

LOEVIGATA .....*Smooth Cress*

CANADENSIS .....*Sickle Cress*

ARISTOLOCHIA,

SERPENTARIA .....*Snake Root*

ARTEMISIA,

ABSINTHIUM ..... *Wormwood*

ARALIA,

RACEMOSA ..... *Spikenard*
NUDICAULIS ..... *Sarsaparilla*
TRIFOLIA .....*Dwarf Ginseng*
QUINQUEFOLIA ..... *Ginseng*
HISPIDA .....*Wild Elder*

ARISOEMA,

TRIPHYLLUM .....*Jack in the Pulpit*
DRACONTIUM ..... *Green Dragon*

The difference in color with the triphyllum indicates the sex, the purple stripe spathe the "Lords" and the light green the "Ladies." The law regulating the sex in flowers has always had an interest and the ultimate conclusions are that in the earlier embryonic stages it is not determined, as the leaf bud may in all plants be either male or female. This is determined by the amount of nutrition the embryo is able to draw unto itself. In dracontium the leaves are grotesquely formed and resemble the claws and foot of a dragon. The long spadix tapering to a long point beyond the spathe for the purpose of attracting attention.

ASARUM,

CANADENSE .....*Wild Ginger*

The root has an aromatic odor and a warm, pungent taste. The odd flowers are borne close to the ground, often covered with leaves. A few butterflies, but mostly gnats and flies look after distributing the pollen.

ASCLEPIAS,

CORNUTI .....*Silk Weed*
QUADRIFOLIA .....*Silk Weed*
TUBEROSA .....*Pleurisy Root*

FROM TRIMEN'S MEDICINAL PLANTS

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DANDELION.
(Taraxacum taraxacum).

ASTERS,

PUNICEUS ..... *Starwort*
PATENS ..... *Starwort*
SHORTII ..... *Starwort*
DUMOSIS ..... *Starwort*
CRIEODES ..... *Starwort*
AZUREUS ..... *Starwort*
CARNEUS ..... *Starwort*
LONGIFOLIUS ..... *Starwort*
NOVA-ANGITA ..... *Starwort*

ASPIDIUM,

FELIX-MAS ..... *Male Fern*
THELYPTERIS ..... *Lady Fern*
MARGINALE ..... *Shield Fern*
BOOTII ..... *Wood Fern*
NOVABORACENSE ..... *New York Fern*
SPINULOSUM ..... *Spinulose Fern*
ACROSTICHOIDES ..... *Dagger Fern*
GOLDIANUM ..... *Goldie's Fern*
CHRISTATUM ..... *Crested Fern*

From recent researches the theory that in growing ferns from the seed spores, that there is a missing link, or in other words that ferns have a grandfather, but no father, has been disproved. The spores of all cryptogamous plants are the same in purpose and as perfect in use as the seed of other flowering plants. The spores have their antheridia and archegonia or male and female organs, and sometimes are on different prothalli, or at least, not perfected at the same time, on the same one.

ASPLENIUM,

FELIX-FEMINA ..... *Ladies' Fern*
TRICHOMANES ..... *Dwarf Spleenwort*
THELIPTERODES ..... *Silver Spleenwort*
EBENEUM ..... *Ebony Spleenwort*
EBENOIDES ..... *Hybrid Spleenwort*

The last named is a hybrid by nature from A-ebeneum and C-rhizophyllis, the result of one

species being fertilized by the antheroides of another species. If hybridity among ferns be admitted, then A-Bootii is another hybrid form A-christatum.

AZALEA,

VISCOSA ..... *Swamp Azalea*
ARBORESCENS ..... *Smooth Azalea*
CALENDULACEA ..... *Flame Azalea*

AZOLLA,

CAROLINIANA ..... *Azolla*

BAPTISIA,

AUSTRALIS ..... *Blue False Indigo*
LEUCOPHEA ..... *Cream False Indigo*
TINCTORIA ..... *Wild Indigo*

The plants are common, assigned as a native, having been found in every part of the United States. Also cultivated in gardens and used for dyeing, but is a poor substitute. The root in medicine is used as a laxative and in larger doses as a cathartic and emetic. Bees and butterflies constant visitors.

BELLIS,

INTEGRIFOLIA ..... *Daisy*

BIDENS,

BIPINNATA ..... *Spanish Needles*
CHRYSANTHEMOIDES ..... *Burr Marigold*
CERNUA ..... *Small Marigold*

BLEPHILIA,

CILIATA ..... *Downy Blephila*
HIRSUTA ..... *Hairy Blephila*

ROBIN'S PLANTAIN OR BLUE SPRING DAISY.
(Erigeron pulchellus.)

BLUE VERVAIN OR WILD HYSSOP.
(Verbena hastata.)

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BOTRYCHIUM,

LUNAROIDES .....*Grape Fern*
VIRGINICUM .....*Rattlesnake Fern*
NEGLECTUM ..... *Moonwort*

BUCHNERA,

AMERICANA .....*Blue Hearts*

BRUNELLA,

VULGARIS .....*Self Heal*

BROMUS,

SECALINUS ....*Cheat*

CACALIA,

ATROPLICIFOLIA .....*Indian Plantain*

CALYSTEGIA,

SEPIUM .....*Rutland Beauty*
SPITHAMAEA .....*Bind Weed*

CALTHA,

PALUSTRIS .....*Marsh Marigold*

"The marigold that goes to bed with the sun,
And with him rises weeping."

Extensively used by boiling as a vegetable, as a pot herb like spinach. So abundant is the bloom in Johnson's swamp near Cannelton, that the swamp seems paved with gold. The flowers are rich in nectar and the yellow Syrphidoe flies, with the Papilio butterflies look after cross fertilization.

CAMPANULA,

AMERICANA .....*Bellflower*

CASSIA,

MARILANDICA ..... *Lenna*

OBTUSIFOLIA ..... *Lenna*

CHAMAECRISTA ..... *Partridge Pea*

NICTITANS ..... *Sensitive Plant*

CANNABIS,

SATIVA ..... *Hemp*

CAMPTOSORUS,

RHIZOPHYLLUS ..... *Walking Fern*

The venation is peculiar and the disposition of the sori depends on the reticulated veins forming crooked lines and fruit dots. The leaves are prolonged like a runner, which often roots at the apex, and these in turn to others; hence the popular name.

CARDUUS,

NUTANS ..... *Musk Thistle*

CARDAMINE,

HIRSUTA ..... *Bitter Cress*

PURPUREA ..... *Spring Cress*

RHOMBOIDEA ..... *Meadow Cress*

CELASTRUS,

SCANDENS ..... *Climbing Bittersweet*

CEANOTHUS,

AMERICANUS ..... *Jersey Tea*

OVALIS ..... *Red Root*

The leaves were used for tea during the American Revolution, and is still used by some, they claiming that the action is as stimulating as Chinese teas. The flower spikes are slightly fragrant and are visited by many kinds of insects.

WILD COLUMBINE.

(*Aquilegia Canadensis.*)

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CHELONE,

GLABRA ..... *Turtle Head*

CHELIDONIUM,

MAJUS ..... *Celandine*

CHRYSOSPLENIUM,

AMERICANUM ..... *Golden Saxifrage*

CHIMAPHILA,

UMBELLATA ..... *Pipsissewa*

MACULATA ..... *Spotted Pine*

CIRSIUM,

MUTICUM ..... *Swamp Thistle*

PUMILUM ..... *Pasture Thistle*

ARVENSE ..... *Canada Thistle*

Cylindrical heads with purple flowers, dispensing their seeds by the aid of a light globe of pappus. Linnets, gold-finches and other birds feed on the seeds; and the larva of the plume moth Pterophorus, with the painted lady butterfly Vanessa, largely live on thistle heads. The flowers are fragrant and rich in nectar, which insects imbibe to abject intoxication.

CIMICIFUGA,

AMERICANA ..... *Bugbane*

RACEMOSA ..... *Black Cohosh*

CICUTA,

MACULATA ..... *Water Hemlock*

CIRCIA,

LUTETIANA ..... *Enchanter's Nightshade*

CLEMATIS,

VIORNA ..... *Leather Flower*

VIRGINIANA ..... *Virgin's Bower*

CLINTONIA,

BOREALIS ..... *Yellow Clintonia*

UMBELLATA ..... *White Clintonia*

CLAYTONIA,

CAROLINIANA ..... *Spring Beauty*

VIRGINICA ..... *Spring Beauty*

CLEOME,

PUNGENS ..... *Spider Flower*

COMMELYNA,

VIRGINICA ..... *Day Flower*

CORALLORHIZA—ORCHIS,

ODONTORHIZA ..... *Coral Root*

MULTIFLORA ..... *Coral Root*

Prized by chemists, but disappointing to orchid hunters. Simple scafe, with sheaths in place of leaves, dull colored red flowers. Its clustered coral roots speak its praises.

COLLINSONIA,

CANADENSIS ..... *Horse Balm*

COLINSIA,

VERNIA ..... *Innocence*

PARVIFLORA ..... *Blue Eyes*

CORYDALIS,

GLAUCA ..... *Pale Corydalis*

AUREA ..... *Golden Corydalis*

FLAVULA ..... *Crestless Corydalis*

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COSMANTHES—P

PURSHII ..... *Cosmanthes*

FIMBRIATA ..... *Cosmanthes*

CONOPHOLIS,

AMERICANA .....*Cancer Root*

A singular parasite growing in clusters of three on the roots of oak trees. The upper scales forming bracts to the yellow flowers, while the lower scales covering each other in regular order, not unlike those of a fir-cone.

CRYPTOTAENIA,

CANADENSIS ....*Honewort*

CUPHEA,

VISCOSISSIMA .....*Clammy Cuphea*

CUNILA,

MARIANA ..... *Dittany*

CUSCUTA,

ARVENIS ..... *Dodder*

Twining parasites of bad reputation, absolutely without conscience and of uncanny ways, living by sucking the life out of composites. Small flies visit the clusters of tiny white flowers.

CYSTOPTERIS,

FRAGILIS .....*Cliff Fern*

BULBIFERA ..... *Bladder Fern*

The last named has bulbs scattered at base of pinnaes, which drop to the ground, send out rootlets and send up developed fronds the second season.

CYNOGLOSSUM,

OFFICINALS ..... *Hound's Tongue*
VIRGINICUM ..... *Wild Comfrey*
MORISONI ..... *Beggars' Lice*

CYPRIPEDIUM—ORCHIS,

CANDIDUM ..... *Small White Slipper*
PUBESCENS ..... *Large Yellow Slipper*
PARVIFLORUM ..... *Small Yellow Slipper*
SPECTABILE ..... *White and Pink Slipper*
ACAULE ..... *Rose-purple Slipper*

Orchids are the gypsies of the plant world, being found in every country. They have a geographical movement, a real traveling by new tubes forming on the farther side of each present plant. The flowers often showy, being the only class of plants that show development. Only a few are capable of self-fertilization. They are distinguished from other flowers by a twist in the ovary, having the upper petal brought down, taking the place of the lower petal. In the above species the lip is inflated resembling a Lady's Slipper; others take on forms of insects. Some botanists claim these changing forms are inherited, but later authorities who have made orchids a study, show that these modifications are associated with the structure and habits of insects and their visits to these flowers. The early Algonquins called them "Indian's mawcahsin flower." Linnaeus in 1740 named this group for Cypris the "Divine Mother" of the Roman people. All these species are visited by bumblebees carrying the pollen on their backs

LADY'S SLIPPER.
(Cypripedium hirsutum.)

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DATURA,

STRAMONIUM .....*Jamestown Weed*

DASYSTOMA,

FLAVA ....*Foxglove*

DALEA,

ALOPEUROIDES ....*Dalea*

DESMODIUM,

ACUMINATUM .....*Chain Trefoil*
NUDIFLORUM .....*Bush Trefoil*
PAUCIFLORUM ....*Trefoil*
ROTUNDIFOLIA ....*Trefoil*
LINEATUM ....*Trefoil*
CANADENSE ..... *Trefoil*

The seeds form a chevaux-de-frise of beggar ticks. Thoreau writes: "Though you were running for your life, they would have time to catch and cling to your clothes," and so the seeds get what they wanted, deposited in a new place. Butterflies are frequent visitors.

DELPHINIUM,

TRIORNE ....*Larkspur*
EXALTUM ....*Larkspur*
AZUREUM ..... *Larkspur*

DECODON—N

VERTICILLATUS ....*Loosestrife*

Stems reroot themselves from their tips whenever they touch the water. Flowers trimorphous, and only fertilized from a stamen of equal length in another flower.

DENTARIA,

LACINATA ..... *Toothwort*

MAXIMA ..... *Toothwort*

HETEROPHYLLA ..... *Pepper Root*

DIPHYLLA ..... *Crinkle Root*

DIANTHERA,

AMERICANA ..... *Water Willow*

Favorite plant with cattle for food along our creeks, producing a large flow of milk. The flowers purplish and the separated cells give appearance of two anthers. Fertilized by butterflies and the so-called snake feeders.

DICENTRA,

CUCULLARIA ..... *Dutchman's Breeches*

CANADENSIS ..... *Squirrel Corn*

The firmly closed two spurred petals would seem to prevent intrusion of insects, but by means of gauze placed over flowers, no seeds are set, proving pollen from other flowers is necessary. The rounded spurs make the first named, as they resemble Dutchman's breeches.

DIOSCOREA,

VILLOSA ..... *Yam Root*

The rhizomes are used in a medicinal way and the roots or "yams" as articles of food. A bad name, for the plant is never villous, and often nearly smooth.

DROSERA,

ROTUNDIFOLIA ..... *Sundew*

DYSODIA,

CHRYSANTHEMOIDES ..... *Fetid Marigold*

BUR OR SPEAR THISTLE.

(Carduus lanceolatus.)

PASTURE OR FRAGRANT THISTLE

(Carduus odoratus)

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DULCHIUM,

SPATHACEUM ..... *Spiked Sedge*

ECHINODORUS,

RADICANS ..... *Urchin's Sack*

ECHIUM,

VULGARE ..... *Viper's Bugloss*

ECHONOCYSTIS,

LOBATO ..... *Balsam Apple*

A beautiful rapid-growing climber with triple tendrils, and is cross fertilized largely by beetles. The name means hedgehog, in allusion to the armed fruit.

ELEOCHARIS,

ROSTELLATA ..... *Spiked Rush*

ELODES,

VIRGINICA ..... *Marsh Wort*

EPIPHEGUS,

VIRGINIANA ..... *Beech Drops*

Saprophytic plants, upper open flowers are sterile, the lower ones which never expand, accomplish the continuance of their kind.

EPIGOEA,

REPENS ..... *Trailing Arbutus*

It is hard to realize the plant with its creeping habits is actually a shrub. They were the first flowers to greet our Pilgrim Fathers, and are peddled every spring under the title of the Plymouth Mayflower.

EPILOBIUM,

AUGUSTITIFOLIUM ..... *Willow Herb*
COLORATUM ..... *Rose Bay*

EQUISETUM,

HYEMALE ..... *Scouring Rush*
SYLVATICUM ..... *Horsetail*
PRATENSE ..... *Branched Tail*

ERYTHRONIUM,

AMERICANUM ..... *Yellow Adder's Tongue*
ALBIDUM ..... *White Adder's Tongue*

These flowers are adapted to long tongued insects. The bumblebee Bumpus Pennsylvanicus and the butterfly Colias philodice are often seen entering the flower bell and issue besprinkled with pollen.

ERIGERON,

BELLIDIFOLIUM ..... *Robin's Plantain*
CANADENSE ..... *Flea Bane*

ERECHTHITES,

HIERACIFOLIA ..... *Fire Weed*

EUPHORBIA,

CORROLLATA ..... *Flowering Spurge*
HYPERICIFOLIA ..... *Flowering Spurge*
ESULA ..... *Flowering Spurge*
DENTATA ..... *Flowering Spurge*

EUONYMUS,

ATROPURPUREUS ..... *Burning Bush*
AMERICANUS ..... *Spindle Bush*

SEA OR MARSH PINK.
(Sabbatia stellaris.)

FIRE-WEED.
(Chamaenerion angustifolium.)

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EUPATORIUM,

PURPUREM ..... *Joe Pye Weed*
AGERATOIDES ..... *White Snake Root*
PERFOLIATUM ..... *Thorough Wort*
SESSILIFOLIUM ..... *Upland Boneset*
ATISSIMUM ..... *Trumpet Weed*

These heads of flowers show that in "union there is strength" by being composite, attractive to insects. The first-named to commemorate Dr. Joe Pye an Indian doctor who had great reputation in curing typhoid fever by its use.

FEDIA,

OLITORIA ..... *Lamb's Lettuce*
FAGOPYRUM ..... *Corn Salad*

FILAGO,

Germanica ..... *Cotton Rose*

FLOERKEA,

PROSERPINACOIDES ..... *False Mermaid*

FRAGARIA,

ILLINOENSIS ..... *Field Strawberry*
VESCA ..... *Cliff Strawberry*

Six natural species are recognized, all belonging to F-vesca. The Illinoensis is the source of the famous Hovey's Seedling and later of the Wilson's Albany, whose production marked an epoch in strawberry culture. Some botanists condemn calling it a berry as the fruit or achaena are borne on its exterior. Izaak Walton, in his Angler, quotes Dr. Boteler as saying, "Doubtless, God could have made a better berry, but, doubtless, God never did."

FUMARIA,

officinalis ..... *Smoke Plant*

GAULTHERIA,

procumbens ..... *Wintergreen*

maculatum ..... *Wintergreen*

GALIUM,

triflorum ..... *Sweet-scented Bedstraw*

concinnum ..... *Rough Bedstraw*

latifolium ..... *Smooth Bedstraw*

pilosum ..... *Hairy Bedstraw*

asprellum ..... *Hooked Bedstraw*

circaezans ..... *Wild Liquorice*

GAURA,

biennis ..... *Gaura*

GENISTA,

tinctoria ..... *Dyer's Weed*

GENTIANA,

Saponaria ..... *Soapwort*

ochroleuca ..... *White Gentian*

Andrewsii ..... *Blue Gentian*

quinqueflora ..... *Five-flowered Gentian*

They bloom with the late frosts, when birds have flown. The closed flowers have been used to disprove cross fertilization by insects, but bees have been noted puncturing the petals of the tight closed bottle shaped corolla. The juices of the plant are very bitter and used as a substitute for quinine.

GERARDIA,

tennifolia ..... *Purple Gerardia*

paupercula ..... *Small Gerardia*

YELLOW LADY'S SLIPPER AND PAINTED CUP.

BY PER HARRIET E. HIGLEY.
A. W. MUMFORD, PUBLISHER, CHICAGO.

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GEUM,

ALBUM ..... *Avens*

GERANIUM,

PUSILLUM ..... *Small Cranesbill*

MACULATUM ..... *Large Cranesbill*

The long fruit bearing beak resembling the bill of cranes.

Sprungel, the German scholar, first noted the close relation as to form between flowers and insects. Others have noted the number of species of insects is related to the number of species of plants, each shaping those of the other.

GILLENIA,

TRIFOLIATA ..... *Indian Physic*

GOODYERA—ORCHIS,

REPENS ..... *Rattlsnake Plantain*

PUBESCENS ..... *Rattlesnake Plantain*

TESSELLATA ..... *Rattlesnake Plantain*

GRATIOLA,

VIRGINIANA ..... *Hedge Hyssop*

HAMAMELIS,

VIRGINICA ..... *Witch Hazel*

The polygamous showy flowers come out late in autumn, maturing the next summer its torpedo shaped seeds, which it expels with remarkable force to a distance of forty feet. It has lately been discovered that the pollen after germinating upon the stigma, with comparative rapidity until winter, when the upper part of the pistil dies and the pollen tube passes the winter in that part of the pistil which has a protective covering of hairs. In the spring the pollen tube resumes its growth and perfects fertilization of the plant.

HABENARIA—ORCHIS,

BIGELOVII ..... *Large Fringed Orchis*

HOOKERIANA ..... *Small Fringed Orchis*

CILIARIS ..... *Yellow Fringed Orchis*

PSYCODES ..... *Purple Fringed Orchis*

BLEPHARIGLOTTIS ..... *White Fringed Orchis*

ORBICULATA ..... *Spurred Fringed Orchis*

DILATATA ..... *Green Fringed Orchis*

PERAMOENA ..... *Oval Leaf Orchis*

LACENA ..... *Ragged Orchis*

The difference between these species is marked and distinct year after year. Variation is the universal rule in nature and this genus in all species shows that it exists everywhere. So there are no two faces exactly similar; so there are no two plants which do not vary to some extent in structure; and today the naturalist wants to know the cause of the variations.

HEPATICA,

TRIBOLA ..... *Liver Leaf*

ACUTILOBA ..... *Liver Leaf*

On sunny sides of hills the leaves are tribola, or round lobed, and in shady nooks, leaves acute or pointed and sometimes five-lobed. The ancients believed nature indicated by shape to which her creations should be applied.

HEUCHERA,

AMERICANA ..... *Alum Root*

PUBESCENS ..... *Alum Root*

HEDEOMA,

PULEGIOIDES ..... *Pennyroyal*

HISPIDA ..... *Pennyroyal*

OSWEGO TEA OR BEE BALM.

(*Monarda didyma.*)

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HELIANTHUS,

TUBEROSUS ..... *Artichoke*
GIGANTEUS ..... *Sun-flower*
HIRSUTAS ..... *Sun-flower*
DECAPETALUS ..... *Sun-flower*
DIVARICATUS ..... *Sun-flower*
MICROCEPHALUS ..... *Sun-flower*

The divaricatus is claimed to be original of the artichoke. The other species in mythology sacred; as the flowers always face the sun. They are used in the temples as symbolizing constancy and service to the sun-god.

HIERACIUM,

VENOSUM .....*Rattlesnake Weed*
PANICULATUM .....*Panicled Weed*
SCABRUM .....*Hawk Weed*

HOUSTONIA,

TENNIFOLIA ..... *Bluets*
LONGIFOLIA ..... *Innocence*
COERULIA .....*Quaker Ladies*

They are dimorphous with short pistils and and stamens. The tall secure pollen from tall and short from short pistil or stamened plants, thus preventing self-fertilization.

HYPOXIS,

ERECTA .....*Star Grass*

HYDROPHYLLUM,

VIRGINICUM .....*Water Leaf*
APPENDICULATUM .....*Water Leaf*

HYDRANGEA,

ARBORESCENS .....*Wild Hydrangea*

HYDROSOTYLE,

RANUNCULOIDES ..... *Pennywort*

HYPERICUM,

CORYMBOSUM .....*St. John's Wort*
PROLIFICUM .....*St. John's Wort*
DENSIFLORUM .....*St. John's Wort*
ELLIPTICUM .....*St. John's Wort*
PERFORATUM .....*St. John's Wort*

ILEX,

VERTICILLATA .....*Black Alder*

ILYSANTHES,

GRATIOLOIDES ..... *Mire-flower*

IMPATIENS,

FULVA .....*Jewel Weed*
PALLIDA .....*Jewel Weed*

Cleistogamous flowers fertilized in the bud. The seed pod bursting with violence, scatters the seed without aid of elements or animals.

IODANTHUS,

PINNATIFIDIA .....*False Rocket*

IRIS,

VERSICOLOR .....*Blue Flag*
VERNA .....*Dwarf Flag*
CRISTATA .....*Crested Flag*

ISANTHUS,

CAERULEUS .....*False Pennyroyal*

JEFFERSONIA,

DIPHYLLA ..... *Twin-leaf*

423 GREAT MULLEN OR VELVET DOCK
(Verbascum thapsus).

MOTH MULLEN.
(Verbascum blattaria).

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JUNCUS,

EFFUSES ..... *Bog Rush*

The soft pliant stems much sought after by basketry clubs, as they easily take up colors and work up beautifully into baskets.

KALMIA,

LATIFOLIA ..... *Calico Bush*

AUGUSTIFOLIA ..... *Sheep Laurel*

GLAUCA ..... *Pale Laurel*

Through Apollo and the emperors, Tiberias and Augustus, the legends of laurel are dramatic. The use of same was forbidden to profane services; even today many count it a good omen to decorate homes for Christmas. Farmers persist in exterminating laurel as poisonous to sheep. Others ruin many fine groves hunting for the knotty roots to make pipes and souveniers.

KRIGIA,

VIRGINICA ..... *Dandelion*

LESPEDEZA,

TINCTORIA ..... *Bush Clover*

HIRTA ..... *Bush Clover*

REPENS ..... *Bush Clover*

DIVERGENS ..... *Bush Clover*

VIOLACEA ..... *Bush Clover*

They bear two kinds of flowers, the showy ones with petals never fruit, the others without petals extremely fertile. Butterflies and bees are constant visitors. The plant named for a Spanish governor of Florida.

LEPIDIUM,

INTERMEDIUM ..... *Pepperwort*

LEDUM,

LATIFOLIUM .....*Labrador Tea*

LINUM,

USITATISSIMUM ..... *Flax*

LIPARIS—ORCHIS,

LOESELII .....*Tway Blade*

LILIFOLIA .....*Tway Blade*

A pretty little orchid, the racemes with purplish flowers, and fat or shining leaves. To have success in germinating the seeds they must be sown in fungus-infected soil.

LIATRIS,

SQUARROSA ....*Blazing Star*

SCARIOSA .....*Blazing Star*

Showy spikes of purplish flowers, often three feet in length. Grows in great masses near Morado park, with polygala, golden rod and lobelia. Flowers are visited by the honey bee and orange banded hornets.

LILLIUM,

CANADENSE .....*Meadow Lily*

SUPERBUM .....*Wood Lily*

The pollen is largely distributed by the humming birds; the smallest, most exquisite and unabashed tropical jewel, that assists in fertilizing all our tubular flowers. The bird's tongue is perforated, forming cylindrical tubes, capturing insects in flowers, as well as nectar. They cover their nests with lichens and line them with down of cat tails and ferns. In extracting nectar from flowers, they poise on wing, and the only bird that flies backward out of flower tubes.

LINARIA,

VULGARIS .....*Butter and Eggs*

CANADENSIS .....*Butter and Eggs*

RUBY-THROATED HUMMING BIRDS
Life-size

LIPPIA,

LANCEOLATA .....*Fog Fruit*

LONICERA,

PARVIFLORA .....*Small Honeysuckle*
CILIATA .....*Fly Honeysuckle*
GRATA ..... *Woodbine*

LOBELIA,

SPICATA .....*Pale Lobelia*
SYPHILITICA .....*Blue Cardinal*
CARDINALUS .....*Red Cardinal*
INFLATA .....*Indian Tobacco*
DORTMANNA .....*Water Lobelia*

LUDWIGIA,

ALTERNIFOLIA ..... *Seed-box*
PALUSTRIS .....*Water Purslane*

LYCHNIS,

VESPERTINA .....*Evening Cockle*
GITHAGO .....*Corn Cockle*

LYCOPUS,

VIRGINICUS .....*Bugle Weed*
EUROPAEUS .....*Water Horehound*
SINUATUS .....*Water Horehound*

LYSIMACHIA,

CILIATA ..... *Loosestrife*
THYRSIFLORA .....*Tufted Loosestrife*
STRICTA ..... *Loosestrife*
QUADRIFOLIA ..... *Loosestrife*
NUMMULARIA ..... *Moneywort*

The last is a pretty trailing vine growing in the river channel beds among the gravel and stones. The golden yellow flowers attracts many insects.

LYCOPODIUM,

DENDROIDEUM .....*Ground Pine*

COMPLANATUM .....*Festoon Pine*

CLAVATUM .....*Club Moss*

Variation in these plants seem to be more than evolution, being guided by some intelligent power having definite and ordered results. They were not left to chance, and always an end in view, with regular methods adapted to that end. The subtile spores discharge copious sulphur-colored inflammable powder.

LYGODIUM,

PALMATUM .....*Climbing Fern*

Rootstalks with climbing fronds. From each mid-vein veinlets arise obliquely curving outward to edge of lobes. Connecticut passed a blue law in 1869 with a penalty of one hundred dollars for gathering this fern. This is the only state law, where a wild plant has received special protection on account of its beauty.

MAIANTHEMUM,

BIFOLIA .....*Two-Leaved Seal*

MARUTA,

COTULA .....*May Weed*

MALVA,

MOSCHATES .....*Musk Mallow*

ROTUNDIFOLIA .....*Common Mallow*

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MELITOTUS,

ALBA .....*Sweet-scented Clover*

MEDICAGO,

LUPULINA ..... *Medick*

MEDEOLA,

VIRGINIANA .....*Cucumber Root*

Named for the sorceress, Medea, from the imaginary notion that it possesses great medicinal virtues. Always found growing with Orchids.

MENTHA,

SYLVESTRIS .....*Horse Mint*

PIPERITA .....*Pepper Mint*

AQUATICA .....*Water Mint*

VIRIDIS .....*Spear Mint*

ARVENSIS .....*Corn Mint*

MERTENSIA,

VIRGINICA .....*Blue Bells*

MELANTHIUM,

VIRGINICUM .....*Bunch Flower*

MICHELLA,

REPENS .....*Partridge Berry*

The white fragrant flowers are rarely dimorphous or completely confluent in one. Cross fertilized mainly by small butterflies and bees. The scarlet berries are edible remaining through winter. This evergreen plant is common in America, Mexico, Asia and Japan. Supposed to have had common origin, being separated by descent of glacial periods.

MITELLA,

DIPHYLLA ..... *Bishop's Cap*

MIMULUS,

ALATUS ..... *Monkey Flower*
RINGENS ..... *Monkey Flower*
JAMESII ..... *Monkey Flower*

MOLLUGO,

VERTICILLATA ..... *Carpet Weed*

MONARDA,

DIDYMA ..... *Oswego Tea*
FISTULOSA ..... *Red Burgamot*
PUNCTATA ..... *Horse Balm*

MOSSES,

TUNGERMANIA
HYPNUM-ADUSTUM
DESMATODON-AVENACENS
BARTRANIA-PONISFOMIES
CYLINDESTHESIUM-SEDUCTRIA
POLYTRICHIUM-FORMOSUM
HYPNUM-TAMARISSIMUM
MERCHANTIA-POLYMORPHIA
DEERHORN-MUSHROON.

Mosses are interesting on account of the important part they play in the economy of nature. The mossy coverings of the forest collect the rainfall like a sponge, holding back excessive torrents; while the bog moss forms peat and other mosses grow on rocks producing by decay a thin layer of humus in which the seeds of higher plants take root. They have capacity to endure droughts and of suspending their growth in dry and resuming it again in moist weather. Among plants none of a higher order are closely allied and the chasm which divides mosses from all other plants, is the widest in the whole vegetable kingdom.

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LADY'S SLIPPER.

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MONOTROPA,

UNIFLORA ..... *Indian Pipe*
HIPOPITYS ..... *Pine Sap*
LANUGINOSA ..... *False Beech Drops*

MYOSOTIS,

PALUSTRIS ..... *Forget-me-not*
LAXA ..... *Forget-me-not*
VERNA ..... *Forget-me-not*

MYRIOPHYLLUM,

VERTICILLATUM ..... *Water Milfoil*
TENELLUM ..... *Water Milfoil*

NAPAEA,

DIOICA ..... *Marsh Mallow*

NARDOSMIA,

PALMATA ..... *Coltsfoot*

NABULUS,

ALTISSIMUS ..... *Drop Flower*
ALBUS ..... *White Lettuce*
CREPIDINEUS ..... *Rattlesnake Root*

NEPETA,

GLECHOMA ..... *Ground Ivy*
CATARIA ..... *Catnip*

NICOTIANA,

RUSTICA ..... *Wild Tobacco*

Named for John Nicot, who introduced the tobacco into Europe. The species number about fifty, all of American origin. Common in old fields; a relic of cultivation by the Indians. The family dependent upon insects for cross fertilization.

NUPHAR,

ADVENA ..... *Yellow Pond Lily*

VARIEGATUM ..... *Yellow Pond Lily*

PUMILUM ..... *Yellow Pond Lily*

Flowers produced all summer and from their odor called "brandy bottles." Many use the roots as food, as also its farinaceous seeds. The sepals graduate into petals and the rows of petals into stamens. Reproduction is accomplished by the seeds, buds, bulblets, bulbs, tubers, cuttings, scions, and from leaves. Thus God's boundless resources of skill can accomplish either one purpose in a thousand different ways, or a thousand different purposes by one radical form and that form a leaf.

OENOTHERA,

CHRYSANTHRA ..... *Evening Primrose*

PUMILLA ..... *Evening Primrose*

BIENNIS ..... *Evening Primrose*

GRANDIFLORA ..... *Evening Primrose*

CRUCIATA ..... *Evening Primrose*

Plant varies greatly. Of nocturnal habits, the flowers opening near sunset and emit a fragrance to catch the large night moths. The roots are eaten to provoke a relish for wine.

ONOCLEA,

SENSIBILIS ..... *Sensitive Fern*

ORCHIS,

SPECTABILIS ..... *Showy Orchid*

The flower is completely turned around and the lip instead of being superior is anterior. The number of species is over five thousand, exceeding that of any other order. Twenty-eight have been found in Beaver county.

FROM KŒHLER'S MEDICINAL-PFLANZEN.

SWEET FLAG.
(Acorus calamus.)

CHICAGO
A. W. MAYER & CO., PUBLISHER

OSMORRHIZA,

LONGISTYLIS .....*Sweet Cicely*

BREVISTYLIS .....*Sweet Cicely*

OSMUNDA,

REGALIS .....*Royal Fern*

CINNAMOMEA .....*Cinnamon Fern*

INTERRUPTUS .....*Flowering Fern*

Named for St. Osmund, who came over from Normandy in 1066 with William the Conqueror and who was made chancellor and reformed the liturgy. The root stalk continues many years, forming crowns of fronds or hummocks of imbricated stalk bases and interlacing roots. The base of the stalks are winged inwrapping the less developed like the scales of an onion. In Pine swamp the fronds grow six feet above the hummocks, curving outward and form such stately beauty that they are deserving of name royal ferns. All the genera have the stalks winged and woolly, nor is there any absence of auricles or rounded lobes to distinguish the American from the European.

OXALIS,

VIOLACEA .....*Wood Sorrel*

STRICTA .....*Wood Sorrel*

ACETOSELLA .....*Wood Sorrel*

These plants bear small cleistogamous flowers underground that are self fertilized. They yield the salt of lemons due to oxalic acid. The triple leaves are reputed to have been used by Saint Patrick as a symbol of the Trinity.

OXYRIA,

DIGYNA .....*Mountain Sorrel*

PAPAVER,

DUBIUM .....*Corn Poppy*

SOMNIFERUM .....*Corn Poppy*

PARONYCHIA,

DICHOTOMA .....*Whitlow Wort*

CANADENSIS ..... *Betony*

PENTHORUM,

SEDOIDES .....*Stone Crop*

PEDICULARIS,

CANADENSIS ..... *Betony*

The spikes bear the slender corolla as the head of a walrus and even with the miniature projections in imitation of his tusks. The pollen is protected from rain, under the hooded upper lip. Bees are common visitors.

PENSTEMON, ...

PUBESCENS .....*Beard's Tongue*

DIGITALIS .....*Beard's Tongue*

GRANDIFLOROUS .....*Beard's Tongue*

PHYTOLACCA,

DECANDRA .....*Poke Berry*

PHORADENDRON,

FLAVESCENS .....*False Mistletoe*

Of seventy-six species only this one found growing in our county. The plant much branched with scaly leaves, and having small spikes of yellow flowers; followed by white berries with vicous pulp, that are eaten by birds, thus scattering the seeds. The mistletoe is parasitic, most common on the shad or Juneberry tree.

TALL OR GIANT SUNFLOWER.
(*Helianthus giganteus.*)

BLACK-EYED SUSAN OR OX-EYE DAISY.
(*Rudbeckia hirta.*)

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PHYRMA,

LEPTOSTACHYA ..... *Lopseed*

PHYSOSTEGIA,

VIRGINIANA .....*Dragon Head*

PHELIPOEA,

LUDOVICIANA .....*Broom Rape*

PHEGOPTERIS,

DRYOPTERIS .....*Oak Fern*
POLYPODIODES .....*Beech Fern*
HEXOCONOPTERIS .....*Beech Fern*

PHYSALIS,

ANGULATA .....*Ground Cherry*
VISCOSA .....*Ground Cherry*
PENNSYLVANICA .....*Ground Cherry*

PHLOX,

DIVARICATA .....*Wood Pink*
LYCHNIDIA .....*Swamp Phlox*
MACULATA .....*Sweet William*
SUBLATA .....*Moss Pink*

POLYGONUM,

DUMETORUM .....*Climbing Buckwheat*
ORIENTALE .....*Prince's Feather*
HYDROPIPER ..... *Smartweed*
ACRE .....*Red Smartweed*
ARTICULATA ..... *Jointweed*
AVICULARE ..... *Knotgrass*
ARIFOLIUM ..... *Tear-thumb*
PENNSYLVANICUM .....*Rose Feather*
VIRGINIANUM .....*Rose Feather*

POLYPODIUM,

VULGARE .....*Rock Fern*

POLYGONATUM,

GIGANTEUM ..... *Solomon's Seal*
BIFLORUM ..... *Solomon's Seal*

POLYGALA,

BREVIFOLIA ..... *Milkworts*
SANGUINEA ..... *Milkworts*

POLEMONIUM,

REPTANS ..... *Greek Valerian*

PONTEDERIA,

CORDATA ..... *Pickerel Weed*

PODOPHYLLUM,

PELTATUM ..... *May Apple*

POTOMOGETON,

GRAMINEUS ..... *Pond Weed*

Those who desire to make further discoveries can with a microscope take up the Algae, a large group of cosmopolitan plants. In the order of Diatoms, many are found attached to these pond weeds. They vary greatly, showing plant forms that are very beautiful. There are many genera, and millions of species, growing and moving everywhere, but how, is one of nature's secrets.

POTENTILLA,

CANADENSIS ..... *Five Fingers*

PSORALEA,

ONOBRYCHIS ..... *Psoralea*

PTEROSPORA,

ANDROMEDEA ..... *Pine Drops*

IRIS.

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PTERIS,

GRACILLIS ..... *Rock Brake*
AQUILINA ..... *Rock Brake*
ATROPURPUREA ..... *Rock Brake*

The genus Pteris consists of about one hundred species, widely distributed in America, Mexico and Europe. The transverse section of stems shows fibroid bundles of tissue; likened in appearance to "U. S." or the heraldic "displayed eagle" and in Europe it is also said they show "King Charles in the oak."

PYROLA,

ROTUNDIFOLIA ..... *False Wintergreen*
ELLIPTICA ..... *Shin Leaf*

PYCUANTHEMUM,

LANCEOLATUM ..... *Basil*

QUAMOCLIT,

COCCINEA ..... *Cypress Vine*

RANUNCULUS,

MURICATUS ..... *Buttercup*
MULTIFIDUS ..... *Buttercup*
FASCICULARIS ..... *Buttercup*
BULBOSUS ..... *Buttercup*
ALISMAEFOLIUS ..... *Spearwort*
ABORTIUS ..... *Small Crowfoot*
REPTENS ..... *Creeping Crowfoot*
ACRIS ..... *Buttercup*

RHUS,

TYPHINA ..... *Staghorn Sumach*
TOXICODENDRON ..... *Poison Ivy*
COPALLINA ..... *Dwarf Sumach*
VENENATA ..... *Poison Sumach*
AROMATICA ..... *Fragrant Sumach*

RHODODENDRON,

MAXIMUM .....*Great Laurel*

CATAWBIENSE .....*Great Laurel*

Both species are abundant on hills back from Monaca. They produce their new growth below the beautiful flowers, forming a terminal inflorescence destitute of leaves and developed from a large scaly bud. The cultivated species are R-Catawbiense hybridized with the tender exotic R-aboreum. The flower stems are hairy and sticky, keeping off insects not wanted, while the flowers are fertilized by many kinds of bees and night moths. They give us a broad hint to adopt them as our National Flower.

RIBUS,

FLORIDUM .....*Black Currant*

CYNOSBATI .....*Gooseberry*

ROSA,

BLANDA .....*Early Rose*

LUCIDA .....*Dwarf Rose*

CAROLINA .....*Swamp Rose*

RUBIGINOSA .....*Sweet Brier Rose*

MICRANTHA .....*Small Sweet Brier Rose*

RUDBECKIA,

LACINIATA .....*Cone Flower*

TRIBOLA .....*Cone Flower*

SPECIOSA .....*Cone Flower*

FULGIDA .....*Cone Flower*

HIRTA .....*Cone Flower*

The last named species now common of recent introduction, with clover seed from the west. The small bee Halictus, bumble bees and larger butterflies are constant visitors.

WILD YELLOW OR CANADIAN LILY.

(*Lilium Canadense.*)

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RUBUS,

ODORATUS ..... *Flowering Raspberry*
VILLOSUS ..... *Blackberry*
CANADENSIS ..... *Dewberry*
OCCIDENTALIS ..... *Thimble Berry*

SARRACENIA,

PURPUREA ..... *Pitcher Plant*

An interesting but almost extinct plant found growing in the peat bogs of Pine swamp above New Gallilee. The curious inflated leaves are always partly filled with water and many drowned insects, that not only contributed to the fertilizing but now to the sustenance. This species have leaf glands secreting a digestive fluid which aids in assimilating the insects. Now known that the pitcher leaves are kept filled through the roots.

SAPONNARIA,

OFFICINALIS ..... *Bouncing Bet*

SAGGITTARIA,

RIGIDA ..... *Narrow Arrow Head*
OBTUSA ..... *Broad Arrow Head*

The genus remarkable for its variations in leaf and flower characters. Most of the fourteen named species can be traced in our county, but they seem to be mere forms not varieties. The pollen is largely distributed by the glassy winged dragon fly.

SABBATIA,

ANGULARIS ..... *American Century*
BRACHIATA ..... *Rose-pink Century*

SANICULA,

MARILANDICA .....*Black Snake Root*

SCROPHULARIA,

CANADENSIS .....*Blood Root*

Showy but fragile flowers, common everywhere. The blossom attracts insects which gather pollen but no nectar. Named from the color of the juice.

SAMOLUS,

AMERICANUS .....*Pimpernel*

SAXIFRAGA,

VIRGINIENSIS .....*Saxifrage*

PENNSYLVANICA .....*Saxifrage*

SCROPULARIA,

RODOSA .....*Figwort*

SCUTELLARIA,

LATERIFLORA .....*Skullcap*

PILOSA .....*Skullcap*

VERSICOLOR .....*Skullcap*

SERRATA .....*Skullcap*

INTEGRIFOLIA .....*Skullcap*

CANESCENS .....*Skullcap*

A quack doctor having formerly vaunted its virtues as a remedy for hydrophobia the genus bears the name of Mad-Dog-Skullcap. Flowers are fertilized by the bee Halictus and leaf cutter Megachile.

SENECIO,

OBOVATUS .....*Groundsel*

AURENS .....*Golden Ragwort*

BLACK COHOSH.
(Cimicifuga racemosa.)

ARROW-HEAD.
(Sagittaria latifolia.)

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SISYRINCHIUM,

BERMUDIANA .....*Blue-eyed Grass*

SILENE,

ROTUNDIFLORA .....*Round Campion*

REGIA .....*Royal Campion*

STELLATA .....*Starry Campion*

ALBA .....*White Campion*

PENNSYLVANICA .....*Pink Campion*

NOCTURNA .....*Night Campion*

INFLATA .....*Bladder Campion*

Beautiful but delicate flowers. Some open in sunshine and others at night, being visited by large moths.

SIDA,

NAPAEA .....*Sida*

SMILACINA,

RACEMOSA .....*Solomon's Seal*

SMILAX,

ROTUNDIFOLIA .....*Greenbrier*

HERBACEA .....*Carrion Flower*

GLAUCA .....*Sarsaparilla*

SOLIDAGO,

COESIA .....*Golden Rod*

LATIFOLIA .....*Golden Rod*

ULMIFOLIA .....*Golden Rod*

CANADENSIS .....*Golden Rod*

Some twenty species have been collected in this county, showing many forms of leaf and flower. Flowers are visited day and night by insects and there seems supply of pollen and nectar for all.

SOLANUM,

DULCAMARA .....*False Bittersweet*
NIGRUM .....*Poison Nightshade*
CAROLINEUSE .....*Horse Nettle*

SPARGANUM,

SIMPLEX .....*Burr Reed*
EURYCARPUM .....*Large Reed*
ANDROCLADUM .....*Branching Reed*

SPECULARIA,

PERFOLIATA .....*Venus Looking Glass*

SPIRANTHES—ORCHIS,

CERNUA .....*Ladies Traces*
PROECOX .....*Ladies Traces*
GRACILIS .....*Ladies Traces*

The name alludes to the spiral flower spike. The odor of last named is peculiarly aromatic reminiscent of the horse chestnut, but remarkably sweet, attracting many insects. The two first abundant at 1200 feet above sea level, the last in swamps.

SPIROEA,

OPULIFOLIA .....*Nine Bark*
LOBATO .....*Prince's Feather*
ARUNCUS .....*Goat's Beard*
FILIPENDULA .....*Meadow's Pride*
TOMENTOSA .....*Steeple Bark*
SALICIFOLIA .....*Meadow Sweet*

STACHYS,

ARVENSIS .....*Woundwort*
ASPERA .....*Hedge Nettle*
PALUSTRIS .....*Hedge Nettle*
HYSSOPIFOLIA .....*Hedge Nettle*
GLABRA .....*Hedge Nettle*

471 SOAPWORT OR BOUNCING BET.

(Saponaria officinalis.)

SNAKE-HEAD OR TURTLE-HEAD

(Chelone glabra)

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STENANTHIUM,

AUGUSTIFOLIO... ....*Bunch Flower*

One of the most handsome and showy plants, with wand like leafy stem and conduplicate keeled leaves. Numerous flowers in compound racemes, waving like plumes in the wind. Spikes of flower heads often five to seven feet high. Flowers are polygamous, staminate, pistillate and perfect on same plant.

STRUTHIOPTERIS,

GERMANICA .....*Ostrich Fern*

STELLARIA,

LONGIFOLIA ..... *Stickworts*

PUBERA ..... *Chickweed*

ULIGNOSA ..... *Starwort*

SYMPLOCARPUS,

FOETIDUS.. ....*Skunk Cabbage*

This plant really has no season of rest. Flower buds form in the fall as leaves drop away and are constantly pushing upwards so that in the first warm days of February they appear above ground and by St. Patrick's day they are in full bloom. It is the leader of the spring pageant of flowers and insects find them out by the fragrant smell they emit like unto old mustard plasters and onions. Honey bees, banded flies and millers patronize the flowers and often end their lives there, as spiders spin a web across the opening in spathe and leisurely feed on the prisoners. Later the leaves appear and form great tufted crowns.

TARAXACUM,

DENS-LEONIS ..... *Dandelion*

Under date of November 30th, 1902, H. S. McCauley told the Physicians' Club that 100,000 children in Chicago did not know a rose from a dandelion. After an investigation in three of the largest schools it was found that the charges were true. With children as old as fourteen years, "lilocks, daisies, lily buds" were the joyous cries shrilled forth when violets were exhibited. Largely in all the graded schools of Beaver county, nature studies are taught by displaying in school room windows plants, nests and mounted insects.

TANACETUM,

VULGARE ..... *Tansy*

Introduced into the county by Dr. Barney Dustan, at Darlington in 1812. The doctor was the first physician in the county to abandon the barbarous and useless process of bleeding. He was known as the "Botanical Doctor" and with tansy, celandine, wormwood and whiskey, obtained many marvelous cures.

TEUCRIUM,

CANADENSE ..... *Germander*

Sometimes called wood sage, the leaves being rich in a volatile oil. Named for Teucer, king of Troy. The lower lobe of flowers broad and furnishes a good landing for the Andrea ground bees, seeking the nectar and pollen.

NEW ENGLAND ASTER.
(*Aster Novae-Angliae.*)

LATE PURPLE ASTER.
(*Aster patens.*)

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TEPHROSIA,

VIRGINIANA .....*Goat's Rue*

Of the 125 species, only this one extends north into our county. The odd pinnate leaves are remarkable for their peculiar veins, not netted or branching, but extending parallel to each other obliquely from the midrib. The red, purple and white flowers are conspicuously papilionaceous, with petals borne on claws. The plant is locally known from its long rootlets as the devil's shoestrings.

THALICTRUM,

CORNUTI .....*Meadow Rue*

DIOICUM .....*Early Rue*

ANEMONOIDES .....*Rue Anemone*

PURPURASCEUS .....*Purple Rue*

Graceful, airy plants with plume clusters of misty white flowers. The several species all seem to be favorites with bees and butterflies though the flowers are polygamous.

TRIFOLIUM,

ARVENSE .....*Rabbit's-foot Clover*

PRATENSE .....*Red Clover*

REFLEXUM .....*Buffalo Clover*

REPENS .....*White Clover*

Pratense is the common red clover and dependent upon bumble bees for fertilization; arvense, with fuzzy heads is an emigrant from Europe; repens is rich in nectar and fertilized by the honey bee. Tradition makes it identical with the Shamrock of Ireland.

TRADESCANTIA,

VIRGINICA ..... *Spiderwort*
ROSEA ..... *Spiderwort*
PILOSA ..... *Spiderwort*

A genus of plants, showing variety in leaf and habit. They have been much improved by cultivation. Named for John Tradescant, a noted gardener to Charles I of England. Flowers visited by the Papillo butterflies and humming birds.

TRILLIUM,

GRANDIFOLIUM ..... *White Nightshade*
SESSILE ..... *Wake Robin*
ERECTUM ..... *Birthroot*
ERYTHROCARPUM ..... *Painted Trillium*
CERNUM ..... *Nodding Trillium*
NIVALE ..... *Dwarf Trillium*
MANSFIELDII ..... *Lobed Trillium*

Several species have two and three stems from the same root, and some flowers are double, in which the various organs have reverted to leafy bracts, showing several whorls of pure white petals. Efforts have been made to discover our native plants and this genus has been called a "native," but about as much progress has been made as in the discovery of our native inhabitants. Adventurers, tourists and emigrants both of flowering plants and men, have settled in our county and become naturalized citizens, but we are forced to conclude that plants like men had one common origin. The last species was named by Prof. Lesquereux, showing each petal three lobed, like the liverleaf. Variation in these species have been compared for many years, and they do not revert to the parent form, the tendency to variation is continuous.

GOLDEN ROD.
4/5 Life-size.

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TRIENTALIS,

AMERICANA ..... *Star Flower*

TYPHA,

LATIFOLIA ..... *Cat-tail-flag*

AUGUSTIFOLIA ..... *Cat-tail-flag*

The upper half of the cylindrical spike consists of stamens only, the lower half are ovaries or pistils. The powdery pollen of the staminate flowers, scatters itself over the pistillate flowers below and thus fertilizes them. The leaves of this plant, with sedges and equisetams work up beautifully into raffia or basketry, the popular fad, with young ladies.

UNIOLA,

PANICULATA ..... *Spiked Grass*

LATIFOLIA ..... *Spiked Grass*

UTRICULARIA,

VULGARIS ..... *Bladderwort*

An interesting plant, having no home being blown from shore to shore by the winds. Botanists have been unable to decide whether the capillary dissected stems are leaves or rootlets. The flowers are pouched, having stomach like sacs, into which insects are entrapped.

URTICA,

GRACILIS ..... *Nettle*

UVALARIA,

PERFOLIATA ..... *Bellwort*

GRANDIFLORA ..... *Bellwort*

SESSIFOLIA ..... *Bellwort*

VACCINUM,

STAMINEUM ..... *Squaw Huckleberry*
CORYMBOSUM ..... *Swamp Huckleberry*

VALERIANA,

EDULIS ..... *Valerian*
PAUCIFLORA ..... *Valerian*

VERBASCUM,

THAPUS ..... *Common Mullein*
BLATTANI ..... *Moth Mullein*
LYCHNITIS ..... *White Mullein*

Picturesque weeds with velvety leaves, that are prized in making liniment for strains. The last species is rare and hybridizes spontaneously with the first named.

VERBENA,

HASTATA ..... *Blue Vervain*
STRICTA ..... *Hoary Vervain*
OFFICINALIS ..... *European Vervain*
URTICIFOLIA ..... *White Vervain*

With its branches Roman priests swept the altar of Jupiter. In Gaul, the vervain was used in divination; also by the Druids. The botanist, Gerarde, says, "Manie old wives fables are written of holy vervaine gainst witchcraft made availing."

VERONICA,

ANAGALIS ..... *Water Speedwell*
VIRGINICA ..... *Culver's Root*
AMERICANA ..... *Brooklime*
HEDERAEFOLIA ..... *Ivy Speedwell*

FRINGED GENTIAN.
(*Gentiana crinita.*)

CLOSED OR BLIND GENTIAN.
(*Gentiana Andrewsii.*)

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VERNONIA,

NOVEBORACENSIS ..... *Iron Weed*

VICIA,

CAROLINIANA ..... *Tare*

SATIVA ..... *Vetch*

CRACCA ..... *Tufted Vetch*

VIOLA,

PALUSTRIS ..... *Marsh Violet*

PEDATA ..... *Bird's-foot Violet*

SAGITTATA ..... *Arrow-leaved Violet*

ROSTRATA ..... *Spurred Violet*

LANCEOLATA ..... *Lance Violet*

ROTUNDIFOLIA ..... *Round Violet*

PUBESCENS ..... *Downy Violet*

ERIOCARPA ..... *Woolly Violet*

CANADENSIS ..... *Canada Violet*

BLAND ..... *White Violet*

SELKIRKII ..... *Rooster Violet*

Several species have cleistogamous flowers under ground, their own pollen fertilizing their own ovules. Some of the flowers are so irregular as to require insect agency. Children take the spurred blossoms and fight until the other has lost its head, which gives the common name, "roosters."

WALDSTEINIA,

FRAGARIOIDES ..... *Barren Strawberry*

WOODSIA,

OBTUSA ..... *Rock Polypod*

Prof. Leo. Lesquereux, with Mr. Mansfield, spent several years examining the fossil plants and ferns of Beaver county, and from those found in connection with Cannel Coals, decided the present fern flora partook of the character of the fossil flora, and that the evolutionary theory could not be accepted.

XANTHIUM,

STRUMARIUM ....*Cocklebur*

ECHINATUM .....*Cocklebur*

XYLOSTEON,

CILIATA .....*Fly Honeysuckle*

OBLONGIFOLIA .....*Swamp Honeysuckle*

ZIZIA,

INTERREGNUM .....*Golden Alexander*

Mr. Andrew Carnegie startled our country by offering ten million dollars for the founding of a great university to be located at Washington, D. C., with the aim to promote original research and insure the publication of same. In the October issue of "The Plant World," published at Washington, they show by reliable authority that not one-half of the living flora is known to science, and nothing like a final attempt at classification can be made until all plants are known and illustrated.

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