

LILIES AND ORCHIDS

A SERIES OF DRAWINGS IN COLOR OF
SOME OF THE MORE INTERESTING AND
BEAUTIFUL SPECIES OF THESE FAMILIES
TOGETHER WITH DESCRIPTIVE TEXT

BY

ROSINA C. BOARDMAN



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FOREWORD

In this little book I have endeavored to set forth an informal sketch of three flower families growing in the United States, east of the Rocky Mountains, and in Canada, together with a few stray relatives from the Pacific slope, illustrated by faithful color studies of the more prominent examples.

R. C. R.

New York,
1928.

PLATE I

WOODS 1115

Lilium Philadelphicum

LILIES

THE Family of Lilies is one of the most interesting and one of the handsomest flower groups which we possess. At first it was very large, for many closely connected species were included, but it was felt in such dimensions that the botanists were forced to subdivide it, and now, well woe it is comparatively small. The most divisions which every one has not yet adopted) is the grouping of the Belladonna, Madonnas, Blazing Stars and a few others in the Snake-flower Family; the Green Stems and their striking relatives in the Noddy Family; and the Asparagus, Madonna's Seal, and those which in the Lily of the Valley Family. At present it is only with the leaves and with the Lily Family proper that we will concern ourselves.

THE LILY FAMILY

The Lily Family proper is made up of leafy-stemmed herbs, growing from bulbs or corms. The leaves are always opposite and simple. The flowers are regular and generally perfect, having a perianth of six even segments, sometimes connate; six stamens, with two-called anthers, growing from the base of the segments; and a three-lobed ovary, with a generally three-lobed stigma, at the end of a long style. The fruit is an oblong capsule. The seed differs according to the variety.

WATER LILY

Stems—Light, stemless, hollow. **Perianth**—White. **Root**—A bulb of fleshy scales. **Stem**—Smooth, 17-2' high. **Leaves**—Narrow, pointed, or oblong. **Flowers**—Large, showy, erect, 1-2, terminal, usually red and orange. **Pistils**—12 broad segments, expanding below, perianth-like within. **Stamens**—12—dark red. **Petal**—12—With a beautiful stigma. **Seeds**—Long, with narrow wings.

This is one of our most showy and beautiful flowers. It grows in wet woods and all marshes, from Canada to North Carolina, from June to August. I have found very small specimens, not over 2' high, on Nantucket Island.



PLATE 1. Redwood wood to form Liliaceae

Wood Lili. *Lilium Philadelphicum*

PLATE III
TURN'S JAP. ELL.
Lilium japonicum

YOUNGER TRICK-LIPS, *Ilione parvum* (Kelllogg).
Root.—Rhizome and fibrous. **Stem.**—Simple, 2'-6"
 high. **Leaves.**—Ovate, pale green, thinner than other
 ones, in whorls or alternate above. **Flowers.**—Small,
 1'-2' long, several flowered, in long, nodding flower-
 stalks, scarlet and orange, proprotandrous. **Perianth.**—
 Of oval segments, slightly recurved. **Stamens** 6.—
 Ovary 6-8. **Petal** 10.—With a beautiful orange-
 beads.—Fls.

The small, gem-like flowers of this beautiful little lily,
 waving on their long stalks, are particularly attractive.
 I found them in early August on the upper trails of the
 Yosemite Valley, growing amid tall grasses and small
 shrubs.

See also's Little J. Grey's seems to be rather like the
 last, with larger flowers and stiffer leaves. It blooms in
 July and August, on the peaks of Virginia and North
 Carolina.

Two genera, not immediately recognizable as lilies,
 follow.

GRASS-HEAVEN, *Mertensia latifolia*, is an herb
 with long, grass-like leaves from the root, and a short,
 thick raceme of very small, blue, slightly fragrant flowers.
 The flowers have a glabrous, one-petaled perianth, with
 six small stamens. The flowers much resemble a bunch
 of grapes, hence the name.

STARCH GRASS-HEAVEN, *M. racemosa*, is similar,
 with racemose leaves and oblong, starch-covered flowers.

Both these plants are European escapes from gardens,
 and bloom in spring.

GRASS GRASS, *Carex hirsuta*, *Andros juncea*, has a
 rosette of pale, lanceolate leaves at the root and a tall
 spike topped by a long raceme of small, fleshy-looking,
 bell-shaped flowers, erect, roughish, and white, with a six-
 pointed, one-petaled perianth. This plant grows east of
 On Minisipipi in early summer. A yellow form of it
 sometimes appears South.

YELLOW CROCUS-ROOT, *A. aurea*, is similar. It has
 shorter leaves and shorter yellow flowers. It blooms
 south from New York in early summer.

PLATE V

WASHINGTON 1882
Lilium Washingtonense

PLATE V

WASHINGTON LILY, *Lilium Washingtonianum*, East.
 —As other lilies. **Stem.**—Simple, 4'-5' high. **Leaves.**
 —Small, in whorls or alternate above. **Flowers.**—Large,
 in a terminal cluster, white, finely veined with purple and
 pink. **Perianth.**—Of narrow oblong shape, somewhat
 somewhat recurved. **Stamens** (a). **Petal** (b).—With a
 beard-like stigma.

These charming white flowers on their tall, well-seen
 are as much more delicate than the Bermuda lily as the
 Turk's-Cap are than the Tiger-lily. I found them
 growing in the ground between the Mariposa, in Cali-
 fornia, in July.

DEER-LILY, *Stemoneurum* lily, together with the
YELLOW DEER LILY, *H. lutea*, are common beauties es-
 caped from our gardens. They have large, grass-like,
 channelled narrow leaves and some orange or yellow
 flowers, growing several on a scape.

The **GARLIC** or **ONION** also belong to the Lily
 Family. They all have round or oval, tubercle bulbs,
 two leaves, and small, separate-segmented flowers grow-
 ing at the summit of a scape in a more dense whorl.
 Beneath are 2-3 membranous leaves. They are not at-
 tractive plants.

WILD LILY, *Lilium philadelphicum*, has elliptic, early fading
 leaves and white flowers. It blooms in early summer, east
 of the Mississippi and north of North Carolina.

ONION, *L. Schompaicum*, is a Northern variety, with
 hollow, linear leaves and pink flowers.

NOODLE WILD ONION, *L. crissum*, has nodding, white,
 rose or purple flowers and flat, channelled, linear leaves.
 It ranges over most of the Carolinian and Canada.

FRAGRANT WILD ONION, *L. molle*, is much like the next,
 with rose-colored, erect flowers. It blooms in summer, in
 the Western plains.

WILD GARLIC, FIELD GARLIC, CROW GARLIC, *L.*
simulans, is a troublesome weed from Europe, naturalized
 in the Middle States. It has hollow leaves and purple
 and green flowers, sometimes replaced by bulbous, topped
 with a long hair like appendage.



CLAY S. Behind glass in front Lib. Herb.
Washington D.C. Lilium Washingtonense

PLATE VII

•

WYLLIE'S MARIPOSA LEECH

Colletes (ex) Natalis

•

WYLLIE'S MARIPOSA LEECH

Colletes (ex) Gaudini

purple or purplish green flowers with separate segments.
It flowers in early summer, from North Dakota and
Wyoming westward.

PLATE VII, A

NUTTALL'S *MERTENSIA* LILI, *C. Nuttallii*. **Root.**—A corm. **Stem.**—Branched, slender, 2'-3' high.
Leaves.—Grass like, alternate. **Flowers.**—Large,
showy, white. **Perianth.**—The three inner segments (or
sepals) are lanceolate, greenish-white; the three inner
for petals are rather wedge-shaped and recurved, white
or lavender, with a yellowish base, about which is a
purple spot. **Stamens** 6.—Arrow-shaped. **Pistil** 3.—
—With a three-lobed stigma.

So graceful and elegant is this fair flower, swaying
on its slender stalk among the tall grasses, that it seems
almost unearthly. It grows from South Dakota west
to California, from June to August.

PLATE VII, B

GEORGINA'S *MERTENSIA* LILI, *C. GeorGINA*. **Root.**—
A corm. **Stem.**—Often simple, as above. **Leaves.**—As
above, with incurved edges. **Flowers.**—Large, showy,
white. **Perianth.**—The sepals as above, the petals white
or lavender, with a purple band across the center, within,
yellowish and hairy below. **Stamens** 6.—With oval
anthers. **Pistil** 3.—With a three-lobed stigma.

This plant is much like its Mariposa sister. It grows
as far south as New Mexico and blooms in midsummer,
as does the other. I found it in a meadow in the Canyon
of the Grand, near Glenwood Springs, Colorado.

Another Western genus is the *YUCCA*, which has yellow,
spike-like leaves, with fibrous threads hanging from their
margins. The flowers are large, cream white, have
separate segments, and droop from a tall, dense, terminal
cluster. They bloom in spring and early summer.

SPANISH BAYONET, *FORSYTHIA*, is the largest. It
is sometimes 8' high. Its flowers are very large and its
fruit edible.



PLATE VII. Madagascan Lily, from the same.

1. Small's Madagascan Lily, *Culca herveyi* Nuttall.
 2. Small's Madagascan Lily, *Culca herveyi* Nuttall.

HEAT-GRASS, *F. glauca*, is smaller and much shorter. These plants both grow on the low Western prairie. **ADAM'S NEEDLE, *F. glauca***, has lanceolate, flat leaves. It is cultivated, and has escaped to grass. It grows wild in Florida, Louisiana, and Tennessee.

LILIES-OF-THE-VALLEY

THE Lily-of-the-Valley Family grows from two inches, never from half an acre. The leaves are simple, parallel-veined and basal, except in the *Asparagus* and its allies, where they are reduced to sheath, covering the scales with fine hair-like or the roots. The flowers grow in racemes, umbels, panicles or even solitary; they are regular and perfect. The perianth is either divided into four to six segments, or is a two-petaled, with six lobes or teeth. The stamens grow from the perianth. The gynoecium has a two to three-celled ovary, and a style with a generally three-celled stigma. The fruit is a berry with few or numerous seeds.

Several members of this group so much resemble the Lily Family Proper, that at first sight it is difficult to distinguish them.

PLANT VII

YELLOW CANTONIA, *Clintonia borealis*. Root.—A slender rhizome. Stem.—A single scape, 6'-12' high. Leaves.—Large, 4-6, oval, smooth. Flowers.—Lily-like, 2-4 in an umbel, drooping, greenish-yellow. Perianth.—All six segments separate. Stamens (4).—Six. Pistil (2).—With a two-celled ovary. Fruit.—A bright-red berry.

The pale-yellow bells and bright leaves of the *Clintonia borealis* may be seen woodlands, from Newhampshire south to North Carolina and west to Minnesota, during May and June. Sometimes a flower is taken on the scape, below the umbel.

WHITE CANTONIA, *C. umbellata*, is rather taller



PLATE VII. Botanical illustration of a plant with yellow flowers.

Yellow-flowered species, *Chelidonium majus*.

PLATE IX

x

FALSE HOLGREN'S SEAL

Yagora racemosa (*Stellaria racemosa*)

o

STAR-FLOWERED HOLGREN'S SEAL

Yagora orbata

and woody, with smaller, white, purple-dotted, erect, tubular flowers, a small leaf on the scape, and black, round berries. It ranges from New York to Georgia in May and June.

Asperula, Asperula officinalis, is a native of Europe, escaped from cultivation in various parts of the country. The young shoots make the delicious vegetable, which we all know. The small, round like leaves of the plant do not look like the fly tribe, but the bell like, drooping, greenish flowers, with their six small segments, point the way. The fruit is a scarlet berry. The plant blooms in early summer and again in autumn.

PLATE IX, A

FALLEN SOLDANER'S BEAR, WILD GERANIUM, Figures *geranium (Ferdinand geranium)*. **Root**.—A thick, scoured rootstock. **Stem**.—Erect, simple, 1²–2¹ high. **Leaves**.—Oval, sessile, alternate, both woody. **Flowers** (a).—In a densely branched terminal panicle, small, creamy-white. **Perianth**.—Of six oblong segments. **Stamens** (b).—Six. **Pistil** (c).—White. **Fruit**.—A red berry speckled with purple.

These bushy tufts of creamy flowers grow profusely, from May to July in rich woods or thickets, across the continent.

F. angustifolium is similar, with drooping leaves and a longer style. It grows westward.

PLATE IX, B

STAR FLOWERED SOLDANER'S BEAR, V. inflata. Root.—A stout, fleshy rootstock. **Stem**.—Short, erect, 2 or 3 high. **Leaves**.—Vase, sessile, somewhat drooping, oblong-lanceolate. **Flowers** (d).—In a few flowered, terminal raceme, star shaped, larger than *V. mucronata*, white. **Perianth**.—Of six oblong segments. **Stamens** (e).—Six. **Pistil** (f).—White. **Fruit**.—A black or green berry with six black stripes.

This plant is stouter and less graceful than its sister, *V. mucronata*, but its star-like flowers are more attractive.



PLATE 12. Reduced size of life size.

- A. *Fagopyrum esculentum*, *Fagopyrum esculentum*.
 B. *Fagopyrum tataricum*, *Fagopyrum tataricum*.

PLATE XI
EDIN. CYCUMBER, 1861
Melothia Virginiana

PLATE XII
WOOD YELLOW
Tallium pubescens

tion to flowers. The long stigmas of the latter give them an insect-like appearance.

PLANT 211

WHITE TALLIUM, *Trollius grandiflorus*. Root.—A short, scarred neck. **Stem.**—Simple, erect, 2' or high. **Leaves.**—Broadly ovate, three in a whorl at the base of the stem. **Flower.**—Solitary, large, erect, white or purplish-pink. **Perianth.**—Of three green, lanceolate sepals and three white, obovate ones, spreading petals. **Stamens** six.—Six, with anthers longer than the filaments. **Pistil** two.—With a three-angled ovary and three separate styles. **Fruit.**—A round, black berry.

The large, triangular blossoms of these talliums brighten many acres of woodland, among the stars among the *Hellebores* and *Sibbaldia's* herb, in May or June, east of the Mississippi. A numerous form of this, with only two leaves, was found in Michigan.

NEWMAN TALLIUM, *T. novaeboracensis*, is smaller, with a smaller, white, nodding flower. It blooms over the same range a few weeks.

PALE TALLIUM, *T. pallidum* (var. *virginicum*), is slightly larger and blooms over the same time and range to the east. It has an erect, white flower streaked with purple or red.

EARLY TALLIUM, *T. vernalis*, is much smaller, with petioled leaves and an erect, white flower. It appears in early spring, from Pennsylvania to Minnesota and south to Kentucky.

FRANK TALLIUM, *T. frankii*, is a little larger, having a round, erect flower, with recurved sepals and frequently blanchet leaves. It ranges south from Minnesota through the Middle States.

SMALL-FLOWERING TALLIUM, *T. arvensis*, has small leaves and flowers. The leaves are often blanchet, and the flowers are purple or green and fragrant. It ranges from Pennsylvania, south and west to the Mississippi.

WILD BERRY, BERRY BERRY, *T. montanum*, has a purple-red or pink or generally, unpleasantly sweet flower on a stalk rising above the small leaves. It ranges east of the Mississippi.



HALL & LINDSEY

White Yucca, *Yucca grandiflora*

PLATE XIII
CORAL REEF
Caecidion cuneiforme

THE ORCHIS FAMILY

THE orchids are more nearly related to the lilies than to any other family. In fact, their roots, stems, and leaves might often be mistaken for that of lilies. The leaves are always parallel-veined, never compound, frequently grass-like, and are sometimes reduced to scales.

The form of the flower is the distinctive feature of the orchid. The calyx and corolla are very irregular and it is often difficult to distinguish them. They are divided into six segments, three upper, and three lower. One of the petals is called the *lip* and is generally more showy than the others. Sometimes this lip is cut or fringed, sometimes it is furnished with a spur, and when it is most grotesque in form it is called the *beak*. The most characteristic thing about the flower, however, is the *column*. This is the ovary, surrounded by the sepal, bearing the stigma and the row of two anthers (or rather one of the anthers) balanced each side of the stigma, or just above or below it. The pollen of the orchid grows in sticky masses. When disturbed by an insect, it is removed in one piece and deposited on the stigma of a neighboring blossom. The ovary is long and generally twisted and the seeds are very numerous and dust-like. The orchid is especially adapted to cross-fertilization.

PLATE XIV

Common Name. *Conopsea canadensis*. **Root.**—Fleshy, coral-like. **Stem.**—2 or 3 joints. **Leaves.**—Reduced to a few scales. **Flowers.**—Showy and of both purple and white colors. **Pertains.**—Of the narrow winged and petiole and a short, whitish lip with a short spur. **Column** (C).—Inverted, winged above. The ovary is at almost the apex (O). **Gray's C.**

This insignificant little herb grows over most of the United States. It blossoms from May to June.

WINTER'S COMMON NAME. *C. hibernica*. **MAJOR-PETIOLED COMMON NAME.** *C. maculata*, and **SMALLER COMMON NAME.** *C. striata*, are much the same, but larger, with slightly more showy lips.



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PLATE 211 - Liliaceae

Chamaelirium liliifolium (L.) Baker

PLATE XV
MUSEUM
BOSTON

LADDER TREMOR, *G. alvina*, are described by their names.

LITTLE LADDER TREMOR, *G. simplex*, and SIZENGA LADDER TREMOR, *G. gracilis*, are smaller and have 2-3 early falling non-bracts and have only bracts.

CULTURE, *Calceolabellum*. **Root.**—A bulb. **Stem.**—Simple, 2'-6" high. **Leaves.**—One, sessile with a heart-shaped base. **Flower.**—Solitary, terminal, showy, variegated purple, pink and yellow. **Perianth.**—Of linear, erect or spreading sepals and petals, the lip unclipped, drooping, with a patch of yellow web. **Column.**—Pod-like above, with a lil-like arched above the stigma.

A fascinating little nymph who appears in early summer, in bogs, from Labrador to Vermont and west to California and Arizona. At first sight it resembles a small lady's slipper.

PLATE XV

ARCHURA, *Archura bellina*. **Root.**—A bulb. **Stem.**—Simple, 2'-6" high, rather stout, set with bracts. **Leaves.**—Solitary, linear, appearing after the flower. **Flower.**—Solitary, terminal, large, showy, rose-purple. **Perianth.**—Of oval sepals and petals, erect or arched over the column. The lip is notched, fringed, streaked, and crested with yellow or white, hairy edges. **Column (C).**—Pod-like, winged and curved above with the greater (a) and stigma (s), which are borne on its lower base. **Obv.** (o).

This charming orchid, common in its native bogs, in May or June, resembles one of a smaller form, by its two erect, sessile sepals. It ranges from Newfoundland to South Carolina and west to Indiana, but owing to its numerous stamens, the flowers, when it has become rather rare.

HULLSWORTH, *Epipactis viridiflora*, is a stout herb, 2'-2" high, with erect, clasping leaves and a branched raceme of greenish purple or yellow flowers. It has an undulating lip and pointed sepals and petals. It blooms near Toronto and in western New York in July and August.

PLATE XVI

GRASS FEED

Lindworm suberosus (*Catepago pulchella*)

CRANE-FLY ORCHID, *Tipularia arifolia*, is a rather rare little summer orchid, with purplish-green, long-spurred, veined blossoms. It bears one leaf after the flowers.

PURTY EIGHT, ADAM AND EVE, *Alopecurus spicata*, is a Western spring orchid, with rather large, yellowish-brown and purple flowers and an succulent leaf.

PLATE XIV

GRASS-PINK, CALAMAGROSTIS, *Limnolobos tuberosus* (Coleopogon pubescent). **Root.**—A round, solid bulb. **Stem.**—Slender, simple, 1²-2² high. **Leaf.**—One, grass-like. **Flowers.**—Blossoms in a few-flowered, terminal raceme, two-ranked. **Perianth.**—It wears sepals and petals, and an ovary, pale-green tip, with a tuft of yellow wool. **Column** (C).—Short like ovary, winged, spread by laterals. The anther (A) is attached to the back of the column. The stigma (S) is beneath. Ovary (O).

This flower plant occurs in blossoms among the tall grasses of the wet meadows, in June and July, from Newfoundland to Florida and west to Wisconsin. This orchid's peculiarity is an ovary which is not twisted, so consequently, the lip is on the upper instead of on the lower side of the flower.

RATTLEBARK PLANTAIN, *Polygonum repens* (*Gonolobus repens*), is a small orchid, with a raceme of ovate, green and white marked leaves at the base of the stem, and a one-sided spike of small, greenish-white flowers, with a one-shaped lip.

DUNNY RATTLEBARK PLANTAIN, *P. pubescens*, is woolly, with a thicker spike (not one-sided).

These two range on the Atlantic coast and west to Minnesota.

MEXICAN RATTLEBARK PLANTAIN, *P. Mexicana*, is sometimes without the white spotting. It has a swelling, pointed lip (not one-shaped), and the spike is somewhat one-sided. It grows in Canada east on the Western coast.

These all bloom in July and August and are insignificant except for their showy leaves.

SNOWY ORCHIS, *Chelis spicata*. **Root.**—Fibrous. **Stem.**—Short, five-angled, 1²-1² high. **Leaves.**—Large,



PLATE 100. *Orchidaceae*. *Orchidaceae*.
CROSS SECTION, *Orchidaceae*.

(two from near the base of the stem, sheath, chartaceous). **Flowers.**—Oblong, in a 2-6 flowered, terminal raceme, violet-purple, pink and white. **Perianth.**—Sepals joined in an arch, ovate beneath, by whitish and aperted. **Column.**—Tubular at the base, with the stigma between the two anthers.

This is the southern of the varieties. It grows in rich woods in the western half of the continent.

SMALL HERON-LARKspur CROCUS, *C. serotinalis*, is more slender, with smaller rose-colored and white flowers and one oval leaf. It blooms in early summer, in the damp woods of Canada and the Northern States.

WHITE ANDERSON'S MERTIA, *Achroanthus monophylla*, and GREEN ANDERSON'S MERTIA, *A. acutifolia*, are two small umbels with insignificant flowers and one ovalish leaf. They bloom in woods in July. Usually the first in the North, the second in the South also.

PLATE VIII

ROSE POGONIA, SNAKE MERTIA, *Pogonia sphingifoloides*. Root.—Bunching. **Stem.**—Simple, 3'-4' high. **Leaves.**—2-3, pale, lanceolate, acute. **Flowers.**—Large, solitary or in pairs, terminal, nodding, having a leaf like bract beneath, pale rose-pink. **Perianth.**—With oval, equal sepals and petals. The lip fringed, crested, and streaked with yellow and purple. **Column (A and B).**—Club-shaped, with a lid-like anther (a) capping the stigma (c). **Ovary (e).**

A dairy, fragrant flower growing in swamps and meadows with the wild Cowberry and the Cow-pogon. It blooms in June or July.

HERON-LARKspur POGONIA, *P. diversica*, is somewhat the same, but larger; the sepals are linear and dark colored and larger than the fish-colored, lanceolate petals. We find it in swamps in July.

NORTHERN POGONIA, *P. macrophora*, is smaller, with thick, acute, alternate leaves and pale-purple, drooping, axillary flowers. It appears in late summer.

WESTERN POGONIA, *P. verticillata*, bears its leaves in a wheel, above which is the drooping flower, with its



IX-4-06

PLATE 9119 - Botanical illustration of *Figonea* sp. from the
New England, *Figonea* sp. (likely *Figonea*)

PLATE XIX

A

GREEN WINGS (CUCULID)

Habermaria clivellata (*Habermaria clivellata*)

B

BROWN-FRONS (CUCULID)

Habermaria lutea

June to August from Quebec to New York (according to Miss Niles). I found it in the Yosemite Valley, California.

TALL WHITE BOW OXHELD, *H. dilatata*, is much like these, save that the flowers are white. It grows all summer in the southern half of the United States and Canada.

Three more Northern summer umbels are: First, **ROSY-LEAVED OXHELD**, *H. arborescens*, with its greenish-white, recurved sepals. Second, **HOOKEY'S OXHELD**, *H. Hookeriana*, with its lanceolate, greenish-yellow, drooping sepals. Both have long serrated scapes, springing from two round, fat leaves. Third, **SMALL BOW OXHELD**, *H. obtusata*, with yellowish-green flowers and a single leaf-plike bract.

Two small Southern summer umbels are: **NORTHERN WHITE OXHELD**, *H. nivea*, with long spurred flowers and glass-like leaves; and **SOUTHERN YELLOW OXHELD**, *H. integrifolia*, with dense spikes of orange-yellow flowers and lanceolate leaves.

PLATE XXX, 4

GREEN WIND OXHELD, *H. divaricata* (*H. trilobata*).
Stem.—Angular, 2'-18" high. **Leaves**.—One, large, oblanceolate, serrated leaves above. **Flowers**.—Small, in short, loose racemes, greenish. **Perianth**.—Of ovate sepals and petals, with a three-toothed lip and a very long, incurved, sub-oblong spur. **Column**.—Anthers (a) above the stigma (b), which has three club-like appendages.

This very insignificant flower is perhaps the most numerous of the genus. It blooms east of the Mississippi in July and August.

Another much like this, with a shorter spur and more leafy stem, is **TEXASIAN OXHELD**, *H. Juncifolia* (*H. tinctoria*).

The names of many of these umbels have been changed so often, and they seem so much alike, that it is rather difficult to identify them. The insignificance of these flowers causes the layman to exclaim, when told that they are umbels, as the general idea, of this family, seems to be a gorgeous al-plant.



PLATE 215. — Continued from Plate 214.

A. Green Wood Thrush, *Alcedo viridis* — *Alcedo*

B. Ruffed Grouse, *Caprimulgus vociferans* — *Caprimulgus*

PLATE XX, 4

BLACK FRINGED ORCHID, *H. javanica*. Root.—Small, 1'-2' high. **Leaves.**—Lanceolate, alternate, becoming smaller above. **Flowers.**—Small, in a terminal raceme, greenish yellow. **Perianth.**—The sepals acute, the upper one being round. The petals linear. The lip shows three petals, linear broad, with a short spur. **Column.**—The anthers are situated at the apex (c). *Drawn life.*

This is the prettiest of the green orchids, the deeply fringed lip giving the raceme a peculiarly lustrous effect. It blooms out of the Mississippi in June and July.

PLATE XX, 5

WHITE FRINGED ORCHID, *H. leucophaea*. Root.—Small, fibrous. **Stem.**—1'-2' high. **Leaves.**—Lanceolate, the upper ones smaller. **Flowers.**—Pure white, showy, in a terminal raceme. **Perianth.**—Sepals round. Petals smaller, rounded. Lip linearly fringed, with a very long spur. **Column (c).**—The anthers are situated at the apex (a). *Drawn life.*

The localities of this flower almost fill every one's mouth. It frequents swamps and marshes, ranging from Newbernhead north to North Carolina and west to Missouri.

CREAM FRINGED ORCHID, *H. alba*. It much the same, but pale yellow, with a less fringed lip and fewer petals. It is probably a hybrid of the foregoing and following varieties.

PLATE XX, 6

YELLOW FRINGED ORCHID, *H. citrina*. Root, Stem, Leaves.—The same as in *H. leucophaea*. **Flowers.**—A little larger than the White-Fringed Orchid, with a more deeply fringed lip and of a bright orange-yellow. **Very showy.** **Perianth and Column (c).**—As above.

This gorgeous flower grows in swamps with the White-Fringed Orchid. Its burning colors doubtless attract the necessary insects, but unfortunately, they also guide the ravenous flower-picker, to the inevitable doom of the variety.



PLATE 22. Orchids of the genus *Neotoma*.

- A. White Pinnate Orchid. *Neotoma virginiana*
B. Yellow Pinnate Orchid. *Neotoma citrea*

PLATE XXI

LARVA, PUPA, AND IMAGO OF

Halonereis grandifera

CROWN-YELLOW OUCHIA, *H. ovata*, is much the same, but smaller, with deep orange flowers.

PURPLE WHITE FRINGED OUCHIA, *H. discolorata*, is a larger variety, with fringed, white flowers sometimes tinged with green. The lip is divided in three parts and is much fringed. It flowers on most prairie in July from western New York to the Mississippi. It is very showy and beautiful.

The flowers of this group resemble one of tiny dancers poised for the ballet, or a swarm of fairies ready for flight.

PLATE XXX

LARGE PURPLE FRINGED OUCHIA, *H. grandiflora*.
Root.—Fibrous. **Stems.**—Stems, 1'-2' high.
Leaves.—Oblat or lanceolate. **Flowers.**—In a long, terminal, double flowered raceme, very showy, white, pale pink, or deep rose-purple. **Perianth.**—Upper sepals and petals connate at base. Petals more or less fringed. Lip divided in three long-shaped parts, deeply fringed. **Column.**—As elsewhere are shown by the figures (3).

The largest and most beautiful of all this genus is the Purple-Fringed Ouchia. It grows in rich woods and meadows through Canada west to Michigan and west to North Carolina. When we compare a grove during through our dark, Northern woods in July or August, their lustrous brightness is like a swarm of the nymphs. If we could be content to admire them there and leave them unmolested, we might have them with us for many generations to come.

SMALLER PURPLE FRINGED OUCHIA, *H. prostrata*, is much the same, with shorter fringe. It flowers with the larger variety, but slightly later.

FRINGED PURPLE OUCHIA, *H. prostrata*, is another near relative, with a smaller instead of a fringed lip. It ranges in summer, from New York south to Virginia and west to Illinois.

ANDERSON'S ROSE FRINGED OUCHIA, *H. Andersonii*, has sepals and petals much like the White-Fringed, and a lip like the Purple-Fringed Ouchia, parted and more deeply cut. It appears in summer, in Massachusetts and Vermont. This is probably a hybrid of *H. laevis* and *H.*



PLATE 221 - Botanical Illustration

Large Purple Flowered Orchid, *Phalaenopsis grandiflora*

pedicels. It is rare and local, but numerous in certain localities.

The most showy and beautiful group of the orchids which grow in this country, however, are the *Cypripediums*, with their shoe-shaped lips. The most common of these is:

PLATE XXII

THE MAJORAN FLOWER, Pink Lady's Slipper, *Cypripedium acaule*. **Root.**—Tubed, **Stems.** **Stem.**

—A simple one 4' or 5' high. **Leaves.**—Two, from the root, somewhat linear, elliptic, large. **Flower.**—Large, solitary, nodding from the top of the stem, rose-pink and green. **Perianth.**—Sepals brownish, purple-brown and greenish, the two lower united. The petals narrow and longer. The lip very large, pediform, shoe or shoe-shaped, deep rose-pink, veined. **Column (A).**—With an anther (B) on each side of the large stigma (C). A large petal-like, sterile stamen spreads over them. **Ovary (D).**

The nodding *Majoran* hangs its heavy head above the fragrant pine needles in shady or rocky woods. In its native haunts it is immensely local, for each plant is perfect in itself. When it is gathered and touched it loses half its charm, although it is too beautiful to be altogether spoiled. Sometimes the lip is white, the sepals and petals yellow, and the leaves a lighter green. This is an albino form, but it appears so frequently that it nearly amounts to a separate variety.

RAVE'S SLIPPER, Lady's Slippers, *C. arvense*. **Root.**

—Tubed, **Stems.** **Stem.**—Simple, 4' or 5' high. **Leaves.**

—2-4, elliptic. **Flowers.**—Solitary, nodding, smaller

than others of the genus. **Perianth.**—Sepals longer

than the lip, brownish, greenish-brown. Petals linear.

Lip semi-obovate, red and white, veiny, prolonged at the

tip into a flattened spur somewhat resembling a man's

head. **Column.**—Much as *C. acaule*.

This is the rarer, one of the smallest, and surely the

oldest of the genus, but will, I fear, soon be extinct.

When we find it the day is marked with a red letter. It

ranges from May to August, through the cool, damp

woods of Canada and the Northern States.



PLATE VIII. Redwood by Great Lake Area

Monarda florum *Cypripedium* *puberulum*

PLATE XXIII

YELLOW SAND'S SLIPPER

Cyrtopodium biternatum (Cyrtopodium pubescens)



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PLATE XXIV. Botanical illustration of Honey Lady's Slipper, *Cypripedium reginae*