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A

FLORA OF NORTH AMERICA.

ILLUSTRATED BY

ORIGINAL COLOURED FIGURES.

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FLORA OF NORTH AMERICA.

ILLUSTRATED BY

COLOURED FIGURES,

DRAWN FROM NATURE.

BY WILLIAM P. C. BARTON, M. D.
U. S. N.
PROFESSOR OF BOTANY IN THE UNIVERSITY OF PENNSYLVANIA,
AND
ONE OF THE PHYSICIANS OF THE PHILADELPHIA ALMS-HOUSE-INFIRMARY.

VOLUME II.

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EASTERN DISTRICT OF PENNSYLVANIA, TO WIT:

L. S.

BE IT REMEMBERED, That on the twenty-fourth day of July, in the forty-seventh year of the Independence of the United States of America, A. D. 1822, WILLIAM P. C. BARTON, of the said District, hath deposited in this office the title of a Book, the right whereof he claims as Author in the words following, to wit: "A Flora of North America. Illustrated by coloured figures, drawn from Nature. By William P. C. Barton, M. D. U. S. N. Professor of Botany in the University of Pennsylvania, and one of the Physicians of the Philadelphia Alms-House Infirmary. Volume II." In conformity to the Act of the Congress of the United States, intituled, "An Act for the Encouragement of Learning, by securing the copies of Maps, Charts, and Books, to the Authors and Proprietors of such copies during the times therein mentioned."—And also to the Act, entitled, "An Act supplementary to an Act, entitled 'An Act for the Encouragement of Learning, by securing the copies of Maps, Charts, and Books, to the Authors and Proprietors of such copies during the times therein mentioned,' and extending the benefits thereof to the Arts of designing, engraving, and etching historical and other Prints."

D. CALDWELL, *Clerk of the Eastern District of Pennsylvania.*

TO MATHEW CAREY, ESQ.

MEMBER

OF THE

AMERICAN PHILOSOPHICAL SOCIETY, &c.

My Dear Sir,

IT is gratifying to me to avail myself of the first opportunity which has presented itself, of testifying in a public manner, my sentiments of respect to my publisher, my friend—and, I may with propriety add, to one of the patrons of American Botany, if the works which you have enabled me to issue may be deemed any acquisition to that science. I should not have engaged in them without your enterprise, nor executed them without your aid.

Hitherto, while you had any interest in those publications, motives of delicacy prevented me from a public declaration of my sentiments. Now that you have retired from an arduous and respectable business in which you have usefully, honourably, and I am happy to add, profitably spent the larger portion of your life—I can pursue that course towards you, which your well-earned character as a scholar,

an able and enlightened publisher, and an author, would at any time have justified: but which our relative connexion, rendering your interests in the success of my works commensurate with my own, might have rendered improper.

With these sentiments permit me to dedicate this volume to you, as a testimony of the high regard of an individual for the honourable character, universally accorded to you, of fidelity and liberality as a man of business; and in evidence of his estimation of that integrity, which is enhanced by the numerous virtues of a good heart. Accept the assurances of my friendship and esteem, with sincere wishes that you may live long to enjoy the fruits of your enterprise, your industry, and toil.

WILLIAM P. C. BARTON.

Philadelphia, July 15, 1822.

PREFACE.

ON the completion of the second volume of the Flora of North America, the author feels it necessary to state, that the efforts he has made to lay the foundation of this work on the plan sketched in the preface and advertisement of the first volume, have been thus far assiduously made, without as great a degree of encouragement as he hoped the nature of the undertaking, and the liberality of the publishers, in sparing no cost to render it worthy of patronage, would have ensured to it. He has been particularly desirous of figuring and describing as many new, doubtful, or rare plants, as opportunity had hitherto presented to his command. Without having under his control a Botanic Garden—a necessary engine for such a publication—he has heretofore been indebted to the attention of his friends who owned such establishments in the neighbourhood of this city, for specimens of rare flowering plants: and, though the politeness of those who have shown themselves friendly to the work, has enabled him to figure and describe in these two volumes, many curious and new plants, he has still experienced occasional difficulties in procuring such as he desired to publish. It is with great satisfaction he is ena-

bled to state, that the want of a Botanic Garden, under his direction, will no longer afford any obstacle to the rapid advancement of this Flora. At the solicitation of the author, the Managers of the Philadelphia Alms-House-Infirmary, have, during the past summer, placed under his direction, a piece of ground within the enclosure of the walls of that institution, every way calculated for a Botanic Garden, which in a year or two will do honour to their liberality and public spirit; be an important addition to the numerous medical advantages of that great institution, and a public ornament to the city. It is intended to convert the whole of the ground south of the building and within the enclosure of its walls, of late years devoted to culinary cultivation, to the purposes of a botanic establishment; and it is expected by the close of the present season, that green and hot houses will be in a state of readiness to receive the exotics, for the purchase of which ample means are at the command of the managers of that institution, arising out of the "Medical Fund." This fund is distinct from the public funds which are levied to support the paupers. It is produced by the high repute of the Infirmary as a clinical school, inviting a numerous and annually increasing train of pupils to attend the practice of the house, and avail themselves of the clinical instruction of its physicians, surgeons, and accoucheurs. The Medical Board of that institution, is composed of professional men of liberal and enlightened education, who appreciate the value of Botany in a course of medical education; and, fortunately for the languishing interests of that science, in the school in which the author holds the Botanical Pro-

fessorship, they possess a degree of liberality which has been denied his exertions by the majority of the Professors of that school. To the fostering care of this board therefore, seconded by the funds at the disposal of the Managers of the Infirmary—and aided by the gratuitous labour at the command of that active and useful officer who governs the internal police of the institution, Mr. John A. Inslee, whose exertions have already done so much for the garden,* the author feels fully justified in promising the public that the long wanted Botanic establishment in this city, will next year be in a state of considerable forwardness—and will afford him an opportunity of showing to what causes may be fairly ascribed the frustraneous result which has heretofore attended his efforts; since works of this nature cannot, in any reason, be expected to succeed without funds, public patronage, or the aid of some public body. The author dwells on this acquisition to his means of illustrating the Botany of North America with great pride, because it will show what he was long since able to have effected elsewhere, had aid, patronage, and funds been bestowed on his first endeavours, instead of a regular system of opposition and discouragement; and because it will furnish the means of convincing all concerned in governing the courses of medical education, of the high importance and usefulness of Botany as an undergraduate course in elementary studies.

* For a more particular account of this Botanic establishment, and the medical advantages of the Infirmary, the public is referred to a pamphlet which will be shortly published.

This work having been conducted thus far under manifest disadvantages, the author hopes that the public will extend their patronage to it, now that so great a facility is afforded him, of continuing it in future to their entire satisfaction—and he renews his assurances that redoubled energy and zeal shall attend the execution of the succeeding volumes.

Philadelphia, July 15, 1822.

Drawn from Nature by W.P.C.Barton

Engraved by C.Tiebout

ORONTIUM AQUATICUM.

TABLE XXXVII.

ORONTIUM AQUATICUM.

GOLDEN-CLUB.

Hexandria Monogynia, Linn. *Aroideæ*, Juss.

GENERIC CHARACTER.

Spadix cylindric, covered with florets. *Corolla* about 6-petalled, naked. *Style* and *stigma* scarcely any. *Utriculus* 1-seeded.

SPECIFIC CHARACTER.

Leaves lanceolate-ovate; scape cylindric, spiked. *Willd.*

An aquatic plant. Root large, succulent, perennial, deep seated in mud or mire. Scape sheathing, from nine to ten inches long, cylindrical, clavate, sienna-yellow, delicately maculated with red spots, slightly angular, curved, snow-white and shining near the upper end. Spadix from one to two inches long, clavate-conical, gam-

boge-yellow, bearing about sixty flowers, of an unpleasant heavy odour. Germ angular, depressed, greenish. Stamens short, yellow. Seeds viviparous, sprouting as soon as they fall on the mud or in the water, generally four in number, and situated under the broad flower scales which are most conspicuous on the lowest flowers of the spadix. Filaments also short, flat, diverging from the exterior margin of the germ. Style absent. Stigma also wanting, or discernible only in the form of a minute puncture which rises to a more conspicuous and hard circular base, as the inflorescence advances. Leaves sheathing each other by their petioles, lanceolate-elliptical, terminating abruptly in an acute point. Costa very thick and succulent. Upper disk deep duck-green, lower bluish, sometimes yellowish-green, glabrous, and shining. Petioles cylindrical. Every part of the plant shining except the upper disk of the leaves and spadix. Younger leaves closely convoluted and proceeding from the sheathing bosom of the older ones. During the flowering state the leaves seldom exceed six or eight inches in length, but after the plant is in fruit, they attain near twelve inches. Grows on the marshy borders of tide-water rivers and creeks, and on the lutulent margins of ditches and ponds which the tide reaches, throughout the union, flowering in April and May. Pursh observed a variety with almost linear leaves, in the salt marshes near New York.

The Indians of North America are said to have roasted the roots of this plant, and eaten them as an article of food. In their uncooked

state, however, they are supposed to be poisonous. The seeds well dried and boiled in water, give out a fecula; but in their crude state they are very acrid.

The genus of which the only North American species is here figured, is the ὀροντιον of the Greeks, but the etymology of the word is entirely lost in obscurity. The name is said to have belonged to an herb used in baths or fomentations for the jaundice; and we are told by Dr. Smith, that some have suspected it to be a corruption of the word Origanum, while Professor Martyn thinks it likely that the word comes from ὀραω, to see, a notion founded on a gratuitous assertion of the plant being serviceable to the eye-sight.

The Orontium Japonicum is the only other known species of this genus. It is a native of Japan.

The plate represents Orontium aquaticum of its natural size, in flower.

TABLE XXXVIII.

LUPINUS PERENNIS.

LUPIN. BLUE LUPIN.

Diadelphia Decandria, Linn. *Leguminosæ*, Juss.

GENERIC CHARACTER.

Calix bilabiate, five of the anthers oblong, and five partly round. *Legume* coriaceous torulose.

SPECIFIC CHARACTER.

Perennial, repent; stem and leaves smoothish, leaves digitate: folioles, (8-9,) lanceolate, somewhat obtuse; calices alternate, without any appendix; upper lip emarginate; lower one entire. *Willd. and Pursh.*

A PERENNIAL plant about eighteen inches high, sometimes two feet. Stem erect, purplish and yellow-green, invested with a very dense pubescence. Petioles varying in length, also covered with a short thick pubescence. Leaves digitate, the folioles from eight to

Drawn from Nature by W.P.C.Barton.

Engraved by C.Tiebout.

LUPINUS PERENNIS.

nine, displayed horizontally, also densely pubescent. Young leaves folded from the costa inwards. Stipules subulate. Flowers numerous and very showy, borne on a perpendicular terminal spike, from four to eight inches long. Calix pubescent, upper segment gibbous at base, and of a purplish colour; lower one larger, longer, yellow, tipped with purple. Wings varying in colour, being Berlin-blue, campanula-purple, or red-lilac-purple, and sometimes bluish-lilac-purple, variegated with darker stripes of the same colour. Carina white, or bluish-lilac-purple, tipped with deep auricula-purple. Vexillum Berlin-blue, tipped with imperial-purple. Stamens and pistils greenish-yellow. Anthers orange-yellow. Legume torulose. Grows in dry woods of sandy soil, and on dry sunny hills of gravelly soil, from Canada to the most southern section of our country. Flowers in May.

This beautiful genus contains seven known species indigenous to the United States, of which the present one is perhaps the most elegant. Lupinus was so called by Pliny and other ancient writers; and Professor Martyn is of opinion that the word owes its origin to the word *lupus*, a wolf, because plants of this genus "ravage the ground by overrunning it, after the manner of that animal." The word is also supposed by some to be derived from λυπη, grief, a notion which is supposed to be supported by Virgil's epithet, *tristes lupini*, which he used, not perhaps without a full stretch of the poet's license, from the fanciful idea that the acrid juices of the lupin he alluded to,

produced a sorrowful cast of countenance. Such are the opinions of modern botanists relative to the etymology of this word.

Lupinus perennis is, as already remarked, one of the most elegant of our native species, and is highly worthy of cultivation in our gardens. Its root creeps, and thus multiplies the plant rapidly; hence it is peculiarly well adapted to borders. As it delights in a sandy or dry soil, due attention should be paid to this circumstance, in order to insure its health and vigour after transplantation from the woods. It grows extensively in the sandy woods of New Jersey, and is also found in similar situations near this city, on the western side of the Delaware.

The figure represents a flowering portion of the plant, the size of nature.

Drawn from Nature by W.P.C. Barton.

Engraved by C. Tiebout.

1 LISTERA CONVALLARIOIDES 2 ANEMONE QUINQUEFOLIA

TABLE XXXIX.—FIG. 1.

LISTERA CONVALLARIOIDES.

LONG-LIPPED LISTERA.

Gynandria Monandria, Linn. *Orchideæ*, Juss.

GENERIC CHARACTER.

Corolla irregular. *Lip* pendent, bifid. *Column* apterous, (minute,) the anther inserted at its base. *Pollen* farinaceous.

SPECIFIC CHARACTER.

Stem 2-leaved; leaves opposite, broad, ovate, acute; spike 10 to 12-flowered; lip very long, bifurcated; germen sub-globose or ovate; root consisting of large fleshy segments. B.

SYNONYMS.

Ophrys cordata, Mich.

Listera cordata, Nutt. and Barton's Comp. Fl. Phil.

Epipactis convallarioides, Muhl. Cat. and Herbarium, and Pursh.

Plant about a span high. Root consisting of several fleshy palmate divisions of an ochre-yellow colour. Stem simple, erect, bifoliate, somewhat quadrangular, purple or carmine-red, sheathing at base; sheaths whitish, tipped with umber-brown, from two to three in number. Spike terminal, having a viscous pubescence of red hairs, reddish below, green towards the apex, bearing ten, twelve or fourteen flowers, garnished with minute, ovate bracts. Leaves opposite, sometimes, though rarely, alternate, ovate, sub-acute, (not in the least cordate, though they appear so,) three-nerved, smooth and shining, somewhat paler underneath than above, the margin at the base decurrent along the angles of the stem, three-nerved, pellucid. Specimens occasionally occur with broad lanceolate leaves. Calix yellowish-green, with purple stripes. Petals five, generally reflected, the three exterior ovate, hollowed; the two interior longer and convoluted. Lip from a quarter to half an inch long, divided nearly to its base, with two linear-acute segments, having the margin below reflected. In the point of separation of the lip, a small tooth is generally perceptible, but in many specimens it is wanting. Anther persistent. Capsule ovate, membranaceous. Grows in shady bogs of rich soil. Rare. In an extensive morass, shaded by a deep pine wood, in Jersey, about two miles south-east of Philadelphia, it grows abundantly, though it is likely to be overlooked from its inconspicuous character.

The genus Listera was established on the characters given at the

head of this chapter by Brown, consisting of species from Ophrys. The United States present us with two species, Listera pubescens and the present one. No. 3. L. convallarioides, of Nuttall, I do not know.

Fig. 1. of the plate represents a common sized specimen of Listera convallarioides; specimens are often smaller than this, and some larger.

a. A side view of a flower.

b. An under view of the same, both enlarged.

TABLE XXXIX.—FIG. 2.

ANEMONE QUINQUEFOLIA.

FIVE-LEAVED ANEMONE.

Polyandria Polygynia, Linn. *Ranunculaceæ*, Juss.

GENERIC CHARACTER.

Calix none. *Petals* 5 to 9, or more. *Seeds* many.

SPECIFIC CHARACTER.

Stem one-flowered, stem leaves thrice-ternate, lateral ones deeply bipartile; folioles cuneate, cut-lobate, dentate, acute; corolla 5-6-petalled, seeds ovate, pointed. B.

SYNONYMS.

Anemone nemorosa, Mich. and Nutt.
A. nemorosa, β. quinquefolia, Pursh.

Root perennial, horizontal, clavate, white or wood-brown, consisting of a thick tuber, three inches long, the thickness of a goose-quill, and beset with numerous, small, black fibres. Stem oblique,

crooked, cylindrical, brownish-red in the middle, white below. Leaves terminal, generally three. Petioles from half an inch to an inch long, erect. Leaves divided into three or five segments, pale underneath. Leaflets lobed laterally, deeply cleft and incised. Peduncle an inch or an inch and a half long, erect, pubescent. Corolla consisting of five or seven petals, white or peach-blossom red. Anthers small, straw-yellow. Filaments same colour, very slender and delicate. Pistils and germ greenish. Specimens are occasionally met with which are only three-leaved, but they are generally five-leaved—and more seldom specimens occur with but two leaves. Grows in rich, shady woods, and near the margins of rivulets, in damp rich soils, throughout the United States; flowering in the early part of May.

This delicate little plant is very ornamental to our copses and shady woods, in the spring of the year. Though it bears but a single blossom red or white flower, the plant is so abundant where it grows, increasing by its roots as well as seeds, that it besprinkles the ground for rods together with its flowers. It has been confounded with the A. nemorosa of Europe, from which Muhlenburg considered it specifically distinct, giving it the name *quinquefolia*, and the plant here figured is the one standing under the same name in his catalogue and herbarium. From the assertion of Pursh, that "the variety β. (the present plant,) can never be considered as a species, as there are intermediate varieties between them"—I have been led for many years past to examine hundreds of specimens

from various states in the Union. The result is, that I see no reason to alter my opinion expressed on this species in the "Compendium Floræ Philadelphicæ," several years ago; and that opinion goes to confirm the correct decision formed of this plant by Muhlenburg. It differs specifically from the description and figures of A. nemorosa of Europe, and also from specimens of the foreign plant which I have examined.

The genus Anemone has its derivation from ανεμος, *the wind*, from the old notion that the flowers of this genus do not expand except when the wind blows, or because the plant grows in situations much exposed to the wind. Hence a common name is wind-flower. There are nearly forty species which principally belong to Europe, ten are natives of this country—and some are found in Barbary, the Levant, Siberia, Japan, and South America.

Fig. 2. Represents the plant of its common size, about an inch of the root being cut off by the line of the plate.

Fig. 1.

2

3

4

Drawn from Nature by W P C Barton.

F. Kearny Sc.

TRILLIUM CERNUUM.

TABLE XL.

TRILLIUM CERNUUM.

NODDING TRILLIUM. DROOPING THREE-LEAVED NIGHTSHADE. DROOPING TRILLIUM.

Hexandria Trigynia, Linn. *Asparagi*, Juss.

GENERIC CHARACTER.

Calix 3-leaved, spreading. *Corolla* of three petals. *Filaments* and terminal anthers adnate, opening on the inner side. *Styles* none. *Stigmas* three, distinct, or approximate. Berry 3-celled, cells many-seeded.

SPECIFIC CHARACTER.

Peduncle recurved; petals lanceolate-acuminate, flat, reflected, as long as the calix; leaves dilated, rhomboidal, abruptly acuminate, on short petioles. *Pursh.*

SYNONYM.

Trillium cernuum of Pursh, Muhlenberg's Cat. and Herbarium, Elliot, Nutt. Barton's Comp. Fl. Ph.—but not of Linnæus, Catesby, Michaux, nor Walter.

Root perennial. Stem simple, erect, from one to two or two and a half feet high, cylindrical, siskin-green above, dull purple below;

base white, invested with sheaths. Leaves three, drooping, terminal, rhomboid-ovate, narrow at base, sessile, or nearly so, terminating at their apices in abrupt points, deeply veined, veins prominent and numerous below, yellow-green above, under surface shining. Peduncle from one-half of an inch to an inch, rarely an inch and a quarter long, turned downwards beneath the two leaves and concealing the flower under one. Calix dependant, consisting of three petaloid, acuminate, lanceolate, or lanceolate-ovate segments, the margins approaching by reflected convolutions near the apex. Petals three, white, turbinated or turned upwards in a direction contrary to the calix leaves; also acuminate, occasionally one-half greenish, like the petaloid calix. Anthers constantly six in number, a quarter of an inch long, oblong, white, with yellow pollen on the margin. Stigmas three, prismatic, and convoluted at the end, tinged with carmine, projecting beyond the anthers, and being aggregated into a solid mass at base. Berries purple. Grows in damp rocky woods or grottoes, near rivulets, delighting in rich soil, throughout the Union. Flowers in the beginning of May—to the south in April. On the banks of the Schuylkill, near the falls, west side: near Mantua Village, and other places contiguous to Philadelphia, this plant is very abundant.

This is not the Trillium cernuum of Michaux, which is now called T. stylosum by Nuttall, and T. Catesbæi of Elliot. Catesby's plant was probably the original T. cernuum of Linnæus, a name now

transferred by botanists to another plant, the one here figured, leaving consequently much doubt and confusion relative to the true plant designated by Linnæus by that name. This transfer of the name, which must have been unintentionally made, and owing to the similitude of several species of this genus, has induced Mr. Elliot to give the name Catesbæi to it. Mr. Nuttall has called the same plant T. stylosum, from its being the only species having a single style. It appears from Mr. Elliot's remarks that the T. cernuum of Walter is different from either the present cernuum or the species of former botanists. He has assigned to it the specific name of nervosum. Dr. Smith has criticised the figure of Catesby, who describes the plant as growing in Pendleton at the head waters of the Saluda and Savannah rivers, stating it to be incorrect, and Pursh assuming him as authority, declares the figure cannot be quoted without creating confusion. While Mr. Elliot, on the spot, declares, that he had, at the time of making his observations, "specimens before him agreeing minutely with the figure of Catesby, which were collected precisely in the same spot where that naturalist describes his plant as growing. Yet it is not a little remarkable that Dr. Smith should be able to see the identity of Catesby's plant, by the specimens in the Catesbyian Herbarium, with the cernuum, (the plant here figured,) though he declares the figure erroneous.

The genus to which this plant belongs contains eleven or twelve species peculiar to the United States, and one, the T. obovatum, common to this country and Kamschatka, according to Pallas.

The generic term Trillium is of Linnæan origin, and its derivation is left unexplained. It is supposed, however, and with very little doubt, to refer to the triple number of all the parts of the plant. The calix and petals each consisting of three leaves, the stigmas and the cells of the fruit three in number, and even the leaves are three. Circumstances of formation constant throughout the whole genus, with the exception of the single style observed by Mr. Nuttall in the species T. stylosum.

Fig. 1. Represents the upper half of a plant of the commonest size, in flower.

2. A flower, separated.

3. The three connected stigmas.

4. A stamen.

(All the size of nature.)

Drawn from Nature by W.P.C.Barton.

F. Kearny Sc.

TRADESCANTIA VIRGINICA.

TABLE XLI.

TRADESCANTIA VIRGINICA.

VIRGINIAN SPIDER-WORT.

Hexandria Monogynia, Linn. *Junci*, Juss. *Commelineæ*, R. Brown.

GENERIC CHARACTER.

Calix 3-leaved. *Petals* 3. *Filaments* villous. *Capsule* 3-celled, few-seeded.

SPECIFIC CHARACTER.

Erect; leaves lanceolate, long, smooth; flowers pedunculated; umbels crowded, pubescent. *Willd.*

SYNONYM.

PHALANGIUM ephemerum Virginianum, Park. *Paradisus*. 152.

ROOT large, fasiculated, consisting of thick succulent fibres, perennial. Stem somewhat cylindrical, smooth, striated, often geniculate, particularly in luxuriant specimens, grass-green, with reddish stripes at the base of the leaves. Leaves lanceolate, from

nine to twelve or fifteen inches long, tapering to a gradual acumination, same colour on either surface, somewhat succulent, amplexicaule, and sheathing at base, channelled, striated, and undulated, often edged with red. Peduncles umbellate, pubescent, numerous, drooping when in bud, but during and after florescence, erect. Calix covered with a dense, whitish pubescence. Flower consisting of three, ovate, wrinkled petals, of a very delicate succulent texture, and imperial-purple colour, with a green or white, flat, broad stripe in the centre of the petals. They are evanescent, one flower only continuing twenty-four hours; the petals become dissolved into a kind of jelly during the night of the day on which they expand, and are wrinkled up almost to nothing. They occasionally vary from imperial-purple to Berlin-blue, in the shade. Near the umbel there is one bract-like leaf, much shorter than the other. Stamens six, filaments imperial-purple, finely and delicately fringed with ciliæ of the same hue. Anthers horizontal, oblong, convex or flat, saffron-yellow. Pistil purple. Stigma and germ straw-yellow. Grows on the sandy banks of tide rivers, the margins of creeks, and similar situations throughout the Union. Flowers in May and June. It delights in moisture and loose sandy soil.

This plant is readily increased by parting its long, fibrous roots, and setting them out in suitable situations in the autumn, as well as by sowing the seeds. In this manner the plant is cultivated and increased in Europe, where for nearly a century it has been known and admired.

In England it blooms throughout the summer, each set of expanded flowers as they perish being followed by a succession of new ones, as ephemeral as themselves.

This very elegant and singular plant is well known to many persons, being often cultivated in gardens. It is greatly admired for the singular brilliance and beauty of the flowers, to the rich purple of which the brilliant golden-coloured anthers form a striking and agreeable contrast. It is not generally known by those who cultivate it, to be a native plant; and I have known it purchased at a high price from gardeners, near this city, while the shores of the Delaware a few miles below its suburbs are bordered with it. The juice expressed from the petals, or taken after florescence while they are in the state of a dissolved pulpy mass, makes a brilliant stain or pigment, exhibiting the peculiar brilliancy of the imperial-purple.

The genus received its name from Ruppius and Linnæus in honour of the two John Tradescants, father and son. The former was the father of natural history in England, and enjoyed the merit of having been the first person who collected natural curiosities together in the form of a Museum. The son visited Virginia, and before 1729 carried into England, some new plants, among which was the one here figured, the type of the genus.

Mr. R. Brown has separated this, with some other plants, from

Junci, into a natural family which he has called *Commelineæ*—an arrangement which removes the incongruous union of plants with such beautiful and conspicuous corollas as this, with those which have merely calices. According to the principles of Jussieu, the superb corolla of this plant must be considered as a calix, which in reason it never can be estimated. Brown calls them, as does Linnæus, petals.

Fig. 1. Represents a portion of the plant, the size of nature.

2. A stamen.

3. The pistil.

Drawn from Nature by W.P.C.Barton. I.L.Frederick Sc.

RUBUS ODORATUS.

TABLE XLII.

RUBUS ODORATUS.

SWEET-SMELLING RUBUS. ROSE-FLOWERING RASPBERRY.
FLOWERING RASPBERRY.

Icosandria Polygynia, Linn. *Rosaceæ*, Juss.

GENERIC CHARACTER.

Calix 5-cleft, inferior. *Petals* 5. *Berry* compound, acini 1-seeded.

SPECIFIC CHARACTER.

Without prickles, erect, clammy-hispid; leaves simple, acute, 3-5 lobed; corymbs terminal, divaricate, calices with apendices, petals sub-orbiculate.—*Willd.*

A VERY elegant shrubby plant, commonly about four feet tall, but often attaining a height of six or seven feet. Stems biennial, numerous, erect, branched, hispid, but without prickles. Branches invested with a thick, viscous pubescence, or hispidness. Leaves simple, roughish, deep grass-green, cut into from three to five lobes, serrated—serratures acute—lobes acuminated. Flowers borne in termi-

nal, bracteate, spreading corymbs—the peduncles, bracts, and ramifications of which are covered with a red and glutinous hispidness. Petals ovate, lake-red, five in number, wrinkled, and spreading. Calix glutinously villous, with linear, leafy acuminations, often exceeding half an inch in length. The flowers and corymbs possess a strong and agreeable terebinthinate odour. Berries, according to Pursh, "of a very fine flavour and large size." Grows in hilly woods, or on elevated and retired spots of shrubbery in Canada, and on the Alleghany mountains. Flowering in June and July.

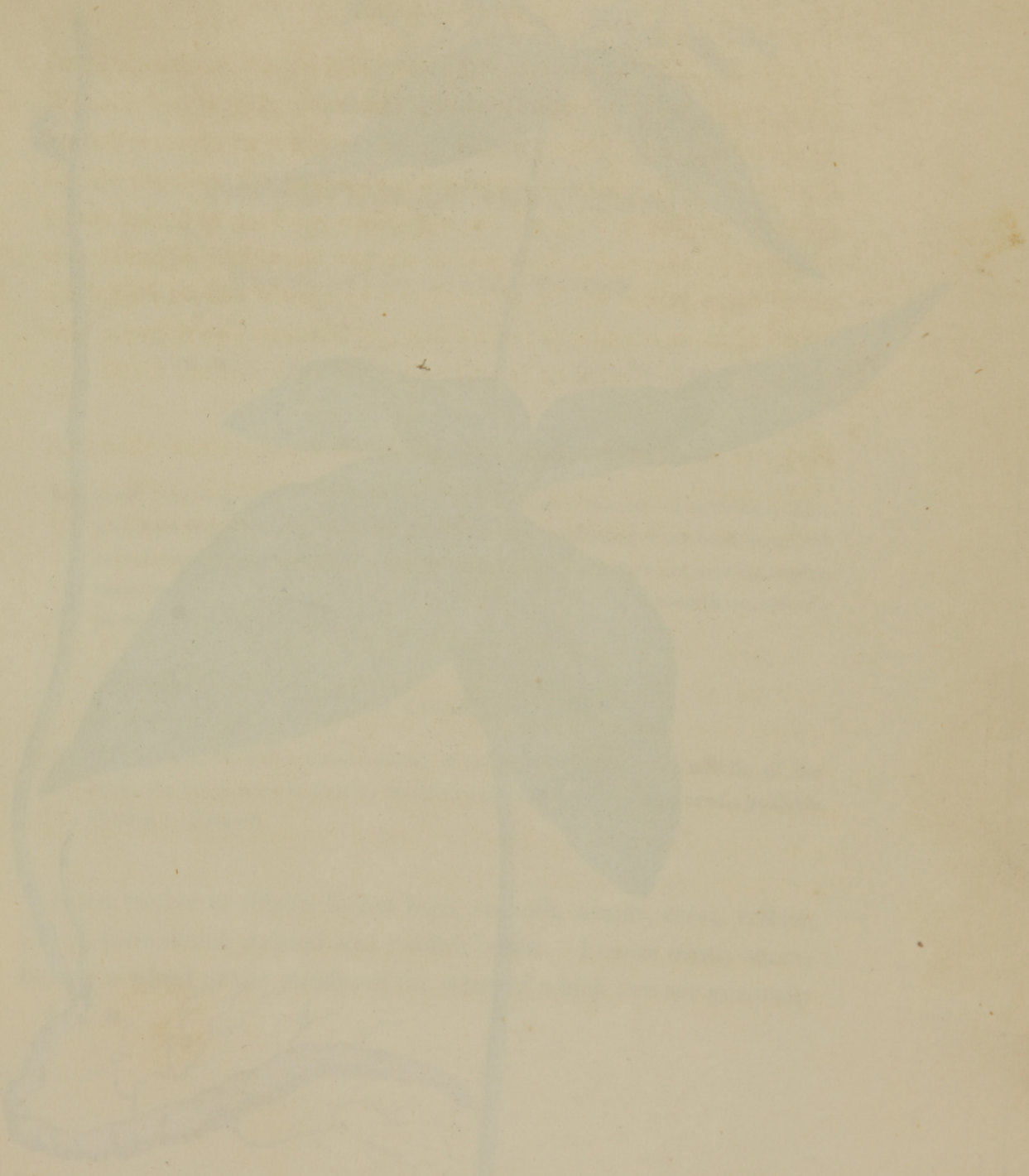
This showy plant belongs to a genus in many species of which the prevailing colour of the fruit is red. Hence the term Rubus, which is supposed to have the same origin as *ruber*, synonymous with the Celtic word *rub*, red.

The fruit of most of the species is esculent and refreshing, and when eaten perfectly ripe, even medicinal, acting kindly on the stomach and bowels. The fruit of the present species rarely comes to maturity under cultivation, and, even when perfectly ripe, is rather insipid than grateful. As an ornamental plant alone, it seems entitled to attention, being hardy, of rapid growth, and bearing an abundance of very elegant flowers.

Flowering Raspberry is not a very common plant, nor its geographical range very extensive. It appears to delight in secluded ele-

vated situations, where it is sometimes abundant, but local. On the Wissahickon creek, near this city, and about two or three miles from Germantown it grows wild, and is there tolerably abundant. In this situation the petals do not possess so vivid a hue as those of plants raised in gardens, and these are likewise somewhat smaller. Considerable difference occurs in the wild and cultivated plant, in the length of the elongated terminations of the calix, some being only a quarter of an inch long, while other specimens occur in which they attain the length of three-quarters of an inch.

The table represents a flowering specimen taken from the wild plant, the size of nature. The leaves are often much larger than represented in the plate—but there are at the same time many much smaller on the same plant.



Drawn from Nature by W.P.C.Barton

Engraved by C.Tiebout.

ASCLEPIAS QUADRIFOLIA.

TABLE XLIII.

ASCLEPIAS QUADRIFOLIA.

FOUR-LEAVED SWALLOW-WORT.

Pentandria Digynia, Linn. *Apocyneæ*, Juss.

GENERIC CHARACTER.

Calix small, 5-parted, persistent. *Corolla* rotate, mostly reflected. *Lepanthium* simple, 5-parted. *Segments* ovate, cucullate, each producing from its base an internal subulate averted awn. *Antherideum* 5-parted, crustaceous, sessile, angles opening by five longitudinal chinks. *Follicles* 2, ventricose, acuminate, smooth or muricate. *Seed* comose. *Nutt.*

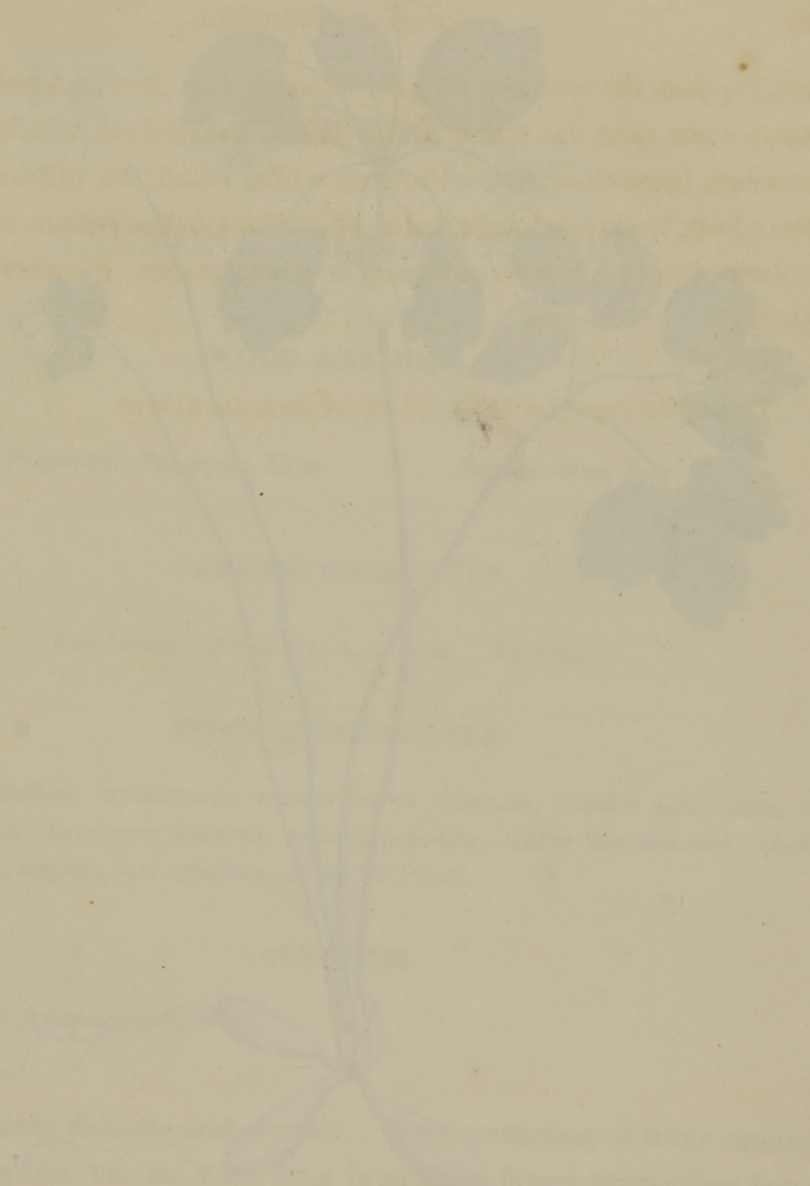
SPECIFIC CHARACTER.

Stem erect, simple, smooth; leaves ovate, acute, petiolated; in the middle of the stem, the large ones in four's; umbels two, terminal, loose-flowered; pedicels filiform. *Jacquin.*

Stem twelve or fifteen inches high, smooth, simple, erect, yellow, terete, convoluted, striated and reddish below. Leaves ovate, acute; four in a whorl at the middle of the stem, of which two are generally

smaller than the rest, and all paler beneath than above. A pair of leaves more acute than the others at the fork of the umbels, which are two in number, loose-flowered. Flowers white, small, on filiform pedicels. Root long, horizontal, tubercular, of a yellow-ochre colour, with lighter-coloured fibres. Grows generally in shady places. Flowers from May to July.

The table represents the plant of its natural size.



Drawn from Nature by W. P. C. Barton

Engraved by C. Tiebout

ANEMONE THALICTROIDES.

TABLE XLIV.

ANEMONE THALICTROIDES.

WOOD ANEMONE.

Polyandria Polygynia, Linn. *Ranunculaceæ*, Juss.

GENERIC CHARACTER.

Calix none. *Petals* 5 to 9, or more. *Seeds* many.

SPECIFIC CHARACTER.

Flowers umbellate, involucrate; radical leaves biternate, folioles subcordate, 3-toothed; involucre 6-leaved, folioles petiolate; umbel few-flowered; seeds naked, striate; root tuberous. *Willd. & Pursh.*

SYNONYM.

THALICTRUM Anemonoides, Mich.

PLANT very delicate and slender. Root consisting of three oblong yellowish-white tubers, with long branching fibres proceeding from

their extremities. Radical leaves biternate, with subcordate leaflets, obscurely three-lobed. Stems and base of petioles reddish, invested by a squamous sheath. Umbels consisting of but few flowers. Petals ovate, delicate blossom-red or white, and liable to duplication by culture. When this happens, the plant is much valued. It is one of the early harbingers of spring, and decorates the woods with its delicate foliage and flowers for a long time before any other verdure appears. In rich woods throughout the Union. April and May.

The table represents the plant, of its most usual size.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Drawn from Nature by W.P.C.Barton

Engraved by C.Tiebout

COREOPSIS TINCTORIA.

TABLE XLV.

COREOPSIS TINCTORIA.

DYEING COREOPSIS. ARKANSA COREOPSIS.

Syngenesia Frustraneæ, Linn. *Corymbiferæ*, Juss.

GENERIC CHARACTER.

Calix double, both many-leaved, (8 to 12) interior equal, sub-coriaceous, and coloured. *Receptacle* paleaceous, scales flat. *Seed* compressed, emarginate, bidentate, dentures rarely awned.

SPECIFIC CHARACTER.

Radical leaves pinnate-form ; leaflets sub-oval, entire, smooth, the upper one imperfectly pinnate with linear segments ; flowers in pairs or three's ; exterior calices very short, rays bi-coloured ; seeds naked, emarginate. *Nuttall.*

"ANNUAL and biennial, stem erect, smooth, and much branched, extremely variable in magnitude, being from one to five feet high. The leaves, in common with the genus, are somewhat thick and succulent, the primary ones simple, radical pseudo-bipinnate, the segments also occasionally pinnate, oblong-oval, commonly smooth, and entire, the

ultimate divisions largest. Flowers often terminating the branchlets by pairs, with the peduncles unusually short. Exterior calix minute, much shorter than the interior, and in common with it, and the number of rays mostly eight-leaved. Rays three-lobed at the extremity, of a bright orpiment-yellow* and brown† towards the base; disk brown,‡ and rather small. Receptacle paleaceous, the leaflets deciduous. Seed small, blackish, immarginate, curved, and naked at the summit."

"*Habitat.* Throughout the Arkansa territory to the banks of the Red river, chiefly in the prairies which are subjected to temporary inundation. Flowering from June to October."§

We are indebted to Mr. Nuttall for the addition to our Flora, of this very elegant species of Coreopsis. It is one of that number of new and rare plants, the discovery of which rewarded the zeal of that botanist in his last travels through the Arkansa territory. His full description, as quoted above, renders any other unnecessary.

Figure 1. Represents a flowering portion, of its natural size. Culture much improves the flowers in size.

2. A radical leaf.
3. A floret, magnified.
4. The calix, its natural size.

* Gamboge-yellow. † Auricula-purple. ‡ Auricula-purple.

§ Journal Acad. Nat. Sc. Phil. 1821. p. 114.

Drawn from Nature by W.P.C.Barton.

Engd by C.Goodman

STEVIA CALLOSA

TABLE XLVI.

STEVIA CALLOSA.

ARKANSA STEVIA.

Syngenesia Æqualis, Linn. *Corymbiferæ*, Juss.

GENERIC CHARACTER.

Receptacle naked. *Pappus* awned-paleaceous. *Calix* cylindrical, formed of a simple series of leaves.

SPECIFIC CHARACTER.

Annual; leaves linear, crowded, somewhat thick, callous at their apices, the upper ones alternate; flowers divaricate, sub-corymbose; pappus about 8-leaved, erose, and very short. *Nutt.*

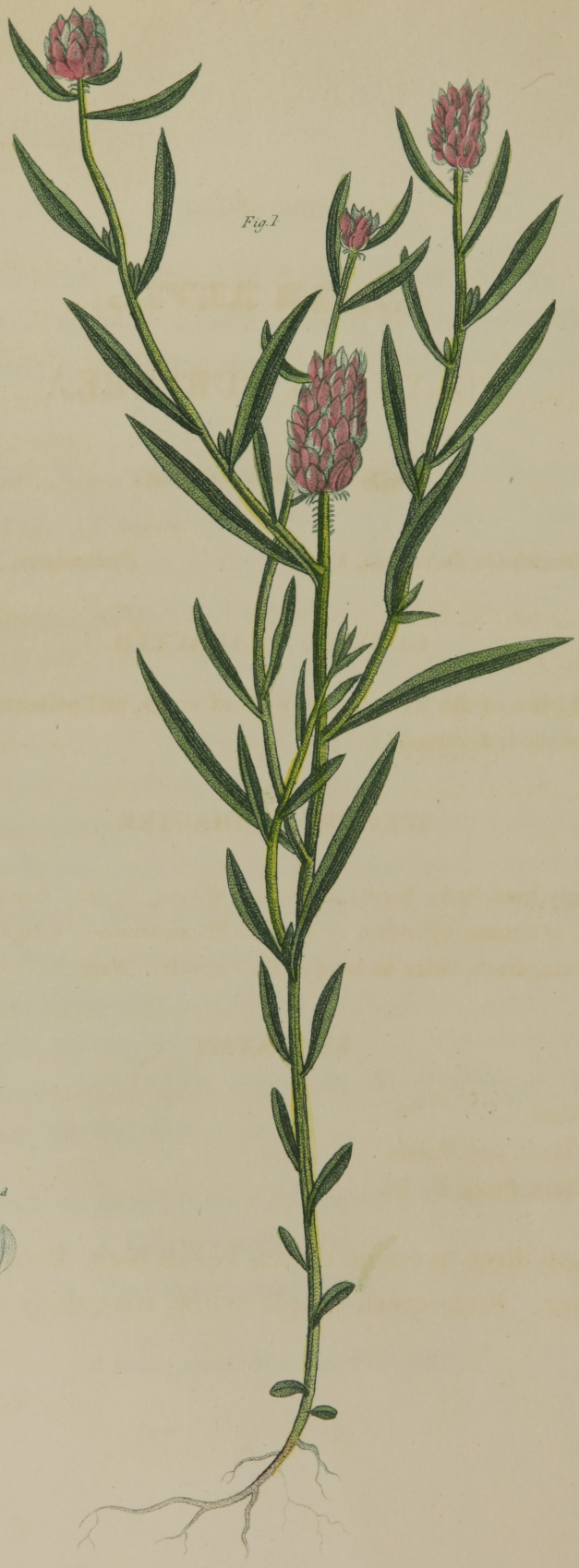
"PLANT annual. Somewhat scabrous; stem divaricately branched, brittle. Leaves mostly alternate, sessile, and somewhat succulent, constantly terminating in a yellowish sphacelous or callous point. Peduncles and flowering branchlets glandularly pubescent; the flowers reddish and dispersed, tending, however, to a corymb; the calix cylindric, consisting of about eight linear leaflets disposed in a single series. Florets from ten to twelve? quite similar to those of *Marshallia* and *Hymenopappus*, bearing a slender tube and a funnel-formed five-cleft bor-

der. Anthers blackish. Stigma bifid. Receptacle naked. Seed conic, pentangular, terminated by a short eroded paleaceous pappus. This species, excepting in the calix, does not essentially differ from Hymenopappus."*

This is the first North American species of this Mexican genus which has been discovered. Plant debile. Stem simple below, branched above. Flowers peach-blossom-red, as they grow older they become very pale, a faded red or almost white. Flower-buds deep lake-red. Stem light siskin-green, argentine, and shining, rather rough to the touch, owing to a very short, stiff pubescence, almost imperceptible except under a lens. The leaves have a nerve on each side of the costa and near the margin, which is somewhat channelled, or slightly scabrous; under a lens covered with the same kind of hairs as are on the stem; the branches which bear the flowers are without the argentine lustre, and more conspicuously pubescent and roughish; peduncles, and forks which bear them, covered with a conspicuous, glandular pubescence of a brown colour; many of the leaves, particularly the branch leaves, arcuate, and all of them, without exception, terminating in an obtuse, yellow, sphacelated dot. Grows on the gravelly banks of the Arkansa, rare. Flowers from September till October.

The table, Figure 1, Represents a flowering portion, of its natural size.
2. A flower, separated.
3. The same, magnified.

* Jour. Acad. Nat. Sc. Phil. 1821.



Drawn from Nature by W. P. C. Barton.

Engd by C. Goodman.

POLYGALA PURPUREA

TABLE XLVII.

POLYGALA PURPUREA.

PURPLE MILK-WORT.

Diadelphia Octandria, Linn. *Pediculares*, Juss.

GENERIC CHARACTER.

Calix 5-leaved; two of the leaves in the form of wings, and coloured. *Capsule* obcordate, 2-celled, 2-valved.

SPECIFIC CHARACTER.

Stem fastigiately branched; leaves alternate, oblong, linear; flowers beardless, imbricate, in obtuse, cylindric spikes; rachis squarrose; wings of the calix cordate-ovate, erect, twice as long as the capsule. *Nutt.*

SYNONYMS.

P. purpurea, Nutt.
P. sanguinea, Mich. and Pursh.
P. sanguinea, Bart. Prod. Fl. Ph.

PLANT from three to ten or eleven inches high. Root small, annual, fibrous, yellow. Stem erect, simple below, irregularly and somewhat

dichotomously branched above, one of the limbs of the fork being longer than the other. Leaves linear, short, smooth, acute, numerous, erect. Flowers few, reddish-purple, mixed with green, in oval-oblong capituli. The first opening petals fall as the upper ones expand, leaving a squarrose appearance on the peduncles. In damp rich meadows and low grounds of boggy soil, throughout the Union, very common. Flowers from July till September.

The ancient name of the genus is compounded of two Greek words, πολυς, *much*, and γαλα, *milk*, in allusion to the reputation of the effect of the plant on cattle that feed on it. It is not known at this time, however, what is the precise plant which is endowed with such virtue. It is an extensive genus in this country, containing twenty species, the majority of which are very common in most parts of the Union.

This plant was considered as the Polygala sanguinea of Linnæus, until the discrepant points were first pointed out by Mr. Nuttall. The real plant of that name will be figured in a future number of this work.

The Figure 1, Represents the plant, of its natural size.

2. A petal.

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Engraved by C. Tiebout

TRIENTALIS AMERICANA.

TABLE XLVIII.

TRIENTALIS AMERICANA.

AMERICAN CHICK-WEED WINTER GREEN.

Heptandria Monogynia, Linn. *Lisimachiæ*, Juss.

GENERIC CHARACTER.

Calix 7-leaved. *Corolla* 7-parted, equal, flat. *Berry* 1-celled, juiceless. *Seeds* many.
(*Stamina* 5, 6, 7, and 8.)

SPECIFIC CHARACTER.

Leaves narrow, lanceolate, acuminate, oblique. *Pursh.*

SYNONYM.

Trientalis Europea, Mich. and others.

Plant a span high, very delicate, slender, and simple. Root fibrous, small, yellowish. Stem erect, invested with a few very small, scattered scale-like leaves, bearing no proportion to the size of the other leaves of the plant which are collected together in a tuft or whorl at the top of the

stem, are long, lanceolate, acuminate, semimembranaceous, and of the same colour on either disk. Peduncles terminal, filiform, two, three, or five in number, generally two, an inch and a half long, supporting each a rotate, white flower of five acute, flat petals, and generally seven or eight stamens. I have carefully compared the American with the foreign plant, and believe the former entirely distinct from the latter. Grows in cedar swamps, and other sphagnous places on high mountains throughout the United States. Flowering in July and August.

The table represents the plant, of its natural size.

Drawn from Nature by W. P. C. Barton

Engraved by C. Tiebout

OENOTHERA TRILOBA.

TABLE XLIX.

ŒNOTHERA TRILOBA.

NIGHT-FLOWERING ŒNOTHERA.

Octandria Monogynia, Linn. *Onagræ*, Juss.

GENERIC CHARACTER.

Calix tubulous, 4-cleft. *Segments* deflected, deciduous. *Petals* 4, inserted upon the calix. *Stigma* 4-cleft. *Capsule* 4-celled, 4-valved, inferior. *Seeds* naked, affixed to a central, 4-sided receptacle.

SPECIFIC CHARACTER.

Stemless; leaves interruptedly pinnatifid, dentated, glabrous; petals trilobed towards the top; capsules 4-winged, large. *Nutt.*

Root fusiform, small, ochre-yellowish, garnished with fibres of a lighter colour, annual and perennial, being affected in this circumstance by its particular kind of exposure to soil and climate. Leaves radical, large, the central ones erect, the outer spreading on the surface of the ground like those of common Dandelion. They are lan-

ceolate, acuminate, deeply and regularly sinuate, or nearly runcinate, with dentures on the cut portions. The sinuations are largest towards the apex, and decrease gradually as they approximate the base, which terminates in an attenuation scarcely broader than the mid-rib. Flowers radical, straw-yellow, vespertine, in favourable situations about the size of the largest one figured in the plate, though often smaller. Petals ovate, of very thin and delicate texture, acute, somewhat three-lobed towards the apex, three-nerved, nerves white, one central and the other two running from the base to the point of each lobe or tooth. Stamens two, proceeding from the base of each petal. Filaments yellow, nearly half an inch long. Anthers oblong, orange-yellow. Tube very long—from two to three and a half inches. Capsules radical, large, somewhat tetragonous, with a wing proceeding from each angle, forming a cruciform apex, of a dull-green colour, and collected together in dense clusters.

Grows in the arid and partly denudated prairies of Red River, where it was first discovered by Mr. Nuttall* in 1819.

This is the second species of Œnothera figured in the present work, and possesses considerable interest in the estimation of botanists, on account of its curious habit and structure. To those who take no interest except in the mere beauty of plants, nothing can be said in its

* Jour. Acad. Nat. Sc. Phil. 1821.

praise. It is not only vespertine in its inflorescence, but has an herbage destitute of any attractive appearance. Its flowers are in themselves sufficiently handsome, and of a very delicate hue; but as they bloom after the sun leaves the horizon and wither before the morn, it is necessary to examine the plant by a light, in order to see its florescence. It appears to be hardy, enduring our winters extremely well, and in this case becomes a biennial? flowering in the second vernal month. It occasionally is only annual, a circumstance for which Mr. Nuttall accounts by supposing the disproportionate magnitude of the radical capsules stifle the growing vigour of the plant.

Fig. 1. Represents the plant, in fruit.

2. A flower, culled an hour before sunset.

3. The same, in bloom.

4. The rotate corolla, separated.

5. A stamen.

6. A petal, with the two stamens attached.

7. Pistil and tube.

(All the size of nature.)

TABLE L.

CENTAUREA AMERICANA.

(SUB-GENUS *PHRYGIA.*)

AMERICAN CENTAUREA.

Syngenesia frustranea, Linn. *Corymbiferæ*, Juss.

GENERIC CHARACTER.

Calix various. *Rays* funnel-form, irregular. *Receptacle* bristly. *Pappus* simple, often pilose.

SPECIFIC CHARACTER.

Annual; stem tall, slightly branched, furrowed; leaves sessile, the lower ones oblong-ovate, repand-denticulate, the upper ones lanceolate, acute; peduncles growing thicker towards the calix; calicine folioles oval, with a feather-form recurved appendage. *Nutt.*

Root annual. Stem from four to six feet high, smooth, striated with whitish-green lines. Leaves sessile, lanceolate above, broad-lanceolate

Drawn from Nature by W.P.C. Barton

Engraved by C. Tiebout

CENTAUREA AMERICANA.

below, terminating in a very sharp, brownish cuspis, and having two similar processes near the apex of each upper leaf; margins scabrous, veins and costa diaphanous. Peduncles terminal, deeply striated with whitish lines, and thickened towards the calix where they are near half an inch in diameter. Flowers large, showy, and elegant. Calix large, ventricose or subglobose, consisting externally of numerous, recurved, fimbriated, stiff, straw-yellow, and very shining membranaceous segments; the lower ones ovate, interior or uppermost segments lanceolate, sienna-yellow, very shining, also terminating in fimbriated appendages; the ovate scales, to which these fimbriated appendages are attached, are green, with a white membranaceous edge, and striated with white lines. Rays of the flower very long, lilac-purple; neutral rays white below the fork of their bifurcation. Flower-buds or unexpanded rays, dark peach-blossom-red. Receptacle pilose, the seed garnished with an unequal pappus. Grows "on the banks of streams and in denuded alluvial situations throughout the plains or prairies of the upper part of the Arkansa territory, flowering in July and August."*

This very beautiful plant was first introduced to our gardens in the autumn of 1819, by Mr. Nuttall, who discovered it native of the situations already particularized, in the Arkansa territory. It is the only real Centaurea indigenous to our country, yet known; and, though annual, is a plant worthy of cultivation in all our gardens. Re-

* Jour. Acad. Nat. Sc. Phil. 1821.

quiring no care whatever, other than the preservation of its seed, for its perpetuation, it is well suited to open borders. I have observed, however, in the gardens of Messrs. Landreth, whence I obtained the specimens from which the drawing was made, that its habit was rather debile, and seemed to require props: a circumstance probably owing to accident, since it is described by its discoverer to be from four to six feet high, and the habit of robust specimens appears to be erect, as represented in the table.

Fig. 1. Represents a flowering portion of the plant.

2. A flower-bud, with the leaves cut off.

3. A fertile floret.

4. A neutral floret.

5. Exterior calicine scale.

6. Interior or upper calicine scale.

(All the size of nature.)

TO SUBSCRIBERS.

The present Number, containing the engravings of only two plants, renders it proper to state, that the table of Centaurea Americana, being a folio plate, cost the publishers exactly the same sum as two quarto plates, both in engraving and colouring, and consequently is equivalent to the two quarto in lieu of which it stands. It will occasionally be expedient to follow this plan in figuring very large plants, which, without reduction in size, could not be brought into the quarto dimensions: and as it is customary in the European Botanical works to substitute a large plate, instead of two smaller ones, where the beauty, size, or novelty of the plant may render such a plan desirable—the subscribers for this Flora, will not, it is hoped, disapprove of a similar arrangement.

AUTHOR.

Drawn from Nature by W.P.C.Barton. C. Goodman Sc.

CLAYTONIA VIRGINICA.

TABLE LI.

CLAYTONIA VIRGINICA.

VIRGINIAN CLAYTONIA.

Pentandria Monogynia, Linn. *Portulaceæ*, Juss.

GENERIC CHARACTER.

Calix biparted. *Petals* 5. *Stigma* trifid. *Capsule* 1-celled, 3-valved, 3 to 5-seeded. *Seeds* reniform.

SPECIFIC CHARACTER.

Leaves linear-lanceolate; racemes solitary; leaves of the calix somewhat acute; petals obovate, retuse; root tuberous. *Pursh.*

Root perennial, tuberous, umber-brow, of various shapes, often obscurely quadrangular, with projecting angles, from which very small radicles proceed. Leaves long or linear-lanceolate, somewhat fleshy, glabrous, with a conspicuous mid-rib, but without veins, and terminating in a long point. They are of a bright yellow-green, and of the same hue on either disk. Two proceed from the same point of the

stem, and in many specimens they are radical, in which case the base terminates in a long petiole of a whitish or red colour, owing to their concealment in the earth. Stem generally bifoliate, but sometimes naked, terete, glabrous, debile, drooping, or turning in arches, the radical portion of a bright carmine-red colour. Flowers borne in loose racemes, situated on slender, arcuate, secund peduncles. Calix consisting of two lanceolate-ovate, sub-acute, entire, persistent leaves, with white membranaceous margins. Corolla concave, delicate peach-blossom-red, variegated internally with streaks of carmine, and less conspicuously so without. Germ ovate, the style as long as the stamens, terminating in a trifid apex. Stigma glandular. Pistil greenish, stamens inserted, each with a petal at the base of the germ, the filaments peach-blossom-red like the petals, dilated at base, with rose-red, erect, oblong anthers. Capsule sub-globose. Delights in moist meadows and the edges of damp woods of rich soil near the decayed stumps of trees. Growing generally in great abundance, throughout the Union. Flowering time March, April, and May.

The genus Claytonia was so called by Gronovius, in honour of his friend John Clayton, of Virginia, a distinguished botanist who ardently investigated the plants of that state. He is chiefly known to the scientific world, by the Flora Virginica,* a work to which Linnæus, and all

* The first edition was published in Leyden, in 1748—and though its ostensible author is Gronovius, the great value of the work is derived from the masterly botanical descriptions of Clayton, communicated to his friend.

botanists since his time make frequent references. The genus is a small one, consisting of but five species, of which the subject of the preceding description is much the most common. Appearing at an early period of the vernal season, when every flower possesses peculiar attraction, it is much admired. The delicate structure, and variegated hue of the flowers, together with the unusual colour of the stamens, entitle them to this regard, and it may justly be said, that this species of Claytonia is one of the prettiest of our spring plants.

The table represents the whole plant in flower, the size of nature in favourable situations. The leaves are often more linear, and the plant not unfrequently consists only of the tuber and a single bifoliate stem, bearing the raceme of flowers.

TABLE LII.

CORALLORHIZA HIEMALIS.

DOUBLE-BULBED CORALLORHIZA.

Gynandria Monandria, Linn. *Orchideæ*, Juss.

GENERIC CHARACTER.

Petals equal and connivent; lip mostly arising from the base. *Column* free. *Pollinia* 4, oblique, (not parallel.)

SPECIFIC CHARACTER.

Leaf solitary, ovate, striate; lip trifid, obtuse, with the palate ridged; central lobe rounded, crenulate. *Nutt.*

SYNONYMS.

Arethusa spicata, Walt.
Cymbidium hyemale, Willd.

Root perennial, a duplicate bulb, joined by a short, carnose radical, proceeding generally from the base of one bulb, and being in-

Drawn from Nature by W.P.C.Barton.

C.Goodman Sc.

CORALLORHIZA HIEMALIS

serted into the side of the other. Three or four bulbs are often concatenated in the same manner. Bulbs sub-globose, fleshy, yellowish-white, with an investing striated sheathe of a darker hue at the top. Scape greenish-yellow, terete, smooth, and shining, about twelve or fourteen inches high, garnished with three sheathes, the lowest of which proceeds from the root. Sheathes two or three inches long, the two upper ones yellowish-white, lower one brownish. Flowers about fourteen, singular, and rather handsome, consisting of straw-yellow petals and lip, tipped with brownish-purple, borne on an angular receptacle, and supported by a clavate, convoluted, pedunculate germ, furnished at its base, where it is narrowest and most twisted, with a scale-like or membranaceous, lanceolate bract. The germ is at first erect, but afterwards enlarges during florescence, and finally becomes deflexed almost in a line with the scape. Petals linear-lanceolate, connivent, acute, yellow tipped with auricula-purple, the two inner covering the lower lip, forming, as it were, an upper lip, covering the thick arcuate stigma, which is yellow, spotted with purple. Lip about the length of the petals, unguiculate, trifid, the central lobe becoming convex and dilated towards the end, and crenulate on the margin, (fig. 4.) Leaf solitary,* oval, hiemal, finely plaited, having one central and two lateral nerves conspicuously distinct from the numerous white nerves which make up the texture of the leaf, and contribute to the

* Willdenow and Pursh describe the plant as having two leaves. I have never found it but with one.

aridness for which it is remarkable. The colour is a whitish-green, and the apex, which is acute, is often sphacelated. Grows on decayed vegetable soil, in shaded woods, and on the sides of fertile hills, from the middle to the southern states; not common. In the vicinity of this city it is found above the Falls of Schuylkill. Flowering time May, at which time the leaf does not appear.

Among the Orchidean plants of the United States there are few more handsome than the present species of Mr. Brown's genus Corallorhiza. The singularity of its hiemal habit in the foliage, and the structure of the root, and other circumstances attending that part, have not failed to attract the notice of the vulgar, who have attached great virtue to it; and by them the plant is commonly called Adam and Eve. Pursh states, that the bruised root mixed with water makes a strong cement, by which broken china and glass may be durably united.

Fig. 1. Represents the top of the plant in flower, separated at the mark * from fig. 2, which is the lower portion and root.

3. The outline of the leaf.

4. The column and lower lip, divested of the petals.

(All the size of nature.)

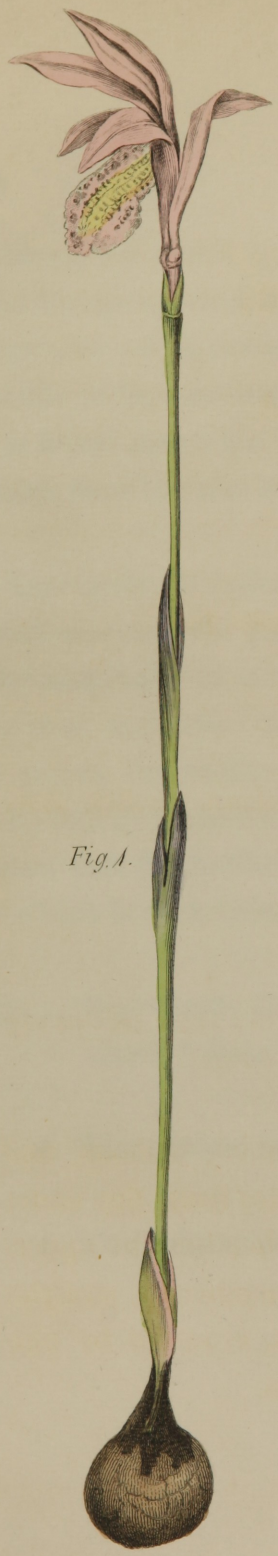

Fig. 1.

Column

Fig. 2.

Drawn from Nature by W.P.C.Barton.

F.Kearny.Sc

ARETHUSA BULBOSA.

ANDREWSIA PANICULATA.

TABLE LIII.—FIG. 1.

ARETHUSA BULBOSA.

BULBOUS-ROOTED ARETHUSA.

Gynandria Monogynia, Linn. *Orchideæ*, Juss.

GENERIC CHARACTER.

Petals 5, connate at the base. *Lip* below growing to the column, cucullate above, and internally crested. *Pollen* angular. *Nutt.*

SPECIFIC CHARACTER.

Without leaves; root globose; scape sheathing, one-flowered; upper calicine segments incurved; lip somewhat crenulate. *Willd. and Pers.*

Whole plant about a span high. Root perennial, bulbous, and globose in shape, of a yellowish colour, with radicles from the under part. Stem leafless, garnished with three or four sheathes, the uppermost one in luxurient specimens foliaceous, perpendicular, straight, cylindrical, of a yellow-green colour and smooth, crowned by one elegant rose-red flower which is agreeably odorous.

Grows in sphagnous morasses, from the northernmost to the most southern section of the Union.—Not common. Flowering time June.

This simple little plant is the only North American species which can be legitimately retained in the genus Arethusa, as modified by R. Brown. Its habit is altogether singular, and the plant cannot readily be confounded with any other of the Orchidean tribe.

The table, fig. 1. represents the plant in flower, of its natural size.

TABLE LIII.—FIG. 2.

ANDREWSIA PANICULATA.

PANICLE-FLOWERED ANDREWSIA.

Tetrandria Monogynia, Linn. *Gentianæ*, Juss.

GENERIC CHARACTER.

Calix 4-parted, appressed. *Corolla* sub-campanulate, 4-parted, segments somewhat erect. *Stigma* thick, glandulous, and partly bifid. *Capsule* 1-celled, 2-valved, many-seeded, surrounded by the persistent calix and corolla. *Sprengel.*

SPECIFIC CHARACTER.

Stem somewhat branched; peduncles opposite, the lower ones branched; segments of the corolla oval-acute, scarcely longer than the calix; style very short. *Pursh.*

SYNONYMS.

Centaurella paniculata, Mich.

Centaurella autumnalis, Pursh.

Centaurium autumnale, Persoon, vol. i. p. 137.

Sagina Virginica, Willd, tom. i. p. 719.

Bartonia tenella, Muhl. and Willd. in Act. Soc. Natur. cur. Berol. 4. v. 3.—and Persoon, vol. i. p. 141.

Bartonia paniculata, Muhl. Cat. p. 15.

PLANT from three to twelve inches high, but not often exceeding a span. Root small, fibrous, annual. Stem upright, yellowish-green, smooth. Branches few, opposite. Flowers pedunculate, lateral and terminal—often only terminal. Petals straw-yellow, linear, acute, seldom fully expanded. Stamens constantly four in number, about the length of the petals. Grows among moss, and in Cranberry swamps and morasses, and prefers shady, moist, and retired places filled with sphagnum; throughout the Union—not very common. Flowering time from July till September.

An inconspicuous plant, most remarkable for its numerous synonyms. Sprengel has finally imposed on it the name of Mr. Andrews, author of an elegant work on the roses.

Table 53. Fig. 2. represents the whole plant in flower, of its commonest size.

Drawn from Natur. by W.P.C. Barton.

F. Kearny. Sc

SCHOLLERA GRAMINEUS.

TABLE LIV.

SCHOLLERA GRAMINEUS.

GRASS-LEAVED SCHOLLERA. YELLOW-FLOWERED CHANNEL-GRASS. LOW-WATER STAR.

Triandria Monogynia, Linn. *Narcissi*, Juss.

GENERIC CHARACTER.

Spath 1-flowered. *Capsule* 1-locular.

SPECIFIC CHARACTER.

Stem slender, floating, dichotomous; leaves sessile, narrow-linear. *Mich.*

SYNONYMS.

Leptanthus gramineus, Mich. Fl. Am. 1. p. 25.
Schollera graminifolia, Muhl. Cat.
Commelina dubia, Jacquin.
Anonymos aquatica graminifolia, Clayt. numb. 814.

An aquatic, submersed, perennial plant, with grass-like leaves. Stem debile, long, slender, succulent, and rooting at the bases of the

lower leaves. Leaves linear, from three to twelve inches long, light-green, succulent. Flowers solitary, consisting of six, linear, yellow petals, which expand on the surface of the water at low tide. I have found it frequently rooting in the earth by the side of streams and flowering there. Very common throughout all the middle, southern, and western states in rivers and creeks—abundant in the Schuylkill river near this city. Flowers in July.

The figure represents the plant, as large as nature.

Fig. 1.

Fig. 2.

Drawn from Nature by W.P.C.Barton. F.Kearny Sc

UVULARIA SESSILIFOLIA. OPHIOGLOSSUM VULGATUM.

TABLE LV.—FIG. 1.

UVULARIA SESSILIFOLIA.

SESSILE-LEAVED UVULARIA OR BELL-WORT.

Hexandria Monogynia, Linn. *Narcissi*, Juss.

GENERIC CHARACTER.

Corolla inferior, 6-petalled, erect; claws of the petals each furnished with a nectariferous cavity. *Filaments* very short, growing to the anthers. *Stigmata* reflected. *Capsule* 3-angled, 3-celled, 3-valved. *Valves* septiferous in the middle. *Seeds* many, sub-globose, arillate at the hilum. *Nutt.*

SPECIFIC CHARACTER.

Leaves sessile, lanceolate-oval, glaucous underneath; capsule ovate, on a footstalk. *Pers.*

Plant from eight to twelve or fourteen inches high. Root perennial, fleshy, whitish, resembling the root of Uvularia perfoliata. Stem smooth, cylindrical, erect, simple, bent at the base, where it is invested with from four to six sheaths of a purplish colour; furnished with a single leaf about midway of its length, about two inches above

which the stem bifurcates, having another leaf at the point of separation, and at the termination of one of the forks, on a short peduncle, is a single, nutant, straw-yellow flower, resembling that of Uvularia perfoliata, but smaller. Leaves lanceolate, acute, narrow at base, sessile or rather amplexicaule, many-nerved, glaucous on the under surface and enlarging during the progress of the plant towards fructification. Segments of the corolla flat without, rugose internally. Capsule ovate, situated on a short peduncle. Grows in company with its congener U. perfoliata, delighting like it in a shady, moist and good soil; and flowering in May and June.

This species of the very natural genus Uvularia resembles at first view very much, the one which has already been figured in the first volume of this work. It may easily be known from it by common observers, if attention be paid to the difference of the form of the leaves, and their attachment to the stem. The plant improves by culture, though its single flower, which is generally concealed by the cluster of young folded leaves, under which it droops, will scarcely cause it to be much esteemed as a garden plant.

The figure represents a flowering specimen, of its common size, during inflorescence.

TABLE LV.—FIG. 2.

OPHIOGLOSSUM VULGATUM.

COMMON ADDER'S TONGUE.

Cryptogamia, Filices, Linn. *Filices*, Juss.

GENERIC CHARACTER.

Capsules naked, 1-celled, connate, in an articulated distichal spike, 2-valved, opening transversely.

SPECIFIC CHARACTER.

Spike cauline; frond ovate-obtuse, closely reticulated. *Willd.*

Stipe smooth, from three to four inches long, supporting at its apex an ovate or oblong-ovate, obtuse, fleshy leaf, somewhat amplexicaule. From the base, at its point of union with the stipe, supported by a peduncle from two to four inches long, proceeds a spike of about one inch in length, thickly covered on both sides with the seed vessels. The spike appears to be articulated, owing to the dehiscence of the seed vessels.

Grows in grassy meadows and copses, rare. I have found it in the neighbourhood of this city, in a grassy wood near Mantua. Flowers in May.

The figure represents the fern, of its natural size.

Fig 1.

Fig. 2.

Drawn from Nature. by W.P.C.Barton.

F. Kerny. Sc

POLYGALA PAUCIFOLIA.

OPHIOGLOSSUM BULBOSUM.

TABLE LVI.—FIG. 1.

POLYGALA PAUCIFOLIA.

FEW-LEAVED POLYGALA. LARGE-FLOWERED MILK-WORT. EVERGREEN SNAKE-ROOT, (Muhl.)

Diadelphia Octandria, Linn. *Pediculares*, Juss.

GENERIC CHARACTER.

Calix 5-leaved; two of the leaves in the form of wings, and coloured. *Capsule* obcordate, 2-celled, 2-valved.

SPECIFIC CHARACTER.

Plant small; large-flowered; stems simple, erect, naked below; leaves ovate, acute, smooth; flowers terminal, generally three. B.

SYNONYM.

Polygala uniflora, Mich. Fl. Boreal.?

Root creeping, perennial. Plant from three to four, rarely five inches high. Stem naked below, or garnished with two or three small alternate leaves, cylindrical, smooth, procumbent at base, and surculose. The surculi being generally about two in number, one situated near the first short turn of the stem, the other at a short distance from

it, are tortuous or drooping. They appear to be incipient stems of another plant, being furnished with a few very small lanceolate leaves, and terminated by membranaceous, abortive, minute foliage. Leaves alternate, near each other, crowning the top of the stem, mostly five in number, often three, ovate, acute, attenuated at base, glabrous, entire; costa conspicuous, but collateral nerves indistinct in many specimens, very delicately ciliated on the margin; ciliæ white. Flowers large, situated on peduncles a quarter of an inch in length, two or three in number, generally three, peach-blossom-red; carina short; wings large, ovate, acute; peniform appendage large. Grows "in sphagnous swamps and bogs, principally on the mountains." *Pursh.* "From Pennsylvania to the mountains of Carolina, forming almost exclusive carpets of great extent in the Pine forests of Lake Huron." *Nuttall.* Flowers from May till August.

This beautiful little plant has the largest flowers of any species of the extensive genus Polygala. They are prettily situated in the midst of the small, delicate leaves of the plant, to which they form a vivid contrast. The root possesses something of the pungent taste of the Polygala senega, and affects the fauces somewhat in the same manner. Of its medicinal virtues nothing is known, though it is probable it is not destitute of power.

Fig. 1. represents the whole plant, in flower, of its natural size. Many specimens are smaller than the figure represents.

TABLE LVI.—FIG. 2.

OPHIOGLOSSUM BULBOSUM.

BULBOUS-ROOTED ADDER'S TONGUE.

Cryptogamia, Filices, Linn. *Filices*, Juss.

SPECIFIC CHARACTER.

Spike cauline; frond sub-cordate-ovate, acute, reticulated; root bulbous. B.

SYNONYM.

Ophioglossum crotalophoroides, Walt. Fl. Car. 256.

Plant about a span high, often shorter. Root perennial, a globose umber-brown bulb, with two or three radicles proceeding from the under part, and invested with tunicated scales at its apex. Stipe simple, naked, terete, supporting a single, heart-shaped, acute, entire frond, reticulately veined on its upper disk. Spike about three-quarters of an inch long, linear, acuminated, pedunculate. Pedun-

cle varying in length from one to three inches. Grows "in low sandy grounds from New Jersey to Carolina." *Pursh.* Flowering time May.

This and the vulgatum already described are the only species of the genus Ophioglossum in our country. They are both rare and retired plants.

Fig. 2. represents the plant, of its natural size.

Drawn from Nature by W.P.C. Barton.

F.Kearny Sc.

PSORALEA MELILOTOIDES.

TABLE LVII.

PSORALEA MELILOTOIDES.

MELILOT PSORALEA.

Diadelphia Decandria, Linn. *Leguminosæ*, Juss.

GENERIC CHARACTER.

Calix 5-cleft or 5-toothed, the lower segment mostly elongated. *Stamina* diadelphous. *Legume* the length of the calix, 1-seeded, subrostrate, and valveless.

SPECIFIC CHARACTER.

Stem pubescent, erect; leaves ternate; folioles oblong-lanceolate, entire, obtuse, with a cuspid point; flowering spike oblong, on a very long peduncle; bracts broad-cordate, acuminate, and deciduous; carina very short; legume roundish, rugose, with transverse, serpentine nerves. B.

SYNONYMS.

Melilotus flore violacea, odore remisso, Clayt. n. 103.

Trifolium psoraloides, Walt. Fl. Car. 184.

Psoralea melilotoides, foliis omnibus ternatis, foliolis lanceolatis, pedunculis folio longioribus spicatis; spicis lineari-lanceolatis, bracteis calice longioribus. Solander MS. (sub. P. Asphalitite.) Bot. Regis.

P. melilotoides, Michaux, Fl. Boreali-Am.

P. melilotus, Persoon, Syn. 2. 347.

Melilotus psoraloides, Nutt. Gen. 2. 104.

Plant about twelve or eighteen inches high. Root perennial. Stem erect, somewhat square, grooved, and strigose. Stipules on the stem only, linear-lanceolate, acuminated and dotted. Leaves alternate, ternate, petiolate, covered with minute glands, slightly pubescent: pubescence appressed to the disk: central leaf on a larger petiole than the side ones. Spikes linear-lanceolate, elongating in fruit, bracteate. Bracts large, broad, heart-shaped, acuminate, dotted and deciduous. Flowers campanula-purple, pedicellate, upright. Calix pubescent, deeply five-cleft. Legume one-seeded, naked, as long as the calix, covered with transverse, serpentine rugæ. Style persistent. Grows in Carolina and Florida; and, according to Mr. Nuttall, common in the open forests of Ohio, Kentucky, and Tennessee. Flowers in July.

Fig. 1. Represents the whole plant except the root, in flower.

2. The rachis of the spike, in fruit.—Both the size of nature.

The leaves, as in the outline fig. 3. are often twice the size of those represented in fig. 1. the type of which flowered from seeds of Mr. Nuttall.

Drawn from Nature by W.P.C.Barton. Goodman Sc.

BATSCHIA CANESCENS

TABLE LVIII.

BATSCHIA CANESCENS.

HOARY BATSCHIA. ALKANET. PUCCOON.

Pentandria Monogynia, Linn. *Borragineæ*, Juss.

GENERIC CHARACTER.

Calix 5-parted. *Corolla* salver-form, rather large, tube straight, much longer than the calix, closed at the base by a bearded ring; orifice naked, or partially closed; border orbiculate, nearly flat; segments rounded. *Seed* indurated, shining, (as in Lithospermum.) *Nutt.*

SPECIFIC CHARACTER.

Stem and upper leaves sericeously canescent or villous; calicine segments subulate, much shorter than the tube, hairy at the base. B.

SYNONYM.

Anchusa canescens, Willd. Muhl. and others.

PLANT from eight to twelve inches high. Root perennial, yielding a blood-red juice on fracture or compression. Stem cylindrical, erect, villous. Leaves erect, alternate, crowded towards the top of the stem, where they grow shorter; lanceolate-oval, obtuse below; lanceolate-obtuse higher up on the stem—and lanceolate, falcate, sub-acute near the flowers—all entire, sericeously canescent on either disk. Costa particularly villous, and without collateral nerves. Flowers corymbose, pedunculate. Calix with subulate segments, villous at the bottom. Corolla yellow. Tube funnel-form, fulvous. Limb spreading, campanulate. Segments rounded. Stamens short, included. Grows from Virginia to Georgia. On dry sunny hills in sandy soil in Virginia and Tennessee. *Pursh.* Flowering time June and July. Pursh mentions "that the root is covered with a red substance, which he remarks is the true Puccoon of the Indians, and paints a beautiful red."

The genus Batschia was so named by Gmelin in honour of a distinguished botanist, whose name it commemorates. It comprises plants previously referred to Anchusa, which together with some newly discovered species amount to four in number. Mr. Nuttall remarks, that the roots of the whole genus yield a crimson lac.

The table represents a flowering specimen of the plant, of the size of nature.

Drawn from Nature by W.P.C.Barton. F.Kearny Sc.

OPLOTHECA FLORIDANA.

TABLE LIX.

OPLOTHECA FLORIDANA.

FLORIDA OPLOTHECA.

Monadelphia Pentandria, Linn. *Amaranthi*, Juss.

GENERIC CHARACTER.

Calix double; exterior 2-leaved, scariose, convolute, truncated, and much shorter than the interior; interior calix monophyllous, semi-quinquifid, and densely tomentose. *Corolla* none. *Lepanthium* cylindric, 5-toothed, staminiferous. *Stigma* simple, capitate, pubescent. *Utriculus* 1-seeded, inclosed in the indurate, muricate calix. *Nutt.*

SPECIFIC CHARACTER.

Oplotheca Floridana; stem and branches pubescent; leaves lanceolate.

Root perennial. Plant erect, from two to three feet high. Stem thick, cylindrical and striate under a lens, dichotomously branched, pubescent. Branches enlarged, or nearly gibbous at the fork. Leaves opposite, sessile, long and narrow-lanceolate, acute, undulate, with a

conspicuous mid-rib of a carmine-red colour, the under surface covered with a long sericeous pubescence. Inflorescence a naked, simple panicle, supporting numerous, short, remote, sessile, opposite spikes. Flowers inconspicuous and confused, imbricated and whitish. Calix double; the exterior consists of transparent membranaceous scales, abruptly terminated with a notch in the middle of the truncation; the interior is covered with the flocculent appendage like common cotton, which finally invests and conceals the whole spike. Flowering time, July.

Grows on the Banks of the Altamaha, Florida—Dr. Baldwin. On the sandy beach of the Arkansa—Mr. Nuttall.

The genus of which the only detected North American species is here figured, was named by Mr. Nuttall, from two Greek words, οπλον, *armour*, and θηκη, *a sheath*, in allusion to the seed being protected in an armed sheath. It is sufficiently hardy to stand in borders, where it thrives without particular care, as was the case with the fine specimens from which the drawing was made last summer, raised from seeds of Mr. Nuttall.

The table represents the top of the plant, of its natural size, in flower, separated from the middle portion, which exhibits the leaves and pubescent stem.

Drawn from Nature by W.P.C.Barton.

Goodman Sc

PRUNELLA PENNSYLVANICA, β LANCEOLATA.

TABLE LX.

PRUNELLA PENNSYLVANICA,

β. LANCEOLATA.

LATE-FLOWERING SELF-HEAL. LANCE-LEAVED PRUNELLA.

Didynamia Gymnospermia, Linn. *Labiatæ*, Juss.

GENERIC CHARACTER.

Upper lip of the calix dilated. *Filaments* of the stamina forked, only one of the points bearing an anther. *Stigma* bifid.

SPECIFIC CHARACTER.

Leaves petiolate, lanceolate, dentate at the base; calix lips equal, the upper truncated, three-awned; stem ascendant. *Willd.*

SYNONYMS.

Prunella Pennsylvanica, Pursh.
P. laciniata, Walt. Fl. Car. 163?
P. sylvestris autumnalis, &c. Gron. Fl. Virg. 91.

Root perennial, fibrous. Plant from ten to fourteen inches high. Stems square, hairy. Leaves opposite, lanceolate, and broad-lanceolate, irregularly toothed, on short petioles. Nerves and costa conspicuous. Upper pair of leaves sessile, embracing the spike which is long and narrow after the plant has continued some time in flower. Bracteas membranaceous, reticulated, ciliated, and reniform. Flowers handsome, labiated, of a lilac-purple colour, and expanding successively for a considerable time. Calix consists of two lips, the upper one of which is furnished with three short setaceous awns, the lower terminating in two sharp teeth. Grows in grassy way sides, near the fences of grassy fields, preferring moist soils. Flowers in August and September.

The table represents the plant, in flower, of its natural size—the spike being represented short and ovate, as in the first days of florescence. It afterwards becomes elongated to three times the length of the figure.

Drawn from Nature by W.P.C.Barton. P.Kearny. Sc.

NEMOPHILA PHACELIOIDES.

TABLE LXI.

NEMOPHILA PHACELIOIDES.

ARKANSA NEMOPHILA.

Pentandria Monogynia, Linn. *Borragineæ*, Juss.

GENERIC CHARACTER.

Calix ten-cleft, the exterior segments reflexed. *Corolla* sub-campanulate, five-lobed; lobes emarginate, and having staminiferous, marginated pits near the base. *Stamens* short. *Filaments* naked. *Capsules* fleshy, 1-locular, 2-valved. *Seeds* four. *Nutt.*

SPECIFIC CHARACTER.

Herb succulent, annual; stem three-sided; leaves alternate, pinnatifid; peduncles very long, one-flowered, opposite-leaved, the top somewhat branched; the branches incurved; fruit deflexed; corolla before inflorescence convoluted. Allied to Hydrophyllum. *Nutt.*

"Root fibrous, annual, but more commonly biennial. Stem fragile, smooth, somewhat tender and diaphanous. Plant convex, twelve to eighteen inches high, branching from the base, and decumbent,

possessing a tenaceous and elastic centre. Leaves alternate, pinnatifid, somewhat succulent, and on the upper surface a little scabrous, segments five or six pair, sub-ovate or lanceolate, acute, partly falcate, and presenting a few incisions, petiole ciliated, its internal base lanuginous. Peduncles one-flowered, terete, very long, sometimes near upon a span, and attenuated towards their extremities, at first remote, and coming out opposite the leaves, but at length as the period of inflorescence advances, approximating into a kind of raceme, which is primarily curved. Calix campanulate, ten-cleft, the segments ovate and acute, ciliate, the larger connivent and erect, the exterior much smaller and reflected. Corolla pelviform-campanulate, flax-flower-blue, the lobes oval and naked, obliquely emarginated, before expansion convolute, the exterior base producing ten purple spots, the internal base furnished with five foveolate, nectariferous cavities, with tomentose margins, bearing the stamina. Stamina about half the length of the corolla, the filaments filiform and smooth. Anthers sagittate-oblong, brownish-yellow. Style one, bifid, below hirsute. Capsule oval, covered by the connivent calix, somewhat hirsute, one-celled, four-seeded; the seeds by pairs alternately immersed in a fleshy, succulent receptacle, occupying the whole cavity of the capsule.

"*Habitat.* In the shady woods of Cedar prairie, ten miles from Fort Smith, and from thence in similar situations to the sources of the Pottoe. Flowering in May.

"It is a hardy biennial. The seeds germinate in autumn, and the seedlings, after surviving the winter, flower in the succeeding spring."

The new genus, of which the type is here figured, was discovered in the situations already identified in the above quotation from Mr. Nuttall's manuscript, with which I have been favoured by that gentleman. He has given it the name Nemophila, from νέμος, *a grove*, and φιλέω, *I love*, in allusion to the predilection the plant shows for shady woods, in which places alone it is found. The drawing was made two years ago, from specimens which flowered in this city from seeds brought by Mr. Nuttall. The plant endures our winters well, thriving and extending itself in cold situations. Hence it is well suited to borders, and may be considered a curious and handsome addition to the rich flora of our country.

The table represents a portion of the plant, of its natural size.

TABLE LXII.

NUTTALLIA DIGITATA.

DIGITATE-LEAVED NUTTALLIA.

Monodelphia Polyandria, Linn. *Malvaceæ*, Juss.

GENERIC CHARACTER.

Calix simple, 5-cleft. *Capsules* many, one-seeded, aggregated into an annulet. In habit very closely allied to Sida. *Nutt.*

SPECIFIC CHARACTER.

Digitated, glaucous, lower leaves pseudo-digitate, sub-peltate; segments linear, subdivided, somewhat glabrous, the upper ones three-parted and simple, peduncles, sub-racemous, very long. *Nutt.*

SYNONYM.

Callirhoe digitata, Nuttall, MS.

"Root tuberous, somewhat fusiform and perennial. Stem simple or sparingly branched, smooth and glaucous, about three to four feet high.

Drawn from Nature by W.P.C.Barton. F. Kearny, Sc.

NUTTALLIA DIGITATA.

Radical and lower leaves like those of a Delphinium, but the divisions partly peltate. The segments eight or nine in number, three or four inches long, linear, simple, bifid and trifid, the primary radical ones occasionally somewhat hispid, the succeeding foliage smooth. Branchlets merely floriferous, naked. The peduncles a foot or more in length, attenuated and articulated a little below the calix, which is simple, and five-cleft, attenuated at its base. The segments ovate, acuminate. Flowers carmine-red, (lake-red, B.) about the size of those of the common cultivated Mallows. The petals crenulate, and distinctly unguiculate. Capsules one-seeded, and roughened with depressed punctures, not spontaneously opening, and as in Malva and Althæa disposed in a ring.

"This genus, of which the species are hardy, ornamental, and perennial, appears to afford an additional link of connexion between the genera Sida and Malva.

"*Habitat.* In the open prairies near Fort Smith, in bushy places, not very common. Flowering in May and June."

In the manuscript description of this and the preceding newly discovered plants, with the use of which I have been obliged by the author, the present genus has received from Mr. Nuttall the name here given as a synonym. I have thrown that appellation aside, and dedicated the genus to him, in commemoration of the services he has

rendered the botany of North America, in the cultivation of which his zeal and perseverance have enriched our Flora with many new and rare plants, and given honour to his own name. It is with real pleasure, therefore, I avail myself of the opportunity of testifying my sense of the value of his discoveries, and the obligation American botanists are under to him for his indefatigable investigation of our vegetable treasures. The seeds of a second species have been sown in the gardens of this city, from which I expect the pleasure of presenting a figure and description—and Mr. Nuttall has informed me, he saw a third in the Arkansa Territory, but did not collect the seeds.

Fig. 1. Represents the upper part of a flowering portion.

2. A radical leaf, with five inches of the petiole cut off.

3. A cauline leaf, with two inches of the petiole cut away.

(All the size of nature.)

Drawn from Nature by W.P.C.Barton.

F.Kearny. Sc.

CYAMUS LUTEUS.

TABLE LXIII.

CYAMUS LUTEUS.

SACRED BEAN OF INDIA. EGYPTIAN-BEAN. WATER CHINQUAPIN.

Polyandria Polyginia, Linn. *Hydrocharides*, Juss. *Nymphyæa*, Salisbury.

GENERIC CHARACTER.

Calix petaloid, 4 or 5-leaved. *Petals* many. *Fruit* turbinate, with a truncated disk excavated with numerous cells, each containing a single seed. *Seed* an ovate nut, crowned with the persistent style.

SPECIFIC CHARACTER.

Leaves peltate, orbiculate, very entire; corolla polypetalous; anthers linear above. *Salisbury.* Peduncles and petioles muricate. *Barton.* Prod. Fl. Ph. p. 59.

SYNONYMS.

Cyamus flavicomus, Salisbury.
C. nelumbo, Smith, Exot. Bot.
Nelumbium speciosum, Willd. and Ait.
N. luteum, Willd. Sp. Pl. 2. p. 1259.
N. luteum, Mich.
Nymphæa nelumbo, β. L. Sp. pl.
Nelumbo Indica, Persoon.

Root perennial. Leaves orbicular and centrally peltate, from twelve to eighteen or twenty inches in diameter, entire, deep duck-green above, apple-green beneath, and conspicuously marked by radiating nerves. Petioles from three to five feet in length, cylindrical, muricate with short, black, rigid projections. Flowers very large, globose, until fully expanded, when the petals separate, and the corolla measures from six to eight inches in diameter. Petals ovate, pale straw-yellow, streaked longitudinally with whitish nerves or lines. The exterior petals often marked with a few irregular, reddish-brown blotches. Calix consisting generally of five leaves resembling the petals, excepting that they are of a less delicate texture and colour, the exterior small and discoloured by reddish spots. Scape cylindrical, of a yellowish-green colour, muricated in the same manner as the petioles. Stigma orange-yellow, an inverted cone, the upper surface showing the apices of the immature fruit, peeping from the spongy germ. Stamens very numerous, surrounding and embracing the germ, also orange-yellow. Anthers of the same colour, sub-acute, becoming afterwards as the flower grows old, obtuse, by the inversion of the apex, as in Fig. 6. Capsule very large, often four inches in diameter, of a dull greenish colour, consisting of a spongy inverted cone, having imbedded in it from seventeen to twenty ovate seeds, of a yellow colour, varying in size, and crowned by the persistent style. The figure represents them of the largest size, several being in each capsule half as large. They are esculent in the green state, and are collected eagerly by boys who eat and sell them under the name of

water chinquapin. Inhabits ditches and pools of water with muddy or boggy bottoms; flowering in July. Rare in the United States. Very abundant about half a mile below Southwark of this city, in the ditches of the meadows bordering the Delaware. In this place it makes a very splendid appearance, and its flowers may be seen at a great distance.

κυαμος, originally the Greek name of a plant, which does not appear to be specifically different from our common cultivated bean, afterwards extended by Theophrastus and other writers, to the plant here figured, on account of a fancied resemblance in the seeds.

The following account of the Nelumbium Indicum, which does not appear to be specifically distinct from our plant, is taken from Rees' Cyclopædia. It is a native of the East Indies, Cochinchina, China, &c. in many parts of which it is esteemed a sacred plant and makes a conspicuous figure in their mythology as the symbol of fertility. It was known to the Greeks, and is said by Herodotus, Theophrastus, and others, to be a native of Egypt; but no modern traveller has observed it in that country. It has no doubt existed there, as the terms in which it is described, are too decisive to be mistaken, and their accounts are confirmed by ancient Egyptian sculptures and mosaics, which are still preserved, and testify that from the earliest times, it, as well as the proper lotus, has obtained a religious reverence. It is remarkable, that neither Herodotus nor Theophrastus, the most an-

cient Greek writers by whom it is described, have attributed to it a sacred character, but only speak of it as used by the Egyptians as food. The former distinguishes it by no particular name, but gives both to it and the lotus, the common denomination of lily, a term which appears to have been applied by the Greeks to various plants with large specious flowers. Having observed that a paste is made of the pith of the lotus, and baked into bread, he adds, there are also in the rivers other lilies, resembling a rose, and bearing a fruit very like a wasp's nest, which contains numerous esculent seeds, about the size of the stone of an olive, that are eaten both raw and roasted. According to Dioscorides it was sometimes called the Pontic bean, and is said to be a native not only of Egypt, but also of Asia Proper and Silicia. Theophrastus has said before him, that it grew, though it did not attain to its proper perfection, in Syria and Silicia; and had even added, that it completely ripened its fruit in a lake near Torone in Chalcis. But in all these situations some species of Nymphæa must certainly have been mistaken for it. Dr. Smith conjectures, that this plant is the real mystical bean of Pythagoras, concerning the prohibition of which to his followers so much has been written and so little determined. He supposes that this celebrated philosopher imbibed the notions of its sacred character during his travels in India, if he actually went thither, or else in Egypt at second hand from India, and that afterwards when he propagated his acquired philosophy in Samos, Greece, and Italy, he took as a substitute for it, since it did not grow in his own country, a common seed resembling it, which the common horse-bean does very nearly.

He consequently understands the famous prohibition in a literal, not in a figurative, sense. The total disappearance of this plant from modern Egypt favours the idea that it was not indigenous there, but brought from India. And we should find but little difficulty in acceding to the opinion of our learned friend, if we had not very strong doubts concerning the truth of the modern doctrine which derives the mythology of Egypt from that of India: but after all we have read on the subject we do not scruple to confess that this doctrine appears to us to be in all its parts unfounded.—*Cyclopœdia.* The roots and seeds are now used in the East Indies as articles of food in the same manner as they formerly were in ancient Egypt. The root having been called *Colocassia* by some Greek writers, has sometimes been mistaken for the modern Colocassia of the shops, which is the root of Arum Colocassia.

Mr. Salisbury asserts, that the petioles are prickly and not smooth as Willdenow describes them, a fact that I can attest, and which I published in the Prodromus Floræ Philadelphicæ many years ago. It is surprising to me that Willdenow could ever have described them otherwise, since even in dried specimens the petioles and even the peduncles are beset with numerous, black, rigid, spiniform specks, which render them quite rough to the touch.

This magnificent plant had nearly disappeared for two seasons, from the neighbourhood of this city, as I had occasion to mention in the Compendium Floræ Philadelphicæ, (see vol. ii. p. 26,) but since that

period it has been more abundant than before, whence it is fair to conclude that some unpropitious circumstance in those seasons had retarded its growth, though the root had remained uninjured or undiminished. There is a white variety described by Walter. Our plant is always straw-yellow, but the colour of the petals does not seem to be constant in this plant. In Europe the colour is pale rose-red or white, and in the Chinese paintings of the plant, which represent it very perfectly, they are uniformly rose-red, with darker stripes of this hue, which, converging towards the apices of the petals, renders them of a deep red. Writers have described the receptacle of the foreign plant as separating spontaneously from its peduncle and floating down the river in which the plant may grow, the seeds vegetating in the pericarp, finally bursting from their bed, and dropping into the mud, take root and produce new plants. I have had an opportunity of witnessing this fact in our plant, since it grows in stagnant ditches in the Neck and has never appeared along the shores of the Delaware, though within one hundred or one hundred and fifty yards of its banks. I have, however, remarked, that the pericarp drops in the autumn from the peduncle, and that the fruit may be said to be viviparous, germinating the same season. It is ripened like the seeds of Orontium aquaticum, Symplocarpus, different species of Arum, and other aquatic plants. Efforts at cultivating this plant, and multiplying its sites of growth have been unsuccessfully made in the neighbourhood of this city. It appears to thrive only in the spot where nature has planted it, and where it certainly appears to be indigenous. The

failures have in all probability been owing to a want of that peculiar kind of indigo-coloured, tenacious, clayey mud, which fills the bottoms of the pools in which it so luxuriantly thrives, and in which its roots are buried to the depth of several feet.

Fig. 1. Represents a flower-bud, culled about a week before maturity.

2. The expanded flower, one day old, one or two of the front petals turned aside to give a full view of the stamens and germ.

3. An outline leaf, nearly of its smallest size. They are generally twice as large as this, and often two feet in diameter.

4. A pericarp, the commonest size, they are often twice as large.

5. A seed or root.

6. A stamen, taken from the flower after it has continued a day or two expanded.

TABLE LXIV.

RUDBECKIA PURPUREA.

PURPLE RUDBECKIA.

Syngenesia Frustraneæ, Linn. *Corymbiferæ*, Juss.

GENERIC CHARACTER.

Calix sub-equal, mostly consisting of a double series of leaflets. *Receptacle* paleaceous, conic. *Pappus* a 4-toothed margin.

SPECIFIC CHARACTER.

Rough; lower leaves broad-ovate, attenuated at base, remotely toothed, those of the stem broad-ovate, acuminate at either end, nearly entire, the rays very long, dependent, bifid. *Willd.*

Root perennial. Plant from eighteen inches to two and a half feet high, rough, of a dull-green colour. Leaves opposite, paler underneath than above; lower ones broad-ovate, with a narrow base, and deeply toothed at long and irregular distances. Those of the stem are more inclining to lanceolate, and terminate in a long acumination. Flowers large and showy, the disk florets hyacinth-red, being collected to-

Drawn from Nature by W.P.C. Barton

J.Boyd fe

RUDBECKIA PURPUREA.

gether first into a convex form, afterwards becoming conical. Ray florets lanceolate, sometimes, though not always, bifid at the apex, drooping and incurved, of a deep peach-blossom-red colour, with darker stripes of the same hue.

In the specific description the bifurcation of the petals at the apex is designated as a character—yet it does not always occur. They are so frequently entire at the apex, or so very slightly notched, as to appear entire, that the character would not seem to be sufficiently constant to justify its notice in the specific delineation. I have often found the petals linear, long and bifurcated, on plants apparently proceeding from the same roots, which sent forth shoots bearing flowers without notched petals.

Grows in the mountains from Virginia to Florida, flowering from June till October. In favourable situations a succession of flowers is produced, so that the inflorescence continues for a month or five weeks. Muhlenburg has stated the time of flowering to be June, but Pursh mentions October. The fact is, it continues, as I have stated, to bloom from June till October.

This is the fourth species of Rudbeckia figured in this work. It is one of the most showy of our native plants, and has long been culti-

vated in gardens in this country and Europe. It is a hardy plant, enduring the cold of our climate very well, and improving in vigour by cultivation.

The figure represents a flowering specimen, as large as nature.

Drawn from Nature, by W.P.C. Barton.

Engraved, by C.B. Ellis.

CYPRIPEDIUM SPECTABILE.

TABLE LXV.

CYPRIPEDIUM SPECTABILE.

LARGE WHITE LADIES SLIPPER.

Gynandria Diandria, Linn. *Orchideæ*, Juss.

GENERIC CHARACTER.

Lip ventricose, inflated, saccate. *Petals* 4, the under one bifid. The column terminating behind, in a petaloid lobe.

SPECIFIC CHARACTER.

Stem leafy; lobe of the style elliptical-cordate, obtuse; exterior-petals broad-ovate, obtuse, the lip longer than the petals; cleft behind. *Willd.*

SYNONYMS.

Cypripedium album, Ait. Kew. 3. p. 303.
C. canadense, Mich. Fl. Am. 2. p. 161.
C. regina, Walt. Fl. Car. 222.
C. calceolus, Sp. Pl. 1346.

Whole plant pubescent, from twelve to eighteen inches high. Leaves crowded, embracing each other, and somewhat sheathing the stem, elliptical, very acute at the apex, and attenuated at base. Nerves from five to nine, and having from five to eight very small ones between, rendering the whole aspect of the leaves, both upper and under side, striped, and giving them a plaited appearance. Stem round, striated, and very pubescent, terminated generally by two flowers, furnished each with a lanceolate bract, the margins of which are closely involuted. Petals white, pubescent, the exterior ones broad-ovate, and obtuse; lip exceeding the petals in length, divided posteriorly by a fissure. Nectary deeply striped with reddish-purple; belly white, and spotted internally with red. Grows in mountainous land of rich soil; flowering in June.

This plant is one of the most elegant of the singular genus to which it belongs. The specimens from which the drawing was made, flowered this summer in Bartram's gardens at Kingsess, into which it has recently been introduced from the Alleghany mountains.

The figure represents the plant the size of nature.

Drawn from Nature, by W.P.C.Barton.

G.B.Ellis Sc.

IXIA ACUTA

TABLE LXVI.

IXIA ACUTA.

ACUTE-PETALLED IXIA.

Triandria Monogynia, Linn. *Irides*, Juss.

GENERIC CHARACTER.

Spathe 2, 3-valved, ovate, short. *Corolla* 6-parted, tubulose; tube somewhat slender, with the style and stamina straight; border nearly salver-shaped, divisions sub-elliptic, flat. *Stigma* almost filiform.

SPECIFIC CHARACTER.

Leaves linear-lanceolate, plaited, acuminate, ventricose and sheathing at the base; petals acute.

Root bulbous. Plant from ten to twelve inches high. Stem cylindrical. Leaves three in number, of unequal lengths, linear-lanceolate, three-nerved, plaited, sub-ventricose, and sheathing at the base, striated, terminating in a slender, nearly setaceous, discoloured acumination. Flowers large, handsome, generally two or three, of a beautiful ultramarine-blue, very evanescent, becoming involuted a few minutes after they are expanded. Petals six, ovate, unguiculate, sub-

acute, and appearing very much so by the convolution of their margins towards the apex; they are flax-flower-blue, darker in the centre and towards the base, where this colour is abruptly terminated by a white, dentated splotch. Filaments about one-eighth of an inch long, white, cohering at the base. Anthers erect, gamboge-yellow, more than a quarter of an inch in length, at first erect, afterwards, when the pollen is thrown out, becoming involuted. Pistils six, emerging by pairs from between each two anthers—they are white below, tipped with blue stigmas, and tinged with the same colour half their length. Grows in the Arkansa Territory, whence roots were brought by Mr. Nuttall. The specimen from which the drawing was made, flowered this summer at the Botanic Garden of Kingsess. The second flower bloomed on the twelfth of May, and by the politeness of Col. Carr, the proprietor, an opportunity was afforded me of figuring it during the very short time it continued in bloom. So very evanescent is the cærulean hue of this flower, that it faded perceptibly in thirty minutes, and so transitory was its bloom that in the lapse of little more than an hour, its petals became convoluted, and the flower was folded up. The anthers became involuted immediately after the discharge of pollen, which soon occurred when the flower expanded.

The venerable William Bartram, who is still living at Kingsess Gardens, mentions in his travels into Florida that he met with whole fields of the Ixia cælestina. The visits of late botanists not having thrown his plant in their way, led some to doubt whether Mr. Bar-

tram had really met with an Ixia, or whether he had not mistaken some other plant for it. Mr. Nuttall, however, has corroborated the account of Mr. Bartram, by meeting with two or three species of Ixia, one of which is here figured. This circumstance has afforded great gratification to the venerable naturalist, whose plant however appears to have been another species of the same genus. The figure he has given of it in his travels, besides having larger flowers, differs from this in the ovate-obtuse petals, as well as in the shape and size of the anthers and filaments. When I commenced the drawing of the plant in the presence of Mr. Bartram, he was of opinion that the flowering plant was the same he had seen and figured. A little more attention to the characters to which I attracted his attention, however, convinced him it was a different species. Not seeing good reason to separate the genus from Ixia, as Mr. Nuttall has hinted the propriety of doing, in his travels, the figure of this rare and new plant is here presented to botanists as a second species of the Ixia cælestina of Bartram, and I have designated it by the specific appellation acuta, to distinguish it from that plant, the petals of which, as has already been mentioned, are very obtuse.

The drawing represents the plant of the size of nature.

TABLE LXVII.

POGONIA VERTICILLATA.

WHORLED-LEAVED POGONIA.

Gynandria Monandria, Linn. *Orchideæ*, Juss.

GENERIC CHARACTER.

Petals 5, distinct, without glands. *Lip* sessile, cucullate, internally crested. *Pollen* farinaceous.

SPECIFIC CHARACTER.

Leaves in fives, oblong-lanceolate, verticillate; stem one-flowered; the three exterior petals very long, linear, the interior ones lanceolate; lip three-lobed, the middle segment undulated. *Willd.*

Plant from twelve to fifteen inches high. Root branched, consisting of several very long, fleshy fibres of a brown colour, running horizontally near the surface of the earth. Stem simple, erect, glaucous, terete, of a dull-purple colour for nearly its whole length, being whitish below and bluish-green above. Leaves about five, collected in a single whorl at the extremity of the stem, oblong-lanceolate, acute, of a yellow-green colour on both sides. Flower solitary, rarely two or three on

Drawn from Nature, by W.P.C.Barton.

G.B.Ellis Sc.

POGONIA VERTICILLATA

the same plant. Germ long, pedunculate; peduncle arcuate. The exterior petals an inch and a half long, linear, deep purple. Lip and interior petals straw-yellow. Grows in rich shady woods, on decayed vegetable mould, and near the margins of bogs in damp woods, not common. Flowers in May.

The figure represents the plant of its natural size.

Drawn from Nature, by W.P.C. Barton.

Engraved, by G.B. Ellis

CALOPOGON PULCHELLUS.

TABLE LXVIII.

CALOPOGON PULCHELLUS.

BEAUTIFUL CALOPOGON.

Gynandria Monogynia, Linn. *Orchideæ*, Juss.

GENERIC CHARACTER.

Petals 5, distinct. *Lip* behind, (or inverted,) unguiculated; the lamina bearded. *Column* free. *Pollen* argular.

SPECIFIC CHARACTER.

Radical leaves ensiform, nerved; scape few-flowered, lip erect, attenuated at base; lamina expanded; disk concave, bearded. *Willd. and Pursh.*

SYNONYMS.

Cymbidium pulchellum, Willd.
Limodorum tuberosum, Syst. Veg. & Mich.
Limodorum pulchellum, Salisbury.
Ophrys barbata, Walt.

Root perennial, a roundish bulb, with several lateral radicles sending forth a single sword-shaped leaf, strongly marked with five or

seven nerves, and sheathing the scape towards the base; sometimes, but rarely, there are two radical leaves. Scape about twelve or fifteen inches high, erect, flexuose at the upper part, bearing but two or three flowers, rarely five, and only one in bloom at a time. Flowers singular and handsome, rose-red. Lip erect, obcordately dilated at the apex, and narrowed at base. Petals acute. Column dependent and incurved, also rose-red. Grows in morasses, along the edges of swamps, and near watery thickets in bog-soil; not unfrequent; flowering in June.

This is one of the species of Mr. Brown's genus Calopogon native to the United States.

The table represents the plant cut asunder, as large as nature.

Drawn from Nature, by H.S. Barton.

Engraved, by C.B Ellis

PHLOX MACULATA.

TABLE LXIX.

PHLOX MACULATA.

SPOTTED-STEMMED PHLOX. SPOTTED-STALKED LYCHNIDEA.

Pentandria Monogynia, Linn. *Polemonia*, Juss.

GENERIC CHARACTER.

Calix deeply 5-cleft, prismatic. *Corolla* salver-form, border 5-lobed, flat; lobes cuneate; tube more or less curved. *Filaments* unequal. *Stigma* trifid. *Capsule* roundish-ovate, 3-celled; cells 1-seeded.

SPECIFIC CHARACTER.

Leaves oblong-lanceolate, glabrous, with the margins scabrous; stem scabrous; racemes corymbose; teeth of the calix acute. *Sp. Pl.*

Root perennial. Stems numerous, obscurely quadrangular, finely spotted with numerous purplish specks, and slightly scabrous. Lower leaves lanceolate, smooth on both sides, crowded, nerveless, opposite, acuminate, attenuated at base, and sub-sessile, the petiolar supports being connate. Costa conspicuously elevated on the under surface, and depressed on the upper. The leaves towards the apex of the flowering branches are broader, and cordate at base,

becoming shorter as they approach the panicle until they are entirely heart-shaped—all slightly scabrous on the margin, and of a pale-green beneath. Flowers very numerous and showy, arranged in a cluster or dense panicle. Peduncles short, each furnished with a minute, subulate, scale-like bract. Calices narrow, discoloured, acute; margins of the segments membranaceous. Flowers rose-red. Petals obcuneate. Tube an inch long, narrow and arcuate. Delights in damp meadows and the margins of water courses; flowering in June and July; very common.

This is the most elegant of our native species of Phlox, and is well worth cultivation in gardens, where it thrives exceedingly well without any particular attention. Care, however, should be taken to plant it in a moist and shady spot. Occasional varieties appear under culture in which the petals are variously streaked with white.

The table represents the plant of its natural size.

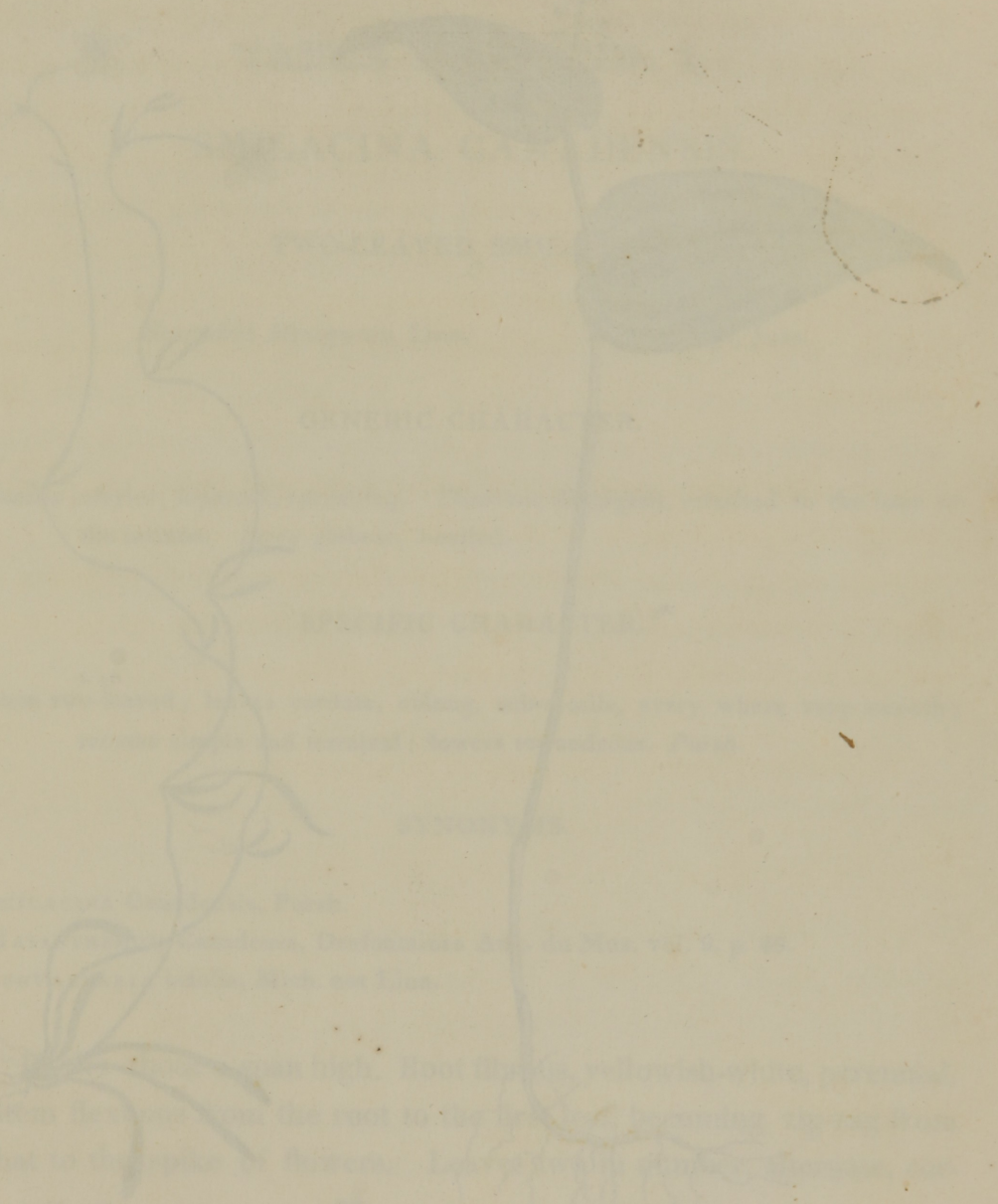

Fig. 1

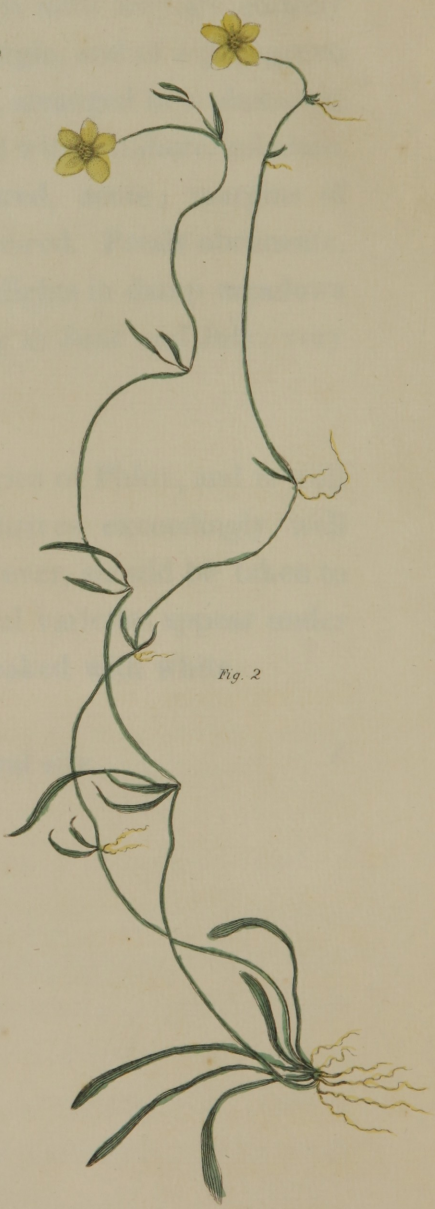

Fig. 2

Draw from Nature, by W.P.C. Barton.

Engraved, by G.B. Ellis.

SMILACINA CANADENSIS.

RANUNCULUS FILIFORMIS.

TABLE LXX.—FIG. 1.

SMILACINA CANADENSIS.

TWO-LEAVED SMILACINA.

Hexandria Monogynia, Linn. *Asparagi*, Juss.

GENERIC CHARACTER.

Corolla inferior, 6-parted, spreading. *Filaments* divergent, attached to the base of the laciniæ. *Berry* globose, 3-celled.

SPECIFIC CHARACTER.

Stem two-leaved; leaves cordate, oblong, sub-sessile, every where very smooth; raceme simple and terminal; flowers tetrandrous. *Pursh.*

SYNONYMS.

Smilacina Canadensis, Pursh.
Maianthemum Canadense, Desfontaines Ann. du Mus. vol. 9. p. 49.
Convallaria bifolia, Mich. not Linn.

Plant about a span high. Root fibrous, yellowish-white, perennial. Stem flexuous from the root to the first leaf, becoming zig-zag from that to the spike of flowers. Leaves two in number, alternate, cor-

date-oblong, sub-sessile, glabrous on either side, closely nerved. Raceme simple, terminal. Flowers small, from ten to fifteen, cream-white, with stamens, pistil, &c. same colour.

Grows in the deep shade of wet woods in rich soil; flowering in May. Not uncommon throughout the Union.

This plant, having no odour nor beauty, possesses but little interest excepting from its delicate structure. It is difficult to cultivate, like most plants native of the bog-soil requiring for its perfection and preservation that kind of soil protected by shade and moisture.

The figure represents the entire plant of its common size—specimens are, however, frequently of a much smaller size.

TABLE LXX—FIG. 2.

RANUNCULUS FILIFORMIS.

THREAD-STEMMED RANUNCULUS.

Polyandria Polyginia, Linn. *Ranunculaceæ*, Juss.

GENERIC CHARACTER.

Calix 5-leaved. *Petals* 5, having the inner side of each claw furnished with a melliferous pore, often membranaceously margined or covered by a separate scale. *Seeds* naked, numerous.

SPECIFIC CHARACTER.

Smooth, small; stem filiform, creeping, geniculate; geniculæ one-flowered; leaves linear, subulate, obtuse. *Mich.*

Plant small; stem very delicate, thread-like and creeping, divided into joints from which radicles occasionally shoot. Radical leaves an inch long, sub-spathulate, and obtuse. Cauline leaves subulate, scarcely obtuse as Michaux describes them, shorter than those of the root, and generally in pairs. Flowers terminal, solitary, large for size of the plant. Petals ovate, striated, gamboge-yellow.—

Grows in "inundated places on the river St. Lawrence, Hudson's Bay, and Labrador," *Pursh.* Flowers in June and July.

This delicate little plant is rare. Pursh describes it on the authority of the Banksian Herbarium. For the specimens from which the drawing was made I am indebted to James G. Tracy, of Albany, who states that they were found on the banks of the Hudson.

Fig. 2. represents the plant as large as nature.

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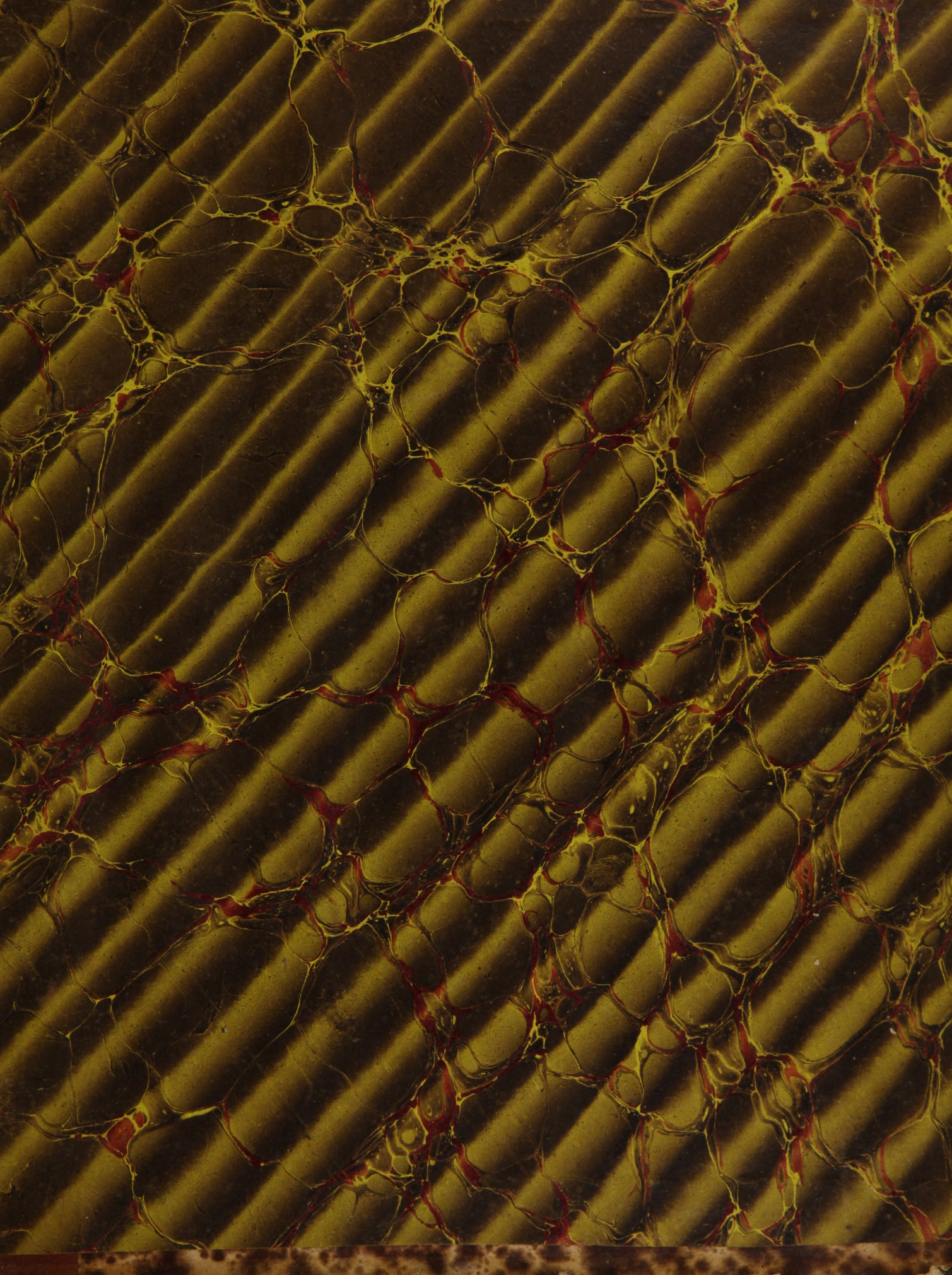
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