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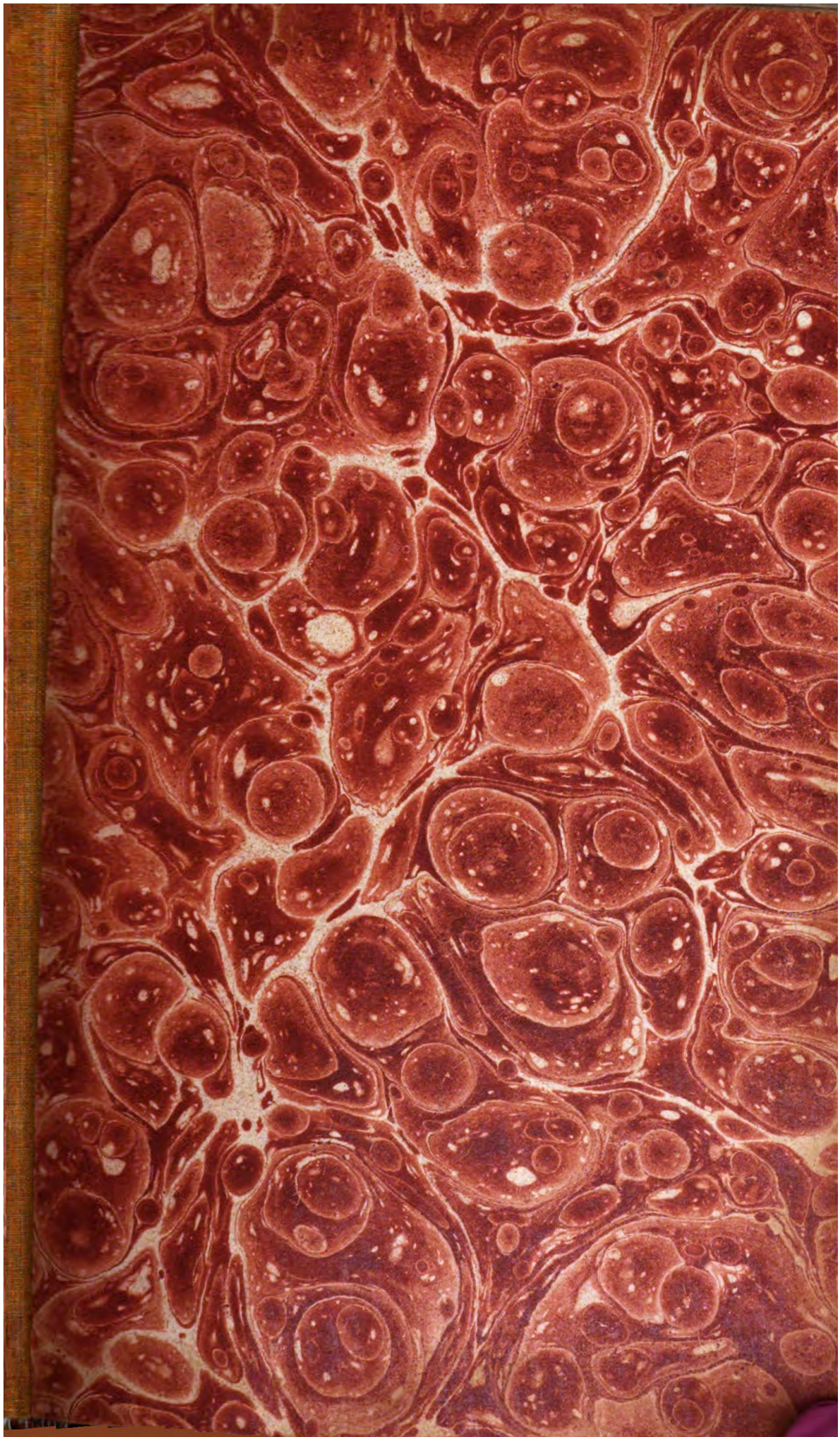


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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,
OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

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UPSAL, LUND, PHILADELPHIA, ETC.

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THE FIGURES BY

JAMES SOWERBY, F.L.S.

—“VIRESCERE ACQUIRIT EUNDO.”—*Virg.*

VOL. V.

LONDON:

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MDCXCVI.





GALANTHUS nivalis.

*Snowdrop.**HEXANDRIA Monogynia.*

GEN. CHAR. *Corolla* of six petals, three of which are smaller than the rest, and emarginated. *Stigma* simple.

SPEC. CHAR. . . .

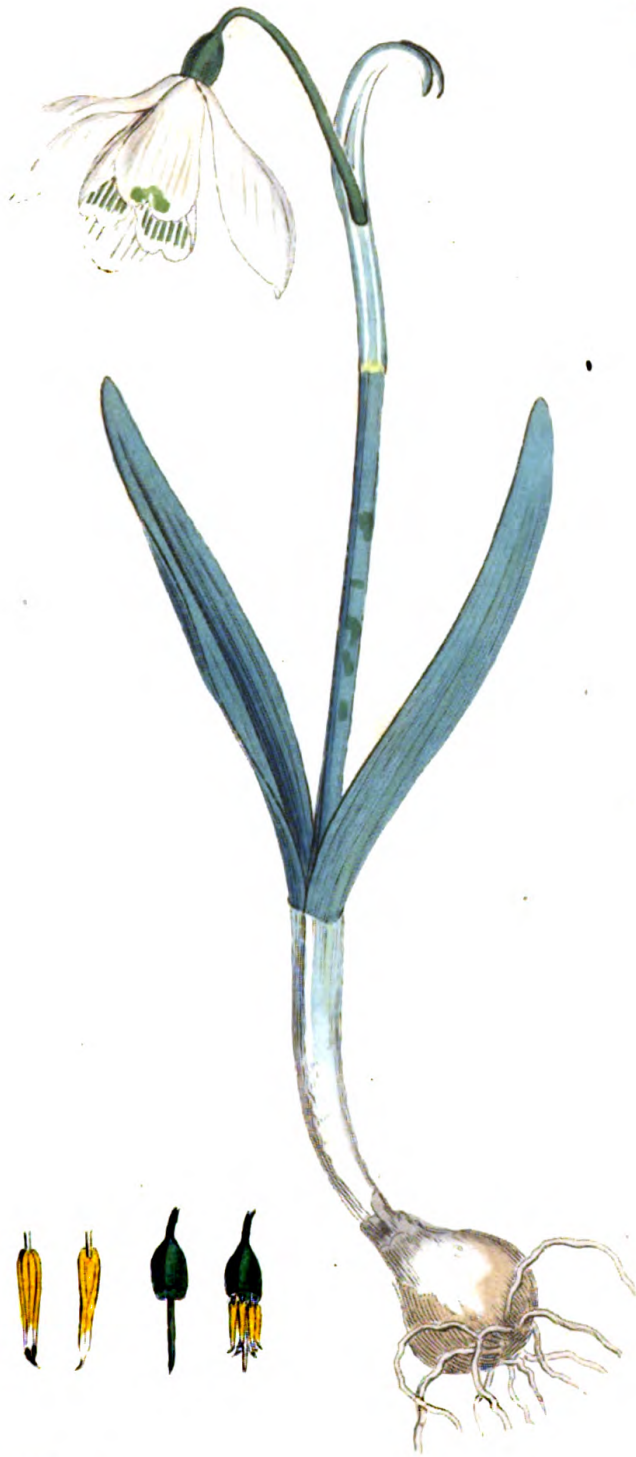
SYN. *Galanthus nivalis.* *Linn. Sp. Pl.* 413. *Huds. Fl. An.* 140. *With. Bot. Arr.* 340.

ON the authority of Mr. Hudson and Dr. Stokes, the Snowdrop is now admitted into the list of British plants, although not described as such by Ray. Whether originally a native or not, it is now found in a wild state in many different situations, such as orchards, grassy meadows, groves, and thickets. Dr. Stokes, whose accuracy and extensive information none who peruse the *Botanical Arrangement of British Plants* can doubt, is particularly exact in asserting that he has gathered it remote from all traces of buildings or gardens.

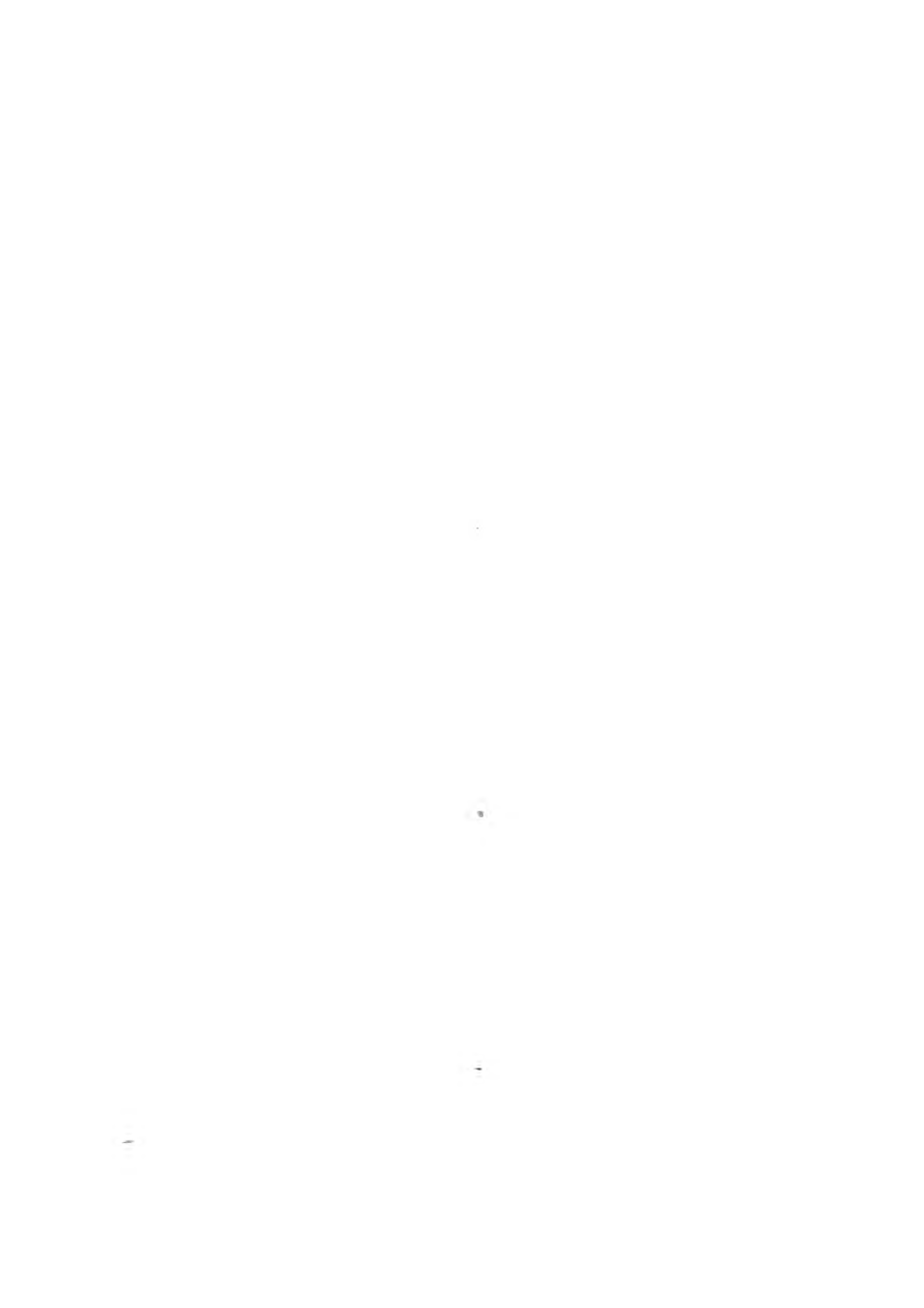
No plant is more generally cultivated, or more cordially welcomed as the herald of approaching spring. It frequently pierces through the unmelted snow, which it rivals in whiteness, and remains uninjured by a season, during whose inclemency most vegetable productions lie dormant. Who can read the following charming lines on the Snowdrop, by Mrs. Barbauld, without admiration?

“ As nature's breath, by some transforming pow'r,
 “ Had chang'd an icicle into a flow'r.—
 “ Its name and hue the scentless plant retains,
 “ And winter lingers in its icy veins.”

Our figure represents the entire plant drawn from a garden specimen, it not being easy to obtain a perfectly wild one. Annexed are the parts of fructification separate, viz. 1st, the stamina and pistillum (the petals being cut off); next, the style and germen alone, and an anthera magnified in two different positions.



Worcester del. June 1. 1791



LEUCOJUM æstivum.

Summer Snowflake.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* superior, bell-shaped, of 6 petals, thickened at their summit. *Stigma* simple. *Stamina* equal.

SPEC. CHAR. *Spatha* many-flowered. *Style* club-shaped.

SYN. *Leucojum æstivum.* *Linn. Sp. Pl.* 414. *With.* 331. *Curt. Lond. fasc.* 5. t. 23. *Jacq. Austr.* t. 203.

L. bulbosum majus polyanthemum. *Ger. em.* 148.

MR. CURTIS first added this plant to the catalogue of English natives, having found it close to the Thames' side below London in several places. Mr. Gough has also observed it near Kendal. Our specimen was gathered at Reading by Mr. Murray of that place. We have lately been informed by Mrs. Cobbold, that the Summer Snowflake is a troublesome weed in old pastures, which probably have never been broken up, at Little Stonham, Suffolk. After all these authorities, we can no longer refuse it a place in the *Flora Britannica*. It is perennial, and flowers in May.

The root is a roundish bulb, small in proportion to the herbage. Leaves all radical, numerous, sheathing, erect, a foot and half or more in length, blunt, keeled, of a bright green. Stalk about as long as the leaves, two-edged, many-flowered. *Spatha* lanceolate, concave, green, erect. *Partial flower-stalks* simple, nodding. *Flowers* inodorous, of 6 snow-white petals, each marked with a green prominent spot near the tip. *Antheræ* obtuse, bursting by two pores at the summit. *Style* club-shaped, about equal to the *stamina* in length, with an acute stigma. *Capsule* elliptical, blunt, of three cells, containing several large globose seeds.

This is an ornamental plant, and is frequently cultivated in country gardens. It increases fast by offsets from the root.

The uniformity of its petals distinguishes the genus *Leucojum* from *Galanthus*. See our t. 19.



1790. *Scilla maritima* L. *Scilla*

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NARCISSUS poeticus.

Poetic Narcissus.

HEXANDRIA Monogynia.

GEN. CHAR. Petals 6, equal. Nectary funnel-shaped, of one leaf, containing the stamina.

SPEC. CHAR. Spatha single-flowered. Cup of the nectary very short, wheel-shaped, fleshy, crenate. Leaves obtusely carinated, with a reflexed margin.

SYN. *Narcissus poeticus.* Linn. *Sp. Pl.* 414. Ait. *Hort. Kew.* v. 1. 408.

N. majalis. Curt. *Mag.* 193, at the end.

GATHERED by Mr. Jacob Rayer on a rabbit warren at Shorne between Gravesend and Rochester, in flower May 26, 1795. It is also found at Wood Bastwick and in other parts of Norfolk, according to the late Mr. Rose, who always strenuously insisted upon Mr. Hudson's having confounded two different plants under his *N. poeticus*, and that this now before us was the true Linnæan species, which last opinion is confirmed by the Herbarium of Linnæus. Mr. Curtis's *angustifolius*, Bot. Mag. t. 193, may, as far as we can judge from his account, be distinct from this, though mere garden species are always to be received with caution. His is the kind of *Narcissus medio purpureus* most commonly noticed by old authors, and he has judiciously selected its synonyms, only mistaking that of Linnæus. We have no knowledge of its being found in a wild, or even naturalized state in England.

Our real *poeticus*, which, whether originally a native or not, is now perfectly naturalized in sandy heathy places, or on many a

——“ breezy hill that skirts the down,”

has leaves more than half an inch in breadth, with a very obtuse keel, and somewhat reflexed margin. The flower is almost always solitary, large, very fragrant, pure white; the nectary bordered with orange or rather crimson; the anthers short and roundish. A double variety is frequent in gardens.



L. ...

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NARCISSUS biflorus.

Pale Narcissus, or Primrose peerless.

HEXANDRIA Monogynia.

GEN. CHAR. *Petals* 6, equal. *Nectary* funnel-shaped, of one leaf, containing the *stamina*.

SPEC. CHAR. *Spatha* two-flowered. *Cup* of the nectary very short, wheel-shaped, filmy, crenate. *Leaves* acutely carinated, with an inflexed margin.

SYN. *Narcissus biflorus*. *Curt. Bot. Mag. t.* 197.

N. poeticus. *Huds. Fl. An.* 141. *Witb. Bot. Arr.* 341.

N. medio luteus vulgaris. *Raii Syn.* 371.

THIS wild specimen was gathered by Mr. Rayer with the preceding on a rabbit warren at Shorne. Ray suspected it not to have been originally a native, but we see no reason why it should not. At least it is now perfectly naturalized, though perhaps not found in so many situations of undoubted wildness as the *poeticus*. Mr. Curtis has well asserted it to be a distinct species from that and his *angustifolius*, and we beg leave to add to his remarks that the leaves of the *biflorus* have an inflexed margin, not a reflexed one as in *poeticus*, and a section of their keel forms an angle, not a segment of a circle, so that they may properly be called *acutely carinated*, though the keel itself, being formed of two parallel lines, is externally flat. The nectary is bordered with white only, not red, and the *antheræ* are linear. The *spatha* bears sometimes 3 flowers, rarely but one. The petals are buff-coloured, not pure white, and it generally flowers earlier than *N. poeticus*, though we received them both in perfection together in the end of May. The root of each is a solid bulb, which is emetic and dangerous. *N. biflorus* is fragrant, but the smell if continued becomes unpleasant.



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NARCISsus Pseudo-narcissus.

*Common Daffodil.**HEXANDRIA Monogynia.*

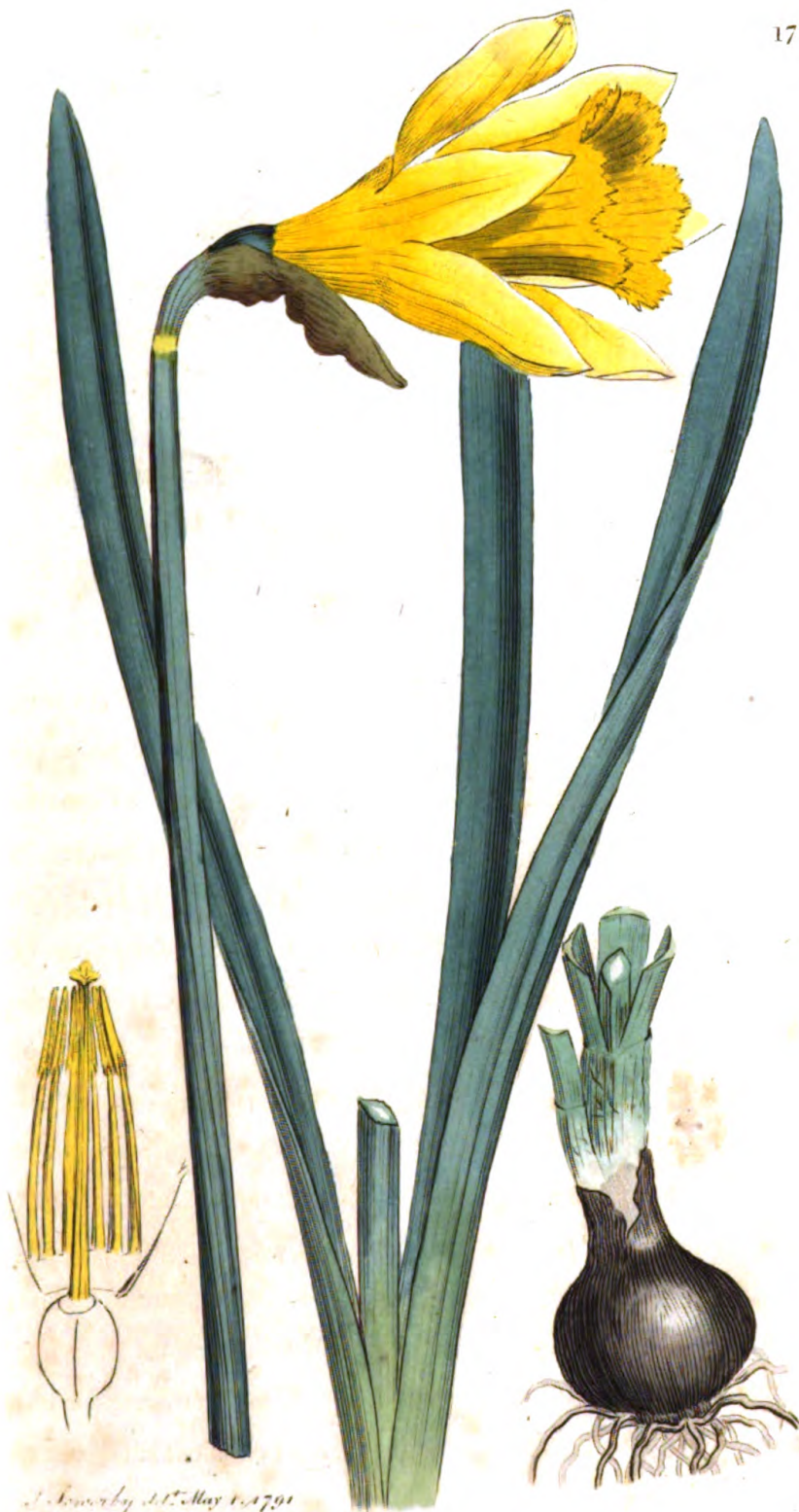
GEN. CHAR. *Petals* six, equal. *Nectarium* funnel-form, one-leaved. *Stamina* within the nectarium.

SPEC. CHAR. *Spatha* one-flowered. *Nectarium* bell-form, erect, curled, and equalling the ovate petals.

SYN. *Narcissus pseudo-narcissus.* *Lin. Sp. Pl.* 414.
Huds. Fl. An. 181. *With. Bot. Arr.* 342.

N. sylvestris pallidus, calyce luteo. *Raii Syn.* 371.

THE *Narcissus Pseudo-narcissus*, or common Daffodil, may be considered as one of the most beautiful of the native plants of this kingdom. It grows chiefly in damp situations. The name *Pseudo-narcissus*, or False *Narcissus*, was given to this species, in order to prevent its being confounded with the True *Narcissus* of the ancients, or *Narcissus Poeticus*. In the descriptions of rural poetry it has long been celebrated, and seldom fails to obtain an honourable mention amongst the opening beauties of the spring. There is an exotic species of this genus which extremely resembles the present; in that species however the petals have a more expanded appearance, and the whole plant is considerably larger. To this may be added, that in our present species the alternate petals are somewhat smaller. The figure here given we have copied from a most elegant drawing presented by Richard Anthony Salisbury, Esq. a gentleman eminently distinguished for the accuracy of his botanical researches.



J. Smock by J. T. Colley 1879

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ALLIUM Ampeloprasum.
Great Round-headed Garlick,

HEXANDRIA Monogynia.

GEN. CHAR. Cor. inferior, of 6 spreading petals. Spatha cloven, containing many flowers. Umbel dense. Stigma simple.

SPEC. CHAR. Umbel globose, without bulbs. Leaves flat. Stamina three-pointed. Petals rough on the keel.

SYN. Allium Ampeloprasum. *Linn. Sp. Pl.* 423. *Sm. Fl. Brit.* 355. *Huds.* 138. *With.* 332. *Hull.* 72.
A. Holmense, sphærico capite. *Raii Syn.* 370.

MR. WRIGHT, who in 1803 ascertained the *Pæonia corallina*, t. 1513, to be a British plant, favoured us at the same time with wild bulbs of this very rare species of *Allium* from the island called Flat Holmes, in the Severn, where only, in the British dominions, it has hitherto been observed to grow. These bulbs, cultivated in a garden, have, for the last 2 years, flowered well in the month of August. Each of them is about the size and form of a common garden tulip-bulb.

The stem is solitary, 4 or 5 feet high, upright, simple, round, smooth, leafy in the lower part. Leaves clasping the stem with their long sheaths, 18 inches or 2 feet long, flaccid, flat, near an inch broad, tapering, acute; their margin, and top of the keel, rough with minute teeth. Umbel solitary, erect, large, globose, composed of innumerable flowers, on longish, smooth, pale purple stalks, without any accompanying bulbs, but intermixed with small narrow scales. Spatha scarcely so long as the umbel. Petals ovate, acute, pale purple, the 3 larger especially very rough on the keel. Stamina broad, 3 of them strongly 3-pointed, the intermediate ones simple. Antheræ terminal, erect. Germen brownish, ovate, furrowed, with 3 transverse prominences. Style white, as long as the germen. The whole plant has a strong disagreeable garlick smell. It is nearly allied to the Leek, *A. Porrum*.



J



Avena *avenarium*.

Sant. Garlic.

FILICES MICH. Monogonia.

GEN. CHAR. Cor. inferior. n. f. spreading petals.
Spike naked, containing many flowers. *Uncol.*
GEN. CHAR. SIMPL.

SPEC. CHAR. Three bearing hulls. Leaves flat with
reticulate venation. Spikes diam. Stamina three-
partite. Petals reniform in the base.

*SYN. Avena avenarium. Lam. Sp. Pl. 496. Sm.
Fl. Brit. 156. Emul. 135. Willd. 885. Huib. 72.*

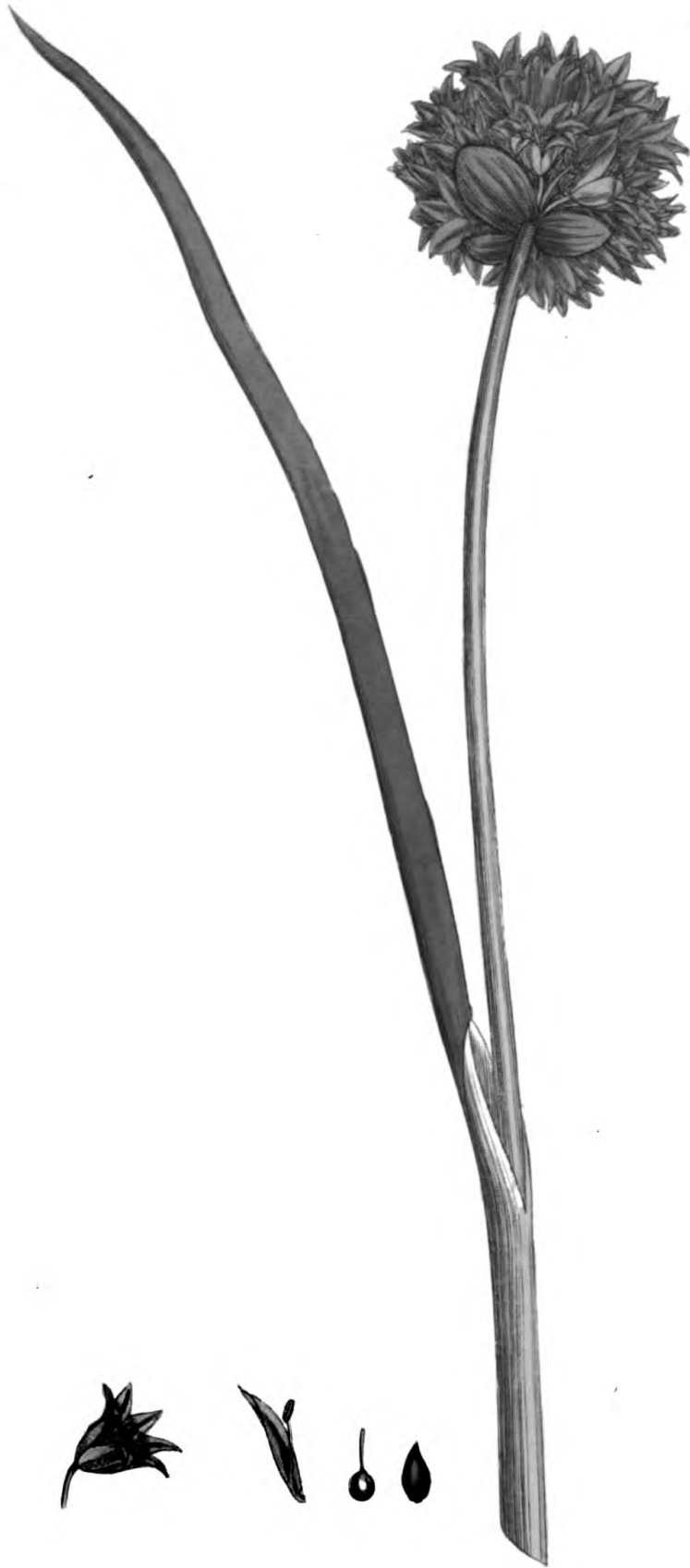
*A. avenaria americana. Willd. parviflora, fruticosa et
nuda. Nutt. Journ. 179.*

*W*HEAT GRASS grows in the mountains and hills of
the state from the base of the mountains to the
summit of the highest peaks. It is a native of the
mountains and is found in the highest parts of the
state. It is a very hardy plant and grows in the
most barren soil. It is a very useful plant and
is used for food for the cattle and horses.

The plant is a very hardy one. It grows
in the mountains and hills of the state. It is
a very useful plant and is used for food for
the cattle and horses. It is a very hardy
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is a very useful plant and is used for food
for the cattle and horses.



1368



Sept. 21. 1864. Published by J. & S. Owen, London.

ALLIUM arenarium.

Sand Garlick.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 6 spreading petals. *Spatha* cloven, containing many flowers. *Umbel* dense. *Stigma* simple.

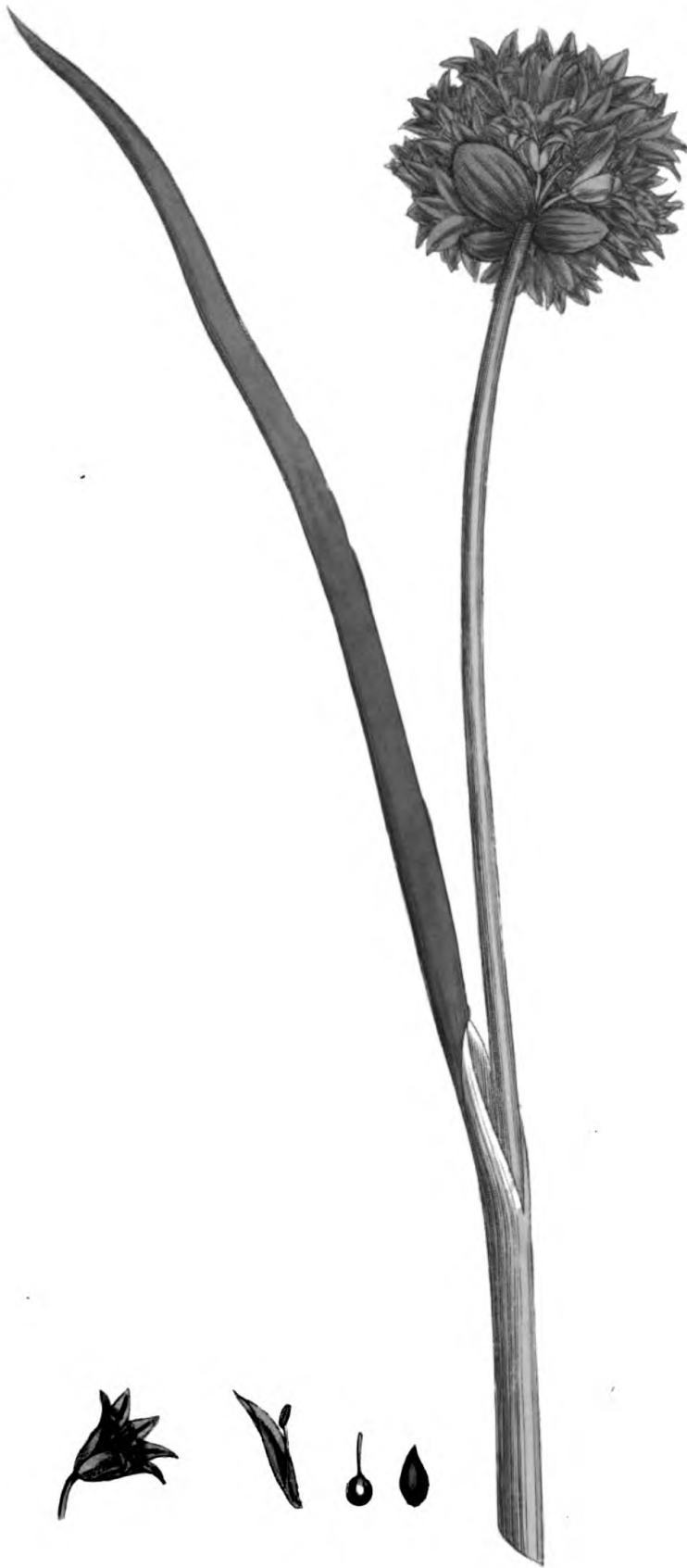
SPEC. CHAR. *Umbel* bearing bulbs. Leaves flat with cylindrical sheaths. *Spatha* blunt. *Stamina* three-pointed. Petals roughish on the keel.

SYN. *Allium arenarium.* *Linn. Sp. Pl.* 426. *Sm. Fl. Brit.* 356. *Huds.* 138. *With.* 333. *Hull.* 72.

A. sylvestre amphicarpon, foliis porraceis, floribus et nucleis purpureis. *Raii Syn.* 370.

WE have several times received wild specimens and bulbs of this plant from Westmoreland and Yorkshire, the only counties known to produce it. It grows in woods and fields, flowering in July, after which numerous dark-purple bulbs spring forth among the flower-stalks.

The radical bulb is ovate and brown. Stem erect, 3 feet high, simple, round, smooth, leafy in the lower part. Leaves flat, rough-edged, with long cylindrical sheaths. *Umbel* round and dense. *Spatha* of 2 or 3 short, elliptical, concave, pointless husks. Flowers red, bell-shaped. Three of the *stamina* are simple, and the intermediate ones dilated, 3-forked, the middle segment bearing the anthera. *Germen* triangular. The seeds are rarely ripened; but the plant propagates itself readily by the bulbs, which fall in autumn from the *umbel*, and will continue in a garden, unaltered in its habit, for many years.



ALLIUM carinatum.

Mountain Garlick.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 6 spreading petals. *Spatha* cloven, containing many flowers. *Umbel* dense. *Stigma* simple.

SPEC. CHAR. *Umbel* bearing bulbs. Leaves flat. All the stamina awlshaped. *Spatha* acute.

SYN. *Allium carinatum.* *Linn. Sp. Pl.* 426. *Sm. Fl. Brit.* 357. *Huds.* 139. *With.* 333. *Hull.* 72.

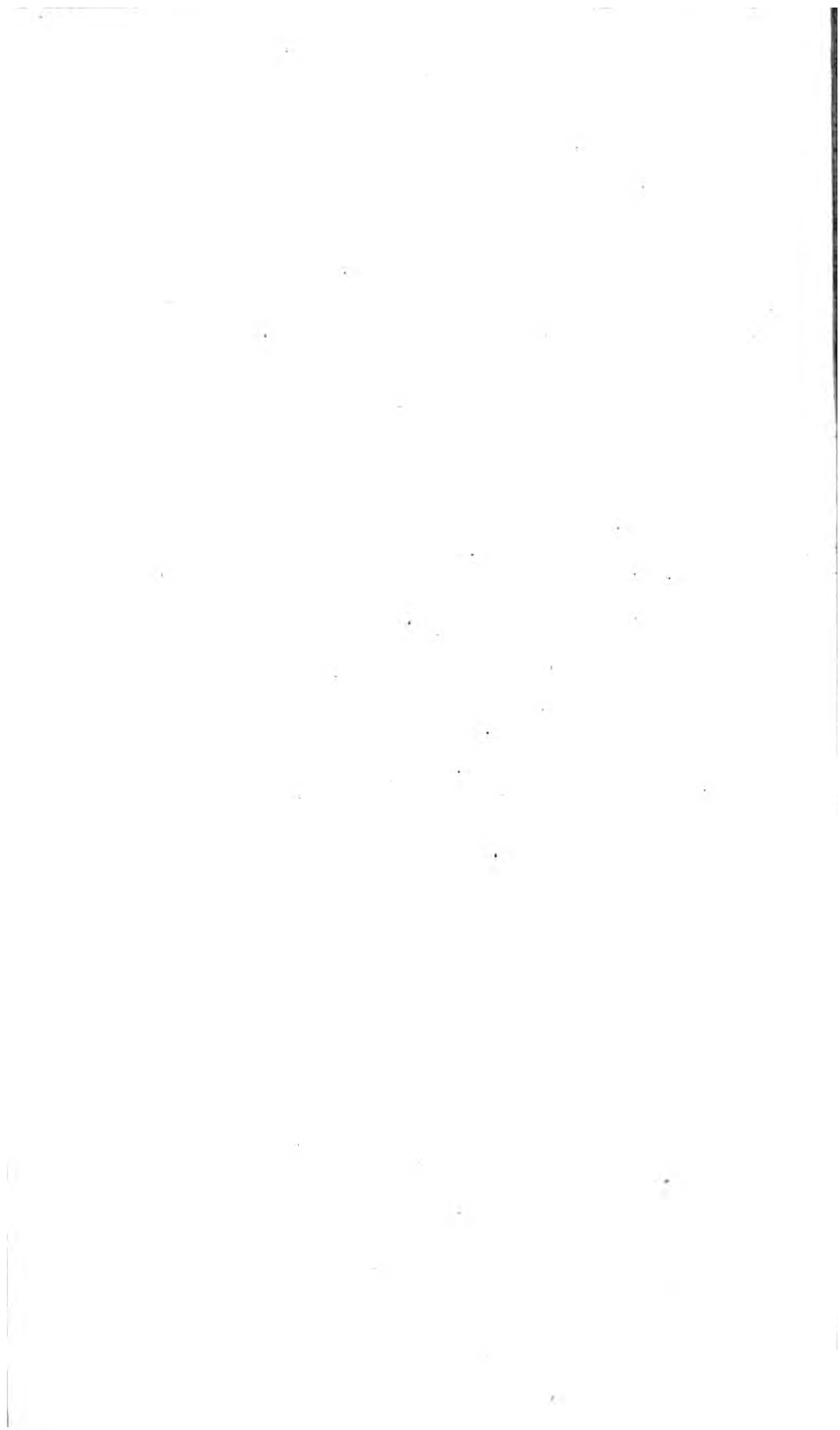
A. montanum bicorne purpureum proliferum. *Raii Syn.* 369.

BULBS of this *Allium* were brought from Westmoreland many years ago by Mr. Crowe, in whose garden the plant has ever since been preserved without requiring any particular attention, flowering in July, and we are obliged to that gentleman for a specimen.

Bulb ovate, whitish, perennial. Stem about 3 feet high, simple, round, smooth, its lower half leafy. Leaves not a quarter of an inch broad, bluntish, rather succulent, solid, thicker and roughish at the edge; concave above; convex and somewhat keeled at the back; with very long ribbed sheaths. *Umbel* rather loose and spreading, the flowerstalks being elongated as the flowers expand, and they are accompanied at their base by numerous elliptical blackish bulbs, which fall off and vegetate. *Spatha* of 2 principal very long leaves, much divaricated and acute, one of which is fallen off in our specimen. Flowers dull brownish yellow, the keels of the petals darker, or greenish, smooth. Stamina all simple, awlshaped, connected at their base, 3 earlier than the rest. Germen with 6 furrows. Style short, with a blunt simple stigma. The seeds seldom ripen.



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ALLIUM oleraceum.

Streaked Field Garlic.

HEXANDRIA Monogynia.

GEN. CHAR. Cor. in 6 spreading segments. *Spatha* containing many flowers. *Umbel* dense. *Capsule* superior.

SPEC. CHAR. Umbel bearing bulbs. Leaves rough, channelled, ribbed beneath. Stamina simple. Spatha with two long points.

SYN. Allium oleraceum. *Linn. Sp. Pl.* 429. *Hudf.* 140. *With.* 334.

A. sylvestre bicorne, flore ex herbaceo albicante, cum triplici in singulis petalis striâ atro-purpureâ. *Raii Syn.* 370.

THIS wild specimen was gathered at Fincham, Norfolk, by the Rev. Mr. Forby. We have received others from Westmoreland, and Ray found this species in his parish of Black Notley, Essex. It is perennial, flowering in July. This is certainly the *oleraceum* of Linnæus, though some have taken it for his *carinatum*, a larger and distinct kind.

Bulb the size of a hazel nut. Stem round, slender, leafy, near 2 feet high. Leaves sheathing at their base, a foot long, narrow, dull green, flat or channelled above, convex and ribbed beneath, appearing under a magnifier rough all over. Umbel simple, terminal, erect. Spatha of two concave membranous valves, each terminating in a long spreading leaf-like point, extending far beyond the flower-stalks, which are slender, divaricated, single-flowered, intermixed at their base with numerous little ovate purple bulbs, which falling to the ground become new plants, according to the bountiful provision of nature for this and many other species of Allium, by which they are propagated without end. Segments of the corolla equal, ovate, greenish white, with 3 purple lines. Stamina simple (not toothed), connected by one common base. Germs with 6 furrows, rough at the top. The whole herb has the savor of garlic; the bulb has less of that scent than many others. It is a very troublesome weed, though fortunately of rare occurrence.



621. 1790. *Peltandra* by P. Beauvois Linnæus

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[1974]

ALLIUM vineale.

*Crow Garlick.**HEXANDRIA Monogynia.*

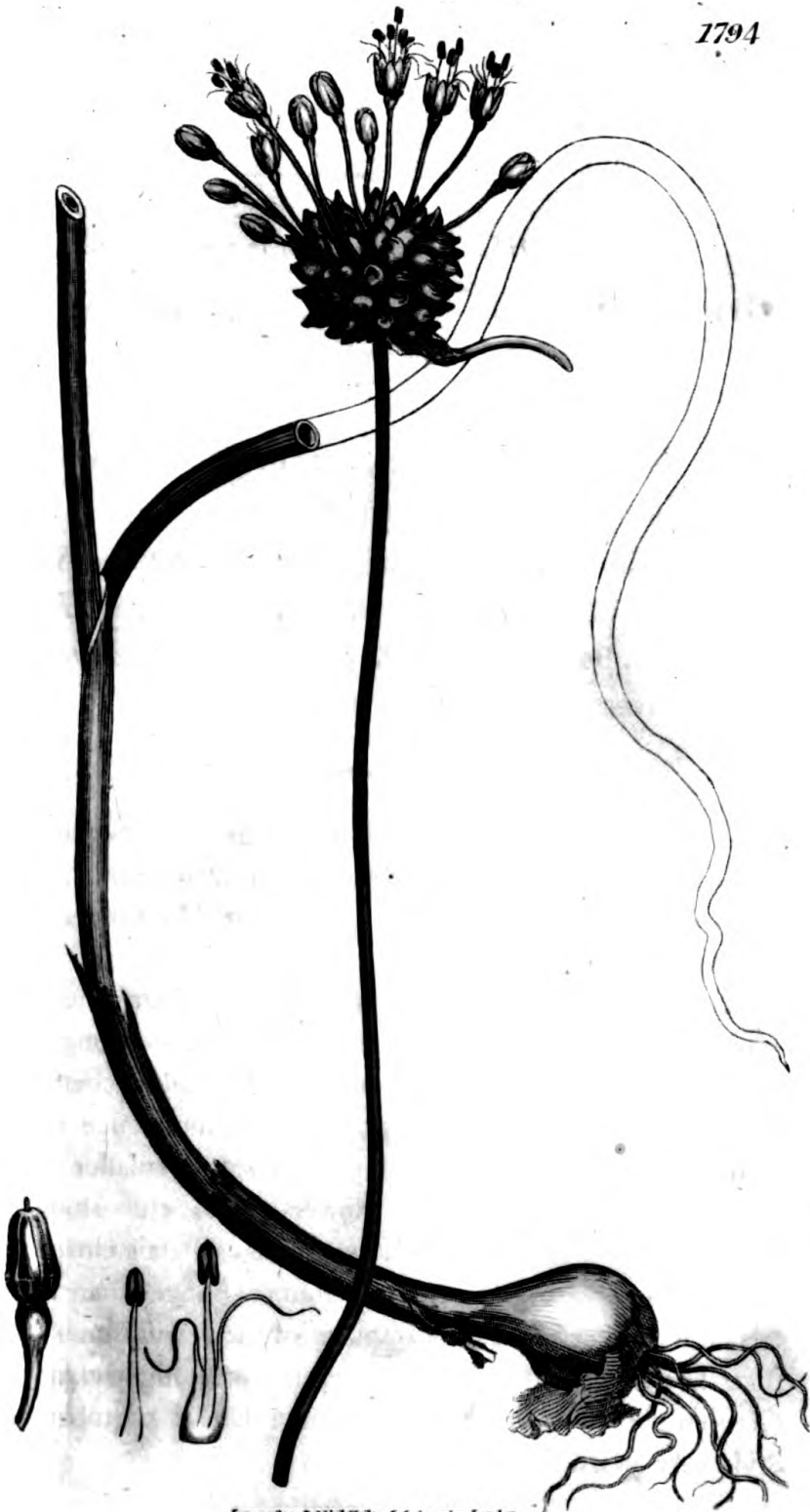
GEN. CHAR. *Cor.* inferior, of 6 spreading petals. *Spatha* cloven, containing many flowers. *Umbel* dense. *Stigma* simple.

SPEC. CHAR. Umbel bearing bulbs. Leaves cylindrical. Stamina three-pointed.

SYN. *Allium vineale.* *Linn. Sp. Pl.* 428. *Sm. Fl. Brit.* 359. *Huds.* 139. *With.* 333. *Hull.* 72. *ed.* 2. 94. *Relh.* 132. *Sibth.* 109. *Abbot.* 74. *A. sylvestre.* *Raii Syn.* 369.

THIS Garlick is found in dry fields, more particularly on a calcareous soil, as well as about old ruinous buildings, flowering in July. Our specimen grew near Mackarel's tower, Norwich.

The root is a small, ovate, white bulb. Stem 2 feet high, upright, slender, round, striated, leafy. Leaves long, tapering, cylindrical, hollow, ribbed, smooth, fading before the flowers come out. Umbel small, with abundance of little ovate acute greenish bulbs, intermixed with a smaller number of capillary smooth purplish flower-stalks, club-shaped at the summit. *Spatha* pointed, deciduous. Petals closed, pale rose-coloured with green keels. Stamens longer than the petals, the capillary lateral extremities of the 3 trifid ones longer than the part which bears the anther, and spreading horizontally. Germen somewhat pyramidal, with 3 lateral protuberances. Style very short.



Jan. 1. 1809. Publish'd by J. C. Jewett, London.

U

A L L I U M urfinum.

*Broad-leaved Garlick, or Ramsons.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cor.* in 6 spreading segments. *Spatha* containing many flowers. *Umbel* dense. *Capsule* superior.

SPEC. CHAR. Stalk naked, triangular. Leaves lanceolate, on footstalks. Umbel flattish on the top.

SYN. *Allium urfinum.* *Linn. Sp. Pl.* 431. *Huds. Fl. An.* 140. *With. Bot. Arr.* 344. *Relb. Cant.* 135.

A. sylvestre latifolium. *Raii Syn.* 370.

THIS plant is but too plentiful in woods and hedges throughout most parts of England. The milk of cows that eat it becomes intolerably nauseous, from the well-known garlick flavour common to the whole genus, and peculiarly active in this species. Its roots consist of long fleshy fibres at the bottom of a slender bulb, and can scarcely be eradicated when they have once taken possession of a spot of ground. Moist shady groves and thickets are its favourite habitation, and the copious snow-white flowers, enlivening many a shady dell, might be seen with pleasure, if the odour of the herb, wherever it is bruised or trodden upon, did not so frequently infect the air around.

This is one of those species of *Allium* whose leaves all arise from the root, and the only British one of that description with broad leaves. Its characters indeed cannot be mistaken. The stalk is occasionally more or less acutely triangular, at least in the upper part; spatha of two leaves; filaments all of equal breadth, and nearly equal in length. The flowers appear early in May, or in the more northern and mountainous counties somewhat later.



Asperula odorata L.



ALLIUM Schœnoprasum.

Chive Garlick.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 6 spreading petals. *Spatha* cloven, containing many flowers. *Umbel* dense. *Stigma* simple.

SPEC. CHAR. Stalk naked, round, the height of the foliage. Leaves round, somewhat tapering.

SYN. *Allium Schœnoprasum.* *Linn. Sp. Pl.* 432. *Sm. Fl. Brit.* 360. *Lightf.* 180. *Huds.* 649. *With.* 335. *Hull ed.* 2. 95. *Fl. Dan. t.* 971. *Schœnoprasum.* *Ger. em.* 176.

DR. PARSONS, formerly lecturer on anatomy at Oxford, observed this plant wild, as he judged, by Fast castle, on the borders of Berwickshire, and Mr. Lightfoot was told it had been found in the Nether Lorne, Argyleshire. Hudson and Withering say it grows in Westmoreland and Yorkshire, so we presume there can be no doubts on the subject. We have only seen garden specimens. This species is often cultivated by cottagers, being eaten either raw or dressed, like others of its foetid brethren.

The roots consist of slender, pale, upright, tufted, perennial bulbs. Leaves three or four, radical, slightly spreading, tubular, cylindrical, taper-pointed, rather glaucous, sheathing the stalk with their dilated bases. Stalk solitary, about a foot high, being nearly the height of the leaves, cylindrical, smooth. *Spatha* of two ovate leaves, shorter than the umbel, which is dense, formed of many purplish-rosecoloured flowers, whose stamens are all simple.

The reader of the *Flora Britannica* is requested to correct an error of the press in the name, which should be written as above, alluding to the habit of the plant, from *σχοινος*, a rush.

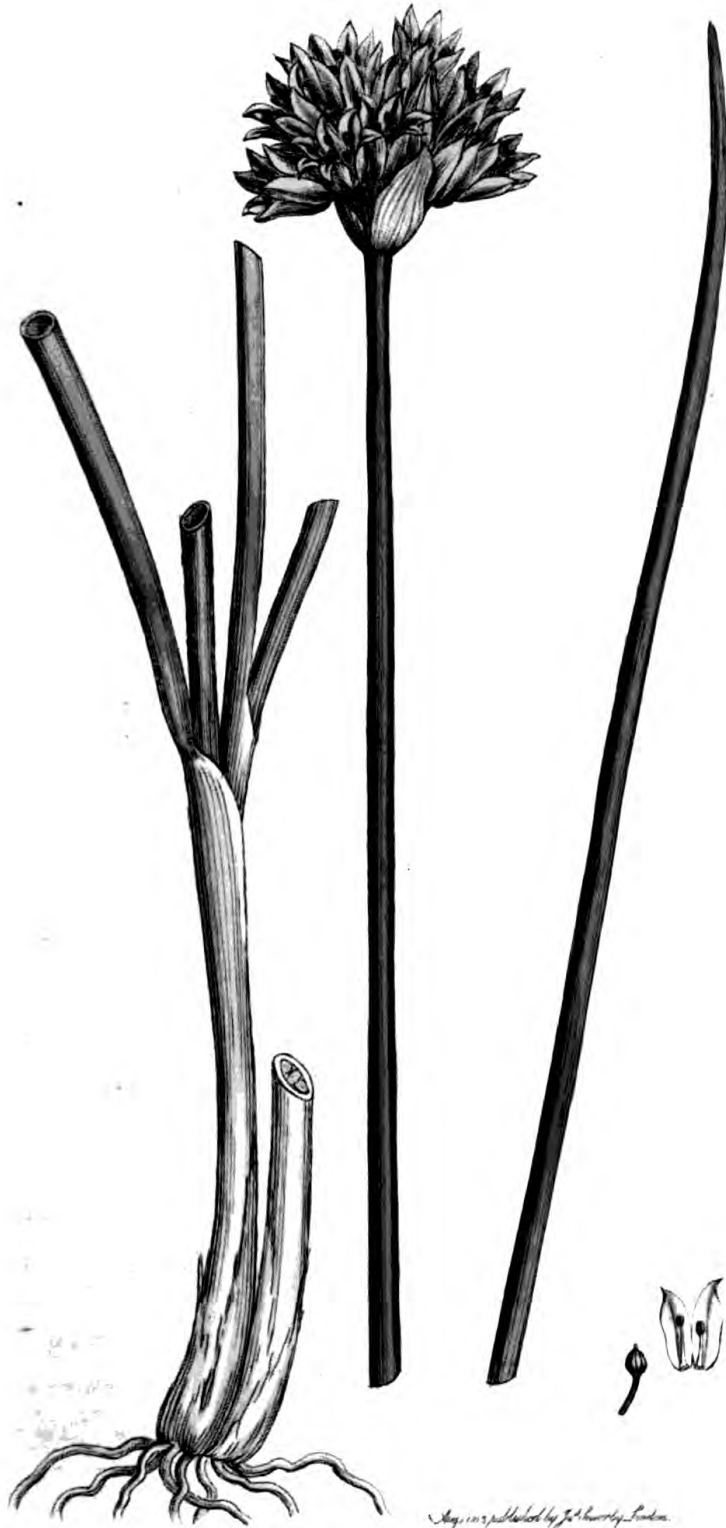


Fig. 102, published by J. A. Harvey, London.

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FRITILLARIA Meleagris.

Common Fritillary.

HEXANDRIA Monogynia.

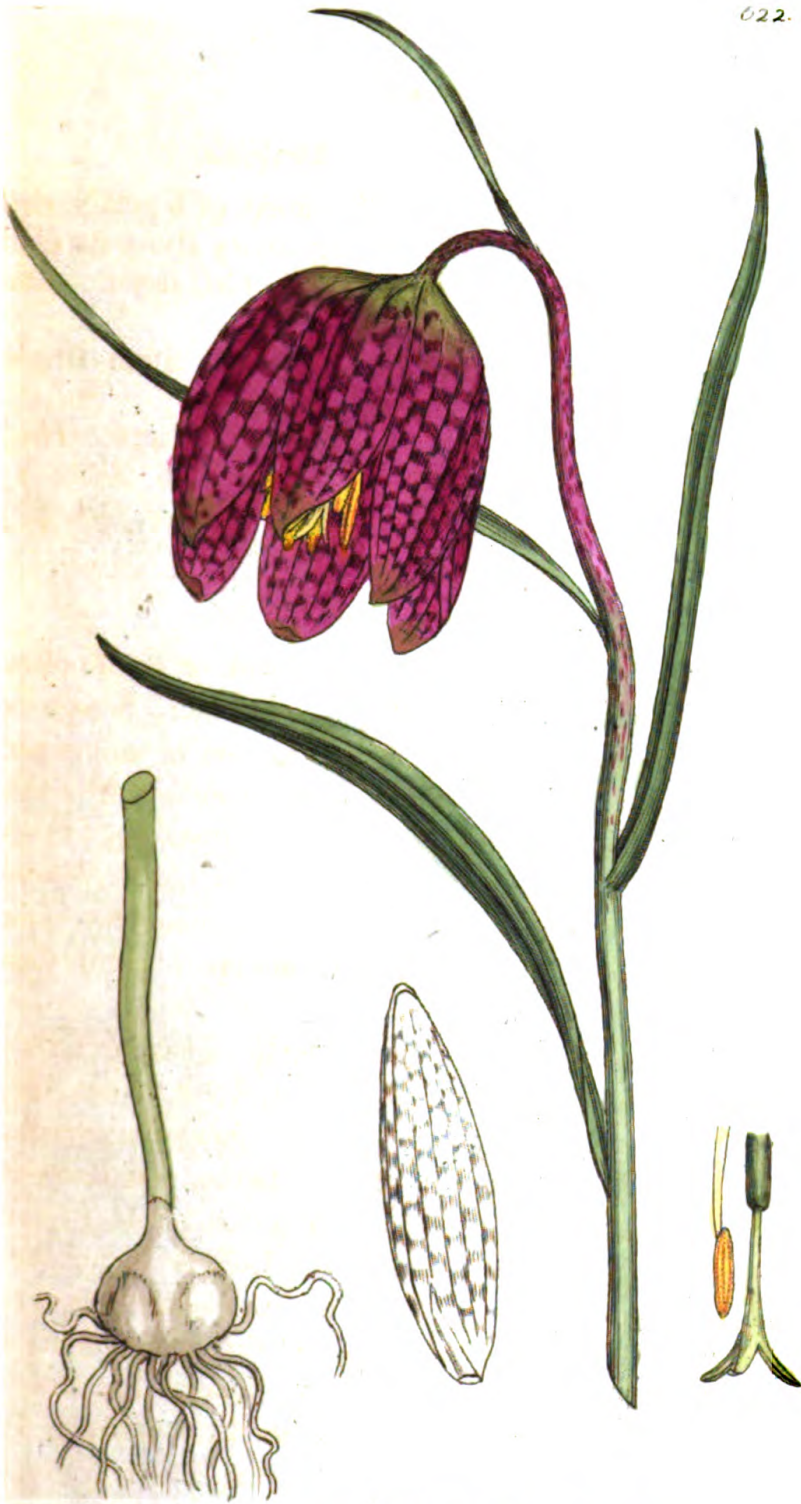
GEN. CHAR. *Cor.* inferior, bell-shaped, of 6 petals, each marked with a honey-bearing cavity above its claw. *Stamina* as long as the corolla. *Cal.* none. *Seeds* flat.

SPEC. CHAR. All the leaves alternate. Stem single-flowered. Nectary linear.

SYN. *Fritillaria Meleagris.* *Linn. Sp. Pl.* 436. *Huds.* 144. *With.* 335. *Relb.* 137. *Sibth.* 110. *Abbot.* 75. *Curt. Lond. fasc.* 3. t. 20. *Dicks. H. Sicc. fasc.* 9. 3. *F. variegata.* *Ger. em.* 149.

IF we allow the *Leucojum* a place in a work on British plants, we cannot hesitate about the *Fritillaria*, which, though not noticed by Ray or Dillenius, is very common in various parts of Middlesex, as well as in Suffolk and other counties. Mrs. Cobbold sent it from Little Stonham, with the preceding, *Ornithogalum umbellatum*, and *Colchicum autumnale*; and Mr. Murray, from Reading. It grows in moist pastures or meadows, is perennial, flowering in May, and the blossoms are frequently found white.

Root a small roundish or depressed bulb. Stem erect, about a foot high, perfectly unbranched, annual, round, smooth, leafy. Leaves alternate, almost linear, pointed, somewhat glaucous. One solitary drooping flower of great beauty terminates the stem. It is bell-shaped, of six equal concave petals, elegantly chequered with pale and dark purple. Each petal, just above its base, has a central longitudinal furrow, of a linear shape, not round as in *F. pyrenaica* (which is, like this, common in gardens), the cavity of which is filled with honey. The antheræ are slightly attached by the back, as in the Passion-flower. The stigma is three-cleft. Seeds numerous, flat, closely packed in the three-celled capsule.





TULIPA fylvestris.

Wild Tulip.

HEXANDRIA Monogynia.

GEN. CHAR. *Corolla* of six petals, bell-shaped. *Style* none.

SPEC. CHAR. Flower solitary, somewhat drooping. Leaves lanceolate. Stigma obtuse, triangular. Stamina hairy near the base.

SYN. *Tulipa fylvestris.* *Linn. Sp. Pl.* 438. *Fl. Suec.* N. 284.

NO writer on British plants has hitherto noticed the wild Tulip; but we are encouraged to give it as a native, or at least a naturalized species, by the observations of W. Mathew, Esq. who favoured us with this specimen from an old chalk-pit near Bury; as well as by the opinion of the late very accurate and learned Mr. Rose of Norwich, and of Dr. Smith, who have both found it in a chalk-pit near that city. It grows in a bed of good mould, above the chalk, the roots lying several inches below the surface, and flowers in April.

The circumstances most remarkable about this species, and which abundantly distinguish it from the garden *Tulipa Gesneriana*, are the narrow leaves, the nodding flower, the hairiness at the base of the stamens, and on the tips of the petals, and especially the simple obtuse form of the stigma, which is totally different from that of the garden tulip. The flower too is fragrant, and the pollen yellow, not black. The anthers are remarkably long. In *Flora Danica*, t. 375, they are represented short and round. Linnæus has given an excellent concise history of this plant, in his *Flora Suecica* above quoted.

63.





ORNITHOGALUM luteum.

*Yellow Star of Bethlehem.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cor.* of six petals, erect, permanent, from about the midway spreading. *Filaments* alternately broader at the base.

SPEC. CHAR. Stalk angular, bearing two leaves. Flower-stalks in an umbel, undivided.

SYN. *Ornithogalum luteum.* *Linn. Sp. Pl.* 439. *Huds. Fl. An.* 143. *Witb. Bot. Arr.* 347. *Raii Syn.* 372.

FLOWERS in March and April, in woods and pastures, but in very few parts of England. Near Oxford it has been found plentifully, and in some parts of Yorkshire, from whence this specimen was communicated by R. A. Salisbury, Esq.

The floral leaves are ciliated with fine white hairs, of which the radical one (which is almost always solitary) is destitute. The antheræ, before they burst, are oblong; afterwards they become remarkably shortened, and almost round, but didymous, as represented at the bottom of our plate. The style is triangular. The petals, always of a pale green externally, assume that colour entirely as they wither, and become closed round the seed-vessel.



J. Bowler del. June 1. 1791.

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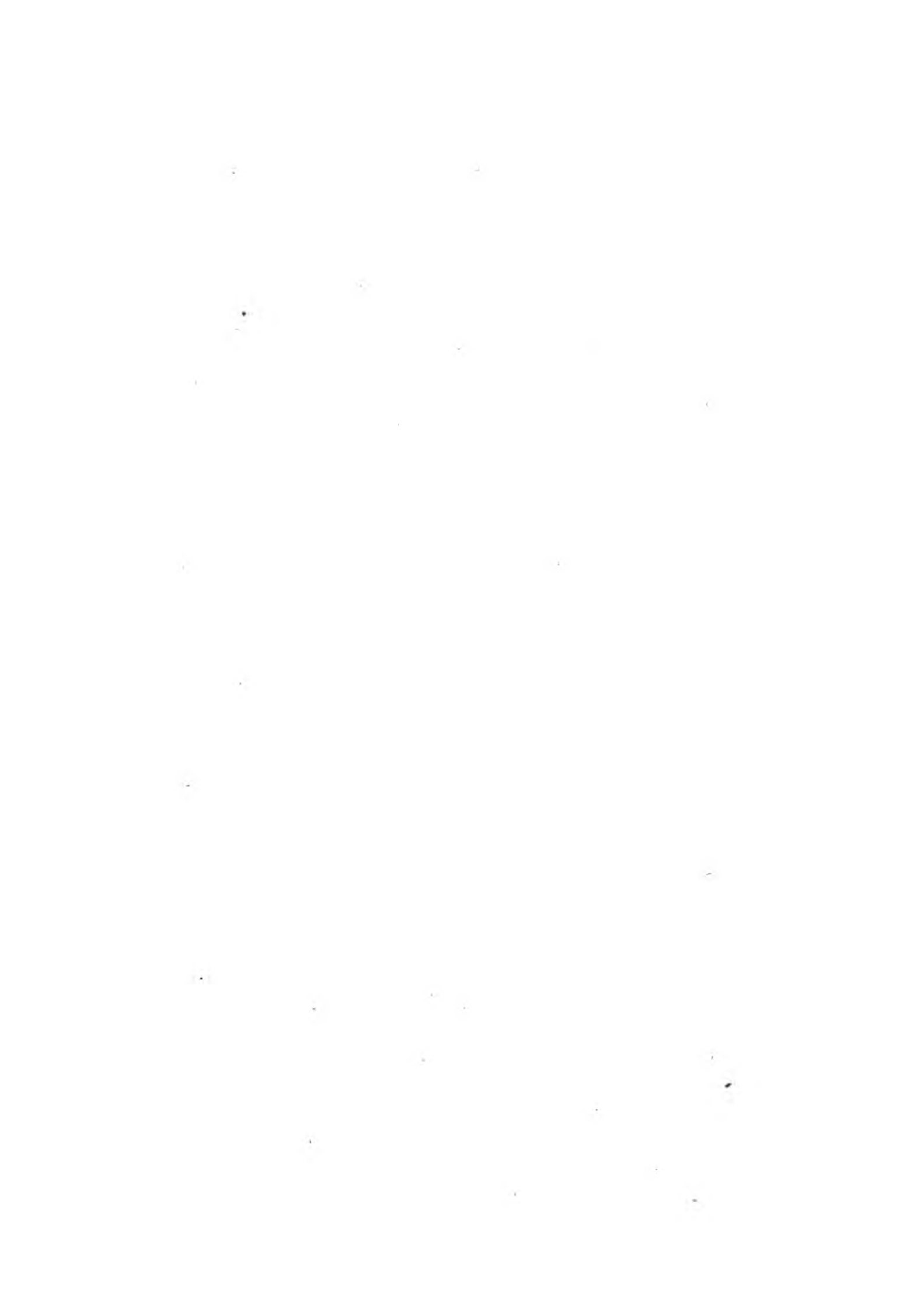
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ORNITHOGALUM pyrenaicum.

Spiked Star of Bethlehem.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* of 6 petals, erect, permanent, from about the midway spreading. *Filaments* alternately broader at the base.

SPEC. CHAR. Spike very long. *Filaments* all dilated. Flower-stalks equal, spreading, growing erect as the fruit ripens.

SYN. *Ornithogalum pyrenaicum.* *Linn. Sp. Pl.* 440. *Huds.* 143. *With.* 337.

O. angustifolium majus, floribus ex albo virescentibus. *Raii Syn.* 372.

IN pastures in the southern or midland counties, but not frequent. This specimen was sent by the Rev. Thomas Orlebar Marsh, F.L.S. from Keyson Park wood, Bedfordshire, who also mentions this plant's growing copiously at Eaton Socon in the same county. Hitherto it has been met with in Sussex and Somersetshire only. The flowers begin to open in June, and continue through July.

Root an ovate bulb. Leaves long, linear, roundly channelled, their tips soon withering. Stalk two feet or more in height, erect, round, smooth, simple, terminated by an upright simple spike of numerous greenish unornamental flowers, standing on alternate spreading flower-stalks, each of which is accompanied at its base by a lanceolate pointed bractea, about its own length. After flowering these stalks become more erect, and finally pressed close to the main stalk; the whole spike is also by degrees greatly lengthened out, and becomes a *racemus*, for nature has not very distinctly drawn a line between the *racemus* and the *spica*. The petals are of a narrow elliptical figure, permanent, contracting much in breadth, and turning greener, as they dry. Stamina in our specimens, as well as the Linnæan ones, all nearly of a breadth, lanceolate, suddenly contracting about their middle into a setaceous form. Germen obovate, furrowed. Style straight, short, with a blunt small three-cleft stigma.

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ORNITHOGALUM umbellatum.
Common Star of Bethlehem.

HEXANDRIA Monogynia.

GEN. CHAR. Cor. of 6 petals, erect, permanent, from about the midway spreading. Filaments alternately broader at the base.

SPEC. CHAR. Flowers in a corymbus. Flower-stalks rising above the top of the main stalk. Filaments tapering, entire.

SYN. Ornithogalum umbellatum. Linn. Sp. Pl. 441. Hudf. Fl. An. 143. With. Bot. Arr. 347.

O. vulgare et verius, majus et minus. Raii Syn. 372.

THIS is supposed not to have been originally a British native, though now found in a state of nature in some parts of Norfolk. Our specimen was obligingly communicated from Babergh, near Norwich, by Mr. Wagstaff.

The root is a white roundish bulb. Leaves several, linear, bluntish, and soon withering at the tip, concave on the upper side, with a white rib. Stalk round, smooth, 8 or 10 inches high, terminating in an erect corymbus (for it is by no means an umbel, and therefore Linnæus would have done well to have changed the old name) of 6 to 8 or 10 flowers, which appear in May. Bractææ lanceolate, acute, membranous, and fading, about half as long as the flower-stalks. Petals of a pure enamelled white, with a green line along their backs, much spreading, and permanent. Stamina half their length, broad and flat, tapering to a sharp point, not emarginate, but entire, as Hasselquist, Mygind, and Linnæus himself observed; we have therefore, from his own MS. observations, corrected the specific character. Germen turbinated, with six notches, and a short, erect, simple style.

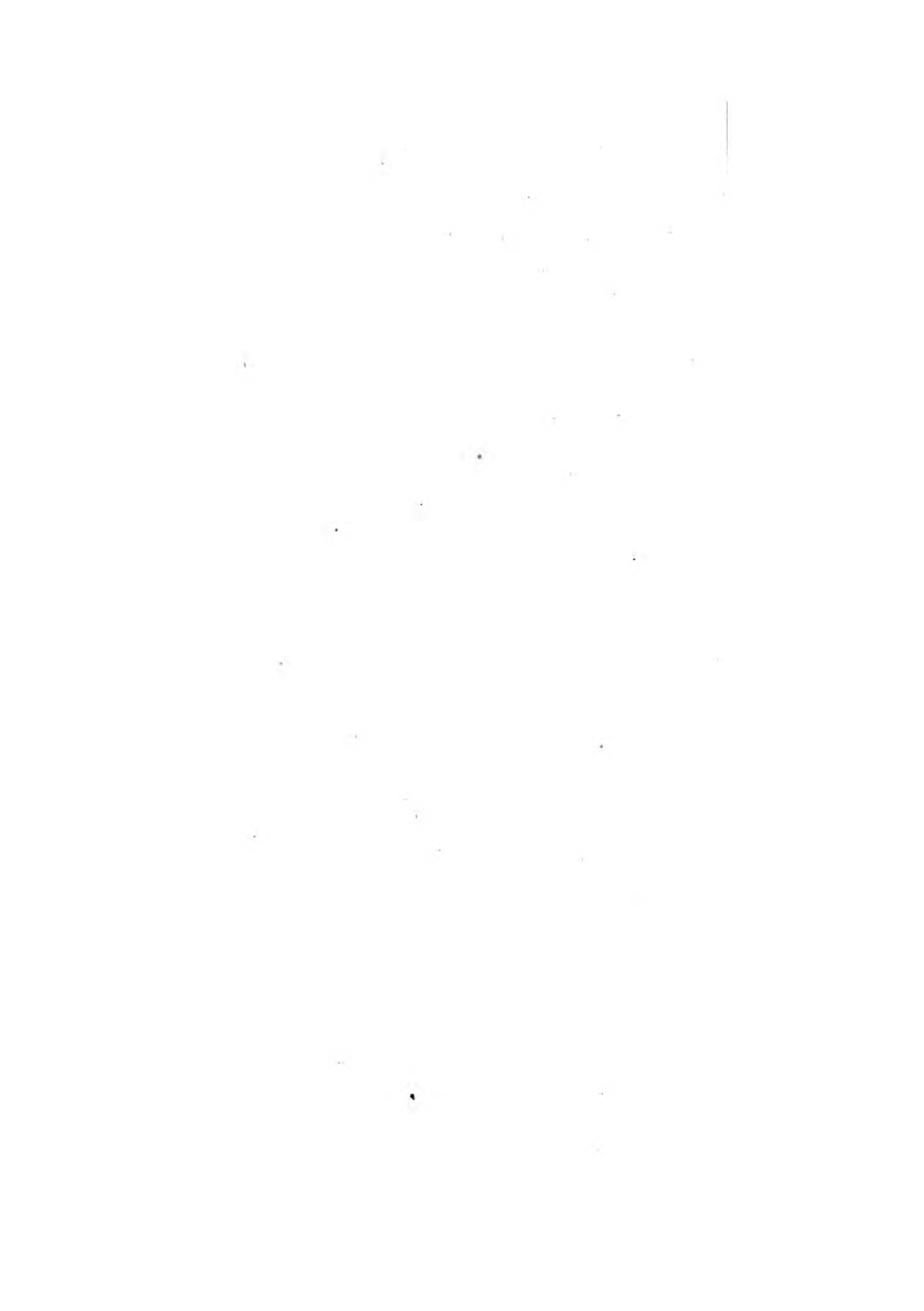
The roots are eatable when boiled, and much used as food in the Levant. Linnæus says, *Mant.* 364, they are the doves' dung which was sold so dear during the siege of Samaria (2d *Book of Kings*, ch. 6, v. 25); though Olaus Celsius (*Hierobot.* vol. 2, p. 30) and many other critics take that term in its literal sense. If Linnæus is right, we obtain a sort of clue to the derivation of Ornithogalum (*Bird's-milk*) which has puzzled all etymologists. May not that denomination apply to the white fluid which always accompanies the dung of birds, and is their urine? One may almost perceive a similar combination of colours in the green and white of this flower, which accords precisely in that respect with the description Dioscorides gives of his Ornithogalum*.

* Since the above was written we have had the satisfaction of finding Linnæus gives the same explanation in his Lectures on the Natural Orders of Plants, published by Professor Giseke, Hamburg, 1792, p. 287.



J. E. Raven. Sep. 1. 1903

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[1997]

ORNITHOGALUM nutans.

*Drooping Star of Bethlehem.**HEXANDRIA Monogynia.*

GEN. CHAR. Cor. of 6 petals, permanent, their upper part spreading. Filaments dilated at the base. Capsule superior, of 3 cells. Seeds roundish. Calyx none.

SPEC. CHAR. Flowers pendulous toward one side. Filaments dilated, cohering, bell-shaped; three of them longer and cloven.

SYN. *Ornithogalum nutans.* Linn. *Sp. Pl.* 441. Willd. *Sp. Pl.* v. 2. 125. Ait. *Hort. Kew.* v. 1. 443. Jacq. *Austr.* t. 301. Fl. Dan. t. 912. Curt. *Mag.* t. 269. Roth. *Germ.* v. 1. 151.

O. n. 1216. Hall. *Helvet.* v. 2. 103.

O. neapolitanum. Clus. *Exot. append.* 2. 8, 9.

CLUSIUS received this plant from his friend Imperati of Naples, and it has thence been judged a native of that country. Others have reported it to be of Cretan origin, but Dr. Sibthorp did not observe it in Crete, nor any where else in his Grecian tour. Its original place of growth is therefore, as Mr. Curtis suggests, doubtful; but as Haller, Jacquin, Roth, and the editors of the *Flora Danica* admit it into their works, on the ground of its being at least naturalized, if not wild, about towns, orchards, &c., in the countries they described, we adopt it likewise, our specimen having been sent by the Rev. G. R. Leathes from high fields near Bury, where this *Ornithogalum* grows in great profusion, flowering early in May.

Bulb ovate, commonly deep in the ground. Leaves all radical, pale and somewhat glaucous, linear, channelled, acute. Stalk solitary, rather taller than the leaves, cylindrical, erect. Cluster simple, a little drooping, composed of 7 or 8 large and not inelegant greenish silvery-white flowers, which lean towards one side, and as they fade become quite pendulous. The permanent petals close over the germen, which becomes a roundish membranous capsule. The stamens are very broad, 3 of them longer than the rest, and two-lobed at the top beyond their anthers. The bractees are lanceolate, acute, longer than the partial stalks, but shorter than the flowers.



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[1931]

HYACINTHUS racemosus.

Starch Hyacinth.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* of 1 petal; tube swelling; limb in 6 equal segments. *Filaments* uniform, inserted into the tube. *Caps.* superior, of 3 cells. *Seeds* globose, about 2 in each cell. *Cal.* none.

SPEC. CHAR. Tube ovate, with six furrows. Upper flowers sessile, barren. Leaves linear, loosely spreading.

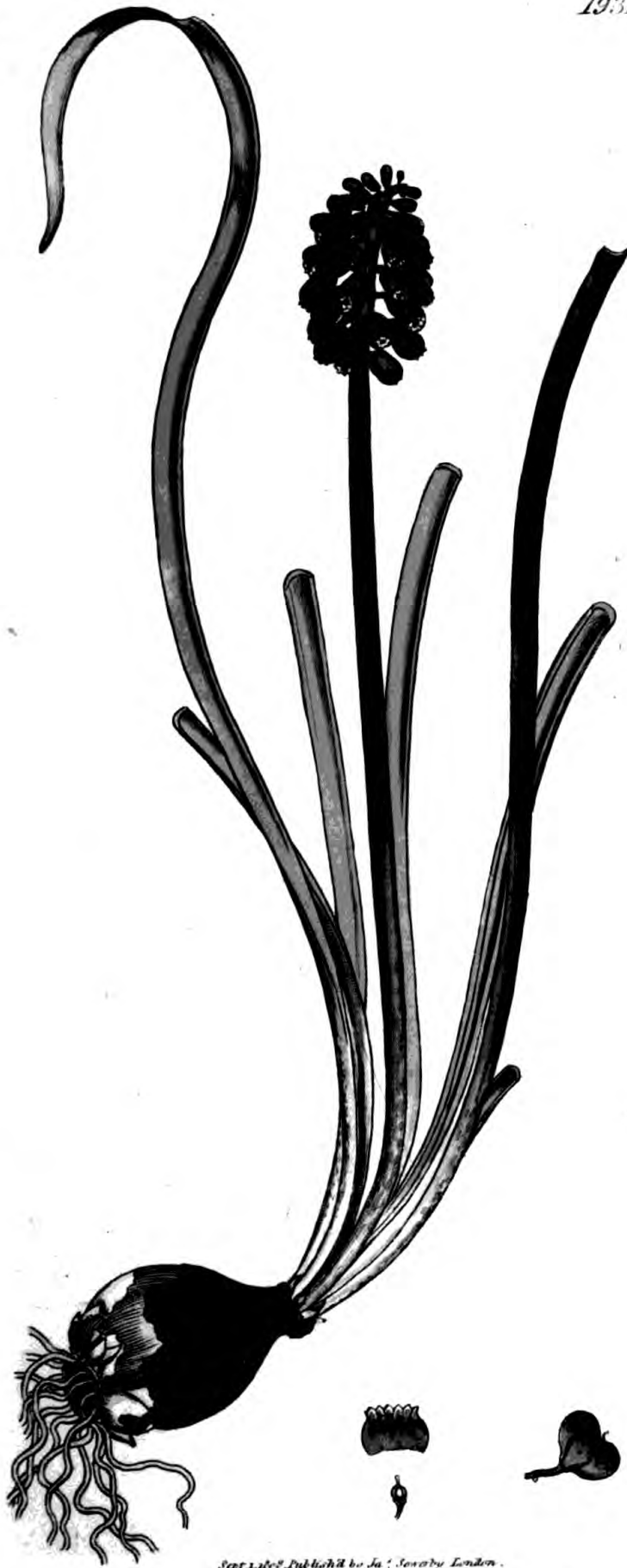
SYN. *Hyacinthus racemosus.* *Linn. Sp. Pl.* 455. *Willd. Sp. Pl. v. 2.* 170. *Sm. Prod. Fl. Græc. Sibth. v. 1.* 238. *Jacq. Austr. t.* 187. *Curt. Mag. t.* 122.

H. botryoides cæruleus. *Ger. em.* 118.

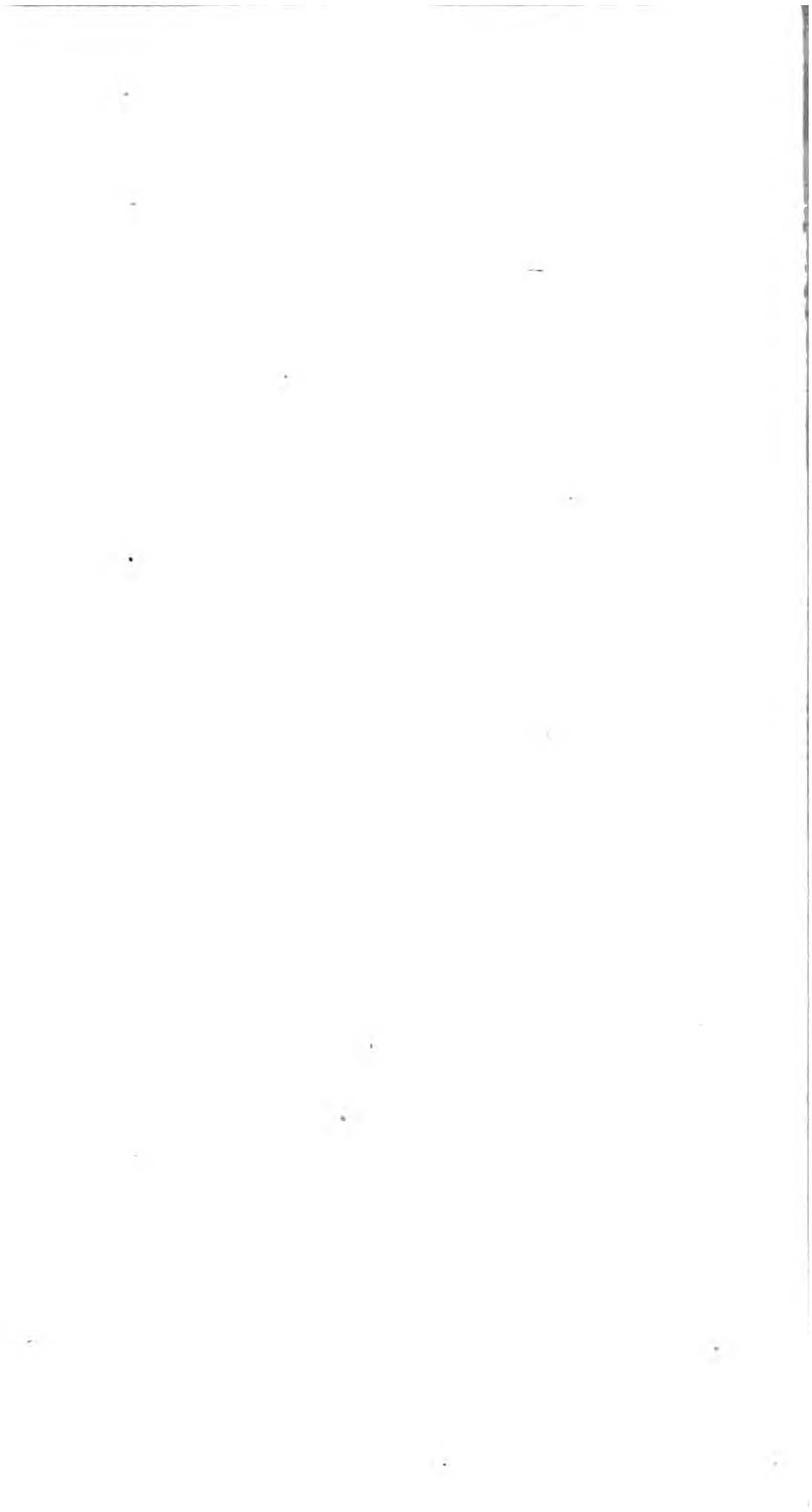
WE can no longer refuse this plant a place in the *Flora Britannica*; though, like many others, unnoticed by Ray and Dillenius, it is so abundantly wild in many places, that nothing but its being amongst our oldest and most vulgar garden flowers, and thence possibly naturalized, could cause a doubt on the subject. It covers the earthy top of the antient city wall on the north side of Norwich for many yards, along with *Teucrium Chamædrys*, t. 680, an equally doubtful native. Our specimen was gathered in grassy fields on a sandy soil at Cavenham, Suffolk, in May last, by the Rev. G. R. Leathes, and we have received others, as certainly wild, from Dr. Lamb of Newbery.

The bulbs are ovate, often crowded, sometimes scattered. Leaves numerous, linear and very narrow, channelled, taper at their base, and loosely spreading. Stalk solitary, shorter than the leaves, erect. Cluster ovate, dense, of numerous deep blue flowers smelling like wet starch, the upper ones sessile and destitute of a pistil. Stamens ranged in 2 rows within the tube. Limb whitish, small. Capsule of 3 lobes, with 2 seeds in each cell.

We dare not separate the genus *Muscari* from *Hyacinthus*, as *H. romanus*, which is truly monopetalous and therefore not a *Scilla*, so naturally combines them. See *Curt. Mag. t.* 939.



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SCILLA verna.

*Vernal Squill.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cor.* of six petals, spreading, deciduous.
Filaments of equal thickness throughout.

SPEC. CHAR. Root solid. Corymbus hemispherical,
 with few flowers. Bractæ lanceolate, obtuse.
 Leaves linear, channelled, numerous.

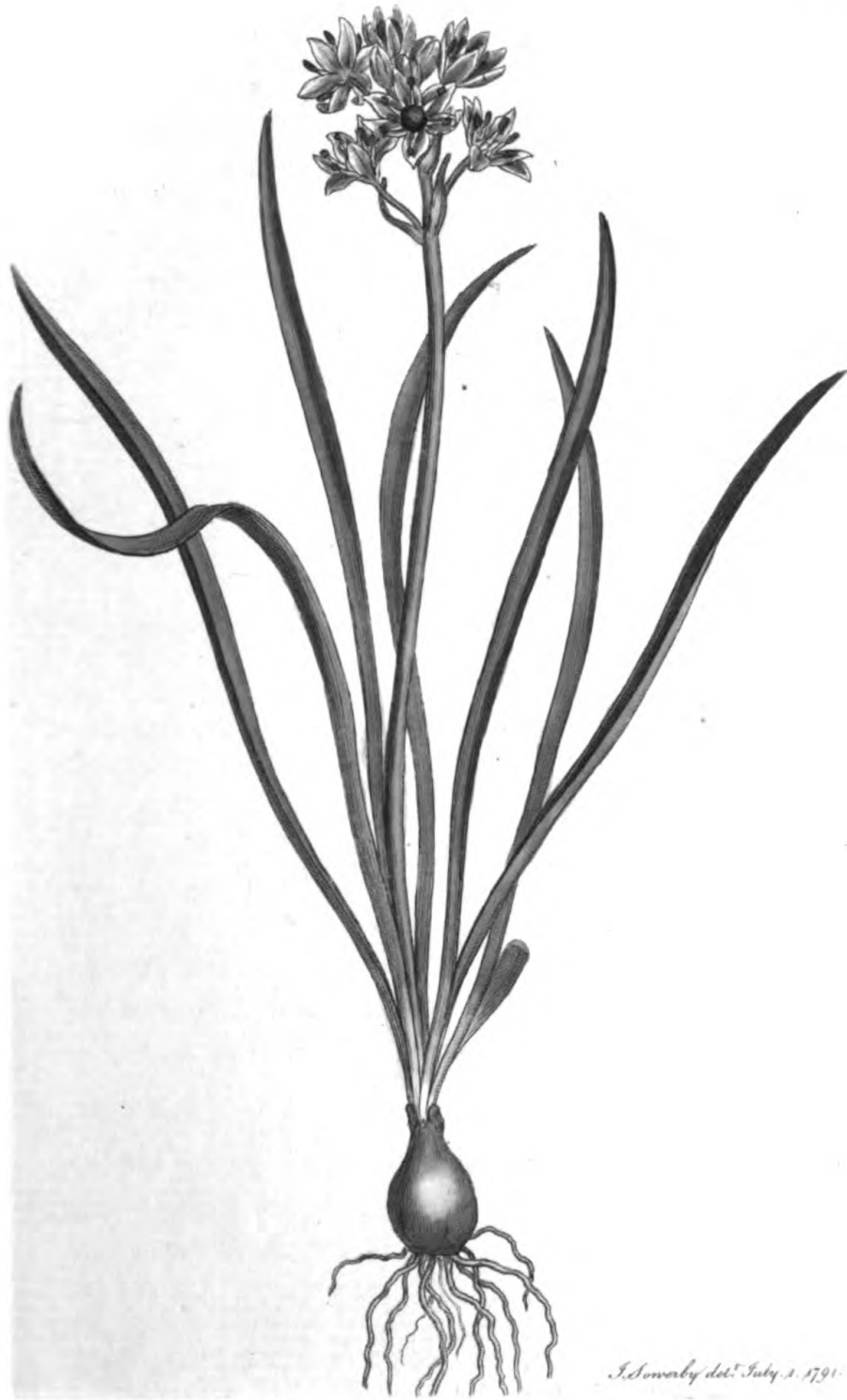
SYN. *Scilla verna.* *Huds. Fl. An.* 142. *Witb. Bot.*
Arr. 348. *Aiton Hort. Kew. V.* 1. 445.

S. bifolia. *Lightf. Fl. Scot.* 181. *Fl. Dan. t.* 568.

Hyacinthus, No. 1. *Raii Syn.* 372. (The synonyms
 false.)

THIS is a maritime plant found among rocks on the western coasts of Wales, in the Isle of Man, and in the Hebrides. Our specimen was produced in the Museum garden, under the care of Mr. Dickson, from a bulb brought from the west of England. The plant appears in its wild state to be less luxuriant. It flowers in April.

Mr. Hudson first proved this to be distinct from the Linnæan *Scilla bifolia*; but we cannot help thinking the synonyms he has cited belong rather to *Scilla Italica* Linn. though very like ours at first sight. It is not without reluctance we dissent from a writer to whom the botany of England is so very much obliged, and whose merit is best known to those who have most deeply studied the same subject.



J. Dowrick del. July 1. 1791.

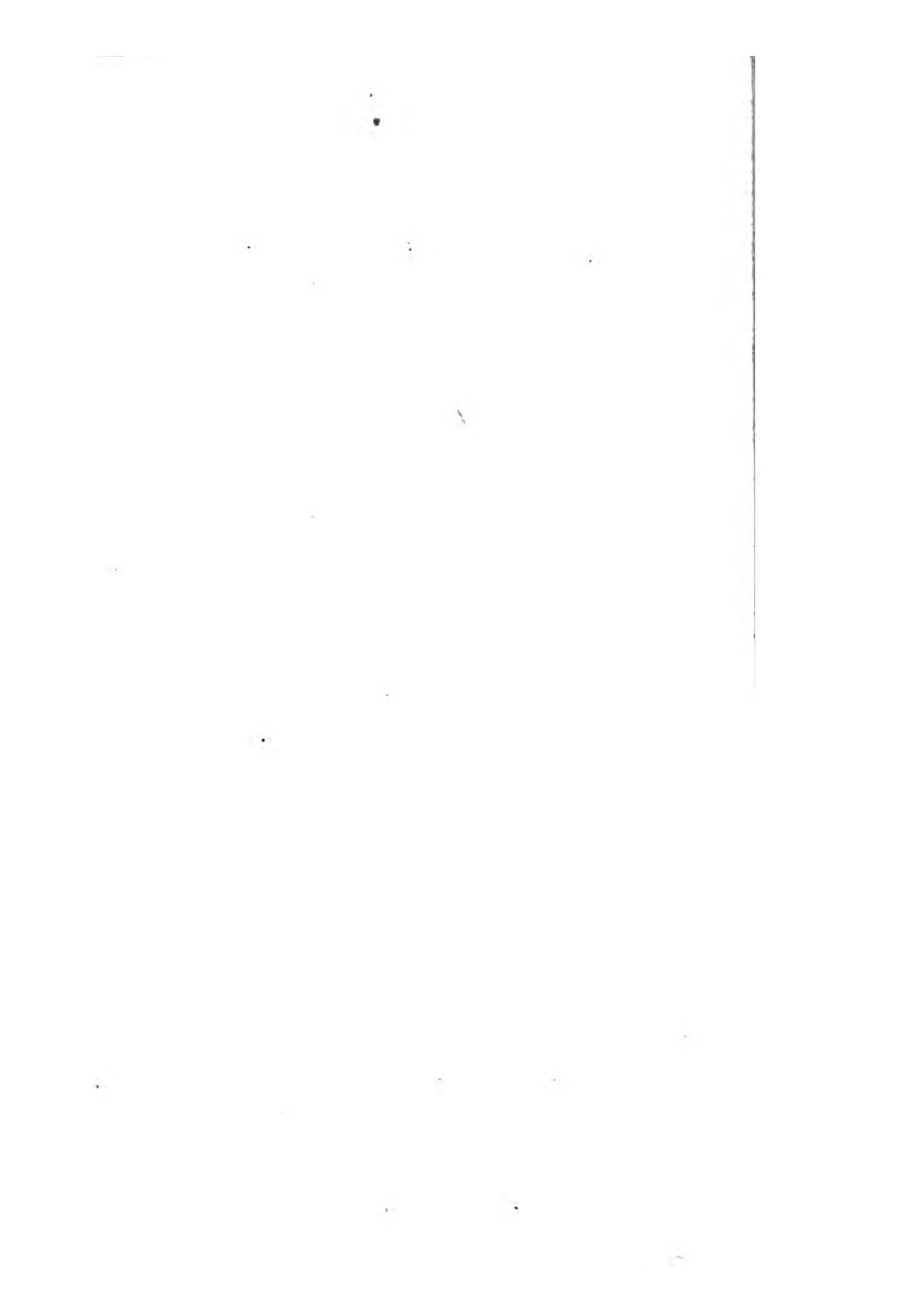
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SCILLA bifolia.

*Two-leaved Squill.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cor.* of six petals, spreading, deciduous. *Filaments* of equal thickness throughout.

SPEC. CHAR. Root solid. Flowers nearly erect, without bractæ. Leaves lanceolate, generally two.

SYN. *Scilla bifolia.* *Linn. Sp. Pl.* 443. *Jacq. Fl. Aust.* V. 2. 11. t. 117.

Hyacinthus stellatus Fuchii. *Ger. em.* 106.

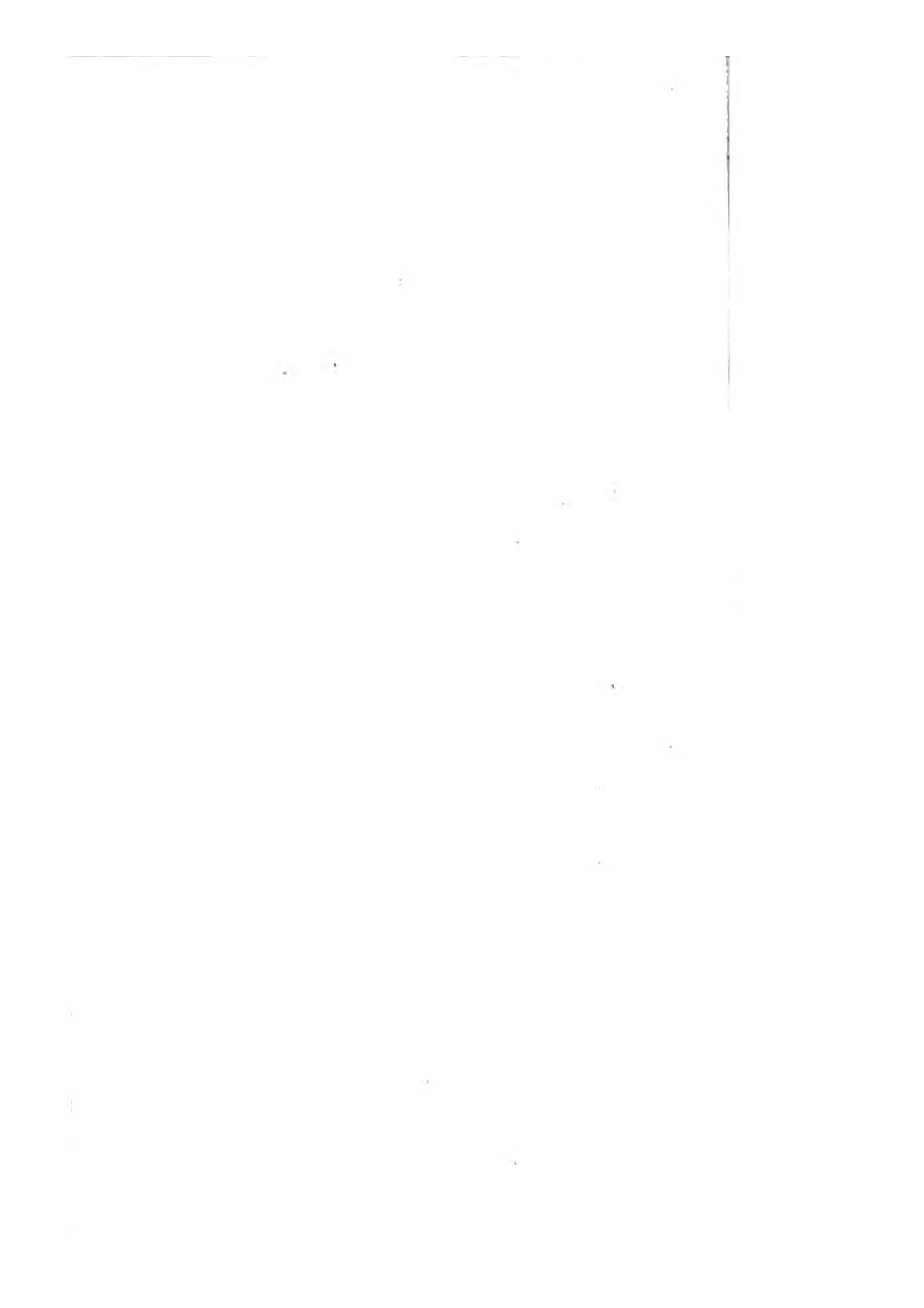
WE are induced to present the English botanist with a figure of this plant, not merely because it is what has been confounded, even by Ray himself, with *Scilla verna*, but chiefly because it is a doubtful matter, after all, whether it be not likewise a native of Britain. Our authority for saying so is Buddle's *Herbarium*, preserved in the British Museum, and always supposed decisive in such cases, as containing native specimens alone. In that collection is to be seen an indubitable specimen of *Scilla bifolia*, with the synonym in Ray's *Synopsis*, p. 372; but, unluckily, without mention of any particular place of growth. It is moreover marked *Herb. Britt. tab. 67, f. 5*, which refers to Petiver's English Herbal, where a figure of it is to be found, rude indeed, like all those of Petiver, but sufficient to ascertain the plant.

Scilla bifolia grows on the continent in groves and thickets, flowering in the spring. The specimen here figured flowered in a garden, but from whence brought is not known. The leaves are scarcely ever more than two in number; the bractæ either altogether wanting, or so minute as to be hardly perceptible. Most of the species of this genus are characterized *radice solida* (with a solid bulb), to distinguish them from *Scilla Lilio-hyacinthus*, which has the scaly bulb of a lily, a circumstance which some botanists seem to have misunderstood.



J. Sowerby del.





SCILLA autumnalis.

*Autumnal Squill.**HYPERICUM Munguis.*

GEN. CHAR. Cor. 6. Petalis spreading, deciduous.
 Filamentis 6. Ovum thickens throughout.

SPEC. CHAR. Lævis linear. Flowers somewhat compound, finding 6 naked ascending flower-stalks about their own length.

SYN. Scilla autumnalis Linn. Sp. Pl. 443. Hudf.
 Fl. Brit. 222. W. & A. Bot. Art. 349.

HYPERICUS autumnalis THORNT. Russ. Syn. 373.

A NATIVE of dry pastures in the southern parts of England. The present specimen was obligingly communicated from St. Vincent's rocks, near the hot-well, Bristol, by Dr. John Ford, F. L. S. Owing to the moisture of the present autumn, 1762, it is more luxuriant than usual. The plant has formerly been found at several heaths near London, growing among short grass, and flowering in September, contrary to the nature of most bulbous plants.

The bulb is coated like an onion. Leaves numerous, spreading, two or three inches long, linear, obtuse, channelled, scarcely uniform, though so described by Linnæus. Stalks sometimes more than one, round, striated, erect, terminated by six, ten, or even twenty flowers in a corymbous, which is soon lengthened out into a spike. The partial flower-stalks always point upwards, and after flowering become pressed close to the principal one. They are perfectly destitute of bractææ. The petals are prettily variegated with blue and purple; the germen blue.



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SCILLA nutans.
Hare-bell, or Wild Hyacinth.

HEXANDRIA Monogynia.

GEN. CHAR. Cor. of 6 petals, spreading, deciduous.
Filaments of equal thickness throughout.

SPEC. CHAR. Root solid. Spike drooping. Flowers pendent, bell-shaped, somewhat cylindrical, their tips reflexed. Bracteæ in pairs, acute. Leaves flaccid.

SYN. Hyacinthus non-scriptus. *Linn. Sp. Pl.* 453.
Huds. Fl. An. 141. *With. Bot. Arr.* 356. *Relh. Cant.* 136. *Sibth. Ox.* 110. *Curt. Lond. fasc.* 2. t. 18.

H. Anglicus. *Raii Syn.* 373.

COMMON in thickets, bushy fields, and under dry hedges, flowering in May.

Bulb white, solid, acrid and poisonous, but abounding with the mucilage which makes starch. Leaves linear, channelled, acute, flaccid, reflexed from within 2 or 3 inches of their summit, of a greyish green. Stalk erect, a little higher than the leaves, terminating in a drooping spike of from 6 to 10 pendent alternate flowers, each standing on a little blue flower-stalk, accompanied by a pair of linear acute bracteæ of the same colour. Petals nearly linear, perfectly distinct at the base, but approaching each other so as to form a cylindrical figure for about two thirds of their length, when they become suddenly recurved and spreading. Stamina united for a considerable way to their corresponding petals, uniform and thread-shaped. Germs with 6 sides; but we agree with Dr. Withering and Mr. Relhan, that it is destitute of the honey-pores which make the character of a *Hyacinthus*. Style simple. Stigma blunt, moist.

So many authors have been at a loss to find the honey-pores in *any* species of Hyacinth, that the want of them in this would hardly justify the removing it to the genus of *Scilla*; but the corolla being of 6 distinct petals, added to its perfect affinity with *S. campanulata*, *Hort. Kew.* and, as Dr. Stokes justly remarks, with other species of that genus, will, it is hoped, justify this alteration, which has often been hinted at, but never ventured upon entirely. M. de Jussieu has thought the character of *Hyacinthus* ought to depend on the corolla, rather than on the pores of the germen, and he also would therefore exclude this species from thence. For a specific name *hyacinthina* would gladly have been chosen, but there is already a *S. hyacinthoides*. *Nutans* expresses an essential part of its specific character, and any thing is better than *non-scriptus*. The flowers are fragrant, and sometimes vary to white or flesh-coloured.



Iris sibirica L.

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ANTHERICUM ferotinum.

Mountain Spiderwort.

HEXANDRIA Monogynia.

GEN. CHAR. Cor. of 6 spreading petals, permanent. Filaments thread-shaped. Capsule superior. Seeds angular. Cal. none.

SPEC. CHAR. Leaves semicylindrical; those on the stem dilated at their base. Stem mostly single-flowered.

SYN. *Anthericum ferotinum*. Linn. *Sp. Pl.* 444. Sm. *Fl. Brit.* 367. Hudf. 144. With. 339. Hull. 73. *Bulbosa alpina juncifolia*, pericarpio unico erecto in summo cauliculo dodrantali. Raii *Syn.* 374. t. 17. f. 1.

THE *Anthericum ferotinum*, being found only on the most inaccessible alpine rocks of North Wales, has been seen by very few British botanists. Our specimen was communicated in a fresh state by J. W. Griffith, Esq. of Garn, a gentleman to whom we are indebted for many valuable particulars concerning the botany of his own sequestered and romantic country, and who finds this plant in plenty on the rocks above the alpine valley of Cwm Idwel, Carnarvonshire*, flowering in June or early in July, so that the name *ferotinum* seems not very happily applied.

The root is perennial, consisting of a slender oblong curved bulb, with many fibres at its base. Stem from 3 to 6 inches high, solitary, erect, round, smooth, leafy, generally simple and single-flowered, as Linnæus defines it; but Mr. Griffith has not unfrequently observed it branched and bearing many flowers. Radical leaves slender, semicylindrical or angular, surmounting the stem; the rest alternate, short, dilated at their base. Flower terminal, erect, compared by Dr. Richardson to that of Wood Sorrel (t. 762), which it at first sight somewhat resembles, the petals being white, externally veined with purplish red. Stamina thread-shaped, smooth. Germen superior, becoming at length an obtuse membranous three-lobed capsule, crowned with the style and invested with the withered petals, and divided into 3 cells, containing numerous curved triangular striated seeds.

* See a Tour round North Wales, by the Rev. W. Bingley, published 1800, vol. i. 209.



Oct. 1. 1800. Published by H. Sowerby, London.

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NARTHECIUM *offifragum*.*Lancashire Asphodel.*HEXANDRIA *Monogynia.*

GEN. CHAR. *Cal.* none. *Petals* 6, spreading, permanent. *Stamina* thread-shaped, hairy. *Capsule* superior, prismatic. *Seeds* with an appendage at each end.

SPEC. CHAR.

SYN. *Narthecium offifragum.* *Huds.* 145. *Witb.* 339.

Anthericum offifragum. *Linn. Sp. Pl.* 446. *Fl. Dan.*

t. 42. *Dickf. H. Sicc. fasc.* 1. 5. *Rehb.* 138.

Phalangium anglicum palustre, Iridis folio. *Raii Syn.* 375.

ANATIVE of black turfy bogs in the north, as well as in Surrey, Kent, and on Derfingham moor Norfolk, where it flowers in July or August.

Root fibrous, somewhat tuberous and creeping as in the genus of *Iris*. Stem 6 or 8 inches high, curved at the base, erect, simple, round, smooth, clothed with a few alternate, short, pointed, carinated leaves. The radical leaves also resemble those of the *Iris*, except in being a great deal smaller; they are equitant, sword-shaped, pointed, nervous and smooth. Spike terminal, erect, of several yellow flowers, whose footstalks are erect, alternate, simple, angular, furnished with one bractea at the base, and another towards the summit. Petals linear-oblong, nervous, yellow, externally greenish, permanent. *Stamina* opposite to the petals and a little shorter, thread-shaped, clothed with thick-set yellowish hairs. *Antheræ* yellow, at length twisted and brownish. *Germen* oblong, pointed, triangular. *Stigma* small, capitate, nearly sessile. *Capsule* prismatic, pointed, tawny, polished, rigid, of three valves and three cells, the partitions proceeding from the centre of the valves. *Seeds* numerous, upright, imbricated, somewhat cylindrical, terminating at each end in an awl-shaped appendage.

This most distinct genus was separated from *Anthericum* by Moering in the 6th volume of the *Ephemerides Naturæ Curiosorum*, who has there given a full botanical history of the plant. Gorter follows him; and it is very remarkable that Haller by mistake quotes both under his *Anthericum n.* 1205; which is *A. calyculatum* of Linnæus, our *Tofieldia*. Hence Jussieu and other French botanists have called that by the name of *Narthecium*.

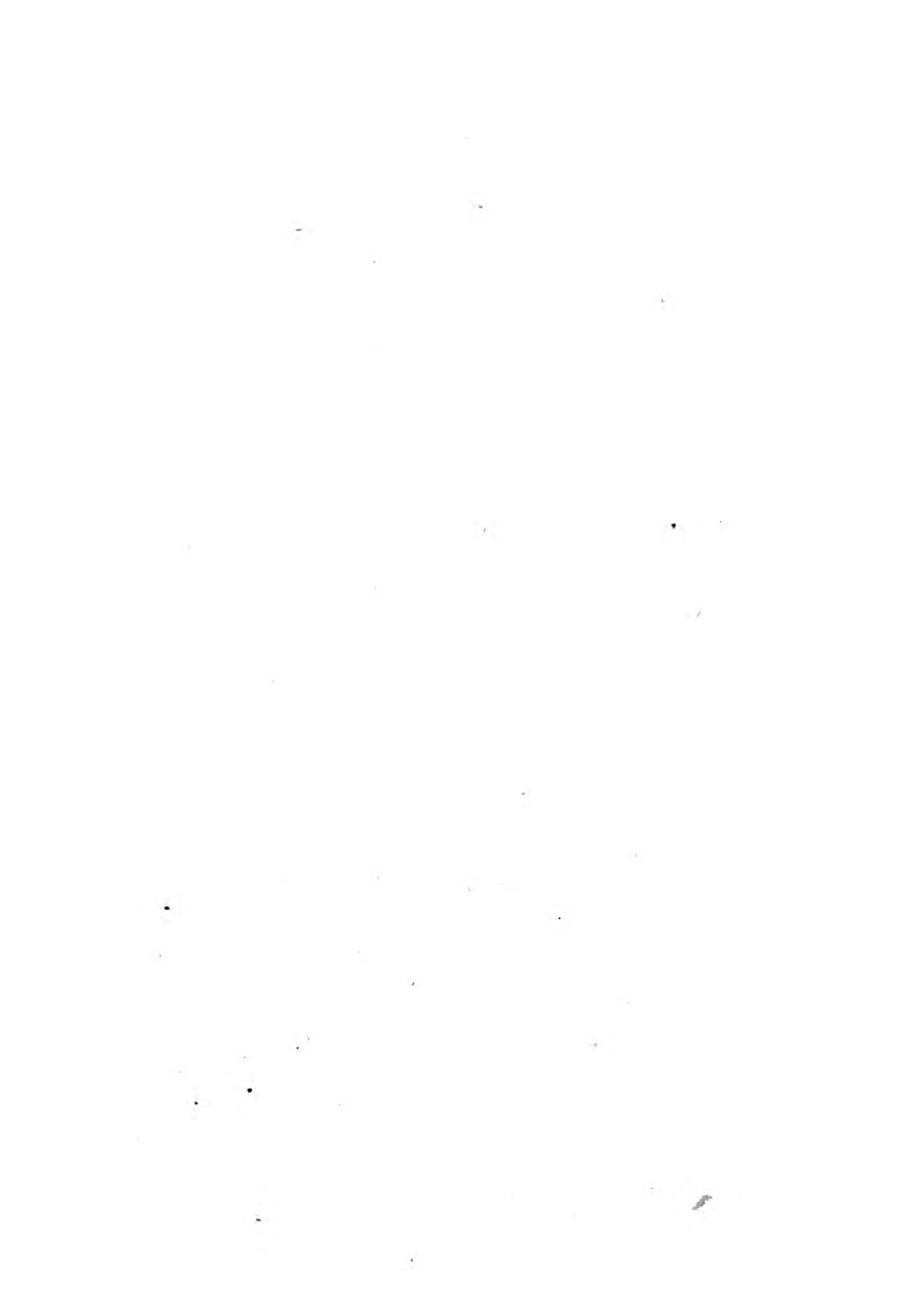
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Anno 1700 Published by W. Jansson in London.

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ASPARAGUS officinalis.

*Common Asparagus.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cor.* in 6 segments, erect, inferior. *Berry* of 3 cells, with 2 seeds in each.

SPEC. CHAR. Stem herbaceous, generally erect, round. Leaves bristle-shaped, flexible. Spines none. Stipulæ solitary.

SYN. *Asparagus officinalis.* *Linn. Sp. Pl.* 448. *Huds. Fl. An.* 145. *With. Bot. Arr.* 352.

Asparagus. Raii Syn. 267.

FEW persons would suppose the diminutive herb before us to be the origin of our luxuriant garden *Asparagus*, commonly called Sparrow-grass, and very vulgarly *Grass*. It grows wild in maritime places in the south of England, abundantly on the pebbly beach opposite the ferry going from Weymouth to Portland Island, from whence we received it by favour of A. B. Lambert, Esq. flowering in August.

Root perennial, creeping, with very long thick simple fibres, as in most of this natural order. Stem erect, occasionally procumbent, round, simple, and bearing alternate scales (or stipulæ) without leaves below, in the upper part branching in a paniced alternate manner. Leaves in tufts, very narrow and bristly, but flexible, not rigid or spinous. Stipulæ solitary, membranous, triangular, acute, the upper ones ovate and jagged. We have never (as Dr. Stokes also remarks) found the inner stipulæ mentioned by Linnæus. Flowers from the axillæ of the branches, on capillary simple stalks, drooping. Not finding their inner segments reflexed, as the generic character of Linnæus requires, we have altered that character. The flowers appear hermaphrodite, though in some the stamina, in others the pistillum, are occasionally abortive. Style deeply 3-cleft. Berry red, sometimes in a poor soil perfecting but one seed in each cell.



1801. F. Schlegelii. Pl. Hort. Bot. Linc.

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CONVALLARIA majalis.

Lily of the Valley.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* in 6 segments. *Cal.* none. *Style* longer than the stamina. *Stigma* 3-fided. *Berry* superior, 3-celled, spotted before it is ripe.

SPEC. CHAR. Stalk naked, semicylindrical. Flowers spiked, drooping, on partial stalks.

SYN. *Convallaria majalis.* *Linn. Sp. Pl.* 451. *Sm. Fl. Brit.* 370. *Huds.* 146. *Willd.* 341. *Hull.* 72. *Relb.* 138. *Sibth.* 111. *Abbot.* 76. *t. 2. Curt. Lond. fasc. 5. t. 24.*

Lilium convallium. *Raii Syn.* 264.

THIS elegant and delightfully fragrant plant, so generally cultivated in flower-gardens, is sometimes to be met with in shady mountainous spots, or on heathy ground, in several parts of England, as about Hampstead and Highgate, and in a holly wood between Norwich and Thorpe, where it is truly wild. Our specimens were obligingly communicated by S. Hailstone and W. Hurstler, esqrs. from rocky woods at Hebdon bridge near Halifax.

Roots perennial, matted and creeping. Leaves two, radical, on long stalks, upright, elliptical, ribbed, entire; the stalks invested with scales, from among which also arises the solitary naked flower-stalk, shorter than the leaves, flat on one side, round on the other, bearing a simple spike of drooping, white, bell-shaped, very odoriferous flowers, each on its own curved round little stalk, having a lanceolate bractea where it springs from the principal one. Stamina awl-shaped, short. Style club-shaped, triangular upwards. Berry globular, scarlet when ripe.

The spots of the unripe fruit make a principal but unsatisfactory part of the generic character of *Convallaria* in Linnæus. The undivided stigma chiefly distinguishes it from *Asparagus*.

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June 1. 1802. Published by J. Sowerby, London.

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CONVALLARIA verticillata.

Narrow-leaved Solomon's Seal.

HEXANDRIA Monogynia.

GEN. CHAR. Cor. 6-cleft. Berry spotted, 3-celled.

SPEC. CHAR. Leaves verticillate.

SYN. Convallaria verticillata. *Lim. Sp. Pl.* 451. *Fl. Dan. t.* 86, bad.Polygonatum caule simplici, erecto, foliis verticillatis ellipticis. *Hall. Hist.* 1244.P. minus. *Ger. em.* 903.

FOR this new and very interesting addition to the catalogue of British vegetables we are indebted to Arthur Bruce, Esq. Secretary to the Nat. Hist. Society of Edinburgh, who first found it, July 1st, 1792, in the Den Rechip, a deep woody valley, four miles north-east of Dunkeld in Perthshire. From his wild specimens, assisted by a recent garden one, for the dissection of the flower, our figure was drawn.

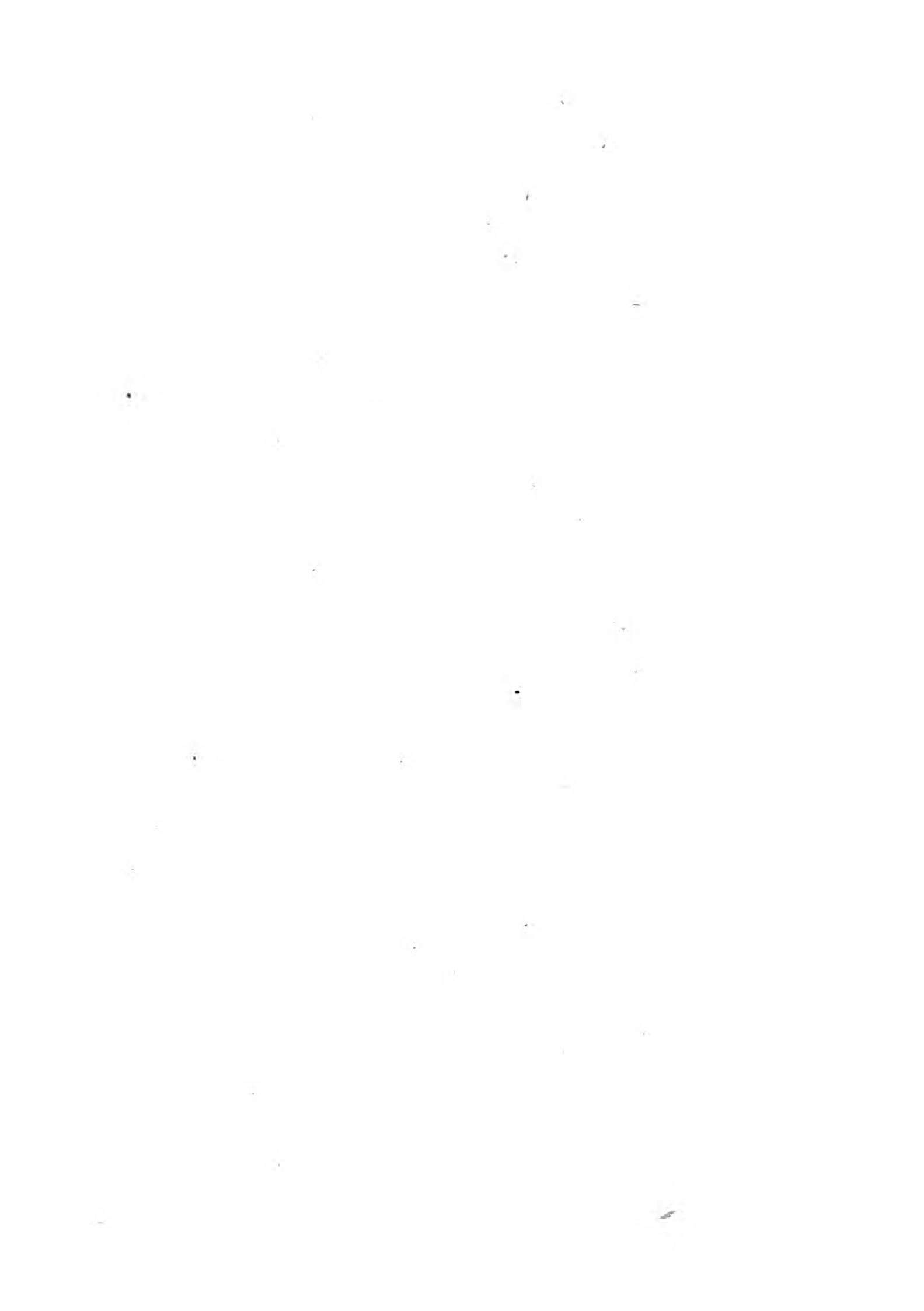
The root is perennial, fleshy, creeping horizontally among stones, in rocky, shady, alpine places. Stem erect, near 2 feet high, angular, striated, naked at bottom, in the upper part clothed with copious leaves, which are lanceolate, bluntish, entire, smooth, glaucous beneath, with numerous parallel nerves, and stand, nearly sessile, about 3 or 4 together in a whorl all the way up the stem, with here and there a straggling leaf or two by itself. In weak plants most of them are merely opposite, with 2 or 3 whorls occasionally. Stipulæ none. From several of the lowest whorls arise solitary, branched, slender, drooping flower-stalks, each bearing two or three flowers, which appear in the middle of June, and are white, cylindrical, divided about a quarter of their length into six bluntish segments, bearded at the tip on the inside. The stamina are as long as the tube of the corolla; style shorter; germen round, green; berry blue.



J. Tournefort

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CONVALLARIA Polygonatum.

Angular Solomon's-Seal.

 HEXANDRIA Monogynia.

GEN. CHAR. Cor. 6-cleft. Berry spotted, 3-celled.

SPEC. CHAR. Leaves alternate, embracing the stem, which is angular. Flower-stalks axillary, bearing scarcely more than one flower.

SYN. Convallaria Polygonatum. *Linn. Sp. Pl.* 451.

Huds. Fl. An. 146. *With. Bot. Arr.* 354.

Polygonatum floribus ex singulis pediculis. *Raii Syn.* 263.

SUPPOSED to be much more rare than the last described, and we believe it is so, though it may have been overlooked from its resemblance to that species. It is thought to be peculiar to mountainous situations in the north; but this specimen was gathered by Mr. J. Rayer in Kent, and Dr. Smith found it on the sandy downs of Holland near the Hague. It flowers in May or June, and is perennial.

Root and whole habit of the plant like *C. multiflora*, except that the stem is scarcely so tall. The essential differences are, that the stem of *C. Polygonatum* is angular and compressed; the flowers scarcely more than one on a flower-stalk, larger, more fragrant, with broader segments, and more remarkably bearded. The berries are said to be blue.

The root of this also has been made into bread. Our South Sea voyagers made beer of the sweet root of *Dracæna terminalis*, a plant very nearly related to these Convallarias. As they seem to abound with farinaceous matter, they might perhaps be made into starch or hair-powder when a scarcity of wheat is apprehended, for such a misfortune ought to be always guarded against in time before it is actually felt.



1705 B. 10. 114. P. 10. 10. 10.

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CONVALLARIA multiflora.

Common Solomon's-Seal.

 HEXANDRIA Monogynia.

GEN. CHAR. Cor. 6-cleft. Berry spotted, 3-celled.

SPEC. CHAR. Leaves alternate, embracing the stem, which is round. Flower-stalks axillary, many-flowered.

SYN. Convallaria multiflora. *Linn. Sp. Pl.* 452.

Huds. Fl. An. 147. *With. Bot. Arr.* 355.

Polygonatum. Raii Syn. 263.

A NATIVE of woods and thickets in various parts of England, though not very common. It is often met with in country gardens, and will even bear the smoke of London. It is perennial, flowering in May or early in June.

The roots are fleshy, creeping horizontally, and are said by Linnæus in *Flora Suecica* to have been sometimes made into bread. Stems annual, a foot or more in height, simple, a little curved, leafy, smooth, round. Leaves alternate, elliptical, ribbed, each of those towards the middle part of the stem bearing from their bosoms a branched flower-stalk, which sustains from 2 to 5 drooping flowers, of a whitish colour tipped with green, very slightly downy at the summit, with a faint smell of bitter almonds. Stamina short, inserted into the tube of the corolla, as we ought to have described those of *C. verticillata* (tab. 128). Style slender, as long as the tube, with a 3-cleft stigma. Berries red, but rarely produced, the plant increasing so much by root.—Children sometimes eat the unripe germen, as it has a sweetish taste like green peas.



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ACORUS Calamus.

*Sweet Flag.**HEXANDRIA Monogynia.*

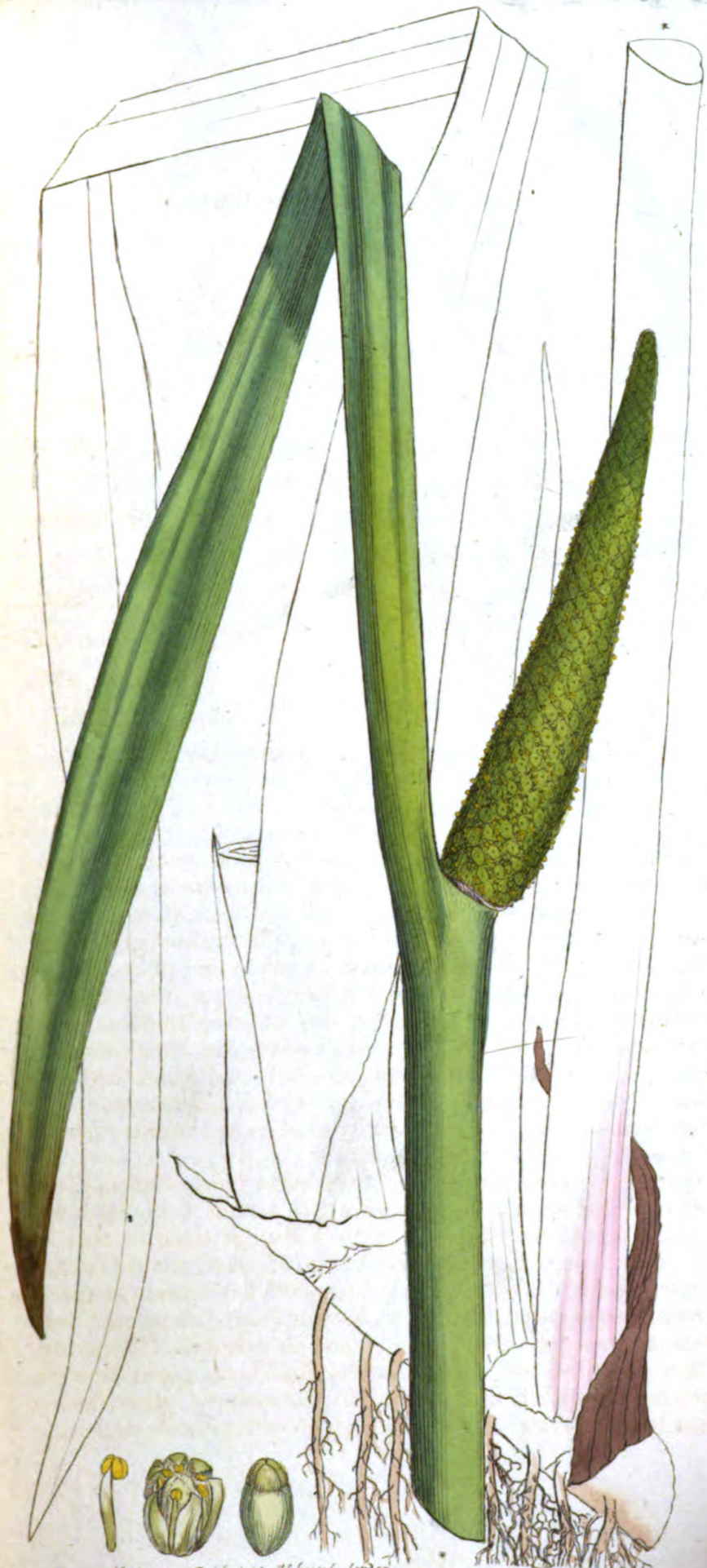
GEN. CHAR. *Spadix* cylindrical, clothed with florets.
Cor. of six petals, naked. *Style* none. *Caps.* of
 three cells.

SPEC. CHAR. Summit of the stalk above the flowers
 very long, and leaf-like.

SYN. *Acorus Calamus.* *Linn. Sp. Pl.* 462. *Huds.*
Fl. An. 147. *With. Bot. Arr.* 357. *Relh. Cant.*
 140. *Sibth. Ox.* 112. *Woodv. Med. Bot.* 472.
t. 173. *Dryandr. in Ait. Hort. Kew. v.* 1. 474.
A. verus, sive Calamus Officinarum. Raii Syn. 437.

THIS is not a very common inhabitant of pools, ditches, and banks of rivers, and the flowers are extremely rare. We received this wild specimen from A. B. Lambert, Esq. gathered near Hampton Court. In the river Yare, both above and below Norwich, it is more plentiful than in most other places, inso-much that, at the Mayor's annual feast in June, the cathedral is entirely strewed with this plant, which, being trodden upon, perfumes the whole building; and bowers are constructed in the streets, of its leaves, neatly platted, and stuck with cyphers or other devices made of the garden ranunculus. The dried root powdered is successfully used by the country people in Norfolk as a cure for the ague.

The root is thick and spongy, with many long radicles; easily distinguished by its aromatic smell. Leaves upright, long, sword-shaped, bright-green, with a similar smell to that of the root, but fainter; not unlike the odour of myrtle leaves. Stem like the leaves, except in being thicker below the spike, which comes out laterally (in June or July), about mid-way from the root to the summit, and is cylindrical, tapering, naked, clothed with innumerable, thick-set, green flowers, each having six inflexed equal petals, six stamina rather shorter than the petals, and an elliptical germen with a sessile stigma.



Nov. 1. 1790. Publ. by J. J. Sowerby London.

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JUNCUS acutus.

Great Sharp Sea Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Caps. superior, of 3 valves, with 1 or 3 cells. *Seeds*
 several. *Stigmas* 3.

SPEC. CHAR. Stem round, naked. Panicle terminal.
 General involucrem of two spinous leaves. Capsules
 roundish, pointed.

SYN. *Juncus acutus.* *Linn. Sp. Pl.* 463. *Sm. Fl.*
Brit. 374. *Huds.* 148. *With.* 346. *Hull.* 75.
J. acutus, capitulis Sorghi. *Raii Syn.* 431. *Bauh.*
Prod. 21. f. 2.

IF our present Number be deficient in brilliant flowers, it contains perhaps more rare and curious articles than any we have yet published; nor is this *Juncus*, though last, the least valuable among them. Many botanists have not distinguished it from the common *J. maritimus*, *Fl. Brit.*

Our specimen came from Crumlin Burrows in May 1803; so that its flowering season seems earlier than is marked in *Fl. Brit.* We have however gathered the but half ripe capsules in autumn on the north coast of Norfolk, (where the plant is very rare,) so that it is probably long in fructification.

Root perennial, running deep into the sand. Stems 3 or 4 feet high, simple, straight, stiff and very strong. Leaves like the stem in form, but shorter, each ending in a very sharp hard point. Panicle terminal, compound, accompanied by 2 large, but unequal, sharp leaves, and many internal sheathing membranous scales. Flowers clustered. Calyx-leaves ovate, blunt. Capsule large, almost globular, with a small point, brown and shining when ripe, of 3 cells. Seeds numerous, ovate, shining.

The leaves of this plant might well serve Homer's Frogs and Mice for spears; and it is probably the rush he had in view, being common, as Dr. Sibthorp observed, on the shores of Greece.



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[1725]

J U N C U S maritimus.

*Lesser Sharp Sea Rush.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Stem round, naked. Panicle terminal, proliferous. General involucre of two spinous upright leaves. Capsules oblong.

SYN. *Juncus maritimus.* *Sm. Fl. Brit.* 375. *Galp. Comp.* 28.

J. acutus β . *Linn. Sp. Pl.* 464. *Huds.* 148. *With.* 346. *Hull.* 75.

J. acutus maritimus anglicus. *Raii Syn.* 431.

NO person who has ever seen this and the *J. acutus*, t. 1614, alive together could long doubt of their being distinct species. The present is a lower and much more slender plant, of a more glaucous aspect. The capsule is much smaller, and of a linear-oblong triangular figure, quite distinct from the large round seed-vessel of the other, which caused the old botanists to compare its panicle to that of *Holcus Sorghum*. The panicle of our *J. maritimus* is erect, close and slender, compound, and, as it were, proliferous, its branches very unequal, partly cymose. Outer leaf of the involucre straight, erect, pungent, longer than the panicle; inner very short, awlshaped. Calyx-leaves lanceolate, acute, jagged towards the point.

On the sea coast of Norfolk this is very common and abundant, especially in muddy places, flowering in August. It is found also in various other parts of the British coast, often along with *J. acutus*, which however is a much rarer plant on the whole with us. The root is perennial; the whole herb hard, tough and rigid.



Apr. 23 1867. Published by J. A. Sowerby London.

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(665)

JUNCUS glaucus.

*Hard Rush.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Caps. superior, of 3 valves, with one or three
 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Stem naked, straight, glaucous. Panicle
 lateral, upright. Capsule elliptical, acute.

SYN. *Juncus glaucus.* *Sibtb.* 113. *Sm. Fl. Brit.* 375.
J. effusus β. *Hudf.* 149.
J. inflexus. *Witb.* 345. *Hull.* 75. *Relb.* 141. *Abbot.* 78.
J. acutus. *Raii Syn.* 432.

NOT uncommon in wet pastures, or on moist waste places
 by the sides of roads, flowering in July.

The roots are perennial, creeping, black. Stems about a
 foot and half high, upright, naked, rigid and very tough, round,
 striated, glaucous; tapering to a sharp point; clothed at the
 base with brown shining sheathing scales. Leaves like the stem,
 but shorter, and perhaps rather to be esteemed barren stems
 than real leaves. Panicle lateral, solitary, about half way from
 the root to the summit, much branched, spreading upwards.
 Leaves of the calyx awlshaped, striated. Stamina shorter than
 the calyx, with bright yellow antheræ. Capsule elliptical,
 sharp-pointed, brown, polished.

The glaucous colour and hard rigid texture readily distinguish
 this from the two more common rushes *J. conglomeratus* and
effusus; yet Linnæus, as well as Hudson, confounded it with the
 latter. If no other mark were sufficient, the *effusus* may always
 be known from all our other *Junci*, by having only three sta-
 mina; an observation of Leers, which we have hitherto found
 invariably true.



Stachys 1799, Linn. by R. Swartz.

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JUNCUS conglomeratus,

*Common Rush.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Capsf.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Stem naked, straight. Panicle lateral, dense and globular. Capsules retuse. Stamina three.

SYN. *Juncus conglomeratus.* *Linn. Sp. Pl.* 464. *Sm. Fl. Brit.* 376. *Huds.* 148. *Witb.* 345. *Hull.* 75. *Rehb.* 140. *Sibth.* 113. *Abbot.* 78.

J. lævis vulgaris, paniculâ compactiore. *Raii Syn.* 432.

VERY frequent in moist pastures and by road-sides, blossoming in the early part of July, and known at first sight from our other lateral-flowering rushes by its very dense panicle. On a more accurate scrutiny a still more certain mark of distinction will be found in its having only 3 stamina to each flower; a circumstance that rarely, if at all, takes place in *J. effusus*, and never in any other species with which we are acquainted.

The root is horizontal, creeping and perennial. Stems perfectly simple, and destitute of leaves, erect, round, minutely striated, pointed, but not so sharp as to be pungent, about 2 feet high. Panicle bursting from a membranous-bordered fissure about 6 inches below the summit, compound, many-flowered, dense and globular, of a brownish green. Each leaf of the calyx is lanceolate, acute, marked with 2 prominent ribs. Capsule polished, obovate, retuse or abrupt at the top, inasmuch as to be sometimes almost three-lobed, internally consisting of a single cell.

It is necessary to correct a mistake in our remark under *J. glaucus*, vol. 10. p. 665. The word *effusus* in the fourth line from the bottom ought to be *conglomeratus*.



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JUNCUS effusus.

Soft Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Capf. superior, of 3 valves, with 1 or 3 cells.
Seeds several. *Stigmas* 3.

SPEC. CHAR. Stem naked, straight. Panicle lateral,
 loose, thrice compounded. Capsules obtuse.

SYN. *Juncus effusus.* *Linn. Sp. Pl.* 464. *Sm. Fl.*
Brit. 376. *Huds.* 148. *Witb.* 345. *Hull.* 75.
Relb. 141. *Sibth.* 113. *Abbot.* 78.

J. lævis vulgaris, paniculâ sparsâ, nostras. *Raii*
Syn. 432.

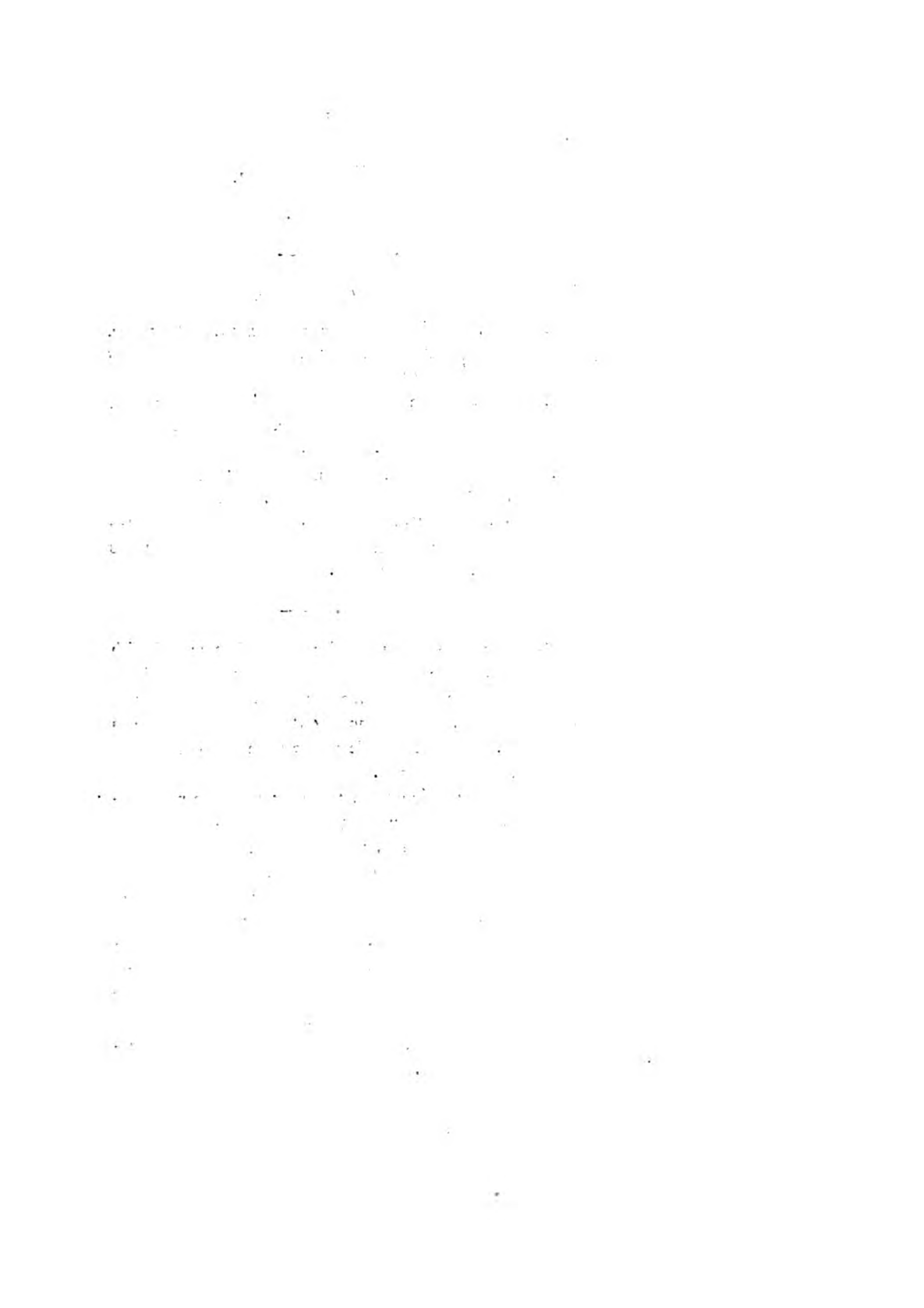
EQUALLY common with the last in moist boggy places,
 flowering in July.

Root perennial, a little creeping. Stem about the height
 of *J. conglomeratus*, but of a paler hue, and more soft, not at
 all pungent. Panicle lateral, much branched, loose and
 spreading, composed of a great multitude of pale-green
 flowers, whose calyx-leaves are narrow, pointed, 2-ribbed.
Stamens 6, very rarely 3 only. Capsule small, obtuse, pale-
 brown.

The pith of this rush, as well as of *J. conglomeratus*, is
 used for making wicks to candles that are required to burn
 without snuffing, though not wanted to show a strong light.
 The stems are sometimes platted into chair-bottoms, baskets,
 &c. but are inferior in softness and pliability, as well as in
 length, to the *Scirpus lacustris*, t. 666.



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JUNCUS filiformis.

Least Rush.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Stem naked, thread-shaped, drooping. Panicle lateral, nearly simple, subtended by a bractea. Capsules roundish.

SYN. *Juncus filiformis.* *Linn. Sp. Pl.* 465. *Sm. Fl. Brit.* 377. *Spicil.* 2. t. 3. *Huds.* 149. *With.* 346. *Hull.* 75. *Dicks. Dr. Pl.* 32. *H. Sicc. fasc.* 14. 16.

J. parvus, calamo supra paniculam compactam longiùs producto. *Raii Syn.* 432.

THIS very rare species of Rush was only known to British botanists as a native of the beautiful country about the lakes of Westmoreland and Cumberland, till Mr. Dickson gathered it on Ben Lawers, so famed among the botanical mountains of the north. It grows in little plashy alpine bogs, flowering in August, and is perennial.

The root creeps horizontally, throwing out deep perpendicular fibres, and several upright simple round smooth stems, about 10 or 12 inches high, whose summits are pointed, but weak, and often drooping in some degree. The base of each is separately enveloped in a few sheathing scales, each tipped with a minute point, seeming the rudiment of a leaf. The panicle, nearly simple, and consisting of but a few pale green flowers, bursts laterally from the stem below the middle, and is accompanied underneath by a small leafy bractea, varying in length according to circumstances. Calyx-leaves lanceolate, with 3 ribs. Stamina 6. Capsule roundish, blunt, of 3 cells. Seeds numerous, small.



June 1. 1803 Published by Ja. Sowerby, London

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JUNCUS trifidus.

Three-leaved Rush.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.

Caps. superior, of 3 valves, with 1 or 3 cells.

Seeds several. *Stigmas* 3.

SPEC. CHAR. Stem naked, terminated by three leaves and about as many flowers.

SYN. *Juncus trifidus.* *Linn. Sp. Pl.* 465. *Sm. Fl.*

Brit. 378. *Huds.* 149. *With.* 345. *Hull.* 75.

Lightf. 183. *t.* 9. *f.* 1. *Dicks. H. Sicc. fasc.* 1. 6.

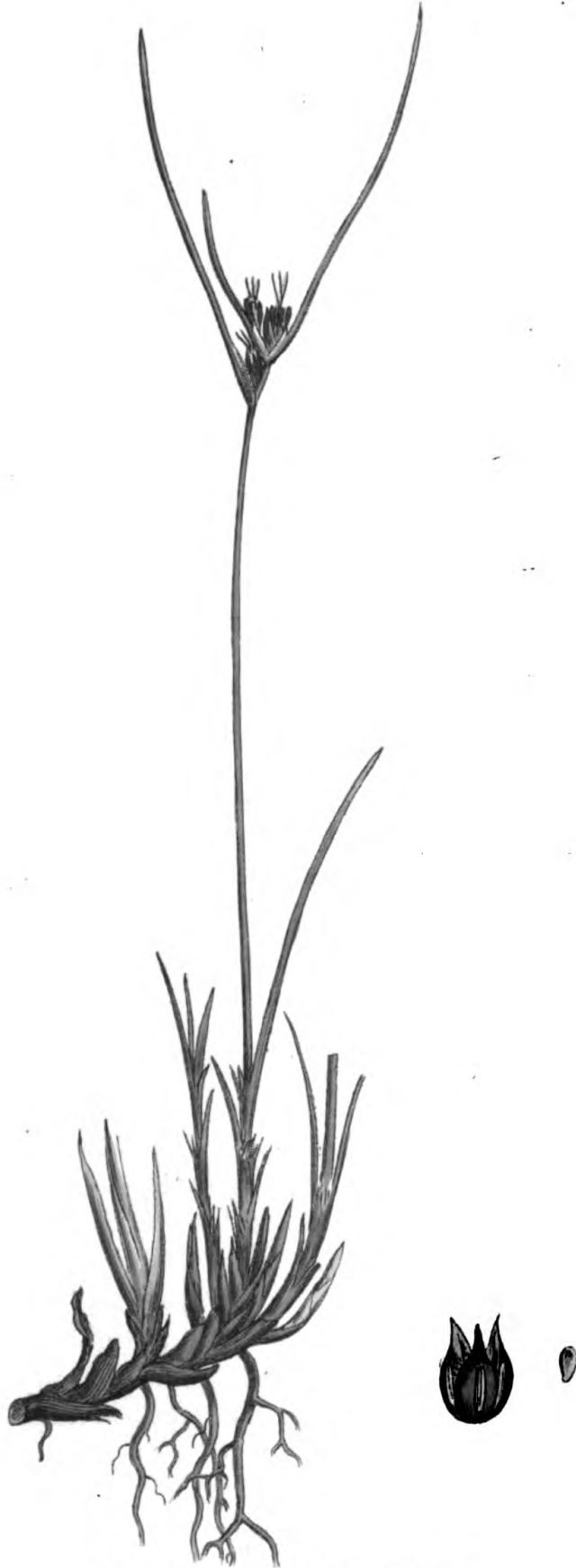
Fl. Dan. t. 107. *Bauh. Hist. v.* 2. 521.

J. acumine reflexo, trifidus. *Bauh. Prodr.* 22.

Theatr. 185.

A NATIVE of alpine bogs in Scotland, which Lightfoot says he gathered on several mountains of that country. It is perennial, and flowers in July.

Root creeping, tufted, black, with many long fibres. Stems 4 or 5 inches high, erect, straight, round, smooth, unbranched, sheathed at the base with many scales and a few shortish awl-shaped leaves. At the top of the stem grow about 3 similar upright leaves, with sheathing bases, in whose bosoms stand from 1 to 3, sometimes more, dark-brown sessile flowers. We find a solitary flower most common in British specimens, and even in exotic ones from elevated situations, in which case it is the *J. monanthos* of Jacquin; but when the plant is flourishing, 3 are certainly its natural number, and the leaves are almost always 3. The capsule is elliptical, sharply pointed, with 3 cells and many seeds.

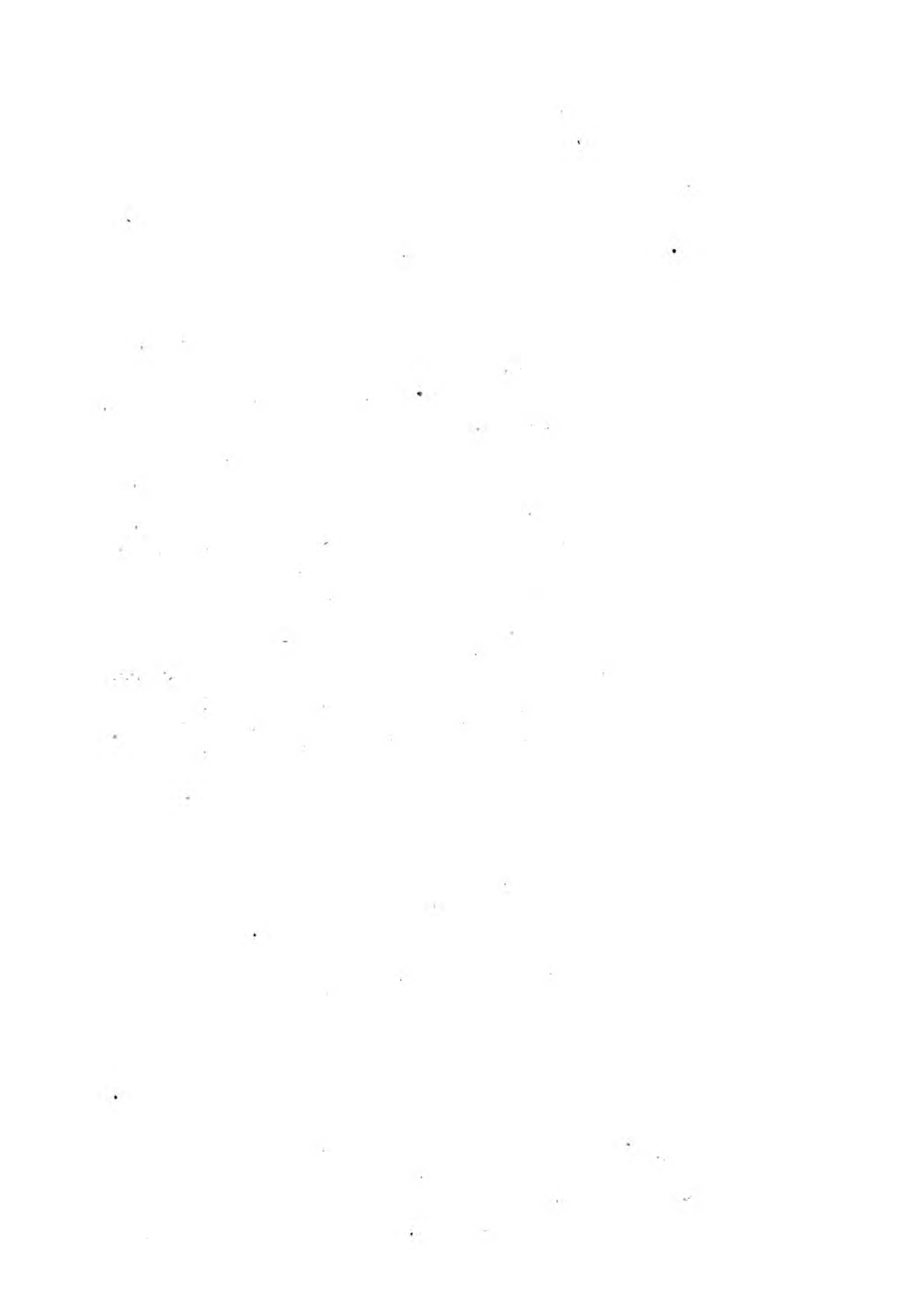


July 1. 1805. Published by J. Sowerby. London.

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JUNCUS squarrosus.

Moss Rush, or Goose-Corn.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

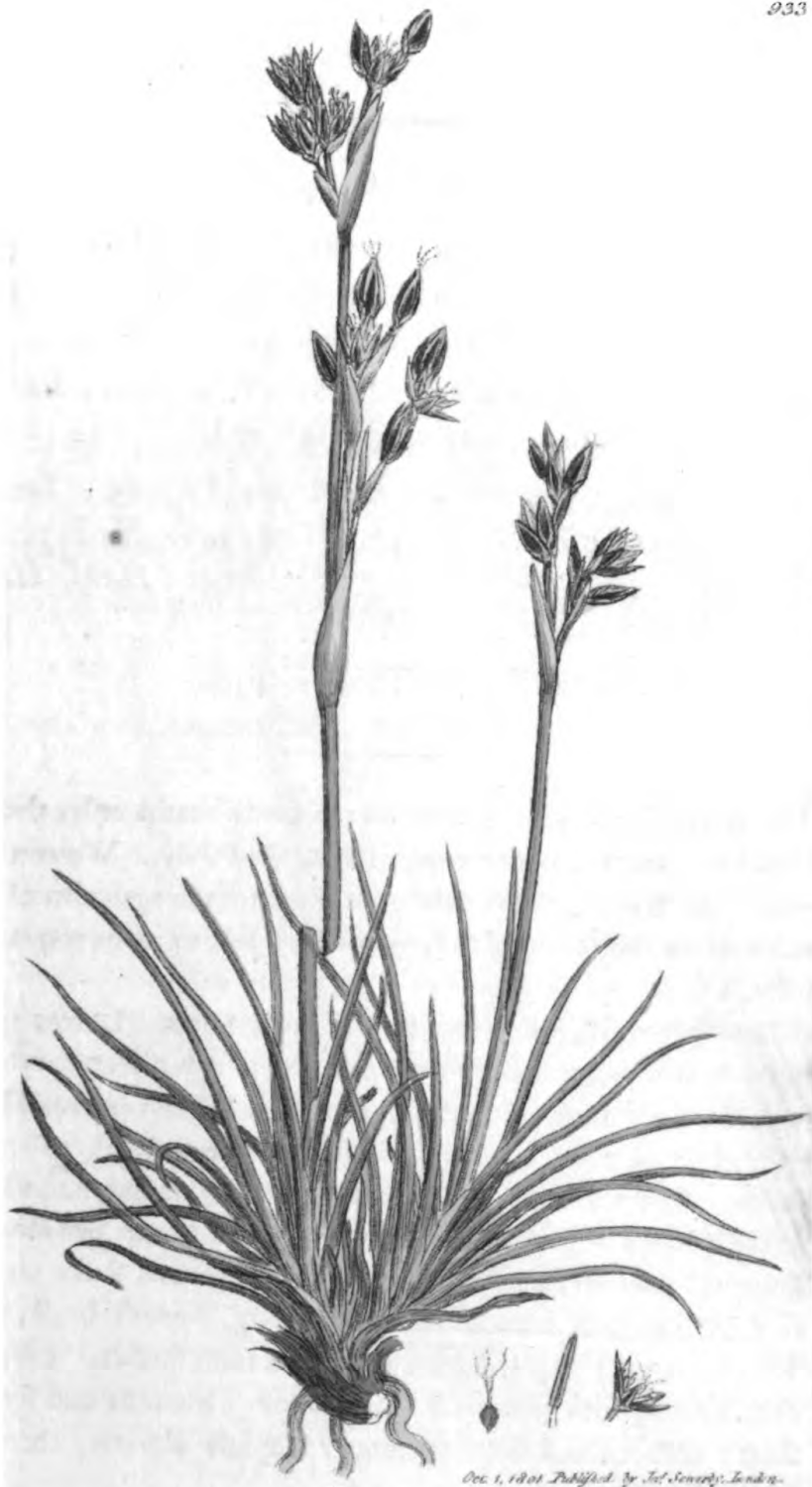
SPEC. CHAR. Stem naked. Leaves setaceous. Panicle terminal, compound, clustered.

SYN. *Juncus squarrosus.* *Linn. Sp. Pl.* 465. *Sm. Fl. Brit.* 378. *Huds.* 149. *With.* 346. *Hull.* 75. *Relb.* 142. *Sibth.* 114. *Abbot.* 79. *Dicks. H. Sicc. fasc.* 13. 12.

J. montanus palustris. *Raii Syn.* 432.

IN boggy spots, on the most barren sandy heaths only, this Rush is to be found, flowering in June and July. We conceive that few plants are less promising to the agriculturist, either as an indication of soil, or with respect to its own qualities.

Root perennial, of a few strong thick fibres. Leaves in tufts, radical, numerous, spreading at the base, but soon curved inward; their form is narrow, channelled, but not keeled, pointed; and they are hard, rigid, and very smooth to the touch. Stems about a foot high, straight, stiff, round, smooth, naked (except at the very bottom), ending in one or two erect branched panicles, whose partial as well as general stalks proceed from reddish-brown, sheathing, long, smooth bractæ. Flowers large compared with other common species. Calyx dark-brown, with a narrow filmy border. Stamina and style short; antheræ and stigmas long. Capsule obovate, three-sided, bluntish.



Dec. 1, 1801. Published by J. G. Sowerby, London.

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JUNCUS articulatus.

Jointed Rush.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves. *Cor.* none. *Capsule* of one or three cells.

SPEC. CHAR. Leaves with knotty joints. Flowers in small clusters, panicled.

SYN. *Juncus articulatus.* *Linn. Sp. Pl.* 465. *Huds. Fl. An.* 149. *With. Bot. Arr.* 361.

J. compressus. *Relb. Cant.* 142. *Sibth. Oxon.* 114.

J. foliis articulosis, floribus umbellatis. *Raii Syn.* 433.

VERY common in meadows and moist pastures, flowering in June, and ripening its seed in July.

The root is creeping and perennial. Stems obliquely ascending at the base, then erect, smooth like every other part, round, a foot or more in height, clothed with a few alternate, sheathing, recurved, pointed leaves; which are occasionally cylindrical or compressed, hollow, their cavity divided by numerous transverse partitions, which make the dried leaves appear jointed. Panicle terminal, forked, more or less compound, the flowers from 3 to 5 or 6 together, sessile, in little heads enveloped in membranous bractæ. Calyx-leaves (which all authors copying one another call *petals*) lanceolate, pointed, longer than the stamina. Style very short, with 3 long downy stigmata. Capsule sharply triangular, of a polished brown.

We cannot see any reason to make the upland variety of this plant (Mr. Relhan's *articulatus*) a distinct species; at least it is certain that neither the leaves being more or less compressed, nor the panicle more or less compound, are permanent marks of distinction.



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JUNCUS lampocarpus.
Shining-fruited Jointed Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Caps. superior, of 3 valves, with 1 or 3 cells. *Seeds*
several. *Stigmas* 3.

SPEC. CHAR. Leaves with knotty joints, compressed.
Stem without joints. Panicle compound, erect,
elongated. Inner calyx-leaves bluntish, bordered.
Capsule coloured, varnished.

SYN. *Juncus lampocarpus.* *Ehrh. Calam. n.* 126.
Davies Tr. of L. Soc. v. 10. 13.

J. articulatus. *Leers. 88. t.* 13. *f.* 6. *With.* 347. *var.* 1.

J. compressus. *Relh. ed.* 1. 142. *Sibth.* 114. *Abbot.* 79.

J. foliis articulosis, floribus umbellatis. *Raii Syn.* 433.

Gramen junceum articulatum palustre humilius. *Moris.*
sect. 8. *t.* 9. *f.* 2.

WE readily assent to the corrections of our friends the Rev. H. Davies, and G. R. Leathes, respecting the supposed varieties of *Juncus articulatus*. In the descriptions in *Fl. Brit.*, and at our *t.* 238, we certainly confounded this with *acutiflorus*, *Ehrh. Cal. n.* 66, which that *t.* 238 represents. Linnæus has so entirely confounded all ours, as well as an American species, under his *articulatus*, that it is best to set aside so sweeping a name.

The present is very common in moist pastures, flowering from June to August. Root perennial. Stem not internally jointed, hollow, bearing from 3 to 6 leaves, usually 4 or 5, which are compressed and copiously jointed. Panicle erect; its branches strong, elongated, so that the heads of flowers are remote, one above another on each simple branch. The 3 inner calyx-leaves are rather blunter, with a more evident white membranous edge than the 3 outer. The capsule is remarkable for its great size, dark chocolate hue, and highly polished, as if varnished, surface.

Tab. 238.

JUNCUS acutiflorus.

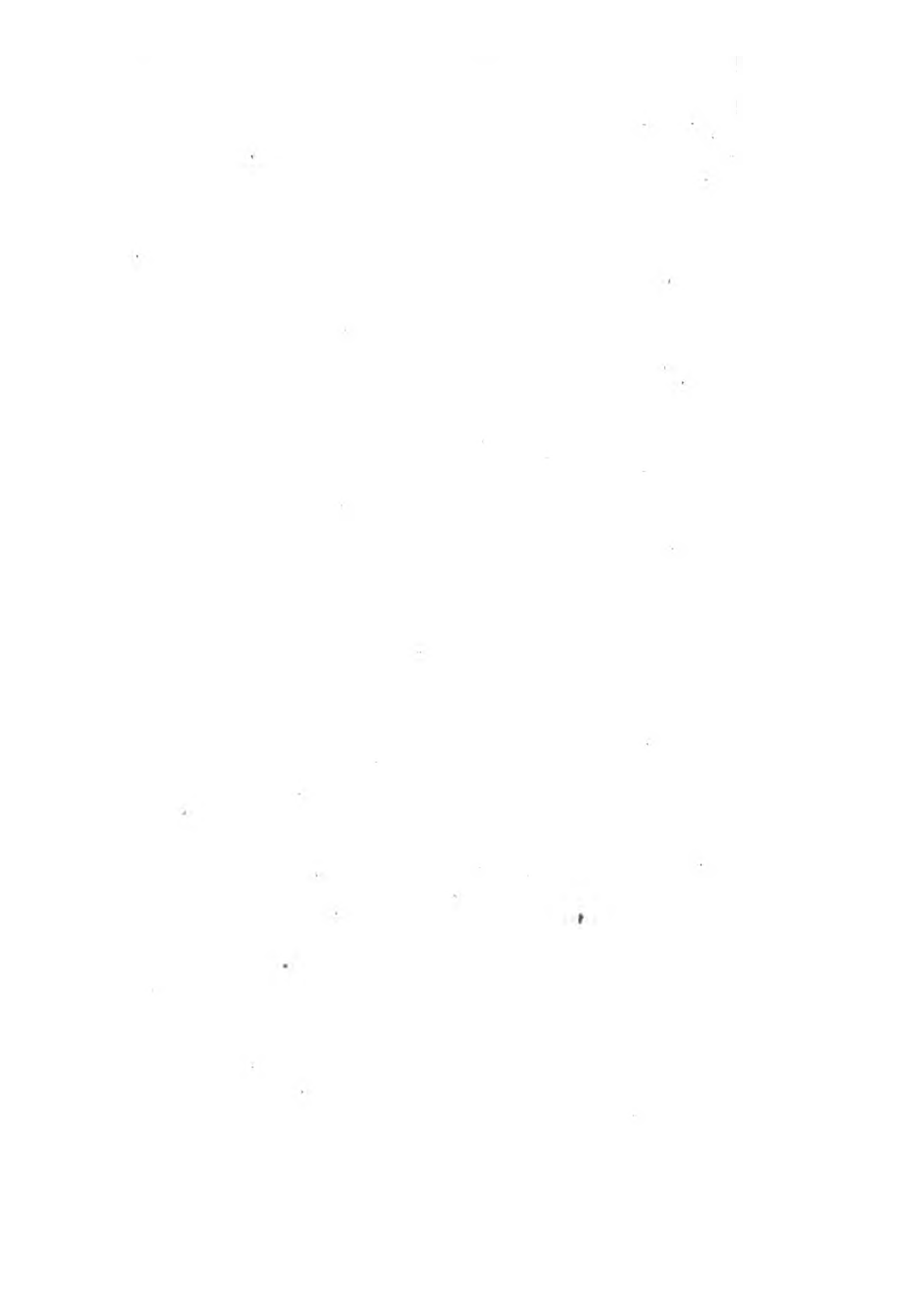
Sharp-flowered Jointed Rush.

SPEC. CHAR. Leaves with knotty joints, slightly compressed.
Stem without joints. Panicle repeatedly forked, dense.
Calyx-leaves all sharp-pointed.



Muscicivora pedunculata (L.) Link

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JUNCUS obtusiflorus.

Blunt-flowered Jointed Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Leaves and stem with knotty joints, cylindrical. Panicle repeatedly compound; its branches divaricated and reflexed. Calyx-leaves obtuse, as long as the capsule.

SYN. *Juncus obtusiflorus.* *Ehrh. Calam. n.* 76. *Davies Tr. of L. Soc. v.* 10. 13.

J. articulatus β . *Sm. Fl. Brit.* 379; excluding the synonyms, which all belong to our *t.* 238, *J. acutiflorus.*

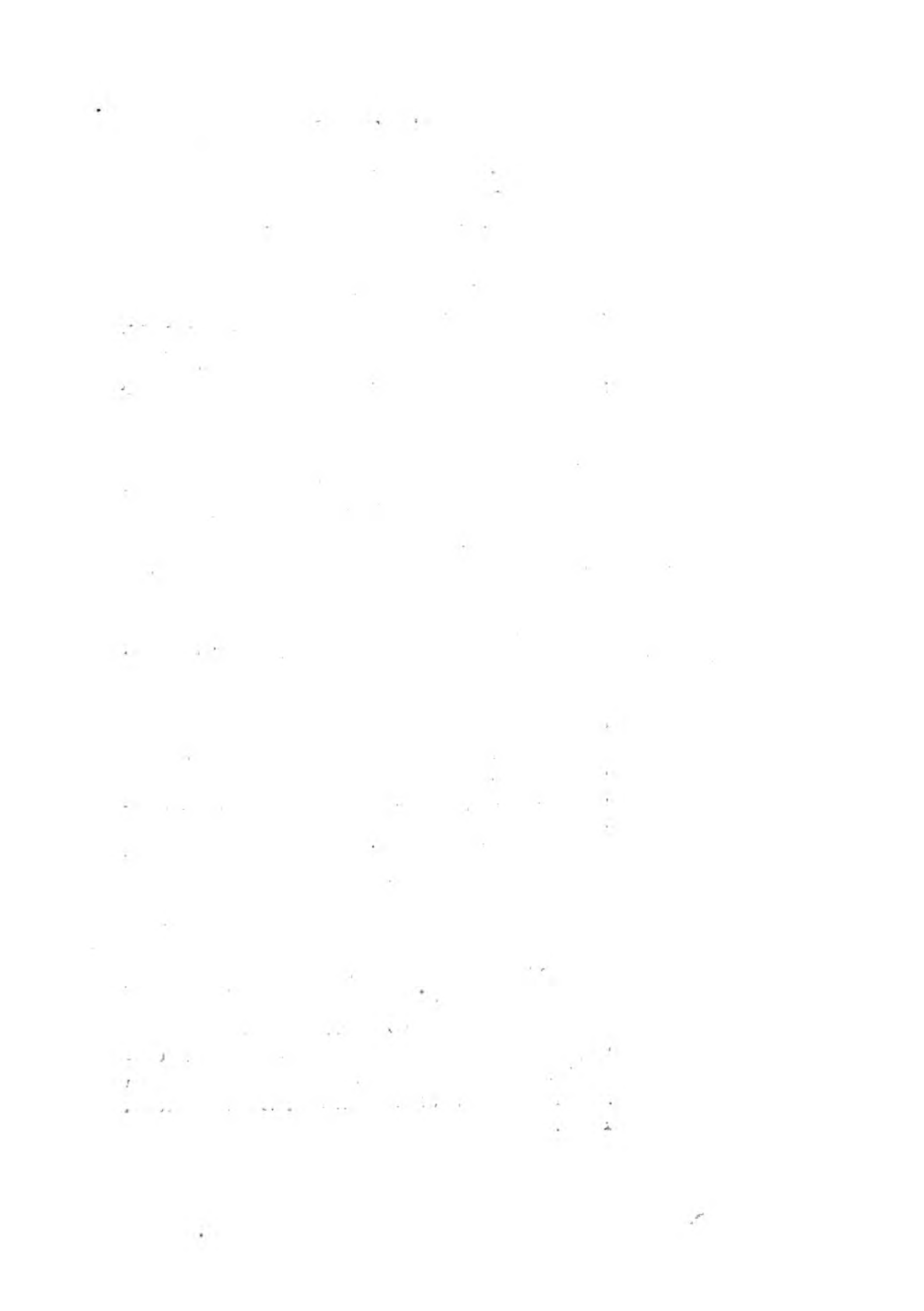
J. articulatus var. 5. *With.* 347.

GATHERED in marshes at Limpenhoe, Norfolk, by the Rev. G. R. Leathes, in August last. It is less common than *J. lampocarpus* or *acutiflorus*, and flowers later.

This is easily distinguished by its pale, entangled, much-branched panicles, whose ultimate branches are strongly reflexed. The stem is internally jointed as well as the leaves, and, as the Rev. Mr. Davies observes, never bears more than two leaves, notwithstanding its tallness. These are not compressed. Calyx-leaves all obtuse and elliptical, with a broad membranous edge. Capsule scarcely extending beyond them, light brown, shining.

We have this rush from Switzerland, and Haller certainly confounded it under his *n.* 1323 along with our *acutiflorus*, as did Dillenius by inserting Doody's plant under *n.* 9 in his edition of Ray's *Synopsis*, 433. See Mr. Davies's accurate paper in the 10th volume of the Linnæan Society's Transactions.





JUNCUS uliginosus.

Little bulbous Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Caps. superior, of 3 valves, with 1 or 3 cells.
Seeds several. *Stigmas* 3.

SPEC. CHAR. Leaves setaceous, obscurely jointed
 within. Flowers about three together in a kind
 of proliferous cluster. Stem bulbous, taking root
 at its joints.

SYN. *Juncus uliginosus.* *Sibth.* 115. *Sm. Fl. Brit.* 380.
With. 348. *Hull.* 76.

J. viviparus. *Retb.* 43. *Abbot.* 79.

J. articulatus γ . *Huds.* 150.

Gramen junceum capsulis triangulis minimum. *Raii*
Syn. 434.

MOIST sandy or turfy heaths often abound with this small species of rush, which has by some botanists been referred to the *Juncus articulatus*, because its leaves are slightly jointed, or at least separated internally into cells; and by others to *J. bulbosus*, on account of the bulbous base of its stem. In the last respect it indeed much more truly answers to the name *bulbosus* than the plant to which Linnæus applied that denomination.

J. uliginosus is unquestionably a very distinct species. The root is perennial and fibrous. Stems bulbous at their base and clothed with the broad red sheaths of the radical leaves; in the upper part they are slender, leafy, branched in a proliferous manner, at first almost erect, but soon lying down, and taking root at their joints. Leaves all slender, tapering, acute, not perceptibly jointed on the outside, smooth. Flowers about three together, lateral or terminal. Bractææ small, acute. Calyx-leaves acute, three-nerved, generally brownish. Capsule blunt, with three very sharp angles. It blossoms in June or July, and in wet seasons is often viviparous; see *Fl. Brit.* β .



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JUNCUS bulbosus.

*Round-fruited Rush.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Leaves linear, channelled. Stem leafy towards the base. Panicle cymose, leafy. Capsules blunt.

SYN. *Juncus bulbosus.* *Linn. Sp. Pl.* 466. *Sm. Fl. Brit.* 381. *Huds.* 150. *With.* 348. *Hull.* 76. *Relb.* 143. *Sibth.* 115. *Abbot.* 79. *Dicks. H. Sicc. fasc.* 13. 14.

J. parvus, cum pericarpis rotundis. *Raii Syn.* 433.

THIS *Juncus* is to be found in moist meadows and pastures that are exposed to the salt water, in which kind of situation it is not uncommon. Dr. Goodenough has also found it near Windsor; and our specimen was gathered in marshes near Walthamstow by Mr. E. Forster. We have what appears to be the same, brought by Mr. Dickson from high and rather dry ground in the Highlands. It flowers early in July.

The root is perennial, creeping, though not widely, certainly not bulbous, nor can the bases of the stems be properly so denominated: the Linnæan trivial name, therefore, is unjustifiable, and seems to have been taken from a synonym of Micheli which belongs to our *J. uliginosus*. Stems erect, generally about a foot high, simple, smooth, a little compressed, most leafy in the lower part. Leaves linear, narrow, channelled, acute. Panicle erect, terminal, but often surmounted by a lesser one on a longer stalk, leafy, many-flowered. Flowers small. Calyx bluntish, its segments green with a broad brown edge. Capsule longer than the calyx, of a roundish obovate form.

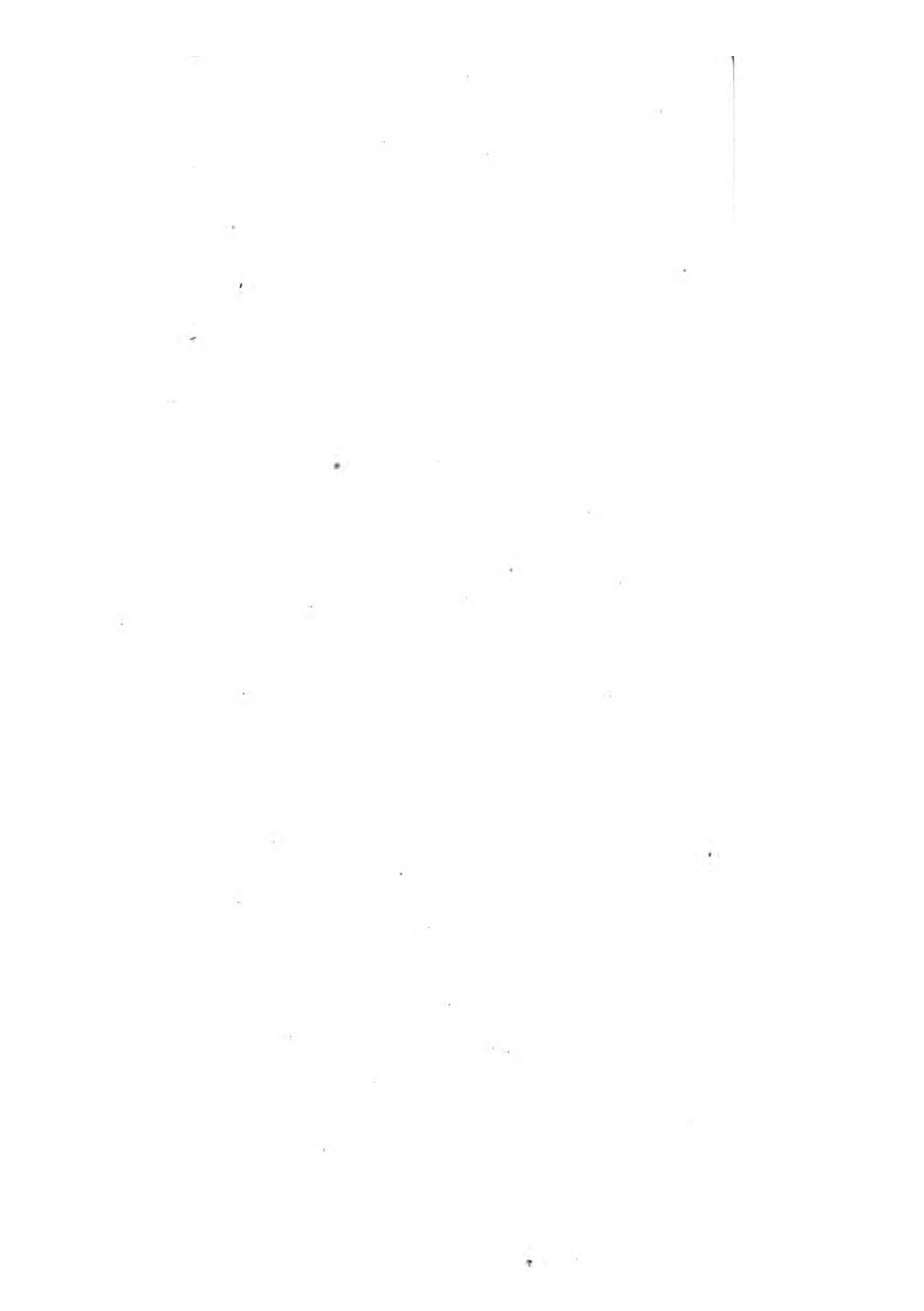
We know not that this Rush has been applied to any use whatever.

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Carum papaya L.

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JUNCUS gracilis.

Slender Spreading Rush.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Caps. superior, of 3 valves, with 1 or 3 cells. *Seeds*
 several. *Stigmas* 3.

SPEC. CHAR. Leaves linear, flat. Stem forked, racemose, taller than the leaves. Flowers solitary.

FOUND by Mr. G. Don in 1795 or 1796, by the side of a rivulet, in marshy ground, among the mountains of Angushire, but very rarely. It appears to us to be a nondescript, but we received from Mr. Dickson, some years before the above date, a specimen not so far advanced towards maturity, of what seems to us the same species.

The root consists of woolly fibres, and has the appearance of being perennial. Stem very slender, a foot or more in height, naked, except at the base and summit. Radical leaves but one or two, much shorter than the stem, narrow, flat, slightly thickened, or somewhat involute, at their edges, not channelled. The top of the stem terminates in a few racemose forked branches, with 2 or 3 leaves at their base. Flowers solitary, mostly sessile. Calyx-leaves sharp-pointed. Valves of the capsule blunt and emarginate.

The inflorescence and fructification of this Rush come nearest to *bufonius*, t. 802; but the fewness of the flowers, taller stem, and flatter leaves, as well as the broader and emarginate valves of the fruit, serve well to distinguish it, not to mention the probably perennial root.



July 1 1830 published by J. Storer London

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JUNCUS bufonius,

*Toad Rush.**HEXANDRIA Monogynia.***GEN. CHAR.** *Cal.* of 6 leaves, permanent. *Cor.* none.*Capf.* superior, of 3 valves, with 1 or 3 cells.*Seeds* several. *Stigmas* 3.**SPEC. CHAR.** Leaves linear, channelled, Stem forked, racemose. Flowers solitary,**SYN.** *Juncus bufonius.* *Linn. Sp. Pl.* 466. *Sm. Fl.**Brit.* 381. *Huds.* 150. *Witb.* 348. *Hull.* 76.*Relb.* 144. *Sibth.* 115. *Abbot.* 80. *Dicks. H. Sicc.**fasc.* 4. 6.*J. palustris humilior erectus.* *Raii Syn.* 434.

VERY frequent in all kinds of marshy places, particularly on watery sandy heaths, where it flowers copiously throughout July and August.

Root fibrous, annual. Stems numerous, upright, forming a dense tuft, round, leafy, forked or somewhat cymose, the upper part of the branches terminating in simple rows of sessile upright flowers. The whole herb is smooth, and of a paler hue than the rest of its species. Leaves linear, acute, channelled above, dilated at their base. Calyx-leaves lanceolate, tapering to a very slender point, green, with a membranous margin. Bractæa pellucid. Capsule slender, blunt, shorter than the calyx, three-celled. Seeds very numerous.

We know not any good reason for the specific name of this *Juncus*. It is generally found in moister situations than toads for the most part inhabit,

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JUNCUS biglumis.

Two-flowered Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Capsf.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

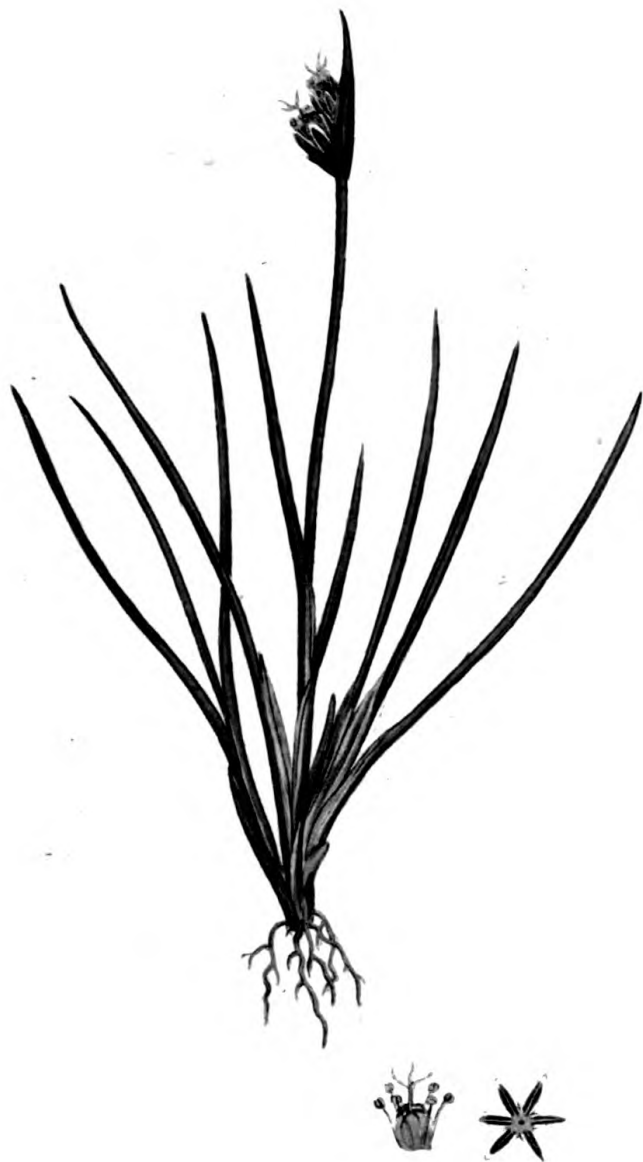
SPEC. CHAR. Leaves flat. Head terminal, of two flowers, leaning to one side, leafy at the base.

SYN. *Juncus biglumis.* *Linn. Sp. Pl.* 467. *Sm. Fl. Brit.* 382. *Huds.* 649. *With.* 348. *Hull.* 76. *Lightf.* 1100. *Fl. Dan. t.* 120.

MR. G. DON, who favoured us with this rare plant, assures us it is seldom found on any other hill than Ben Lawers in Bredalbane; the Rev. Mr. Stuart however, its first discoverer in Britain, mentions two or three highland mountains as producing it. We are persuaded there are few British plants less known, nor any species more certainly distinct, though Mr. Lightfoot suspected it might be a variety of *J. triglumis* (see the next plate), and several botanists have since confounded them together. The learned Dr. Montin, a distinguished pupil of Linnæus, originally found the *J. biglumis* in Lapland, and described it in a note to his treatise on *Splachnum*, published in the *Amœnitates Academicæ*.

J. biglumis is perennial, and flowers in August. The little fibrous roots run deep into the boggy soil of small mountain rills. The stem is from 2 to 4 inches high, leafy, simple, round. Leaves awl-shaped, flat, erect, sheathing at their base. Flowers terminal, one above the other, and both leaning to one side, having a small bractea below them, and a longer upright leafy one surmounting the uppermost flower. Calyx-leaves lanceolate, equal, keeled, variegated with green and a dark chocolate hue. Stamina a little longer than the calyx, as is also the capsule when ripe, though the germen is not above half so long.

One flower being placed above the other decidedly marks this species.



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JUNCUS *triglumis*.*Three-flowered Rush.**HEXANDRIA Monogynia.*

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Capf.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Leaves flat. Head terminal, erect, of three flowers, accompanied by bractæ without leaves.

SYN. *Juncus triglumis.* *Linn. Sp. Pl.* 467. *Sm. Fl. Brit.* 382. *Huds.* 151. *With.* 349. *Hull.* 76. *Lightf.* 186. *t. 9. f. 2.* *Fl. Dan. t. 132.* *Dickf. H. Sicc. fasc. 2. 3.*

Juncello accedens graminifolia planta, capitulis Armeriæ proliferæ. *Ray Syn.* 430.

JUNCUS *triglumis* is much more common and plentiful than the preceding about the little rills and boggy places on the tops of most Scottish and Welch mountains. Mr. Robson has even found it in Cumberland. It flowers in July, and is perennial.

This has very much the herbage and general habit of the Two-flowered Rush; but though extremely variable in luxuriance, it generally considerably exceeds that species in magnitude. The number of flowers in the head, though naturally three, often varies from only one or two, to four or five. In every case, however, the plant is to be known by bearing the flowers erect and parallel to each other, not leaning to one side, nor one overtopping the other. They are moreover accompanied by membranous bractæ, shorter than the flowers themselves, instead of a large erect leafy involucre. The glumes and bractæ are also of a somewhat paler and redder brown than those of the last.

Dillenius could surely never have seen this Rush when, in his edition of Ray's *Synopsis*, he supposed it the same with *Scirpus cæspitosus*; nor was Mr. Hudson's conjecture more happy, when, in his 1st edition, he took the plant of Ray for the *Schænus ferrugineus* of Linnæus.



July 1. 1801. Published by Jas Sowerby London.

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JUNCUS castaneus.
Clustered Alpine Rush.

HEXANDRIA Monogynia.

GEN. CHAR. Cal. of 6 leaves, permanent. Cor. none.
 Calyx superior, of 3 valves, with 1 or 3 cells.
 Stam. several. Stigmas 3.

SPEC. CHAR. Leaves folded, flat, clasping the stem.
 Heads terminal, mostly in pairs, many-flowered,
 with a leaf under them. Bractææ acute.

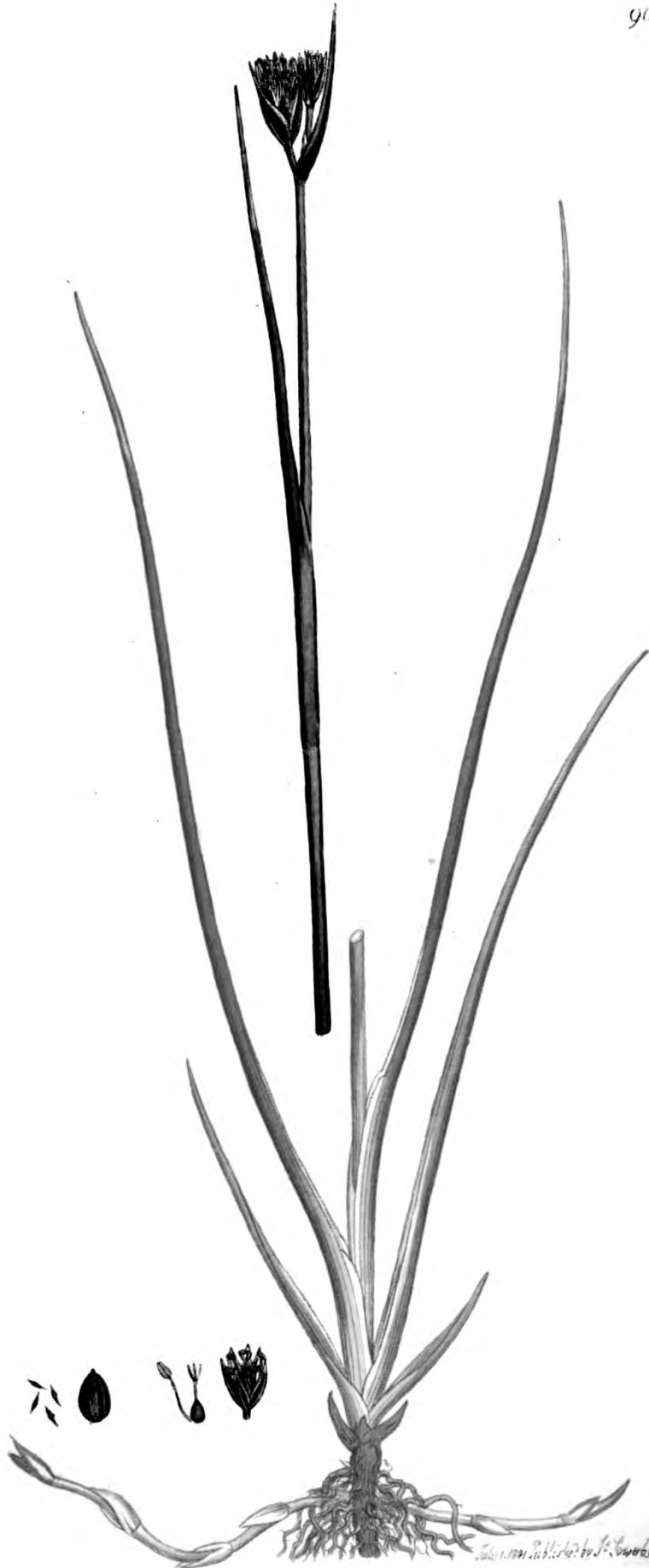
SYN. *Juncus castaneus.* Sm. *Fl. Brit.* 385.

J. Jacquini. Sym. *Syn.* 87. *Hull.* 76.

WE know not that any figure exists of this Rush. It was first found on the highland mountain of Ben Lawers, by Mr. Dickson and Mr. Mackay, and appeared on the list of British plants in Mr. Symons's *Synopsis*, under the name of the Linnean *Juncus Jacquini*, which at first sight it resembles, but from which it will be found on comparison widely different.

The plant now before us grows in marshy places where the soil is micaceous, flowering in July. The root is perennial, creeping by means of long slender scaly scyons, which throw up young plants from their extremities. Stems from 6 to 12 inches high, round, solitary, leafy, not clustered and naked as in *J. Jacquini*. Leaves all growing on the stem, most numerous about the bottom, alternate, erect, sheathing and broad at their base, folded above so as to make a sharp keel, with 2 flat sides: the uppermost, immediately under the flowers, short and small. Heads terminal, erect, two together, except in weak plants, one on a longer stalk than the other, of a dark shining brown, and formed of about 4 or more flowers, with a lanceolate pointed bractea to each, a little remote from the base. Calyx-leaves acute, the length of the stamina, but only half as long as the ripe capsule, which is oblong, pointed, 3-celled, containing numerous seeds. The seeds terminate in a slender appendage at each end, as in *Narthecium ossifragum*, t. 535.

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Edw. 1. 1811. Published by J. C. Cochrane.

JUNCUS pilofus.

Hairy Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Capf. superior, of 3 valves, with 1 or 3 cells. *Seeds*
 several. *Stigmas* 3.

SPEC. CHAR. Stem leafy. Leaves flat, hairy. Panicle
 cymose, divaricated. Flowers solitary.

SYN. *Juncus pilofus.* *Lin.* *Sp. Pl.* 468. *Sm. Fl.*
Brit. 384. *Huds.* 151. *With.* 349. *Hull.* 76.
Relb. 145. *Sibth.* 115. *Abbot.* 80. *Curt. Lond.*
fasc. 5. *t.* 25. *Dicks. H. Sicc. fasc.* 14. 15.

Gramen nemorosum hirsutum vulgare. *Raii Syn.* 416.

FREQUENT in shady groves and thickets, on broken banks
 among dead leaves, and similar situations, where it flowers in
 March and April. The root is perennial, and throws out
 creeping shoots.

Stems near a foot high, round, polished, leafy. Leaves
 linear-lanceolate, grassy, of a bright shining green, pointed,
 entire, fringed with distant, long, soft, white hairs; the radical
 ones are most numerous and largest. Panicle terminal, com-
 pound, much branched in the manner of a cyme, the branches
 widely spreading, inasmuch that the lower ones at length be-
 come quite pendulous. Flowers solitary, each accompanied
 by a pair of sheathing acute bractæ. The leaves of the calyx
 are lanceolate, pointed, dark-brown, bordered with white.
 Stamina very short, with large square yellow antheræ. Cap-
 sule ovate, obtuse, of a pale yellowish hue, which, contrasted
 with the brown calyx, renders it conspicuous.

This rush has not yet been applied to any agricultural or
 æconomical use. Its tough dry herbage is not much relished
 by cattle in general, though horses will eat it; but its places of
 growth are often scarcely accessible to them.



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[1293]

JUNCUS Forsteri.
Narrow-leaved Hairy Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none.
Caps. superior, of 3 valves, with 1 or 3 cells.
Seeds several. *Stigmas* 3.

SPEC. CHAR. Leaves flat, hairy. Panicle cymose, erect.
Flowers solitary. Capsules sharp-pointed.

SYN. *Juncus Forsteri.* *Sm. Fl. Brit.* 1395.

MR. EDWARD FORSTER first observed this *Juncus* in 1795, growing intermixed with *J. pilosus*, under trees between Hoghill and Collier-row in Hainhault forest, Essex. Several years' attention to it, both wild and cultivated, have convinced him of its being really a distinct species, and we readily assent to his opinion. We have moreover gathered it in the woods at Hafod, Cardiganshire, growing among the common *J. pilosus*, and flowering in May; but were not aware of its distinctions till Mr. Forster pointed them out.

The root is perennial, blackish, fibrous, scarcely creeping. Stems 8 to 12 inches high, erect, simple, slender, round, polished, leafy. Leaves linear-lanceolate, acute, not half so broad as in *J. pilosus*, hairy, as in that species, at their margin towards the base; those which grow on the stem are larger than the radical ones, which is not the case in the species just mentioned. Panicle terminal, cymose, compound; all the branches nearly upright, by no means divaricated or bent backward like *t.* †36. Calyx-leaves much more pointed than in that species. The capsule also is acute, not obtuse, and terminates in a longish beak. Seeds 1 in each cell.



April 1 1904 Publ. Hort. Soc. London

V



JUNCUS fylvaticus.

Great Wood Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Capsf.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Stem leafy. Leaves flat, hairy, pointed. Panicle cymose, doubly compound. Flowers clustered.

SYN. *Juncus fylvaticus.* *Sm. Pl. Brit.* 385. *Huds.* 151. *Sibth.* 116. *Abbot.* 80. *Curt. Lond. fasc.* 5. t. 26. *Dicks. H. Sicc. fasc.* 13. 13.

J. pilosus δ . *Linn. Sp. Pl.* 468.

J. maximus. *With.* 349.

Gramen nemorosum hirsutum latifolium maximum.
Raii Syn. 416.

THIS generally grows in the same places as the *J. pilosus*, and is nearly as common, but blossoms a month later. It sometimes covers the ground, as with a dry elastic mat, to the exclusion of most other plants.

Linnæus considered this as a variety of *J. pilosus*, and indeed confounded many other most distinct species under *pilosus*, and *campestris*. He has left behind him a manuscript note saying that "those who wish to make many species out of these two may consult Haller." Truth obliges us to confess that Haller has elucidated these plants, which are mostly alpine, better than Linnæus.

The plant now before us is known from *pilosus* not only by the greater size of its herbage, but essentially by the flowers growing in clusters, generally about 3 in each, not singly, and by the branches of the panicle being less divaricated, and not pendulous. The flowers are also smaller than in that last described.

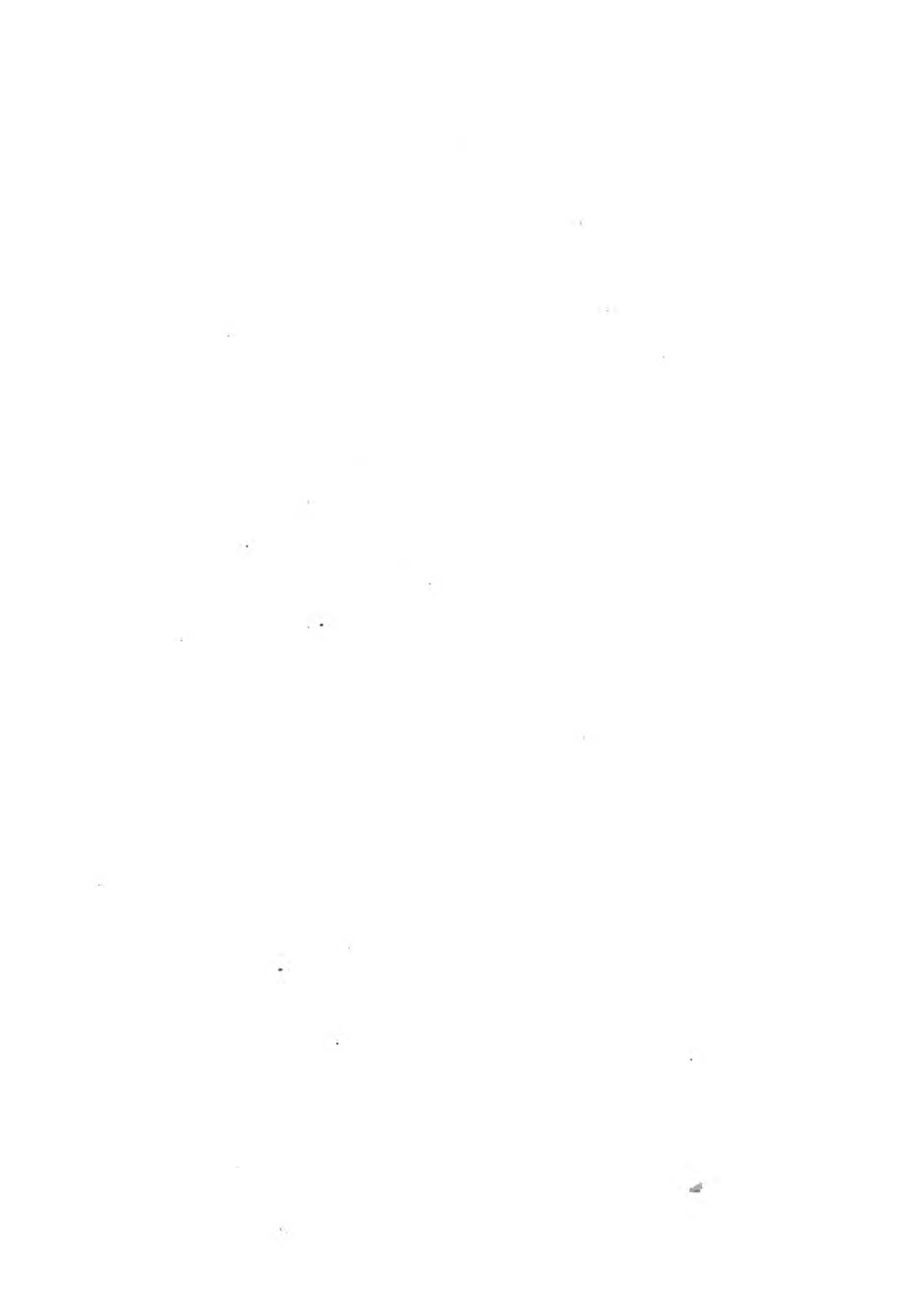
This is generally reckoned as useless as the other. Both seem however not ill calculated for packing, or for stuffing mattresses instead of common straw, being very soft and elastic.

731



Andropogon furcatus (L.) Nees





JUNCUS campestris.

Hairy Field Rush.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Capf.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Stem leafy. Leaves flat, hairy. Spikes terminal, sessile and pedunculated. Capsules obtuse.

SYN. *Juncus campestris.* *Linn. Sp. Pl.* 468. *Sm. Fl. Brit.* 385. *Hudf.* 152. *With.* 350. *Hull.* 76. *Relb.* 145. *Sibth.* 116. *Curt. Lond. fasc.* 2. t. 19. *Dicks. H. Sicc. fasc.* 14. 17.

Gramen exile hirsutum. *Raii Syn.* 416.

β *G. hirsutum elatius, paniculâ junceâ compactâ.* *Raii Syn.* 416, the synonyms doubtful.

VERY frequent in dry barren pastures, where it flowers in April or May, and is rendered conspicuous by its large sulphur-coloured antheræ opposed to the dark copper-brown of the husks.

Root perennial, creeping. Stems 4 or 5 inches high, simple, straight, leafy, round. Leaves linear-lanceolate, acute, flat, entire, extremely hairy in the margin. Spikes terminal, for the most part standing on stalks, ovate, obtuse, erect, at length drooping, each consisting of about ten flowers, which are sessile, and furnished at the base with 3 or 4 torn bractæ. The calyx-leaves are lanceolate, pointed. Stamina short, equal. Style slender. Capsule obovate, obtuse, incompletely three-celled, containing only three seeds.

The variety β grows in turfy bogs, and is 12 or 15 inches high, more naked, with more thickly clustered spikes; but I have in vain sought, though with scrupulous exactness, for any specific difference in the structure of the fructification.

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JUNCUS spicatus.

Spiked Rush.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

SPEC. CHAR. Leaves flat. Spike cluster-like, drooping, compound at the base. Capsules pointed.

SYN. *Juncus spicatus.* *Linn. Sp. Pl.* 469. *Fl. Lapp.* n. 125. t. 10. f. 4. *Sm. Fl. Brit.* 386. *Huds.* 650. *With.* 350. *Hull.* 76. *Lightf.* 187. *Dicks. Dr. Pl.* 33. *H. Sicc. fasc.* 15. 11.

COMMUNICATED with the preceding by Mr. G. Donn from the alpine regions of Scotland. This is likewise perennial, flowering in July and August, and growing only about the grassy summits of the highest hills. We have formerly gathered it upon Ben Lomond. It seems not yet to have been observed in England or Wales, though found on the Swiss alps and in Lapland.

The root is tufted and fibrous, crowned with several parcels of linear, recurved, channelled leaves, more or less hairy at their edges. Stems solitary, 6 or 8 inches high, round, slender, smooth and simple, bearing 2 or 3 remote sheathing leaves. Spike terminal, solitary, drooping, interrupted and subdivided in the manner of a bunch of grapes, and having a long lanceolate entire smooth bractea at each subdivision, and a smaller laciniated one under each flower. Segments of the calyx tipped with hair-like points. Stamina 6. Capsule pointed, of 3 cells, each occupied by one large seed, as in *J. campestris*, t. 672, to which this species is certainly, as Lightfoot observes, very nearly related; but they can never be confounded together. They often grow together in the most elevated situations, but preserve their characters distinct.



Figure 1. 1803. Published by J. Sowerby, London

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BERBERIS vulgaris.

Common Barberry.

HEXANDRIA Monogynia.

GEN. CHAR. *Calyx* six-leaved. *Petals* six, with two glands at their base. *Style* none. *Berry* with two seeds.

SPEC. CHAR. Flowers in clusters. Spines three-forked. Serratures of the leaves terminated by soft bristles.

SYN. *Berberis vulgaris.* *Linn. Sp. Pl.* 471. *Huds. Fl. An.* 137. *With. Bot. Arr.* 366. *Relb. Cant.* 134.

B. dumetorum. *Raii Syn.* 465.

COMMON in hedges, flowering in June, and bearing its bright red pendulous berries in autumn. It is generally planted in shrubberies for ornament as well as use, the fruit being frequently introduced into pickles and preserves, on account of its strong and grateful acidity, of which the leaves also partake with a mixture of astringency.

Two circumstances in the history of this shrub deserve particular attention. In the first place, its stamina exhibit perhaps the most remarkable instance of irritability hitherto discovered in vegetables; because we perceive at once the purpose it is intended to answer. The bases of the filaments are so sensible to the touch of any extraneous body, that they immediately contract, with precipitation, and throw the pollen on the stigma; and this contraction is capable of being repeated several times. See Mr. Whately's remark in the *Bot. Arr.* and Dr. Smith's paper in the *Philosophical Transactions* for 1788, p. 158.

The other circumstance to which we allude is, its reputed hostility to corn, the ears of which, in its neighbourhood, are said always to prove abortive. This, if true, is one of the most wonderful properties that any plant ever possessed, and is totally unaccountable. We have it on such good authority, that we could not avoid mentioning the report; but on the other hand we have as good reasons for withholding our assent. *Monf. Brouffonet*, the celebrated French naturalist, who has bent his attention particularly to agriculture, assures us this report, equally prevalent in France and in England, is, from his own observation, totally void of foundation. It is to be wished some scientific observer could trace out what occasioned the opinion.



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FRANKENIA lævis.

Smooth Sea-Heath.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* 5-cleft, funnel-shaped. *Petals* 5.
Stigmas 3. *Capf.* of one cell, with 3 valves.

SPEC. CHAR. Leaves linear, clustered, ciliated at the base.

SYN. *Frankenia lævis.* *Linn. Sp. Pl.* 473. *Huds. Fl. An.* 137. *With. Bot. Arr.* 367. *Relb. Cant.* 135.
Lychnis supina maritima Ericæ facie. *Raii Syn.* 338.

A NATIVE of muddy salt marshes, more especially on our eastern coasts. Mr. Lilly Wigg sent it from Yarmouth. It is perennial, and flowers after midsummer.

Root woody. Stems procumbent, round, branched. Leaves in little clusters, small, succulent, linear, or rather lanceolate and revolute, dilated at the base into a pair of minute, membranous, ciliated stipulæ. Flowers mostly at the divarications of the branches, rarely terminal, solitary, sessile, delicate and elegant in form and colour, like those of a little red pink or campion. Calyx with 5 (rarely more) teeth, angular. Nectary a yellow scale attached to the claw of each petal. Stamina and Pistillum much resembling those of the *Lychnis* tribe, to which the plant before us is nearly allied, though so different from most of them in habit.

This genus was first determined by Micheli, who named it *Franca* after his friend Franchi, a Florentine physician and botanist, born at Lucca, who had a principal hand in founding the Botanical Society of Florence. It should seem that Linnæus did not think this gentleman's claims to such an honour sufficient, and therefore changed the name to *Frankenia*, to perpetuate the memory of Frankenius, professor at Upsal in the middle of last century, author of a not very useful catalogue of plants called *Speculum botanicum*, of which there are 2 editions, both at present very rare.



L. J. Van der Velden (1871-1904)

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FRANKENIA pulverulenta.

Powdery Sea-Heath.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* 5-cleft, funnel-shaped. *Petals* 5.
Stigmas 3. *Caps.* superior, of 1 cell and 3 valves.

SPEC. CHAR. Leaves obovate, abrupt; downy and somewhat powdery beneath.

SYN. *Frankenia pulverulenta.* *Linn. Sp. Pl.* 474. *Sm. Fl. Brit.* 388. *Huds.* 138. *With.* 352. *Hull. ed.* 2. 101.

Alsine maritima supina, foliis chamæscices. *Dill. in Raii Syn.* 352.

Anthyllis valentina. *Clus. Hist. v.* 2. 186. *Ger. em.* 566.

Quadrifoglio annuo di Persia. *Zanon. Ist.* 164. t. 66.

AMONG the rarest of British plants is the *Frankenia pulverulenta*, which Mr. Brewer is said to have found on the Sussex coast in the time of Dillenius, and Hudson declares that he himself gathered it between Bognor and Brighthelmston. Of late years we have no certain account of its having been observed there, nor has it ever been seen elsewhere in Britain. Our specimen came from Mr. Dickson's garden at Croydon last July.

Root annual, fibrous. Stems numerous, branched from the very base, prostrate, repeatedly forked, divaricated, leafy, round, downy, often reddish. Leaves opposite, somewhat clustered, obovate, abrupt or emarginate, entire, keeled, slightly revolute; smooth and green above; whitish, downy and hoary as if powdery beneath. Flowers axillary and terminal, solitary, sessile. Calyx prismatic, with red ribs, smooth. Petals pale pink.

This species is not uncommon on the shores of the Mediterranean or Archipelago.



Zinnia pulchella by J. A. B. von L. Lindem.

v

PEPLIS Portula.

Water Purslane.

 HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* bell-shaped, cut into 12 segments.

Petals 6, placed on the calyx. *Caps.* superior, of 2 cells.

SPEC. CHAR. Leaves obovate. Petals often wanting.

SYN. Peplis Portula. *Linn. Sp. Pl.* 474. *Sm. Fl.*

Brit. 389. *Huds.* 147. *With.* 352. *Hull.* 76.

Relh. 141. *Sibth.* 108. *Abbot.* 78. *Curt. Lond.*

fasc. 4. *t.* 27. *Dicks. H. Sicc. fasc.* 4. 8.

Portula. *Raii Syn.* 368.

FREQUENT in moist places on a gravelly or sandy soil, and about shallow pools that are dried up in summer, flowering from June to the end of August.

Root fibrous, annual. Stems several, prostrate, sometimes floating, rooting in the mud, simple or branched, square, smooth, leafy. Leaves opposite, obovate, obtuse, entire, smooth, tapering at the base into a footstalk. Flowers small, axillary, solitary, sessile, reddish. Calyx with 6 larger segments, and as many small recurved ones between them. Petals small, red, scarcely projecting beyond the calyx, often wanting, and in general very fugacious. Germen globose, crowned with a short simple style and capitate stigma. Capsule thin and pellucid, containing numerous seeds, in 2 hemispherical cells, which do not open till torn by accident.

This genus is closely allied to *Lythrum*, from which it chiefly differs in its campanulate, not tubular, calyx, and in having but half as many stamina.



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R U M E X sanguineus.

*Bloody-veined Dock.**HEXANDRIA Trigynia.*

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Valves entire, oblong, one of them at least bearing a grain. Leaves lanceolate, somewhat heart-shaped.

SYN. *Rumex sanguineus.* *Linn. Sp. Pl.* 476. *Sm. Fl. Brit.* 390. *Huds.* 153. *With.* 353. *Hull.* 77. *Relh.* 141. *Sibth.* 118.

Lapathum folio acuto rubente. *Raii Syn.* 142.

β. Var. *viridis.* *Sibth.* 118. *Abbot.* 81.

Rumex acutus. *Curt. Lond. fasc. 3. t. 21?* *With.* 354. *Wade Dubl.* 103. *Huds.* 155. β.

R. Nemolapathum. *Ehrh. Phytoph. n.* 94. *Linn. Suppl.* 212.

Lapathum viride. *Dill. in Raii Syn.* 141.

FOUND occasionally in groves and waste places, flowering in July. Mr. W. Borrer sent it from Sussex, and the lady of the Rev. Dr. Abbot observed it on Headington hill near Oxford.

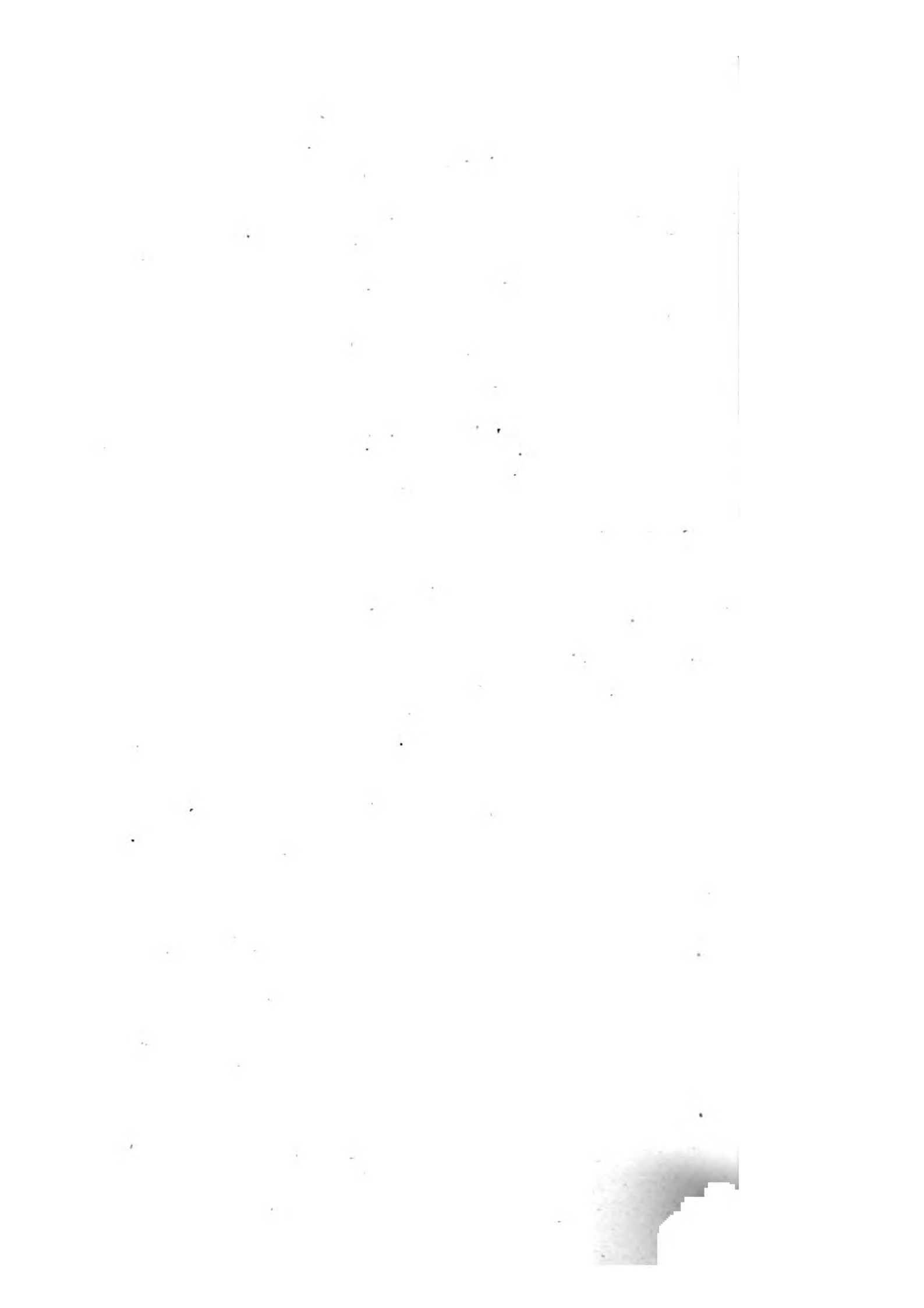
The root is perennial, tap-shaped. Stem 2 or 3 feet high, straight, branched, angular, leafy, smooth, reddish. Leaves all upon footstalks, lanceolate, smooth, veiny, slightly crisped at the edge; the lowermost large, and more or less heart-shaped at their base. Flowers in alternate drooping clusters ranged along the branches, and almost destitute of leaves. Calyx quite entire, as well as the petals, which are oblong, each marked with a red swelling rib. One of these ribs (rarely more than one) bears a very large red grain or tubercle, conspicuous as the fruit ripens. The stalks and veins of the leaves are remarkable for their deep-red juice. In the variety β however, which ought perhaps to be reckoned the original species, the leaves are green. This variety, common in woods, has often been confounded with *R. acutus*, *t.* 724, which differs in having more zigzag and leafy branches, shorter and smaller valves, all constantly bearing grains, and in its place of growth, which is more wet and marshy.



Doc. L. 1805. Published by J. Sowerby, London.

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[1998]

R U M E X crispus.

*Curled Dock.**HEXANDRIA Trigynia.*

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Valves ovate, entire, all grained. Leaves lanceolate, undulated, acute.

SYN. *Rumex crispus.* *Linn. Sp. Pl.* 476. *Sm. Fl. Brit.* 391. *Huds.* 153. *With.* 353. *Hull.* 77. *Relh.* 142. *Sibth.* 117. *Abbot.* 81. *Curt. Lond. fasc. 2. t. 20.*

Lapathum folio acuto crispo. *Raii Syn.* 141.

VERY common in waste ground, by road sides, and in meadows and fields, flowering in June or July, and accidentally throughout the summer.

The root is perennial, tap-shaped, yellowish. Stem 2 or 3 feet high, angular, furrowed, nearly smooth to the touch, leafy, branched. Leaves stalked, lanceolate, acute, strongly waved, crisped and somewhat crenate, of a lightish green; the upper ones narrower and nearly sessile. The little bundles of flowers are not far distant from each other, but form longish, nearly upright clusters, leafy in their lower part. Valves of the fruit large, ovate inclining to heartshaped, reticulated with veins, undivided, waved not toothed, each bearing a conspicuous, ovate, prominent, reddish, central grain. Seed larger than in *R. sanguineus*, *t.* 1533.

The curled leaves, and large entire calyx-valves, readily distinguish this species, which is a very troublesome and unprofitable weed.



v

R U M E X acutus.

Sharp Dock.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Valves oblong, obscurely toothed, each bearing a prominent grain. Leaves cordato-oblong, pointed. Clusters leafy.

SYN. *Rumex acutus.* *Linn. Sp. Pl.* 478. *Sm. Fl. Brit.* 391. *Hudf.* 155. *Relb.* 147.

R. paludosus. *Witb.* 354, by the descript. *Hull.* 77.

Lapathum acutum. *Raii. Syn.* 142.

β . *L. acutum minimum.* *Dill. in Raii Syn.* 141.

THIS *Rumex* has been enveloped in such confusion, I should hardly venture, without the most certain documents, to undertake its illustration. It is the *acutus* of the Linnæan herbarium, and agrees with the character in *Sp. Pl.* From Ray's excellent though short description there can be no doubt of its being his *Lapathum acutum*. It does not agree with Mr. Hudson's description of his *paludosus*, (a plant I do not pretend to know,) but I rather believe he confounded ours with the common *Lap. viride* of Dillenius under his *R. acutus*, and Mr. Curtis seems to have done the same. His figure agrees with our plant, but his letter-press rather with *L. viride*, which is truly a variety of *R. sanguineus*, only one of its valves having a prominent grain. I have therefore perhaps too incautiously quoted the figure of Curtis for *R. sanguineus* β in the *Fl. Brit.*

Our genuine *R. acutus* seems not uncommon in marshy meadows. This specimen grew at Surlingham, below Norwich, flowering in July. Root perennial. Stem angular, furrowed, smooth, rather zigzag. Leaves narrow. Branches elongated, bearing numerous drooping flowers, almost always accompanied by small stalked leaves. Seed small, enclosed in valves, formed of the petals, which are oblong, entire, rarely toothed at the base, each constantly bearing a large red prominent grain. The flowers are male, female, and hermaphrodite, some of the males having, according to Mr. Sowerby, 12 stamina.



Opuntia...

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[1999]

R U M E X obtusifolius.

*Broad-leaved Dock.**HEXANDRIA Trigynia.*

- GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.
- SPEC. CHAR. Valves toothed, one principally grained. Radical leaves heartshaped, obtuse. Stem roughish.
- SYN. *Rumex obtusifolius.* *Linn. Sp. Pl.* 478. *Sm. Fl. Brit.* 392. *Huds.* 155. *With.* 357. *Hull.* 78. *Relh.* 142. *Sibth.* 118. *Abbot.* 81. *Curt. Lond. fasc. 3. t. 22.*
- Lapathum vulgare, folio obtuso. Raii Syn.* 141.

NOT less common than *R. crispus* figured in our last plate, and, as Mr. Curtis remarks, even more troublesome as a weed, on account of its much larger leaves. It flowers in July and August, and is perennial.

Root tap-shaped, blackish, yellow within, bearing numerous stems 2 or 3 feet high, which are upright, branched, leafy, round, furrowed, rough chiefly in their upper part. Radical leaves very large, heartshaped, more or less blunt, on long stalks; stem leaves much narrower and more pointed, on shorter stalks; all in some degree crenate and crisped, though less than in *R. crispus*. Clusters with few leaves, often without any. Valves of the fruit rather large, oblong-heartshaped, veiny, entire at the upper part, but having 3 sharp prominent teeth at each side near the base. An oblong grain is chiefly to be observed on the outermost valve, which is smaller in proportion to the valve than in some other kinds.

Mr. Curtis recommends frequent mowing as a sure means of destroying this weed. Farmers find their account in hiring persons to eradicate docks, under which name many tap-rooted plants are included besides real species of *Rumex*.

1999



April 1 1899 Published by Jas. Sowerby London

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[1576]

RUMEX pulcher.

Fiddle Dock.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Valves toothed, one of them bearing a larger grain than the rest. Radical leaves fiddle-shaped. Stem smooth, straggling.

SYN. *Rumex pulcher.* *Linn. Sp. Pl.* 477. *Sm. Fl. Brit.* 393. *Huds.* 153. *With.* 356. *Hull.* 78. *Relh.* 143. *Abbot.* 82.

Lapathum pulchrum bononiense sinuatum. *Raii Syn.* 142.

FOUND in dry gravelly pastures and waste ground, flowering about August. The root is perennial.

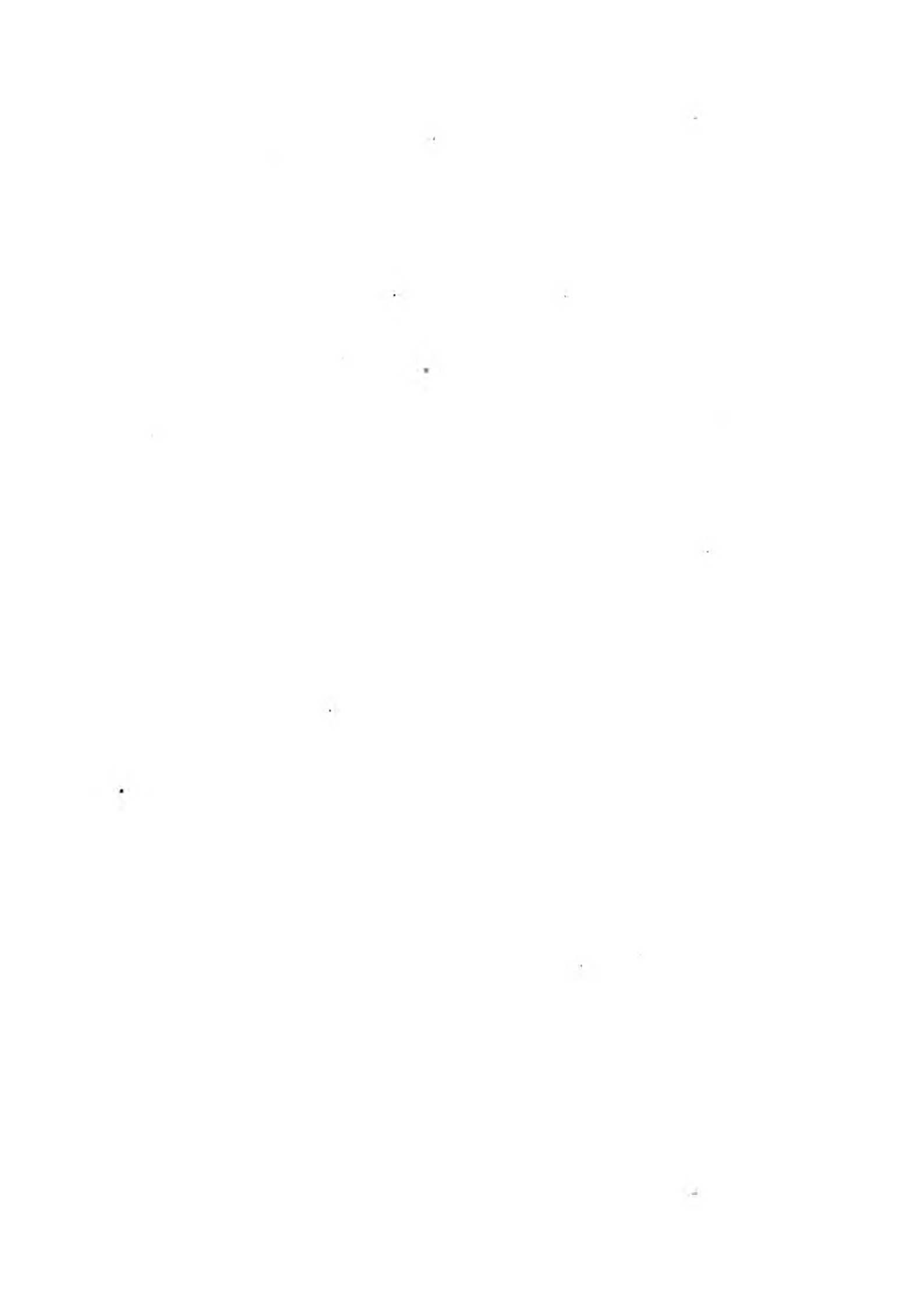
The stems grow in a spreading straggling manner, partly procumbent, and are much branched, divaricated, striated, smooth to the touch. Radical leaves on long stalks, obtuse, slightly notched, contracted in the middle, so as to represent, more or less accurately, the form of a fiddle, or some sort of guitar; the stem-leaves are small, narrow, and undivided. The branches form long leafy clusters of green pendulous flowers, with yellow anthers. The enlarged petals (or valves of the fruit) are deeply and sharply toothed, each bearing an oblong reddish grain, which in one of them is commonly larger than in the rest. Seed acutely angular, smooth and polished.

1670



Menyanthes triflorata L. *Menyanthes* *triflora* L.

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R U M E X maritimus.

Golden Dock.

 HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Valves triangular, grained, fringed with bristly teeth. Leaves linear. Whorls crowded.

SYN. *Rumex maritimus.* *Linn. Sp. Pl.* 478. *Sm. Fl. Brit.* 393. *Hudf.* 155.

R. aureus. *With.* 356. *Abbot.* 81. *Hull.* 78.

Lapathum folio acuto, flore aureo. *Raii Syn.* 142.

BY the trivial name of this species we should expect to find it only near the sea; which is far from being exactly the case. It abounds indeed for the most part in marshes within the reach of the tide, but sometimes occurs also very far inland, as at Goldington, Bedfordshire, from whence Mr. Abbot sent this specimen. It is perennial, flowering in July and August; and as the seeds ripen, the whole plant assumes a rich tawny-yellow hue, whence the names of Golden Dock, and *Rumex aureus*, more apposite perhaps than the Linnæan denomination.

The root consists of whorled fibres, as in many aquatic plants. Stem branched, leafy, angular, furrowed, roughish, often red. Leaves linear, entire, flat, not waved. Clusters of flowers of numerous, dense, leafy whorls. Valves of the fruit triangular, each bearing an oblong (not globular) grain, and fringed on each side with about 4 narrow sharp teeth, longer than the valve itself. Seed small.

The *R. maritimus* of Mr. Curtis, *Fl. Lond. fasc.* 3. t. 23, which he, as well as Linnæus and Hudson, confounded with this, is a very distinct species, known by its more slender growth, distant whorls, less golden hue, and especially by the shortness of the teeth of its valves. This is not at all a maritime plant. It is described in *Fl. Brit.* by the name of *palustris*.

725.



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[1932]

R U M E X palustris.

*Yellow Marsh Dock.**HEXANDRIA Trigynia.*

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Valves lanceolate, grained, toothed at the base. Leaves linear-lanceolate. Whorls distant.

SYN. *Rumex palustris.* *Sm. Fl. Brit.* 394. *Galpini* 30.

R. maritimus. *Huds.* 155 β. *With.* 356. *Hull.* 78.

Curt. Lond. fasc. 3. t. 23. *Ehrh. Herb.* 74.

Lapathum aureum. *Dill. in Raii Syn.* 142.

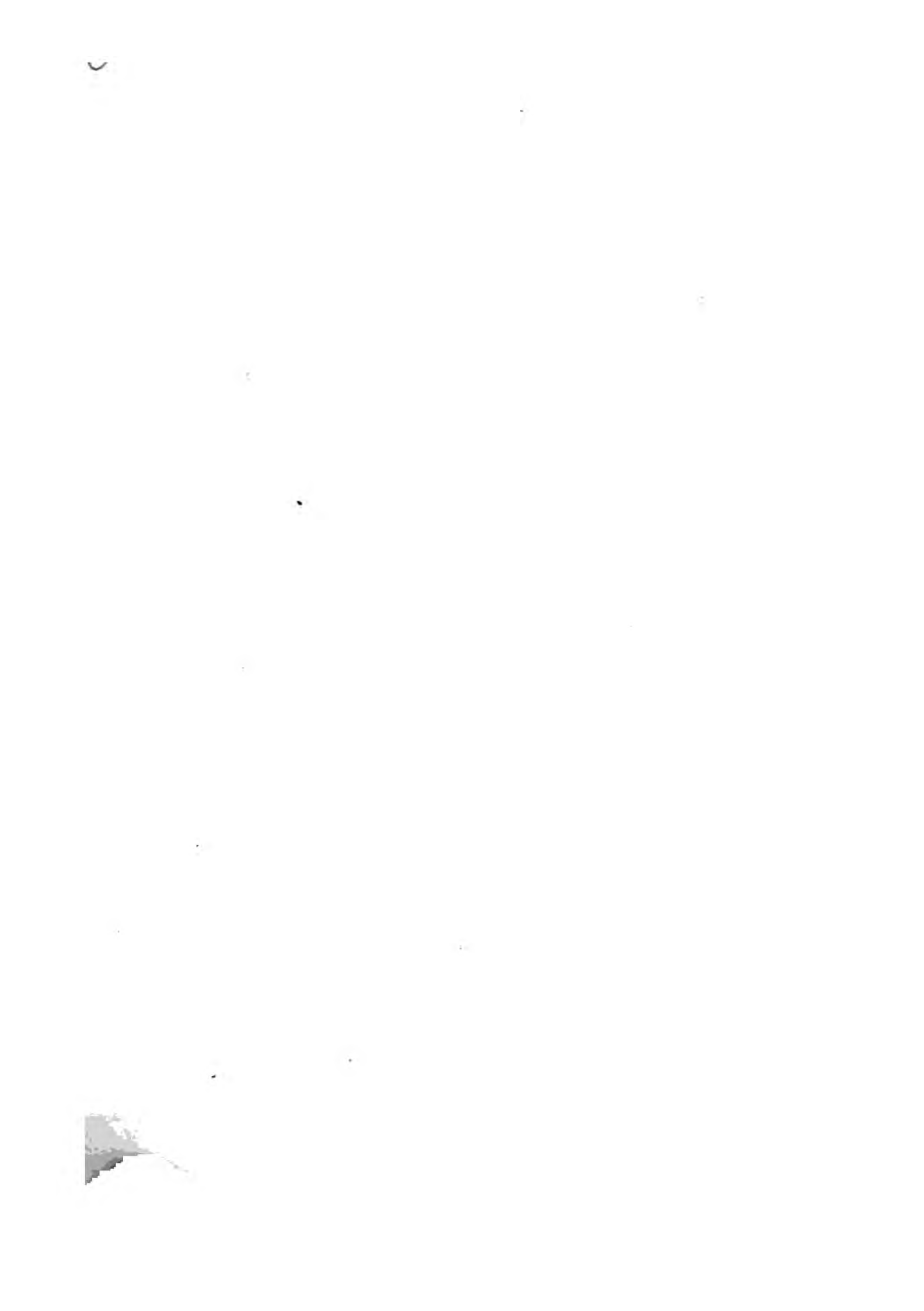
NOT rare in St. George's fields and other marshy places near London, where it flowers in June and July, ripening seed throughout the latter part of summer.

Root perennial, internally red, with whorled fibres. Stem 2 feet high, branched, leafy, furrowed, rough, sometimes reddish. Leaves linear-lanceolate, acute, rather crisped at the edges; the radical ones large in proportion to the rest; the floral ones small and narrow. Whorls numerous, remote when in flower, green, each accompanied by a spreading leaf; in fruit they become more crowded, and tawny, but not of so rich a golden hue as in *R. maritimus*, *t.* 725. Valves of the fruit lanceolate, each bearing an oblong grain, and furnished on each side near the base with 3 bristle-shaped teeth, much shorter than in the *maritimus*, from which we think this species unquestionably distinct.

1932



Sept. 2. 1932. Published by J. C. Dewar, London.





RUMEX aquaticus.

*Great Water Dock.**HEXANDRIA Trigynia.*

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. *Valves* ovate, entire, bearing small grains. *Leaves* lanceolate, acute; the lower ones heart-shaped at the base.

SYN. *Rumex aquaticus.* *Linn. Sp. Pl.* 479. *Sm. Fl. Brit.* 394. *Hull. ed.* 2. 102. *Lightf.* 190. *Relh.* 144.

R. Hydrolapathum. *Huds.* 154. *With.* 355. *Sibth.* 118. *Abbot.* 82. *Woodv. Med. Bot. t.* 178.

Lapathum maximum aquaticum, sive Hydrolapathum. *Raii Syn.* 140.

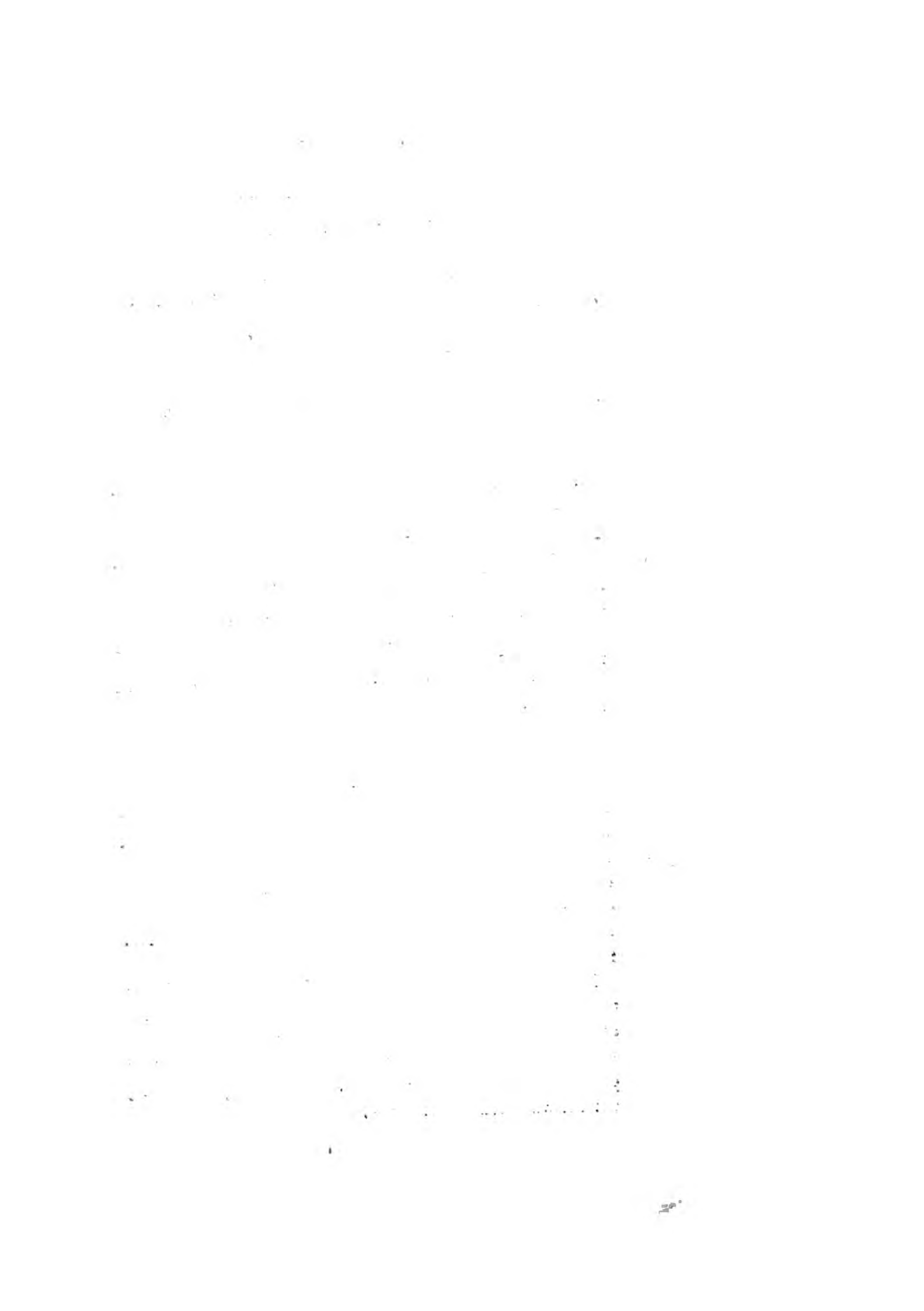
WE know not why there should have been any difficulty in determining the synonyms of this plant, which is clearly the *R. aquaticus* of Linnæus. The *paludosus* of Hudson seems to be a variety of it; but no one has ascertained exactly what he intended.

This is by far the largest of our Docks, and grows abundantly in watery places, having a large knobby perennial root, the stem rising to the height of 4 or 5 feet. The leaves are somewhat glaucous, lanceolate, acute and entire; the lower ones heart-shaped at the base. The flowers come forth copiously in July and August, and the large brown shining seeds remain long, in rather close drooping whorls. The permanent petals are ovate, veiny, entire, rarely somewhat toothed, each bearing a small oblong reddish grain, varying in size occasionally in one of them.

The root is very astringent, and the late Sir John Hill recommended it as a medicine of great efficacy in the scurvy. Linnæus was of the same opinion, and brought it into extensive use in Sweden. Perhaps it is too common to be much esteemed amongst us.



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RUMEX digynus.

Mountain Sorrel.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Valves ovate, entire, without grains. Styles two.

SYN. *Rumex digynus.* *Lin. Sp. Pl.* 480. *Sm. Fl. Brit.* 395. *Huds.* 156. *With.* 357. *Hull.* 78. *Lightf.* 190.

Acetosa rotundifolia repens Eboracensis, folio in medio deliquium patiente. Raii Syn. 143.

MR. MACKAY has kindly supplied us with this specimen of the Mountain Sorrel, a plant which inhabits moist clefts of rocks and boggy spots about the summits of high mountains in Scotland, Wales, and the northern counties of England, flowering in June.

The root is perennial, deeply fixed in the ground, branching at the top into many heads. Stems 6 or 8 inches high, nearly naked, paniced. Leaves almost entirely radical, on long footstalks, kidney-shaped, cut off as it were at the end, entire, smooth, veiny, of a light pleasant green. Each branch of the stem has a sheathing membranous bractea at its base. The flowers are ranged along the branches in little pendulous tufts. Segments of the calyx unequal, ovate, entire and undivided, destitute of any granulations. Stamina short. Germen obcordate, compressed, with 2 red-edged wings. Styles but 2, short, with red tufted stigmas. The whole herb has an acid flavour mixed with astringency.

Linnæus in *Critica Botanica* p. 220 justly diverts himself at the expence of Morison, who describes the leaf of this *Rumex* as "fainting away in the middle;" see Ray's synonym. He at first conceived Morison intended the garden sorrel with a pale spot on the leaf, as persons who faint always turn pale, but afterwards found his mistake.



... P. ...

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RUMEX Acetosa.

Common Sorrel.

 HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, triangular.

SPEC. CHAR. Flowers diœcious. Leaves oblong, arrow-shaped.

SYN. *Rumex Acetosa.* *Linn. Sp. Pl.* 481. *Huds. Fl. An.* 156. *With. Bot. Arr.* 375. *Relb. Cant.* 149. *Woodv. Med. Bot.* 193. t. 69.

Lapathum acetosum vulgare. *Raii Syn.* 143.

A COMMON inhabitant of meadows and pastures throughout this island, in almost all soils and situations, flowering early in June. The root is perennial, running deep into the earth, astringent, as in most of its tribe. Stem mostly simple, erect, round, deeply striated, from one to two feet high. The radical and lower stem-leaves on long footstalks, with a membranous cylindrical sheathing stipula, embracing the stem, and torn at the top; these leaves are of an arrow shape, entire, or but little undulated in their sides, but at the base cut into two or three large sharpish teeth, pointing backwards, and not (as in some species of *Rumex*) divaricated into a right angle with the outline of the leaf. The upper leaves are sessile, gradually more entire, and at the top of the stem only slightly crisped at their base. A compound sort of verticillate spike terminates the stem, its branches being alternate and nearly erect. The barren flowers are produced on a separate root from the fertile ones; the calyx and corolla small, nearly similar in both. Stamina very short, with large yellow antheræ. Styles short, with large crimson bearded stigmata. The whole herb is acid, with a degree of astringency, not unpleasant nor unwholesome, agreeing much with the different species of rhubarb, to which it is nearly allied.



P. ... 1793

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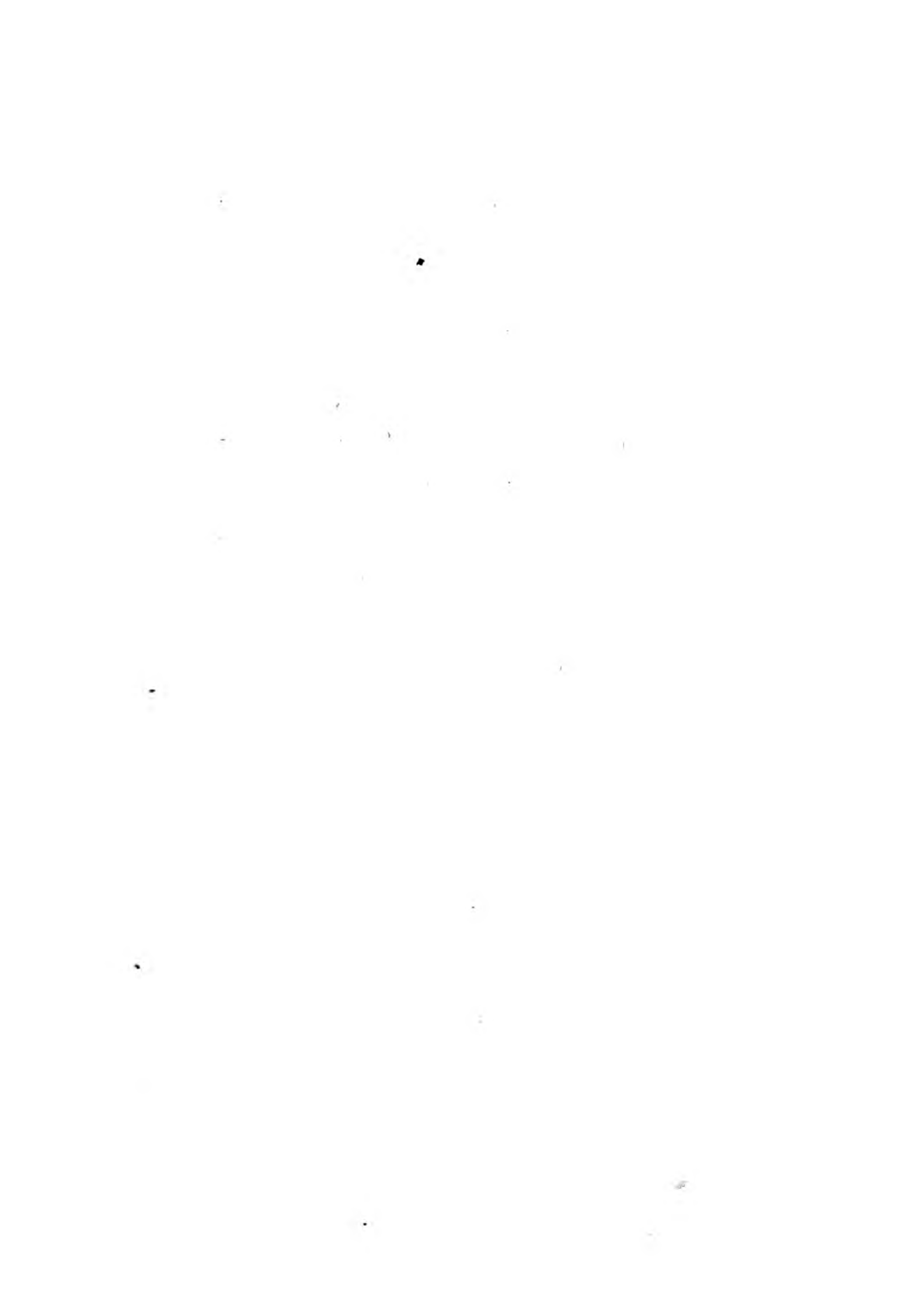
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[1674]

RUMEX Acetosella.

*Sheep's Sorrel.**HEXANDRIA Trigynia.*

GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

SPEC. CHAR. Flowers dioecious. Leaves lanceolate, hastate. Valves without grains.

SYN. *Rumex Acetosella.* *Linn. Sp. Pl.* 481. *Sm. Fl. Brit.* 396. *Huds.* 156. *With.* 358. *Hull.* 78. *Relh.* 145. *Sibth.* 119. *Abbot.* 82. *Curt. Lond. fasc. 5. t. 29.*

Lapathum acetosum repens lanceolatum. Raii Syn. 143.

VERY general on a gravelly soil, either in exposed pastures or cultivated fields, where it flowers in June and July. In the decline of the year its bright red leaves are conspicuous, and give a glow to the herbage on many a barren heath and common.

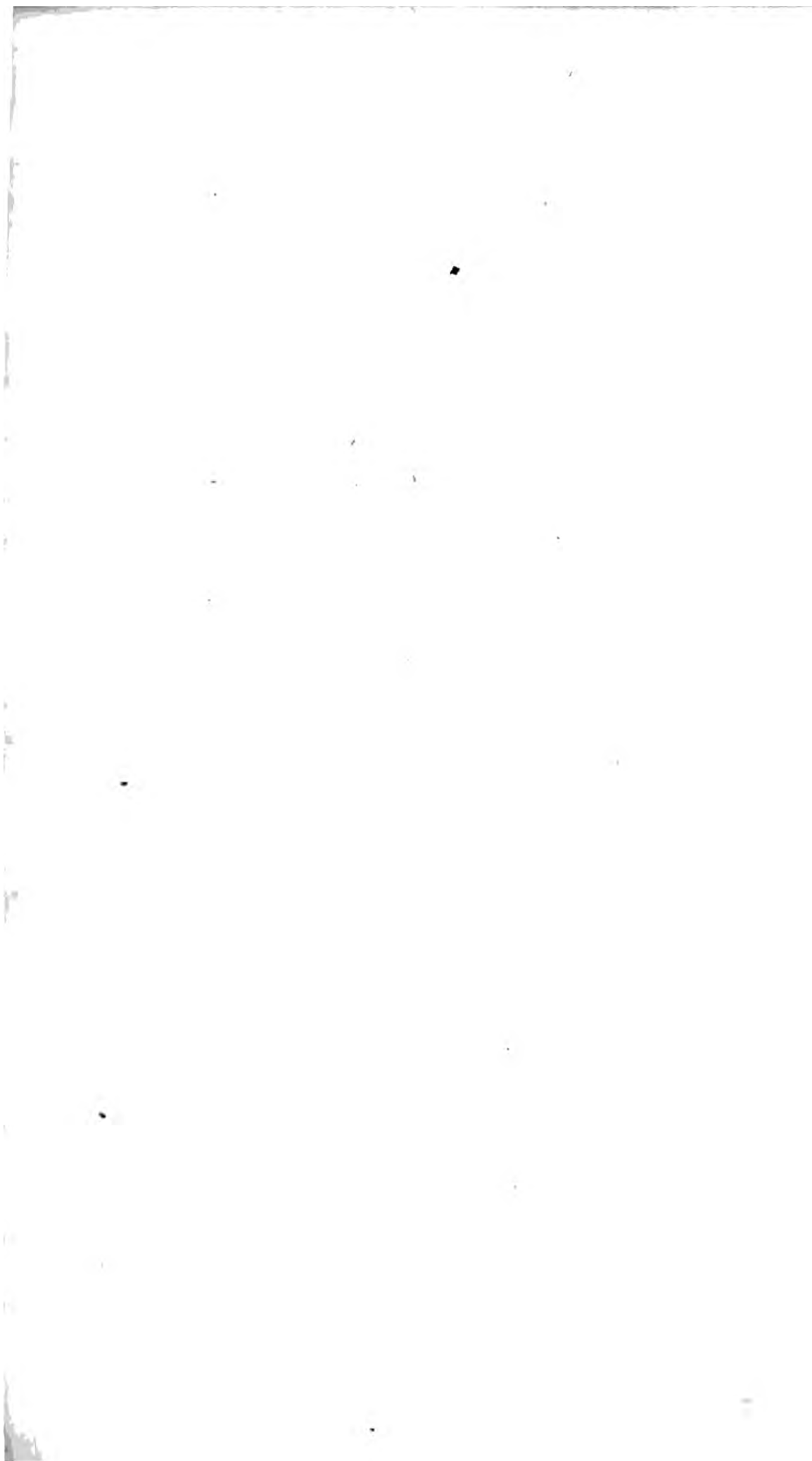
The whole plant is about half the size of *Rumex Acetosa*, *v. 2. t. 127.* The roots are perennial, creeping, long and slender, astringent. Herb acid, and likewise in some degree astringent. Leaves lanceolate; the lower ones with a pair of acute lobes at the base, spreading at nearly right angles. Flowers reddish, in long, whorled, slender spikes; each flower on a drooping capillary stalk, all barren on one root, fertile on another. The valves, or segments of the calyx, are entire, and all destitute of grains, in which last particular it essentially differs from *R. Acetosa*.

1674



Noviss. Publ. by J. J. Severy, London.

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T O F I E L D I A palustris.

Scottish Asphodel.

H E X A N D R I A Trigynia.

GEN. CHAR. *Cal.* 3-cleft. *Pet.* 6. *Styles* vertical, short. *Capsules* 3, superior, united at the base. *Seeds* many. *Antheræ* roundish.

SPEC. CHAR. Petals obovate, obtuse.

SYN. *Tofieldia palustris.* *Huds.* 157. *With.* 358.

Anthericum calyculatum. *Linn. Sp. Pl.* 447. *Lightf.* 181. t. 8. f. 2. *Dicks. H. Sicc. fasc.* 13. 11.

Phalangium scoticum palustre minimum, Iridis folio.

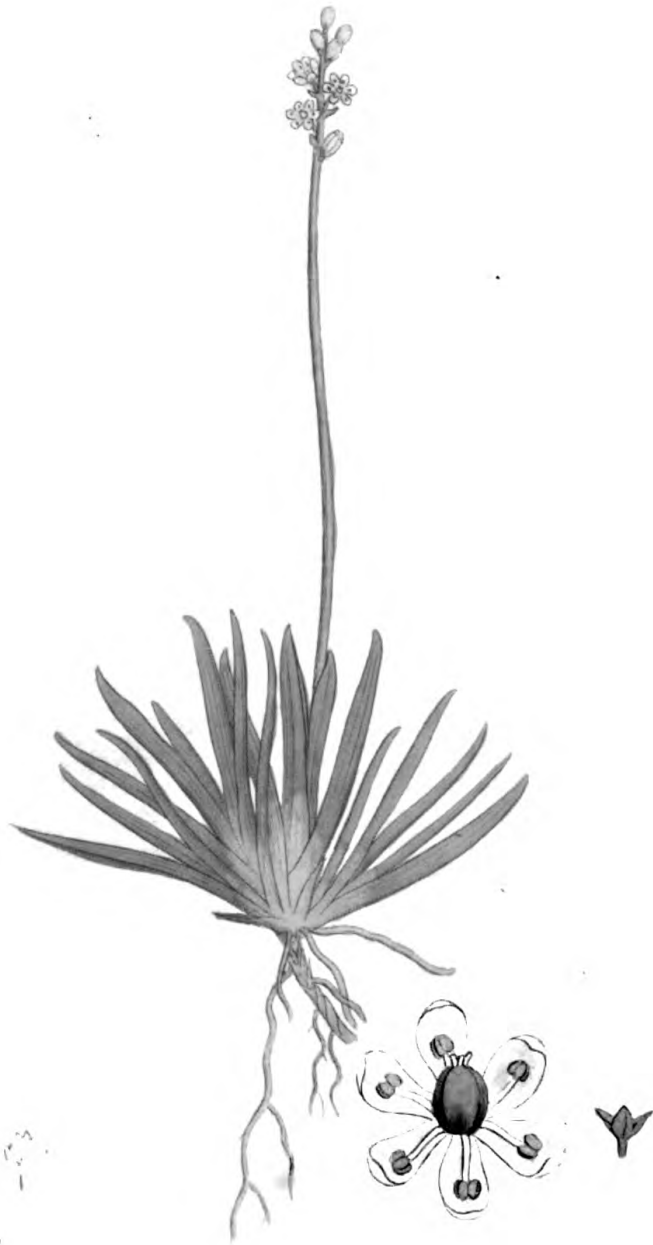
Raii Syn. 375.

A MORE alpine plant than the last, though it grows in a similar soil, and forms green patches in the black boggy margins of trickling rills on the highland moors of Scotland, where it is found abundantly, flowering in August. It has not till lately been known to grow in England; but our wild specimen was sent by Mr. Robson from the county of Durham.

Root woody, with long whitish fibres. Leaves equitant, sword-shaped, nervous, almost all radical. Stem 4 to 8 inches high, nearly naked, simple, round. Spike erect, obtuse. Flowers greenish-white, on very short footstalks. Bractææ solitary, ovate, concave, small, at the base of each footstalk. Calyx small, three-cleft. Petals obovate, blunt, concave, equal, permanent. Stamina opposite to them, but scarcely so long, awl-shaped, smooth. Antheræ heart-shaped, roundish. Germen superior, 3-furrowed. Styles vertical, short, distant. Stigmas blunt. Capsules 3, joined at their base, gibbous, but scarcely inflated. Seeds numerous, elliptical, tawny.

This is a perfectly distinct genus from every other *Anthericum* as well as from *Nartbecium*. We could much have wished to retain the last name for it, as Jussieu, Gerard, Villars, Allioni, and Lamarck (owing as it should seem to the mistake of Haller) have done; but nothing can set aside the prior right of *Nartbecium* as given to the other genus by Moering. Our *Tofieldia* is indeed the original *Anthericum* of Linnæus in *Gen. Pl. ed.* 1. and *Hort. Cliff.*; but so many other species have since been added to it, and are now universally called *Anthericum*, that, as they are a good genus by themselves, it would make too great a confusion to name them afresh. If *Pbalangium* were not the name of an insect, we should have preferred that to *Tofieldia*.

536.



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[1801]

SCHEUCHZERIA palustris.
Marsh Scheuchzeria.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal. none. Petals 6. Stigmas sessile, lateral. Capsules 3, superior, inflated. Seeds 1 or 2. Anthers linear.*

SPEC. CHAR.

SYN. *Scheuchzeria palustris. Linn. Sp. Pl. 482. Fl. Lapp. ed. 2. 103. t. 10. f. 1. Ehrh. Phytoph. 24. Fl. Dan. t. 76. Hall. Hist. v. 2. 166. Roth. Germ. v. 2. 419.*

Juncoidi affinis palustris. Scheuchz. Agr. 336.

Gramen junceum aquaticum, semine racemoso. Loes. Pruss. 114. t. 28.

IT has now and then in the course of this work fallen to our lot to add a new genus to the Flora of Britain, and such is the plant before us, discovered by the Rev. Mr. Dalton, in June 1787, growing abundantly, along with *Lysimachia thyrsoflora*, in Lakeby Car near Borough-bridge, Yorkshire. This at least is no outcast of gardens, for we are pretty certain that no person ever attempted to cultivate it. Even on the Alps of Switzerland it is considered as extremely rare. Haller never found it, and suspected it to be lost. We have however received Swiss specimens from the late Mr. Davall. In Lapland and Norway the *Scheuchzeria* is less uncommon. It grows always in very wet spongy bogs. Linnæus named this "grassy alpine genus" after two brothers, one of whom excelled in the knowledge of grasses, the other of alpine plants. See *Crit. Bot.* 79.

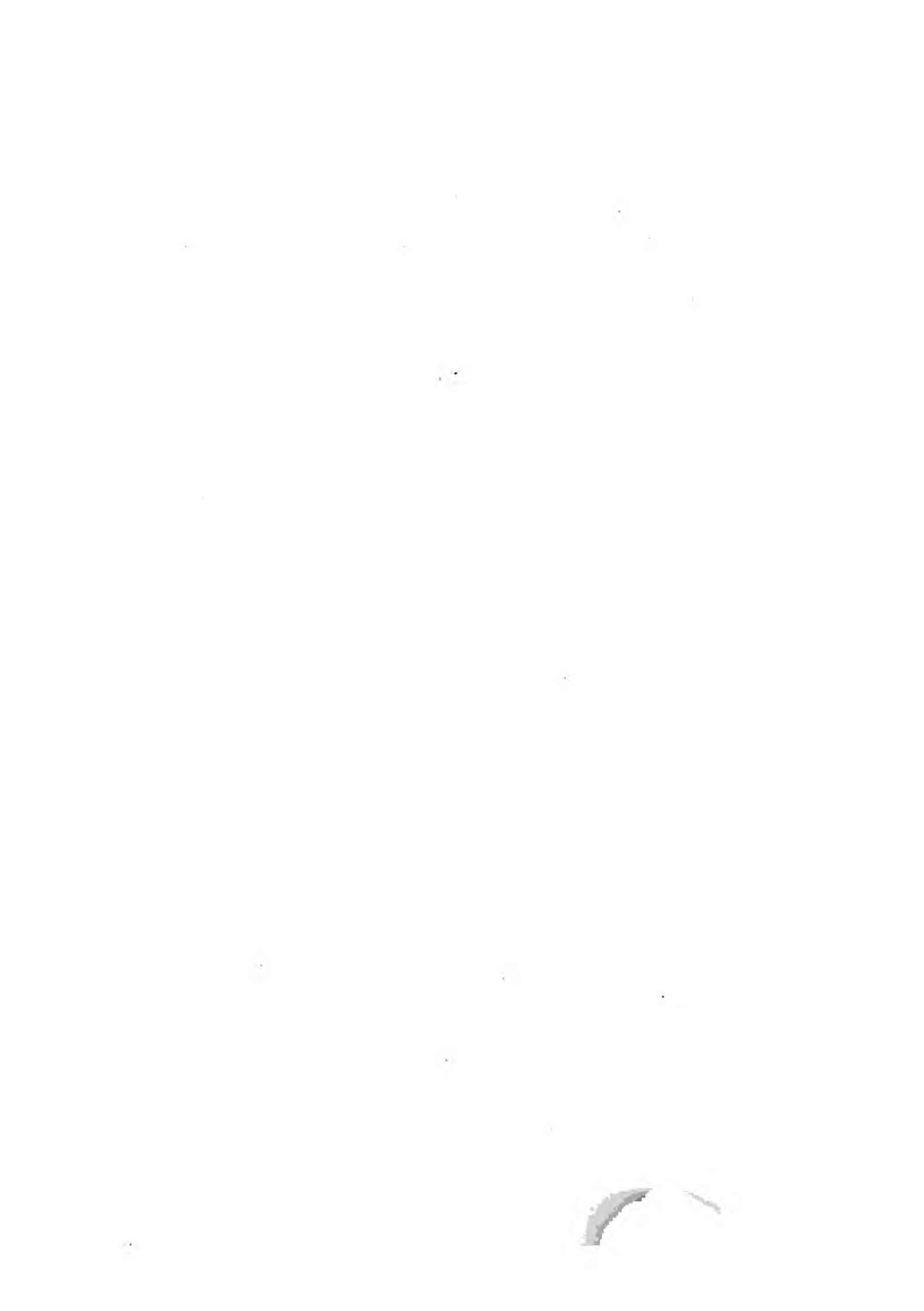
The root is long, creeping, scaly, and perennial. Stems erect, simple, a span high. Leaves few, sheathing, rushy, semicylindrical, rising above the top of the stem, mostly radical, each having a pore at its point, first remarked by Mr. Dalton, through which water oozes when the leaf is compressed. Flowers in a simple, terminal, bracteated cluster, greenish brown, small and inconspicuous. Petals recurved, equal and uniform, yellowish green. Stamens slender and flaccid. Anthers brown, vertical, linear, bursting by 2 longitudinal internal pores. Germens ovate, 3, occasionally 4, 5 or 6, with lateral, sessile, oblong, downy stigmas. Capsules globose, inflated, each containing 1 or 2 roundish seeds. —The analogy of *Tofieldia*, t. 536, and other genera, leads us to consider this flower as having a corolla rather than a calyx, about which Linnæus is at variance with himself.



Iris sibirica Published by Jas. Sowerby London.

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TRIGLOCHIN palustre.
Marsh Arrow-grass.

HEXANDRIA Trigynia.

GEN. CHAR. Cal. 3-leaved. Petals 3, like the calyx.
Style none. Capsule bursting at the base.

SPEC. CHAR. Capsules linear, of three cells.

SYN. Triglochin palustre. Linn. Sp. Pl. 482. Huds.
Fl. An. 152. With. Bot. Arr. 378. Relh. Cant.
146. Sibth. Ox. 119.

Juncajo palustris & vulgaris. Raii Syn. 435.

Gramen aquaticum spicatum. Ger. em. 13.

THIS species of *Triglochin* is full as common in wet boggy meadows, as that we have figured *tab. 255* is in salt marshes, flowering about the middle of summer.

The root is fibrous, tufted, and perennial. Leaves rushy, somewhat more slender and less fleshy than in the *maritimum*, but like them semicylindrical, with a membranous, vaginating, intrafoliaceous stipula. Stalk solitary, erect, longer than the leaves, bearing a long, thick-set, but slender, spike of numerous flowers, smaller than those of the species just mentioned. The most striking and certain distinction however between the two is that the fruit of *T. palustre* is much more long and slender, having only 3 cells and 3 valves instead of 6. These valves, separating from the base, look like a three-barbed arrow-head.

All cattle will eat the Marsh Arrow-grass, and Dr. Withering says cows are extremely fond of it; yet we know not that it has as yet obtained much attention from the experimental farmer.

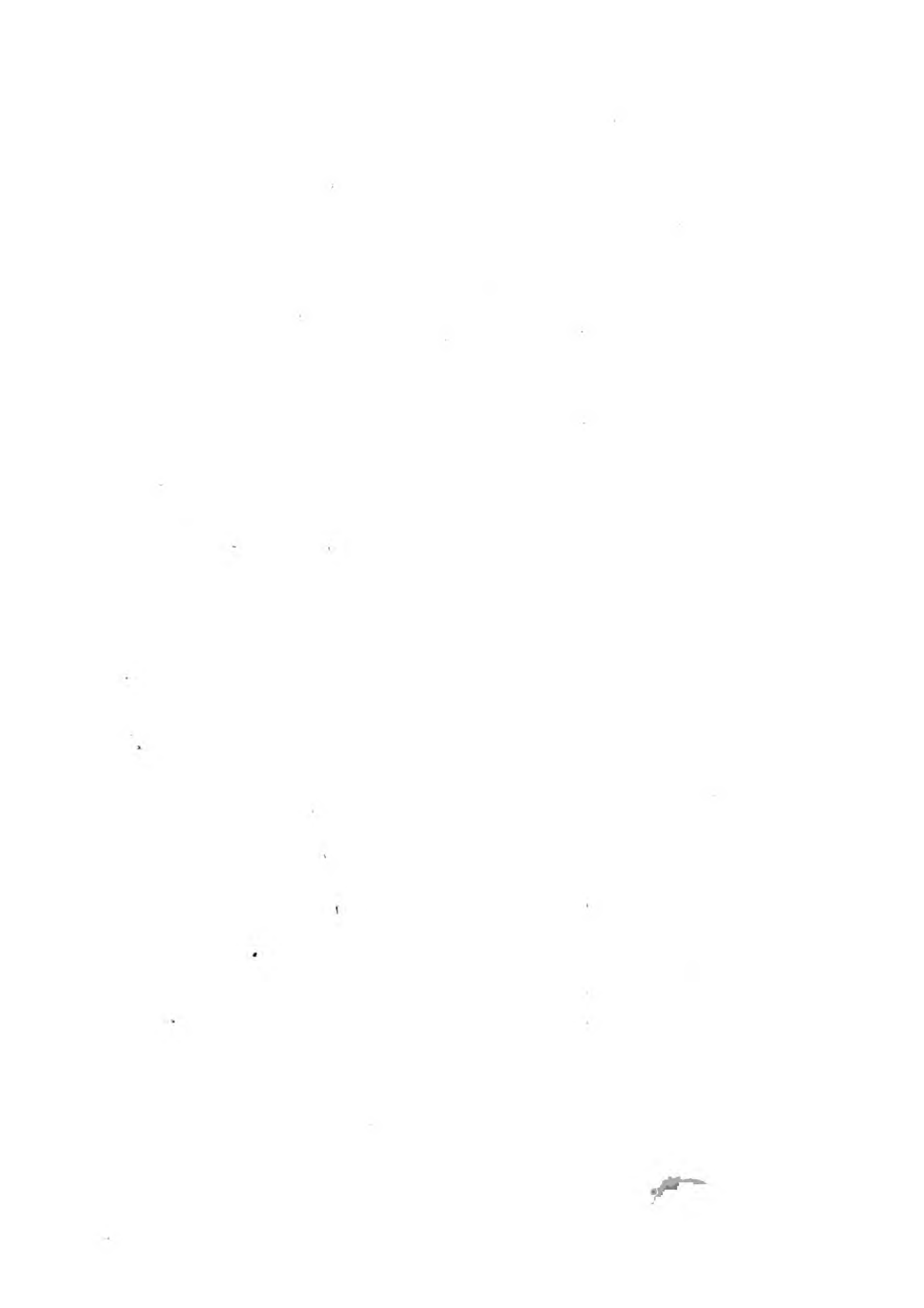


Jan 1792 P. H. H. 267 / Herbar. Linn.



1





TRIGLOCHIN maritimum.

Sea Arrow-Grass.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* three-leaved. *Petals* 3, like the calyx. *Style* none. *Capsule* bursting at the base.

SPEC. CHAR. Capsules ovate, of six cells.

SYN. Triglochin maritimum. *Linn. Sp. Pl.* 483.

Hudf. Fl. An. 152. *Witb. Bot. Arr.* 378.

Gramen marinum spicatum. Raii Syn. 435.

G. spicatum alterum. Ger. em. 20.

COMMON in salt marshes, and muddy shores of large rivers where the salt tide comes, as about the Thames near Rochester, &c.

The root is strong, woody and perennial, with long straight fibres. Leaves rushy, semicylindrical, fleshy, with an involute intrafoliaceous membranous stipula. Stalk solitary, scarcely longer than the leaves, inclining at the base, terminating in a simple dense spike of numerous greenish-purple flowers, on short flower-stalks, not all leaning one way as in the figure in Gerarde. The 6 antheræ are almost sessile, and very large before they burst. Germen with 6 furrows, changing to a capsule of the same shape and same number of cells, the more common fresh-water *Triglochin* having but three.

This species flowers throughout the summer. From the observation of Linnæus, that all domestic cattle are very fond of it, Dr. Stokes justly recommends it to the notice of those who possess salt marshes.



✓





COLCHICUM autumnale.

Meadow Saffron.

HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* a spatha. *Cor.* in 6 divisions, tube arising from the root. *Capsules* 3, connected and inflated.

SPEC. CHAR. Leaves plane, lanceolate, and erect.

SYN. *Colchicum autumnale.* *Linn. Sp. Pl.* 485. *Huds. Fl. An.* 157. *With. Bot. Arr.* 379. *Woodv. Med. Bot.* 483. t. 177.

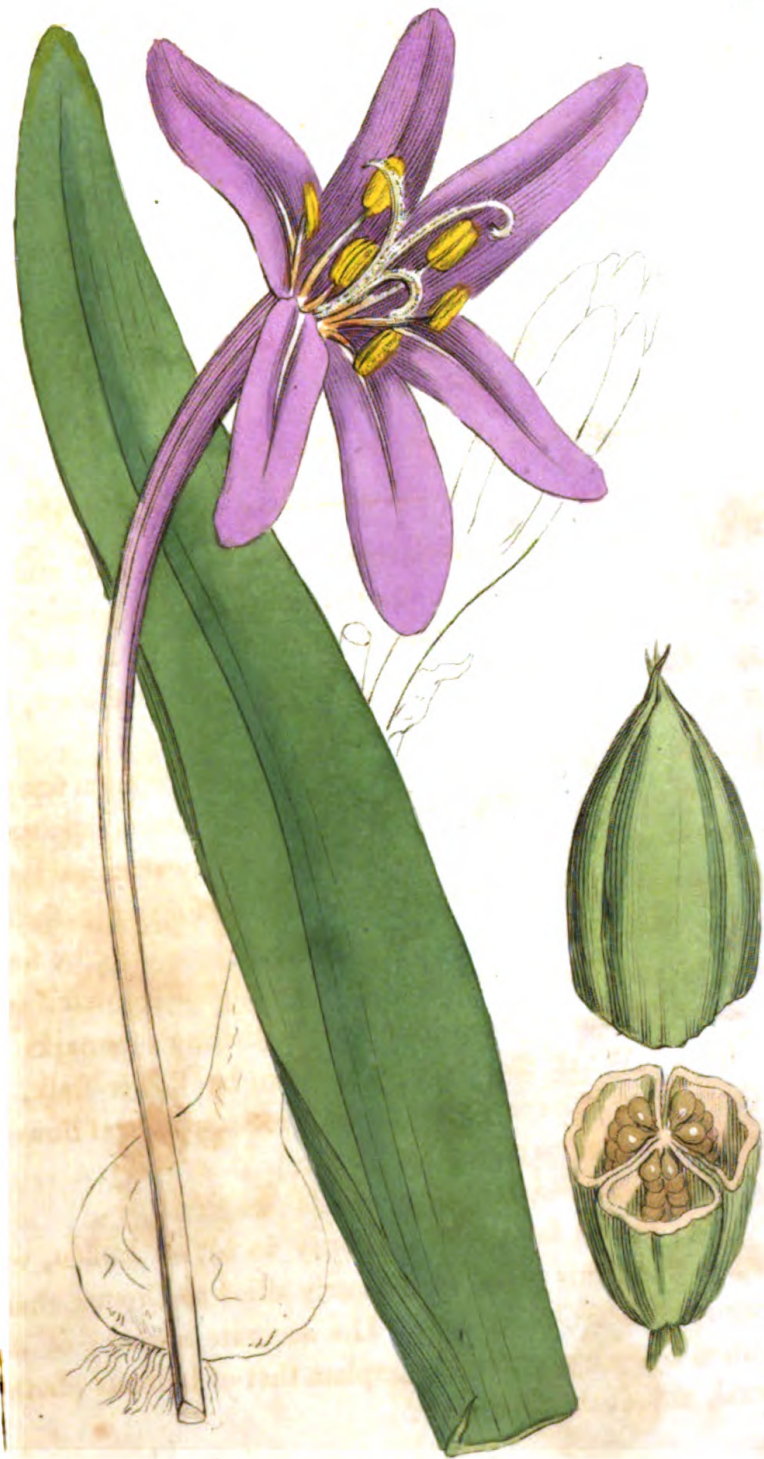
C. commune. *Raii Syn.* 373.

SOME meadows in Suffolk produce the Colchicum, and that in but too great abundance for the interest of the grazier. It is also said to be found in various parts of the north and west of England. This specimen was gathered by W. Matthew, Esq. of Bury.

The plant before us exhibits a mode of fructification scarcely paralleled among British vegetables. The flowers appearing very late in autumn, the impregnated germen remains latent under ground quite close to the bulb till the following spring, when the capsule rises above the surface, accompanied by several long upright leaves, and the seeds are ripened about June, after which the leaves decay (see Dr. Withering's remarks in *Bot. Arr.*). What therefore appears to be flower-stalk, is only the tube of the corolla, as in the Crocus. Several flowers are enclosed in one membranous spatha.

Its qualities agree with those of squills (see *With.*).

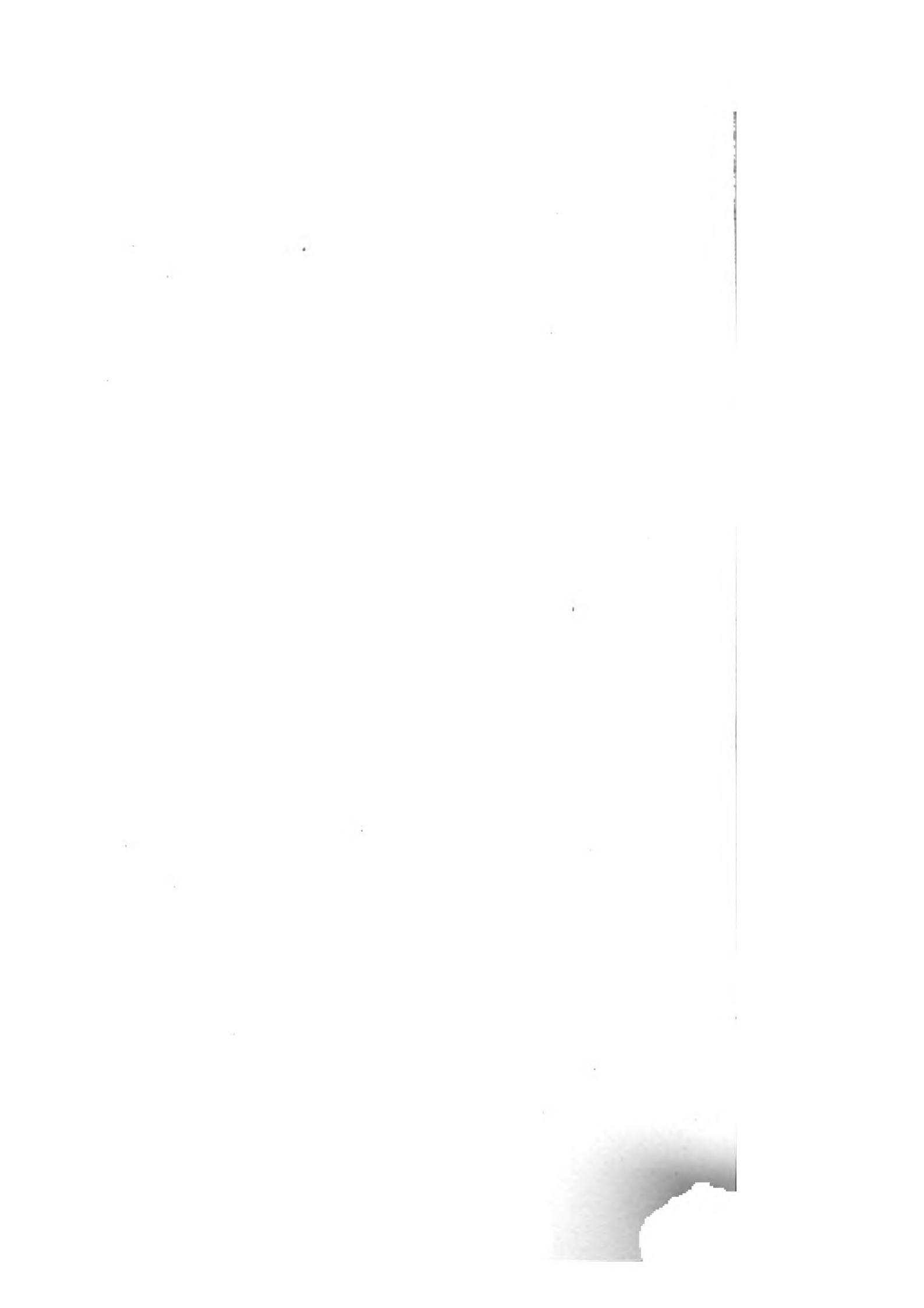
If we may dissent from such authority as M. de Jussieu, we cannot but think this genus more nearly allied to Crocus than to Veratrum (*Juss. Gen.* p. 47). His accurate account of its propagation by root may serve to explain that of bulbous plants in general, and of the Orchideæ.



... della Sepia 1793

✓





COLCHICUM autumnale, *flor. serotinis.**Tardy-flowering Meadow Saffron.*

 HEXANDRIA Trigynia.

GEN. CHAR. *Cal.* a spatha. *Cor.* in 6 divisions, tube arising from the root. *Capsules* 3, connected and inflated.

SPEC. CHAR. Leaves plane, lanceolate, and erect.

Var. with late green abortive flowers.

A REPRESENTATION of this plant in its proper and usual state may be found in our 2d vol. t. 133. It is not without reluctance that we admit any varieties or monstrosities into this work, but so extraordinary an appearance as the present, so puzzling to common observers, and no where, to our knowledge, mentioned, cannot surely be unacceptable.

We are informed by Mr. Salmon, to whom we are obliged for specimens, that this plant has been observed for 6 or 7 years past in a meadow near Devizes, Wilts, in the months of April or May. It is unquestionably no other than *Colchicum autumnale* bearing leaves at its proper season, and along with them, from the same bud, tardy abortive flowers, which should have come forth the autumn before, and by this time have perfected seed. Instead of which their stamens and other parts are imperfect, there is no pollen in the antheræ, and even the corolla is drawn out into long greenish ill-coloured segments, owing as it should seem to the cold and moisture of the vernal season. This however must be esteemed a *late* and not an *early* flowering variety with respect to its usual mode of production.



✓



A L I S M A Plantago.
Greater Water-Plantain.

HEXANDRIA Polygynia.

GEN. CHAR. *Cal.* of 3 leaves. *Petals* 3. *Capsules* many, aggregate, generally single-seeded.

SPEC. CHAR. Leaves ovate, acute. Capsules obtusely triangular.

SYN. *Alisma Plantago*. *Linn. Sp. Pl.* 486. *Sm. Fl. Brit.* 400. *Huds.* 158. *Willd.* 361. *Hull.* 78. *Relb.* 150. *Sibth.* 120. *Abbot.* 83. *Curt. Lond. fasc.* 5. t. 27.

Plantago aquatica. *Raii Syn.* 257.

POOLS and ditches, and sometimes the borders of flow streams, are plentifully adorned with the large branching stems and numerous white or purplish flowers of the Great Water Plantain in the middle of summer.

The root is fibrous and perennial, fixed in the mud under water. Leaves all radical, erect, on long stalks, ovate, acute, entire, ribbed, smooth, various in size and breadth, all standing out of the water. Flower-stalk rising frequently 2 or 3 feet above the surface, composed of numerous, whorled, compound, spreading, bracteated branches. Each flower stands on a partial stalk, erect, composed of three short-lived jagged petals. The germens are compressed, three-sided, ranged in a circle like those of the Mallow tribe, each terminated by a crooked style. The capsules agree in form and position with the germens.

We can find no satisfactory reasons for making the *A. lanceolata* of Withering a distinct species from this, as it seems merely a small variety with narrower leaves. Aquatic plants in general are liable to vary in the breadth of their leaves, witness the *Sagittaria*, *Ranunculus aquatilis*, and some species of *Potamogeton*.



Fig. 1. 1801. Published by J. Sowerby, London.

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[1615]

A L I S M A Damasonium.
Star-headed Water-Plantain.

HEXANDRIA Polygynia.

GEN. CHAR. *Cal.* of 3 leaves. *Petals* 3. *Capsules* many, aggregate, generally single-seeded.

SPEC. CHAR. Leaves oblong; heartshaped at the base. Styles six. Capsules awlshaped.

SYN. *Alisma Damasonium.* *Linn. Sp. Pl.* 486. *Sm. Fl. Brit.* 401. *Huds.* 159. *With.* 361. *Hull.* 79. *Curt. Lond. fasc.* 5. t. 28.

Damasonium stellatum Dalechampii. *Raii Syn.* 272.

GATHERED frequently in Wanstead Park, Essex, by Mr. Sowerby. It grows in watery places on a gravelly soil, and has been observed chiefly within 20 miles of London; yet we learn from the Botanist's Guide that it has also been found at Ellesmere, Shropshire, as well as in Suffolk and Sussex. It is perennial, and flowers in June and July.

Root of many long fibres. Leaves floating, all radical, on round stalks, dilated and bordered with a membrane in their lower part; the leaf itself is of a long elliptical obtuse form, heartshaped at the base, entire, smooth, with a strong midrib, 2 small ribs near the margin, and many transverse veins. Stalks 1 or 2, about a span high, round, simple, bearing 2 or 3 umbels one above another, which give it a whorled appearance. Flowers whitish. Germens but 6, upright, each crowned with a small taper stigma. Capsules 6, spreading in a star, like those of the *Illicium* or Starry Anise, compressed, pointed, each holding 1 or 2 seeds.

I am not afraid of offending my candid friend Jussieu by not adopting his genus *Damasonium*. Linnæus observes "*rard observatur genus, in quâ pars aliqua fructificationis non aberrat.*" *Phil. Bot. sect.* 170. This appears to be the case with the seed-vessels of *Alisma* with respect to form, number and direction. *Fumaria* is another instance of the same aberration.



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of the other

ALISMA natans.

*Floating Water-Plantain.**HEXANDRIA Polygynia.*

GEN. CHAR. *Cal.* of 3 leaves. *Petals* 3. *Capsules* many, aggregate, generally single-seeded.

SPEC. CHAR. Leaves elliptical, obtuse. Flower-stalks solitary. Capsules striated.

SYN. *Alisma natans.* *Linn. Sp. Pl.* 487. *Sm. Fl. Brit.* 402. *Huds.* 158. *With.* 362. *Hull.* 79.

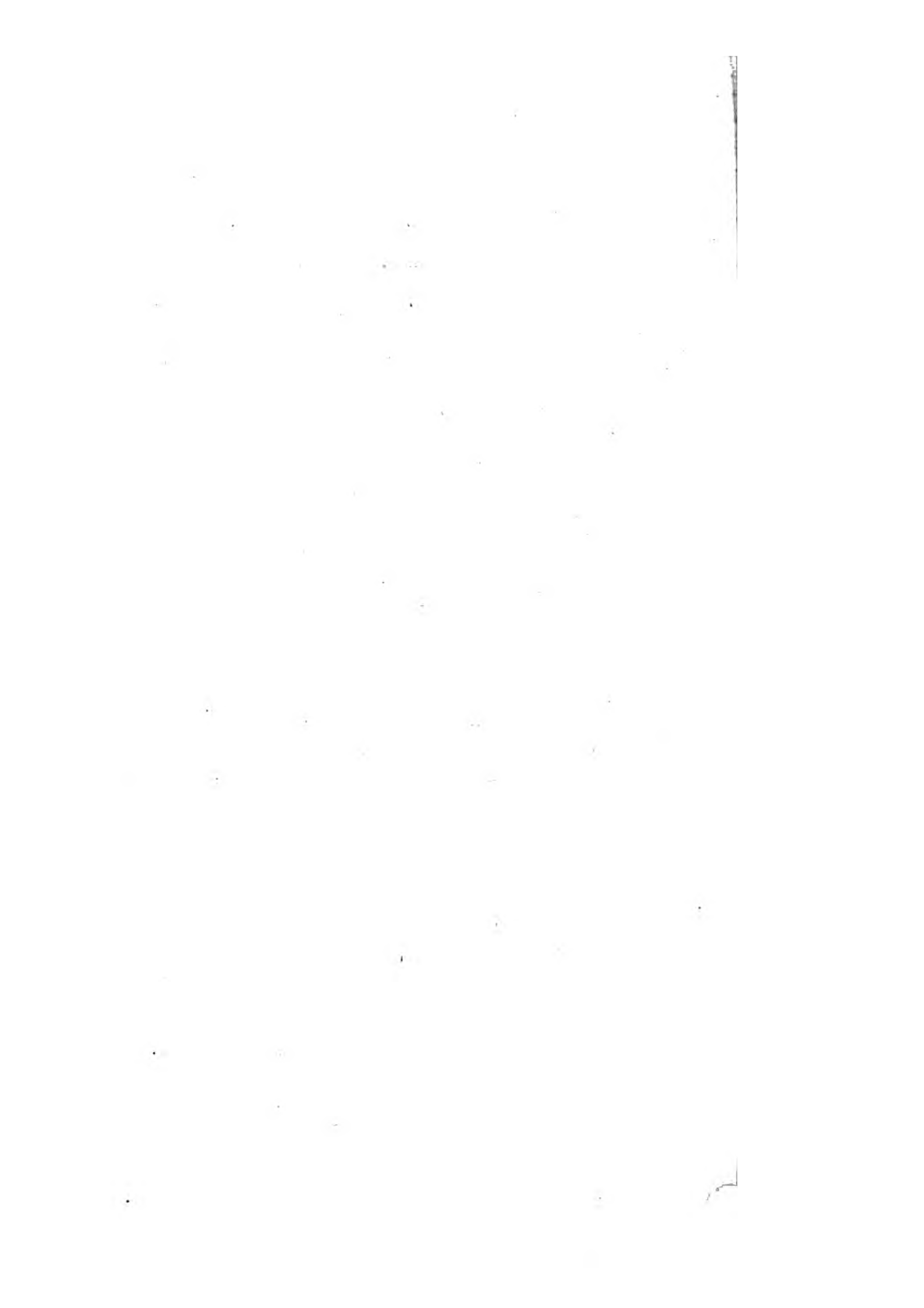
RAY and Dillenius were unacquainted with this plant as a native of Britain. Mr. Brewer seems to have been its original discoverer in the great lake near Llanberris, where, as well as in other alpine lakes about Snowdon, it still grows. From thence our living specimens were brought to the garden of the Rt. hon. Charles Greville at Paddington, under whose care they flowered vigourously in May 1800. This gentleman has gathered the same plant in Kefwick lake. We have also received wild dried specimens, gathered in Bala lake, Merionethshire, by the Rev. Mr. Wood of Leeds, with which Mr. Greville's cultivated ones perfectly agree.

The root is fibrous and perennial. Herb floating, consisting of many long round stems, of the size of a small packthread, producing from each joint two or more elliptical entire leaves on long footstalks, with one or two large delicate white flowers, each standing erect above the surface of the water on a long purplish flowerstalk. The petals are yellow at their base. Stamina six, short. Germens from 6 to 12, each becoming a ribbed or striated capsule. The abovementioned leaves float on the surface, to which purpose their long flexible stalks are well adapted; but there are also long linear-lanceolate radical leaves, always immersed in the water, and still distinct enough from the membranous stipulæ that accompany the footstalks of the others.

77^b



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ALISMA ranunculoides.

Lesser Water Plantain.

HEXANDRIA Polygynia.

GEN. CHAR. *Cal.* of three leaves. *Petals* three.
Seeds many.

SPEC. CHAR. Leaves linear-lanceolate. Fruit glo-
bose. Seeds acute.

SYN. *Alisma ranunculoides*. *Linn. Sp. Pl.* 487. *Huds.*
Fl. An. 158. *With. Bot. Arr.* 382. *Relh. Cant.*
150. *Sibth. Ox.* 120.

Plantago aquatica minor. *Raii Syn.* 257.

GROWS in swampy turfy places, not very frequently.
M. J. Rayer gathered it on Finchley Common, flowering in
August.

Root perennial, of many long simple fibres, as in most aqua-
tic plants, from the crown of which arise several upright,
narrow-lanceolate, smooth, entire leaves, on long very spongy
foot-stalks. Stalk mostly taller than the leaves, upright or
decumbent, round, smooth, bearing two or more whorls (often
proliferous) of flowers on long flower-stalks, with small mem-
branous bractæ at their insertion. Calyx-leaves small, round-
ish, concave, permanent. Petals much larger, of an elegant
pale purple, yellow at their base, expanding in the middle of
the day, slightly waved. Stamina short. Germens very nu-
merous, collected into a small globe. Seeds with five angles,
and an acute point, forming a round bristly head, by which
it may always be distinguished from every variety of *A. Plan-*
tago, the seeds of which are very blunt and compressed.

376



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TRIENTALIS europæa.

Chick-weed Winter-green.

HEPTANDRIA Monogynia.

GEN. CHAR. *Cal.* seven-leaved. *Cor.* in seven segments, regular and flat. *Berry* dry.

SPEC. CHAR. Leaves lanceolate and entire.

SYN. *Trientalis europæa.* *Linn. Sp. Pl.* 438. *Huds.*

Fl. An. 160. *With. Bot. Arr.* 384.

Alfinanthemos. *Raii Syn.* 286.

FOUND in dry woods and turfy heaths in the north of England, more plentifully in Scotland, as it is a plant chiefly confined to the most northern regions.

Linnæus in *Flora Lapponica* appears to have been quite enchanted with this plant, possibly from its being the only Lapland genus of his seventh class, and which therefore delighted him in an extraordinary degree, as completing the uniformity of his system. It must be confessed however that the number of its stamina is very inconstant.

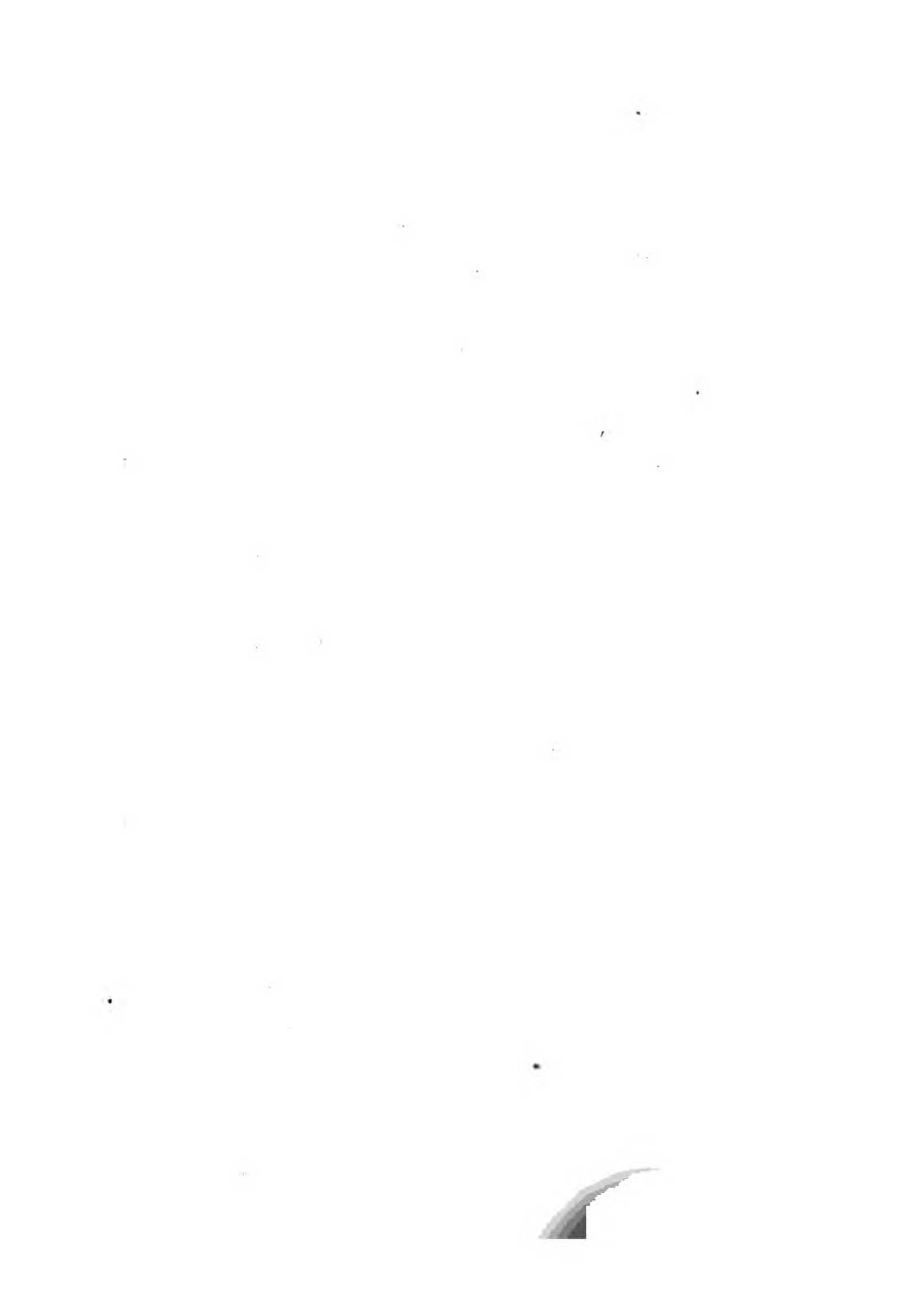
The specific character in *Species Plantarum*, as given above, is now superfluous, this being the only known species of *Trientalis*, since the *Trientalis Capensis* of *Sp. Pl.* first edition, has been made a separate genus by the name of *Septas*.

We shall in future leave a blank, in place of the specific character, when the plant in question is the only one of its genus.

15



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[1534]

OENOTHERA biennis.

*Common Evening-Primrose.**OCTANDRIA Monogynia.*

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Caps.* cylindrical, inferior. *Seeds* naked.

SPEC. CHAR. Leaves ovato-lanceolate, flat. Stem rough, somewhat hairy. Stamina regular. Petals undivided.

SYN. *Oenothera biennis.* *Linn. Sp. Pl.* 492. *Ait. H. Kew. v. 2. 2.* *Roth. Fl. Germ. v. 1. 168. v. 2. 439.* *Fl. Dan. t. 446.*

NOT without the most mature deliberation have we been induced to admit this into a work on British plants. Its being found naturalized on dunghills and waste ground either here or in Germany, as mentioned in Roth's excellent *Flora*, when known to have been introduced to our gardens from America about 200 years ago, would not have satisfied us. Our specimen was gathered on the extensive and dreary sand-banks on the coast a few miles north of Liverpool, where millions of the same species have been observed by Dr. Bostock and Mr. John Shepherd, perfectly wild, and covering a large tract between the first and second range of sand-hills. Some natural cause has no doubt established it there, though possibly from the opposite shores of the Atlantic.

It is biennial, and flowers from July to September. The stem is 2 or 3 feet high, often branched, leafy, angular, rough with minute tubercles, and hairy. Leaves alternate, ovate or lanceolate, toothed, downy; the lowest on stalks, longer, and somewhat waved. Flowers sessile in the bosoms of the upper leaves, so as to form a large spike. They expand in an evening, and are delicately fragrant, of a fine pale yellow. Calyx reflexed. Petals wedge-shaped, waved. Stamina equal and erect. Pods short, rough, full of seeds which differ from those of the *Epilobium* in having no down or wing.



Dec. 1. 1805. Published by J. Sowerby, London.

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1



EPILOBIUM angustifolium.

Rose-bay Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Cap-
sule* oblong, inferior. *Seeds* feathered.

SPEC. CHAR. Leaves scattered, linear-lanceolate, veiny,
smooth. Petals unequal. Stamens declining.

SYN. *Epilobium angustifolium.* *Linn. Sp. Pl.* 493.
Sm. Fl. Brit. 409. *Huds.* 161. *With.* 366.
Hull. 82. *Sibth.* 121. *Abbot.* 84. *Curt. Lond.*
fasc. 2. t. 24. *Winch Guide, v. 1.* 36.

Lysimachia speciosa, quibusdam *Onagra dicta*, sili-
quosa. *Raii Syn.* 310.

CERTAINLY wild in meadows and shady moist places in many parts of the north of England. Mr. Winch observed it on the Cheviot hills; Mr. Harriman in Teesdale. Nevertheless, being a very common garden flower, increasing greatly by its roots, the plants found here and there about London are supposed to be outcasts of gardens. Our specimen was gathered on the hill a little beyond the Robin hood inn on the road to Kingston, where we have observed the plant near 20 years, in an apparently wild state, flowering in July and August, the stem being always simple. Mr. Curtis seems to have drawn a branched garden specimen.

Root somewhat fleshy, creeping, reddish. Stems from 3 to 6 feet high, erect, wand-like, roundish, leafy, smooth. Leaves numerous, nearly sessile, linear-lanceolate, acute, entire or slightly toothed, smooth, veiny; glaucous beneath. Flowers in long, upright, leafless clusters, very ornamental, inodorous; with reddish stalks and calyx; hoary, often purplish, gemmens; and large, crimson petals, unequal in size and irregular in position. Stamens and style bent downwards. Pollen blue. Stigma 4-cleft. It is often called Persian or French Willow in Norfolk, where, though almost universal in gardens, we have never met with any naturalized specimens.



Veronica Published by J. C. Newbery, London.

2

EPILOBIUM hirsutum.

Great hairy Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Caps.* oblong, inferior. *Seeds* feathered.

SPEC. CHAR. Leaves partly embracing the stem, ovato-lanceolate, hairy. Stem much branched. Root creeping.

SYN. *Epilobium hirsutum.* *Linn. Sp. Pl.* 494. *Sm. Fl. Brit.* 410. *Witb.* 366. *Hull.* 82. *Relb.* 153. *Sibth.* 122. *Abbot.* 84. *Curt. Lond. fasc.* 2. t. 21.

E. ramosum. *Hudf.* 162.

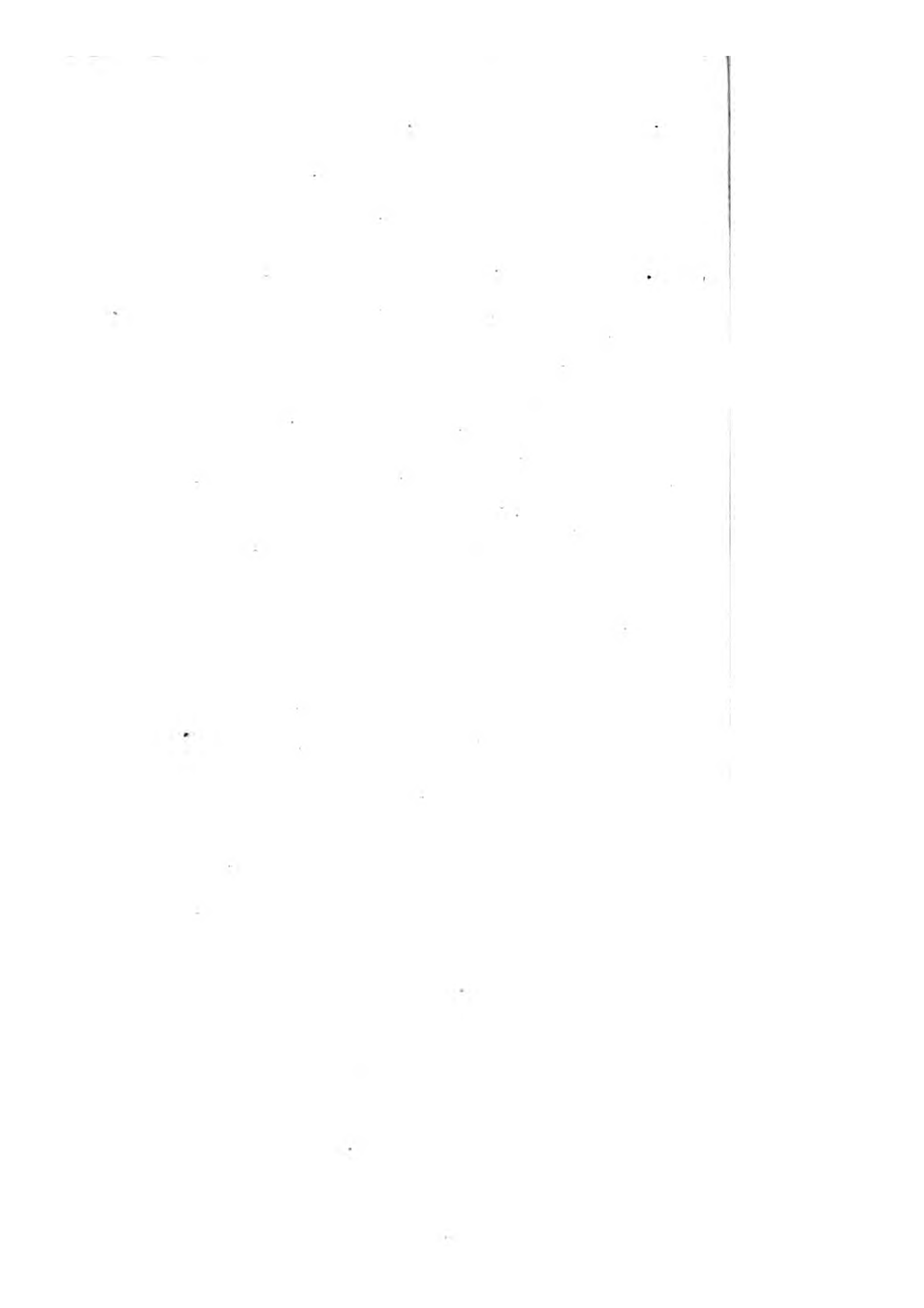
Lyfimachia filiquosa hirsuta, magno flore. *Raii Syn.* 311.

VERY common in water; places, margins of streams, &c., intermixed with reeds, *Convolvulus sepium*, and willows, flowering in July. Its pink blossoms are conspicuous at some distance, and render it very ornamental. The whole herb is slightly viscid, and when touched exhales a peculiar acid smell, compared to the flavour of codlings and cream.

Root perennial, creeping, by which it is peculiarly distinguished from *E. parviflorum*, t. 795. Stems four feet or more in height, leafy, much branched, round, clothed with soft white spreading hairs, as is every part of the herbage. Lower leaves opposite, clasping the stem; the uppermost alternate and sessile; all of a broad-lanceolate figure, pointed, toothed and veined. Flowers corymbose, each accompanied by a small leaf. Petals inversely heart-shaped, regular, twice as long as the calyx. Germen downy, long.



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EPILOBIUM parviflorum.

Small-flowered hoary Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Caps.* oblong, inferior. *Seeds* feathered.

SPEC. CHAR. *Leaves* sessile, lanceolate, downy. *Stem* nearly simple, woolly. *Root* fibrous.

SYN. *Epilobium parviflorum.* *With.* 367. *Sm. Fl. Brit.* 410. *Hull.* 82.

E. villosum. *Curt. Lond. fasc. 2. t. 22. Relb.* 152. *Sibtb.* 121. *Abbot.* 84.

E. hirsutum. *Huds.* 161. *Linn. Sp. Pl.* 494, β .

Lyfimachia filiquosa hirsuta parvo flore. *Raii Syn.* 311.

FREQUENT in watery places, and about the banks of rivers, flowering in July.

Mr. Curtis has well distinguished this from the common great-flowered Willow-herb, called (on account of its smell) Codlings and Cream; but he ought to have retained the name of *parviflorum*, previously given by Schreber and Withering. Mr. Hudson has committed a different fault in taking the plant before us for the real *E. hirsutum* of Linnæus; whereas it is his variety β .

The root is perennial, fibrous and branched. Stem scarcely 2 feet high, simple, or but little branched, round, leafy, clothed with soft woolly hairs. Leaves clothed with similar hairs, opposite, sessile, minutely toothed; the upper ones alternate. Flowers in a terminal leafy corymbus, at length becoming a spike. Petals obovate, rose-coloured or purplish. Stigma four-cleft, in which particular this differs from the only two species of *Epilobium* already figured in our work.

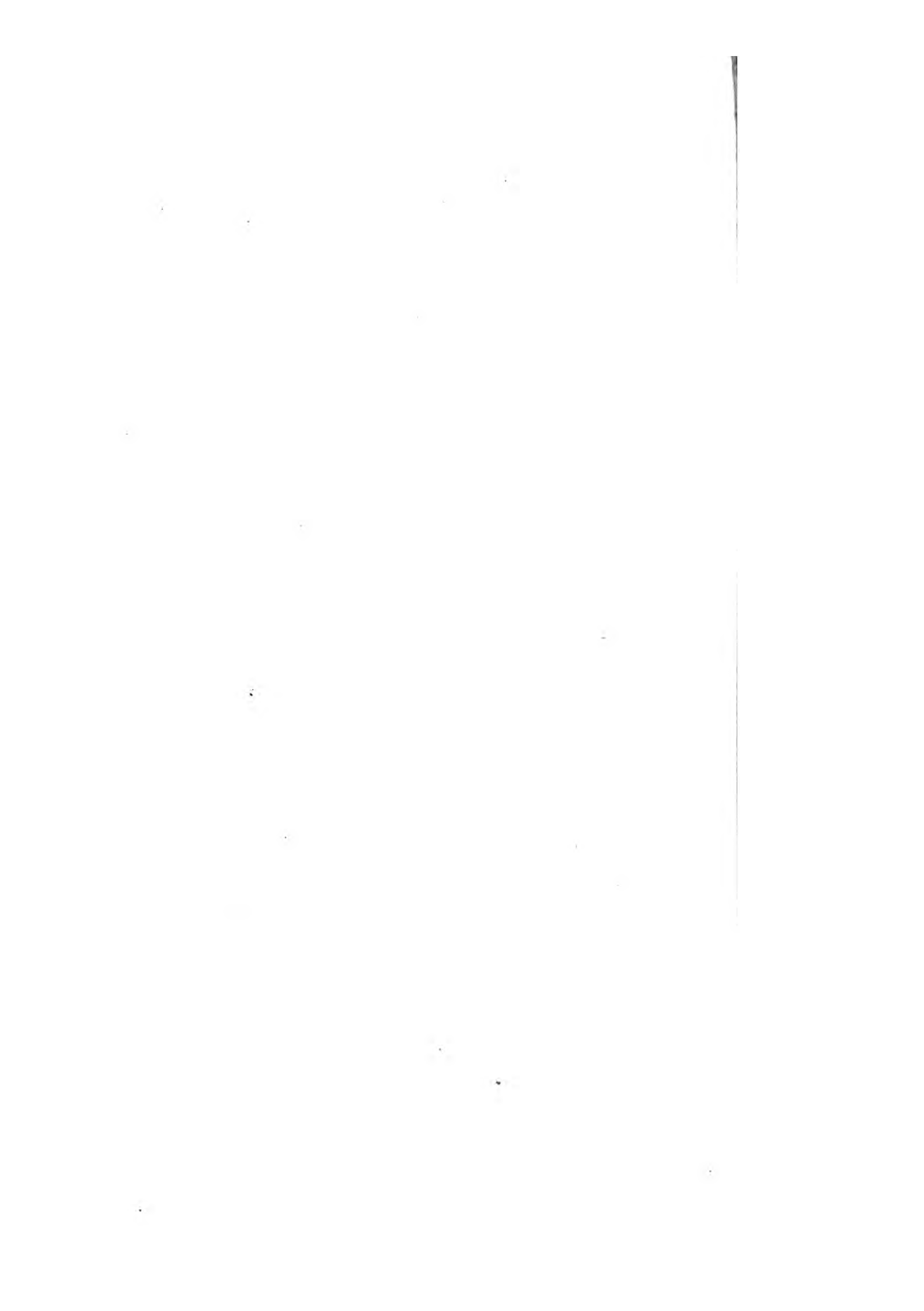
The great *E. hirsutum* above alluded to is easily known by its creeping root, tall branching stem, broad leaves, and much larger flowers.

795.



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EPILOBIUM montanum.
Broad smooth-leaved Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Capf.* oblong, inferior. *Seeds* feathered.

SPEC. CHAR. Leaves on footstalks, ovate, toothed. Stem round. Stigma in four lobes.

SYN. *Epilobium montanum.* *Linn. Sp. Pl.* 494. *Sm. Fl. Brit.* 411. *Huds.* 162. *With.* 367. *Hull.* 82. *Relb.* 151. *Sibtb.* 122. *Abbot.* 85. *Curt. Lond. fasc.* 3. t. 24.

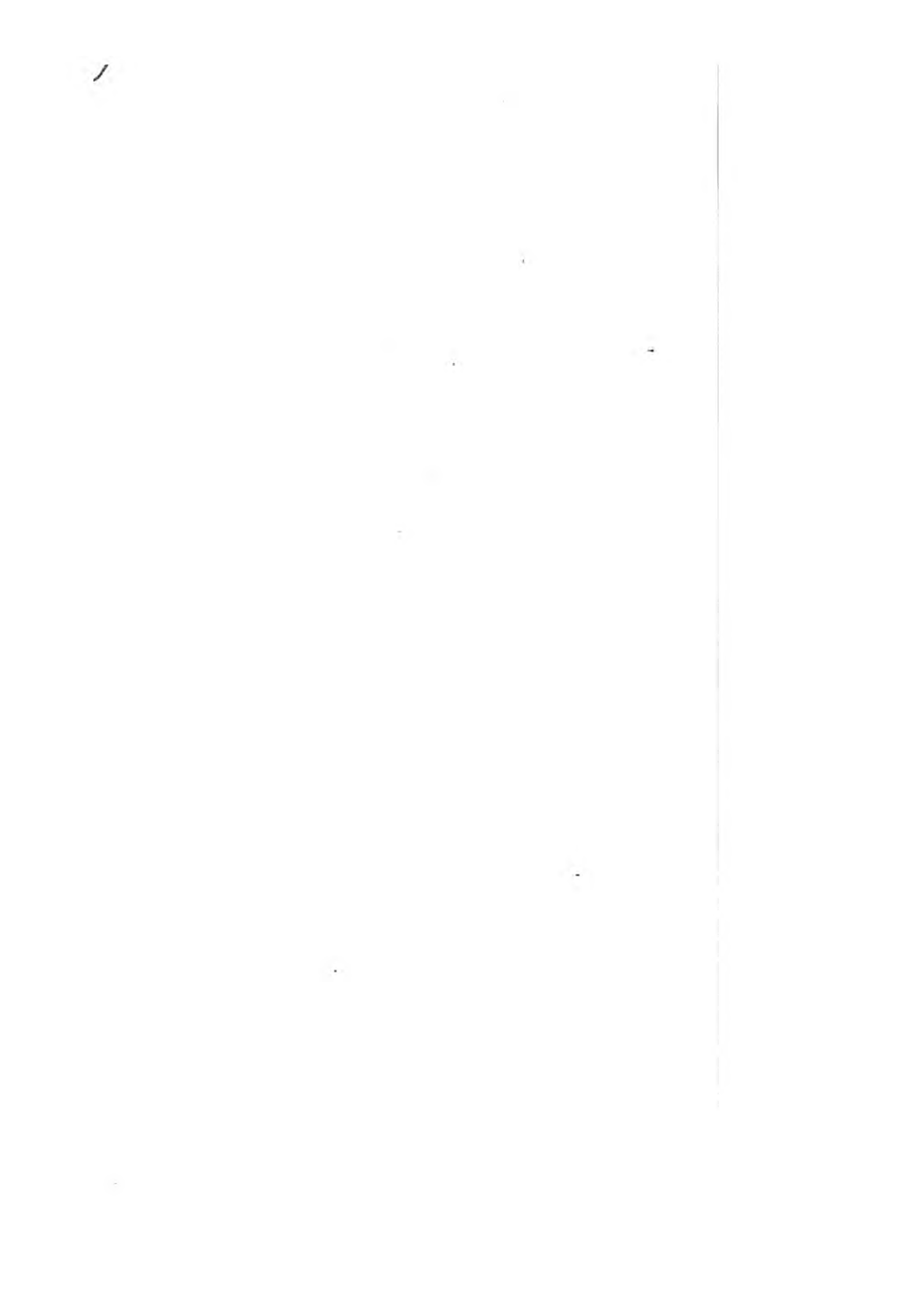
Lyfimachia campestris. *Raii Syn.* 311.

FREQUENT in dry shady hilly places, upon stones, among bushes, or about old walls and cottage roofs, flowering in July.

The root is perennial and moderately creeping, its shoots red, with which colour the stem and older leaves are often elegantly tinged, as in some of the *Geranium* tribe. These two genera have in several instances an affinity, in smell and taste, though so widely different in botanical characters. The stem is erect, scarcely branched, leafy, round, occasionally a little downy. Lower leaves opposite, on short stalks, ovate, sharply toothed, smooth, with some hoariness about the veins; the uppermost alternate and narrower. Flowers in a loose terminal leafy simple cluster. Germen long, smooth, dark red on one side. Petals inversely heart-shaped, rose-coloured, not large. Stigma in four deep segments, by which this is essentially distinguished from *E. roseum*, a species that otherwise much resembles it, see v. 6. t. 693.



June 1, 1868. Published by J. & S. Sawerby, London.



EPILOBIUM roseum.

Pale smooth-leaved Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Capsule* oblong, inferior. *Seeds* feathered.

SPEC. CHAR. *Leaves* on footstalks, ovate, toothed. *Stem* with four obsolete angles. *Stigma* undivided.

SYN. *Epilobium roseum.* Schreb. *Lips.* Forster in *Sym. Syn.* 198. *Sm. Fl. Brit.* 411.

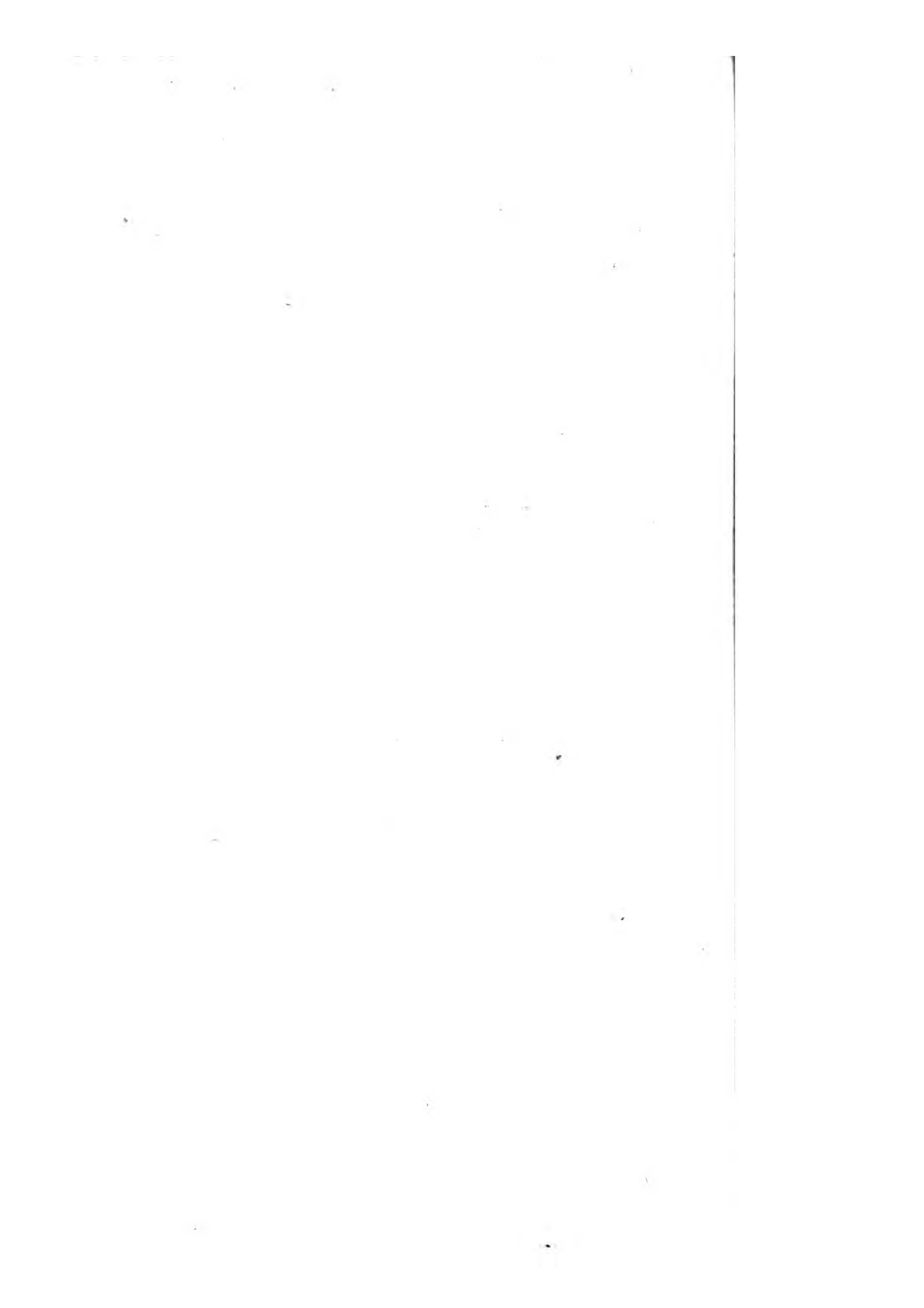
THE late Mr. Curtis first detected this species of *Epilobium* growing indigenously about his garden in Lambeth marsh. Mr. E. Forster jun. afterwards found it in a moist ditch at Moreton near Ongar, Essex, and by the road-side between Spelbrook and Bishop's Stortford, nearly opposite to Wallbury, the great Roman camp, from whence he brought us the present specimen. It seems to be perennial, flowering in July; and propagates itself so copiously by seed as to be a very troublesome weed, even in a dry garden, when once introduced.

It has much the habit of *E. montanum*. The root is fibrous. Stem upright, branched, 12 or 18 inches high, slightly hoary, obscurely quadrangular in the upper part. Leaves smooth, thin and delicate. Clusters of flowers leafy. Petals small, flesh-coloured, marked at the base with radiating crimson lines. Stigma club-shaped and perfectly undivided, not four-cleft; by which circumstance it is clearly distinguished from the *montanum* and every other British *Epilobium* except *tetragonum*. Is it possible it may have originated from seeds of the latter impregnated by the pollen of *montanum*? If so, it unites the external form of the father with the fructification or internal structure of the mother, according to the Linnæan hypothesis, as completely as could be wished.

693



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[1948]

EPILOBIUM tetragonum.

Square-stalked Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Cap-
sule* oblong, inferior. *Seeds* feathered.

SPEC. CHAR. Leaves lanceolate, sessile, minutely toothed.
Stem with four angles. Stigma undivided.

SYN. *Epilobium tetragonum.* *Linn. Sp. Pl.* 494. *Sm.
Fl. Brit.* 412. *Huds.* 162. *With.* 368. *Hull.* 82.
Relh. 151. *Sibth.* 122. *Abbot.* 85. *Curt. Lond.
fasc. 2. t. 23.*

Lysimachia siliquosa glabra media sive minor. *Raii
Syn.* 311.

COMMON in watery marshy places, flowering in July.

Root perennial, fibrous. Stem 12 or 18 inches high, erect, branched, leafy, nearly smooth, roundish in its transverse section, but marked with four angular ribs at unequal distances from each other, by which it is known from *E. palustre*, *t.* 346. Leaves generally, if not always, sessile, lanceolate, smooth, irregularly and minutely toothed, for the most part alternate. Flowers few, in leafy clusters, small, with pale purple cloven petals, and a club-shaped undivided stigma. The pods, flower-stalks, and in some degree the floral leaves, are slightly hoary.

The supposed variety with stalked and broader leaves, mentioned by Mr. Curtis, was what he afterwards justly allowed to be *E. roseum* of Schreber, see *t.* 695; and which we confess to have sometimes puzzled us in studying the present species. How far they are really distinct may still admit of doubt.

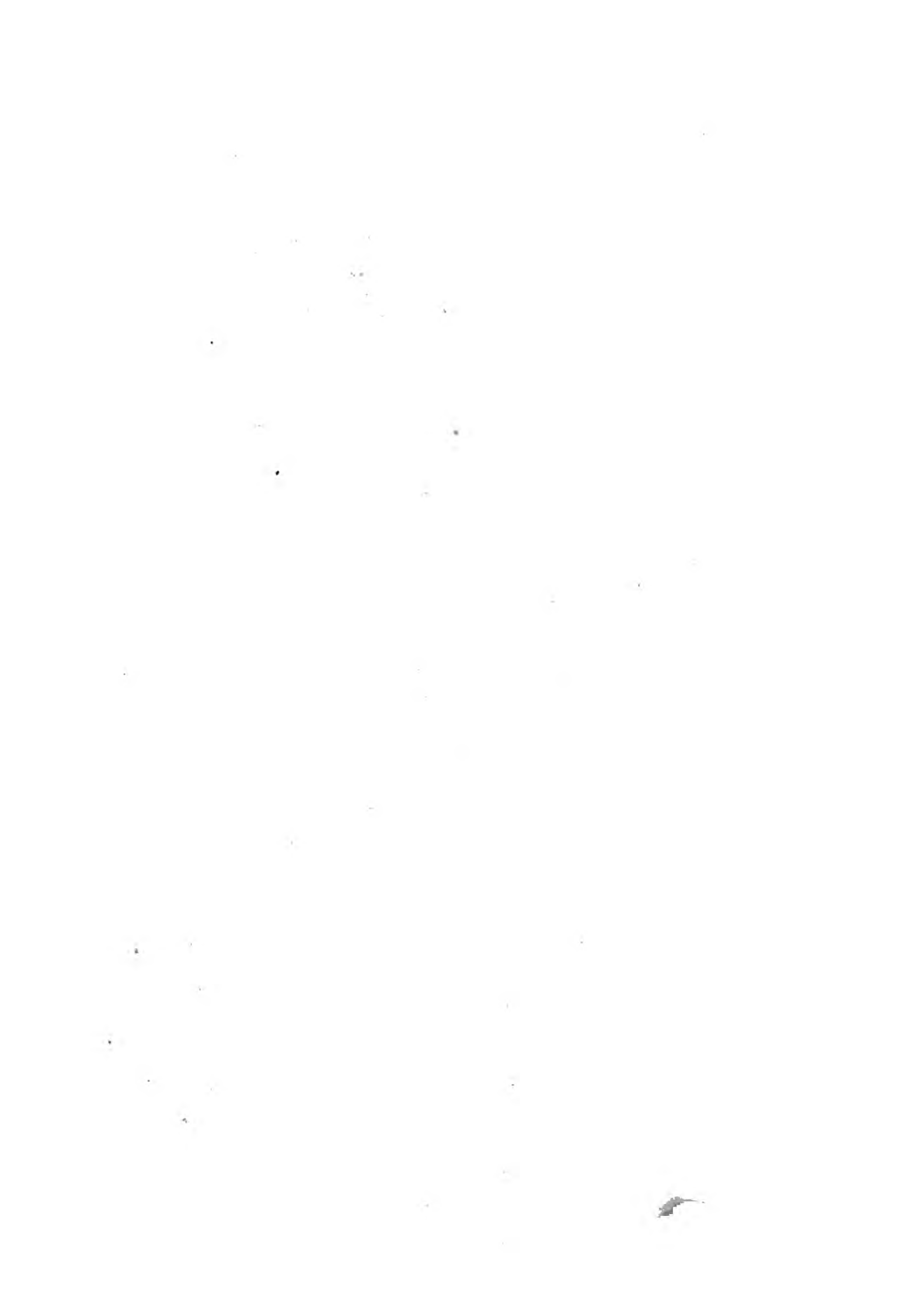


No. 1168. Published by J. Sowerby, London.

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EPILOBIUM palustre.

Narrow-leaved Marsh Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Capsule* oblong. *Seeds* feathered.

SPEC. CHAR. *Leaves* opposite, lanceolate, nearly entire. *Petals* notched at the end. *Stem* erect.

SYN. *Epilobium palustre.* *Linn. Sp. Pl.* 495. *Huds. Fl. An.* 163. *With. Bot. Arr.* 391. *Relh. Cant.* 154. *Sibth. Ox.* 123. *Dicks. H. Sicc. fasc.* 2. 15. *Lysimachia siliquosa glabra minor angustifolia.* *Raii Syn.* 311.

IN marshy moorish land not unfrequent, though easily overlooked from its resemblance to *E. tetragonum*, from which, however, it sufficiently differs in having a round stem, narrow and almost entire leaves, as well as in being generally smaller. It flowers in July, and is one of the least attractive of the whole genus.

Root perennial, fibrous. Stem about a foot high, erect, round, leafy, slightly downy, as are also the young leaves, flower-stalks, germen and calyx. Leaves opposite, nearly sessile, linear-lanceolate, obtuse, entire or very obsoletely toothed. Flowers erect, small, of a pale purple, the petals so notched as to be often inversely heart-shaped. Seeds very numerous, crowned with a tuft of long slender hair. The upper leaves, from whose bosoms the flowers spring, are alternate. Sometimes the whole herb is smooth, or scarcely downy, except the very young shoots and germens.



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Asperula tuberosa

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89.

[2000]

EPILOBIUM alsinifolium.
Chickweed-leaved Willow-herb.

OCTANDRIA Monogynia.

GEN. CHAR. Cal. in 4 segments. Petals 4. Caps. oblong, inferior. Seeds feathered.

SPEC. CHAR. Leaves on footstalks, ovate, acute, toothed. Stigma undivided. Root creeping, matted. Stems decumbent, obtusely quadrangular.

SYN. Epilobium alsinifolium. Villars Dauph. v. 3. 511.

E. n. 361. Winch Guide, v. 1. 36. v. 2. pref. 4.

E. montanum δ . Willd. Sp. Pl. v. 2. 316?

Lysimachia siliquosa glabra minor latifolia. Raii Syn. 311. Hist. v. 1. 862.

L. siliquosa nana, prunellæ foliis acutis. Bocc. Mus. 161. t. 108.

WE dedicate with pleasure our 2000th plate, a number which no work of this kind has reached before, to the illustration of a plant whose botanical history has been hitherto peculiarly obscure. This *Epilobium* was gathered on the Cheviot hills by Mr. Winch, who rightly judges it to be the plant of Ray, always mistaken for *alpinum*, which last seems to grow only in Scotland. We have however the present species from the Highlands also, by favour of Mr. G. Don and the late Mr. J. Mackay. By accidentally falling on a specimen from Villars himself, in Mr. Davall's herbarium, we have ascertained and adopted his name, and have verified his quotation of Ray. Finally, we determine Boccone's synonym, which Haller judiciously suspected could not belong to his own *n. 999*, the real *alpinum* of Linnæus and *Fl. Brit.*

E. alsinifolium is so called with a reference to the larger kinds of Chickweed, which its leaves resemble. *Alsine* of Linnæus will not remain as a genus at all.

One great mark of this species is that its perennial root creeps widely, forming broad matted tufts, leafy throughout the winter, in which it totally differs from *E. roseum*, *t. 693*, the species otherwise most related to it. The leaves however are sharper than in that, of a darker hue, and with shorter stalks. Stems numerous, decumbent, the flowering part ascending, roundish but marked with 4 angles. The flowers come forth in June and July, with veined cloven petals, and an undivided stigma. Germen downy, with minute recurved hairs. Fruit very long. It is, like *E. alpinum*, an herb that varies much in luxuriance, and grows by the turfy boggy margins of mountain rills.

2000



April 1 1860. Published by J. Sowerby London

v

EPILOBIUM alpinum.

*Alpine Willow-herb.**OCTANDRIA Monogynia.*

GEN. CHAR. *Cal.* in 4 segments. *Petals* 4. *Caps.* oblong, inferior. *Seeds* feathered.

SPEC. CHAR. Leaves on short footstalks, elliptic-lanceolate, obtuse, mostly entire. Stem decumbent. Flowers few.

SYN. *Epilobium alpinum.* *Linn. Sp. Pl.* 495. *Sm. Fl. Brit.* 413. *Huds.* 163. *With.* 368. *Hull.* 83. *Lightf.* 199. t. 10. f. 1. *Dicks. H. Sicc. fasc.* 2. 14. *Fl. Dan.* t. 332. *Vihlars Dauph.* v. 3. 510.

E. n. 999. *Hall. Hist.* v. 1. 426.

THIS we have formerly gathered on Ben Lomond, by the sides of rivulets about two thirds of the way up. From wild Scottish specimens, assisted by fresh ones from the garden of the Comtesse de Vandes, where this and many other rare plants are cultivated in great perfection, our figure was completed. The plant is perennial, flowering in June or July, and ripening seed in August.

Roots creeping, throwing up a few scattered leafy shoots, and still fewer weak ascending simple leafy stems, which are slightly angular and sometimes downy. Leaves on short stalks, elliptical, obtuse, inclining to lanceolate, entire, or with a few slight scattered teeth; the floral ones only alternate. Flowers generally 2, rarely 1 or 3, on simple stalks from the bosoms of the upper leaves. Germen long, downy. Petals rose-coloured, cloven. Stigma clubshaped, but we think undivided, or at least but slightly notched.

2001



April 1 1869 Published by Jas Sowerby London

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C H L O R A perfoliata.

Yellow Centaury.

O C T A N D R I A Monogynia.

GEN. CHAR. *Calyx* eight-leaved. *Corolla* in eight segments. *Capsule* with one cell, two valves, and many seeds. *Stigma* four-cleft.

SPEC. CHAR. Leaves perfoliate.

SYN. *Chlora perfoliata*. *Lin. Syst. Nat. ed. 12. v. 2.*
267. *Huds. Fl. An.* 168. *With. Bot. Arr.* 392.
Relb. Cant. 157.

Centaurium luteum perfoliatum. *Raii Syn.* 287.

A Chalky or lime-stone soil generally produces this plant in several parts of England, especially in open, hilly situations; as Cambridgehire, Worcesterhire, about Bristol Hot-wells, and the chalky parts of Norfolk and Suffolk. It does not thrive well in a garden, and though rather impatient of cold, yet if sheltered, it becomes mildewed. The root is annual; the whole plant generally very glaucous, and somewhat succulent, very bitter to the taste. Its bright and elegant flowers appear in July and August.

Those who have placed *Chlora* in the order *Digynia* are undoubtedly mistaken, as the style is really simple, though the stigma be 4-cleft, which last is the most essential diagnostic of the genus.

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VACCINIUM Myrtillus.

Bilberry or Bleaberry.

OCTANDRIA Monogynia.

GEN. CHAR. Cor. of 1 petal. *Filaments* arising from the receptacle. *Berry* inferior, with 4 cells and many seeds.

SPEC. CHAR. Flower-stalks single-flowered. Leaves deciduous, serrated, ovate. Stem angular.

SYN. *Vaccinium Myrtillus*. *Linn. Sp. Pl.* 498. *Huds.* 163. *Witb.* 370. *Sibtb.* 123.
Vitis Idæa angulosa. *Raii Syn.* 457.

GROWS exceeding copiously on heaths and stony moors in the mountainous parts of Great Britain. Porland heath, the highest spot in Norfolk, is we believe the only place it inhabits in that county. About May the young fresh-green leaves, and wax-like red flowers, make an elegant appearance. Towards autumn the leaves grow darker and more firm, and the ripe dark-blue berries are gathered in the north for tarts, and in Devonshire are eaten with the clotted cream prepared in the manner of that country.

Root perennial, woody. Stem shrubby, erect, forming small tufted bushes, branched, smooth, sharply angular, especially the young green branches. Leaves alternate, on short foot-stalks, ovate, serrated, smooth, veiny. Flowers drooping, on short round simple stalks, inodorous, the calyx and corolla each with 5 teeth, and the stamina also generally 10; the numbers 4 or 5 in the two former and 8 or 10 in the latter, being indifferent in this natural order as to the determination of genera or species. The antheræ are cloven, discharging their pollen by a pore in each point, and are besides accompanied by two bristles or horns, as in many *Ericæ*. Style and stigma simple. Berry roundish, with a dimple at the top, of 5 cells before it ripens, but when arrived at maturity the numerous seeds are imbedded in one continued soft acid pulp.



Tab. 798. Picturae by J. Smarby London

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VACCINIUM uliginosum.

Great Bilberry.

OCTANDRIA Monogynia.

GEN. CHAR. Cor. of 1 petal. Filaments arising from the receptacle. Berry inferior, with 4 cells and many seeds.

SPEC. CHAR. Flower-stalks single-flowered. Leaves deciduous, entire, obovate, smooth and even. Branches round.

SYN. Vaccinium uliginosum. Linn. Sp. Pl. 499. Hudf. 164. With. 370. Fl. Dan. t. 231.

Vitis Idæa magna quibusdam, sive Myrtillus grandis. Raii Syn. 457.

ON marshy mountainous heaths, but not general in this island. It has hitherto been observed only in Westmoreland and Cumberland, except the Highlands of Scotland. We received wild specimens from the Rev. Mr. Harriman and Mr. Oliver, whose favours we have so often had occasion to acknowledge. It flowers in April or May, ripening its berries in August.

This grows taller than the common Bilberry figured in our plate 456, and the stem and branches are round. Leaves deciduous, obovate, obtuse, rarely inclined to be pointed, entire, a little revolute, veiny, smooth and even, not at all rugged, glaucous beneath. Flowers flesh-coloured, the calyx and corolla mostly four-cleft. Stamina generally 8, each with 2 horns as in the former species. Berry large, globular, black with a glaucous hue. Seeds finely striated.

The fruit has less flavour than the common Bilberry, but abounds with a weak acid juice. Mr. Lightfoot says it is apt to give the head-ache if eaten in any quantity. We do not know that it is ever used as food in England.



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VACCINIUM *Vitis Idæa*.

Red Whortle-berry.

OCTANDRIA *Monogynia*.

GEN. CHAR. *Cor.* of 1 petal. *Filaments* arising from the receptacle. *Berry* inferior, with four cells and many seeds.

SPEC. CHAR. Clusters terminal, drooping. Leaves evergreen, obovate, revolute, finely toothed; dotted beneath.

SYN. *Vaccinium Vitis Idæa*. *Linn. Sp. Pl.* 500. *Huds.* 164. *With.* 371. *Hull.* 83. *Dicksf. H. Sicc. fasc.* 5. 10.

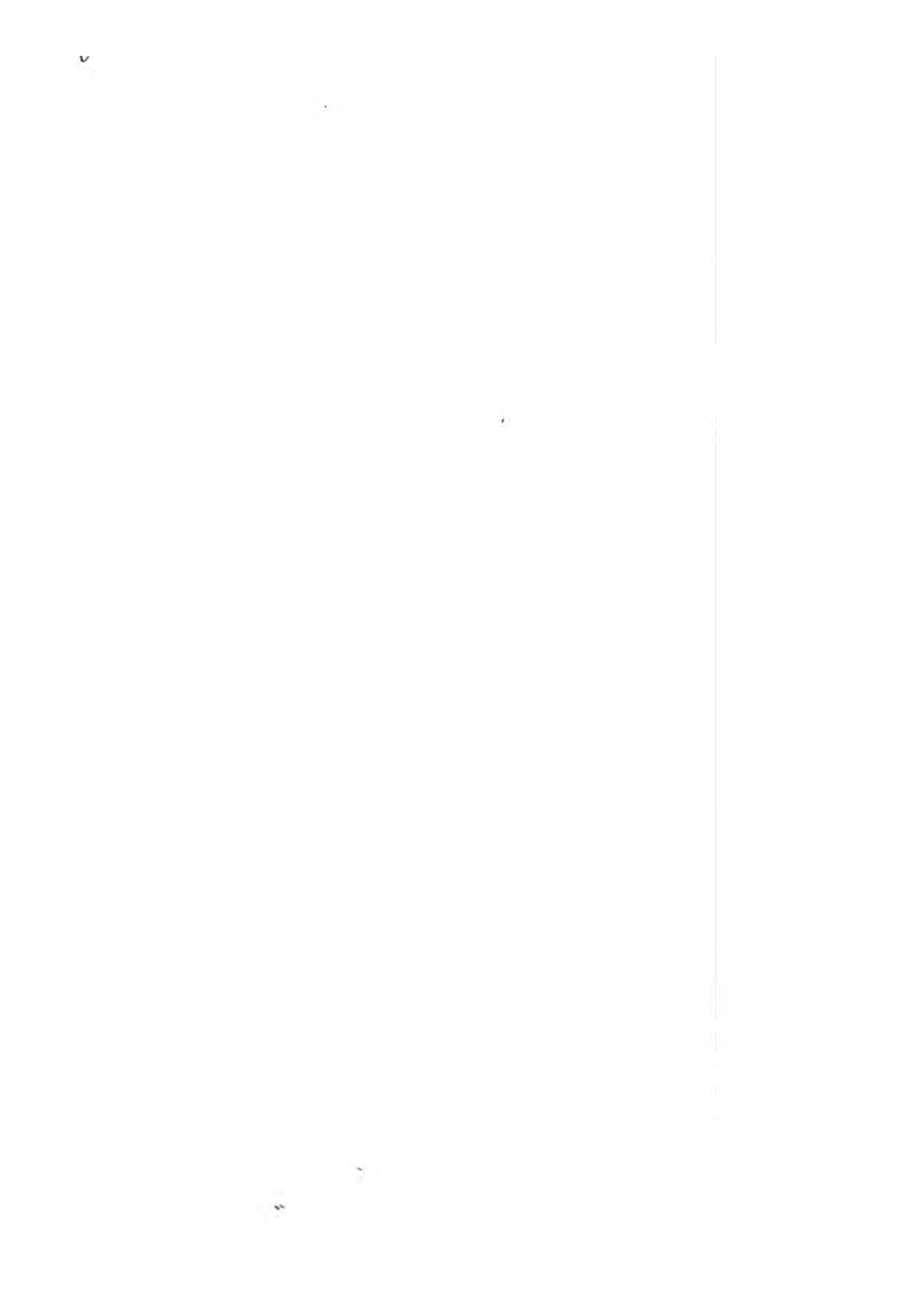
Vitis Idæa sempervirens, fructu rubro. *Raii Syn.* 457.

DRY stoney heaths or moors (as they are called in the North) in the mountainous counties, are copiously clothed with this humble evergreen, especially in Derbyshire, from the borders of which, about six miles south-west of Sheffield, Mr. Salt sent us wild specimens. It flowers in June, and the berries ripen in August.

Roots creeping, woody. Stems mostly upright, a very few inches high, but little branched, zigzag, angular, smooth, pliant. Leaves alternate, on foot-stalks, evergreen, obovate, more or less finely toothed; smooth and shining above; pale and dotted beneath; their first appearance not unlike that of the dwarf box. An elegant drooping cluster of bell-shaped, blush-coloured flowers terminates the stem or branches. These flowers we have never observed to vary from their proper four-cleft form and 8 stamina. The antheræ terminate in a pair of taper points, through a pore at the end of which the pollen is discharged, but they have not the lateral horns described in *V. uliginosum*, t. 581. The berries are red, acid, astringent and bitter. They are scarcely to be eaten raw, and though made into pies in Derbyshire, where they are called Cow-berries, their flavour is far inferior to the Cranberry. Their best use is for making a rob or jelly, which is always eaten with all kinds of roast meat in Sweden, and is far preferable to that of the red currant as a sauce for venison. It is also an excellent medicine in colds, fore-throats, and all irritation of the mouth or fauces.

298





VACCINIUM Oxycoccus.

Cranberry.

OCTANDRIA Monogynia.

GEN. CHAR. Cor. of 1 petal. Filaments arising from the receptacle. Berry inferior, with 4 cells and many seeds.

SPEC. CHAR. Leaves evergreen, entire, revolute, ovate, acute. Stems creeping, thread-shaped, smooth.

SYN. Vaccinium Oxycoccus. Linn. Sp. Pl. 500.
Huds. Fl. An. 164. With. Bot. Arr. 395. Relh.
Cant. 154. Dicks. H. Sicc. fasc. 5. 11.

Oxycoccus seu Vaccinia palustria. Raii Syn. 267.

SENT from near Scarborough by Mr. W. Travis. It grows on turf bog, mostly intangled in tufts of *Sphagnum* and other bog mosses, which cover the surface of clear shallow waters, so that those who gather the fruit are obliged to wade up to their middle to get at it. The flowers come out in June, and the berries ripen in August. The roots are perennial.

Stems shrubby, slender, trailing and creeping by means of long fibrous roots. Branches scattered, procumbent, leafy, flowering about the upper part. Leaves alternate, on short five-stalks, small, evergreen, ovate, entire, revolute in the margin; dark shining green above; glaucous beneath. Flower-stalks about an inch long, red, with a few scattered or opposite bracts, and each bearing one drooping red flower of singular elegance. Calyx in 4 obtuse fringed segments. Corolla deeply divided into 4 ovate petals, on which account some have judged this species to form a distinct genus from *Vaccinium*. Stamina four, stamens. Anthers deeply cloven, discharging the pollen by a tube at each point. Berry pear-shaped or globular, of 4 cells, red when arrived at maturity, and often spotted. Our figure represents it not fully ripe, in order to show the cells.

Cranberries, when prepared with sugar, are grateful to most palates. They are brought to London from the moorland counties, and even imported from Russia. The Swedes have no way of putting them to any other use than to boil silver plate to a proper whiteness, the sharp acid of the cranberry corroding the extraneous particles of the copper alloy.



1796

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5

MENZIESIA *cærulea*.*Scottish Menziesia.**OCTANDRIA Monogynia.*

GEN. CHAR. *Calyx* of one leaf. *Cor.* of one petal. *Stamens* inserted into the receptacle. *Caps.* superior, of four or five cells; the partitions from their inflexed margins.

SPEC. CHAR. Leaves scattered, numerous, linear, obtuse, with cartilaginous teeth. Flower-stalks terminal, aggregate, simple. Flowers five-cleft, decandrous.

SYN. *Menziesia cærulea.* Swartz *Tr. of Linn. Soc.* v. 10. 377. t. 30. f. A.

Andromeda cærulea. Linn. *Sp. Pl.* 563. *Fl. Lapp.* ed. 2. 133. t. 1. f. 5. *Lapland Tour*, v. 1. 272. *Fl. Dan.* t. 57.

Erica cærulea. Willd. *Sp. Pl.* v. 2. 393.

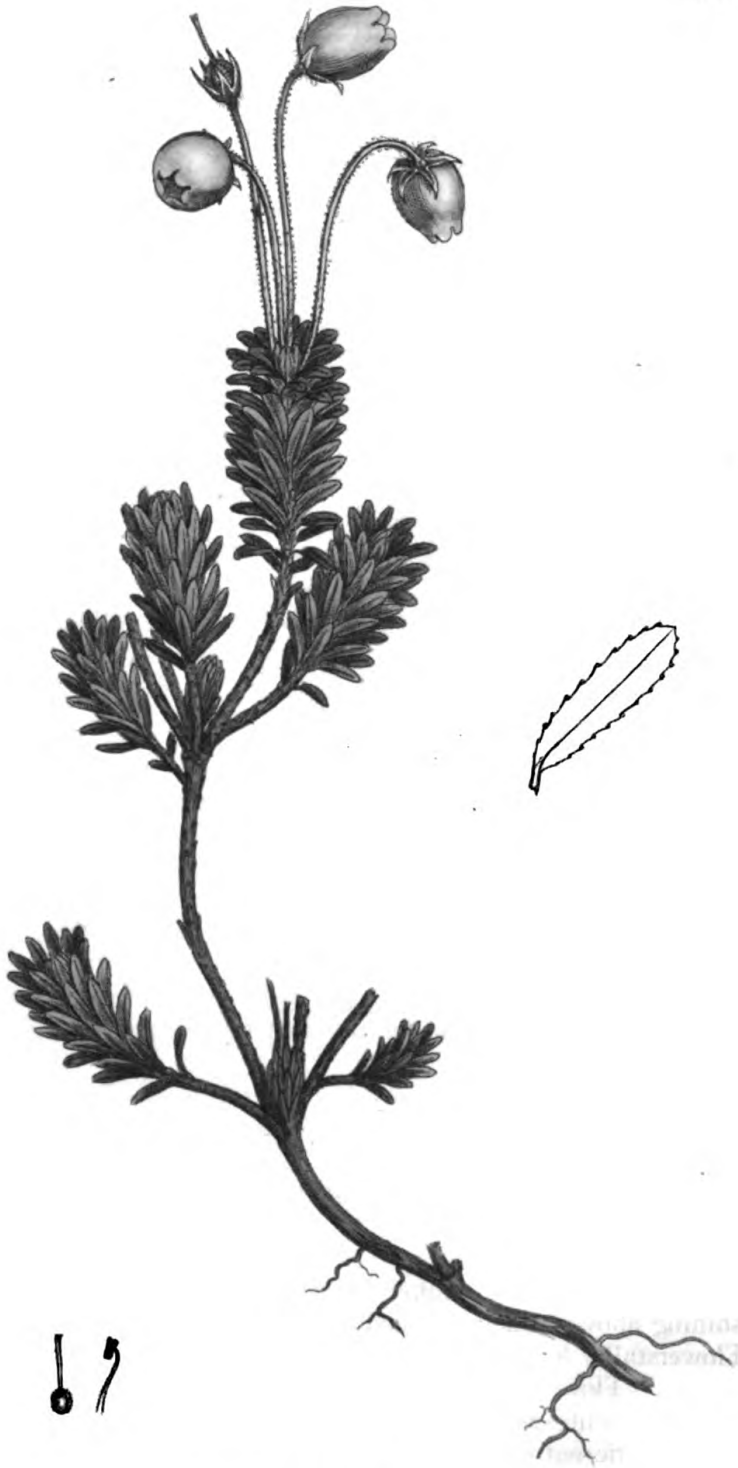
Phyllodoce taxifolia. Salisb. *Par.* t. 36.

WE have more than usual satisfaction in announcing this as a British plant, on account of its rarity and beauty, and of the opportunity it affords of adding to our Flora a new genus, dedicated long ago, by the writer of this, to one of the worthiest men that the native country of the plant ever produced. The original *Menziesia*, *Sm. Pl. Ic.* t. 56, was gathered by Mr. A. Menzies on the west coast of North America. Our *Erica Dabeoci*, t. 35, has been added to the genus by Jussieu and Swartz. An account of more exotic species may be seen in *Tr. of L. Soc.* above cited.

The present species has been discovered at Aviemore in Strathspey, and in the western isles of Shiant. We have received native specimens from Mr. G. Don and Mr. P. Neill, and have seen others in gardens about London, though rarely in a condition to blossom. It grows on dry heathy moors, flowering in June and July.

The habit is not unlike *Empetrum*, t. 526. Leaves rather shining above; finely toothed at the edge; rib downy beneath. Flowerstalks long, simple, nearly terminal, red, glandular and downy. Flowers solitary, drooping. Calyx red and glandular, in five deep acute segments, the divisions of that part being different in different species. Corolla ovate, contracted at the mouth, of a blueish or livid red, well answering to the classical idea of *cæruleus*, though Pallas changed the specific name to *taxifolia*, which seems to us less appropriate.

2469



67

Oct. 1882 published by J. L. S. L.

v



ERICA Daboecii.

Irish Heath.

OCTANDRIA Monogynia.

GEN. CHAR. *Cor.* of one petal. *Cal.* four-leaved, inferior. *Filaments* inserted into the receptacle. *Antheræ* bifid. *Capsule* four-celled.

SPEC. CHAR. *Antheræ* beardless, included. *Corolla* ovate. *Style* included. *Leaves* alternate, ovate, downy beneath.

SYN. *Erica daboecii.* *Linn. Sp. Pl.* 509. *Hudf. Fl. An.* 166.

Andromeda daboecia. *Linn. Syst. Veg. ed.* 13. 338. *Witb. Bot. Arr.* 425.

Vaccinium cantabricum. *Hudf. Fl. An. ed.* 1. 143.

Erica cantabrica flore maximo, foliis Myrti subtus incanis. *Raii Syn.* 472.

ALTHOUGH Ray has mentioned this plant as a native of Ireland, he has been frequently suspected of having committed an error. We are at length enabled to confirm his account, having been favoured with fine wild specimens gathered last year on the sides of mountains in the county of Mayo, by Aylmer Bourke Lambert, Esq. F. L. S. It flowers in June and July, and is frequently cultivated with us in gardens.

The partitions of the capsule being formed from the edges of the valves turned in, instead of being attached to the centre of each valve as in *Andromeda*, has induced Dr. Smith still to consider this as an *Erica* (See *Plant. Icones*, t. 58.), notwithstanding its leaves being most commonly alternate, and its resemblance in habit to the *Andromedas*. Very rarely the leaves are round opposite, or even three together.

Ray tells us in his *History of Plants* that this is called *St. Daboec's Bush*, from whence the Linnæan trivial name has been erroneously taken; and that the Irish girls gird themselves with its long trailing branches as a protection to their chastity—With what success he unluckily has omitted to inform us.



J. Sowerby del. 1851 1791

v



ERICA vulgaris.
Common Heath, or Ling.

OCTANDRIA Monogynia.

- GEN. CHAR. *Cal.* 4-leaved. *Cor.* 4-cleft. *Stamina* inserted into the receptacle. *Antheræ* with 2 pores. *Capf.* superior, of 4 cells. *Seeds* many.
- SPEC. CHAR. *Antheræ* bearded, concealed. *Style* prominent. *Corolla* deeply cut, shorter than the coloured calyx. *Leaves* opposite, with two spurs.
- SYN. *Erica vulgaris.* *Linn. Sp. Pl.* 501. *Sm. Fl. Brit.* 417. *Huds.* 165. *With.* 374. *Hull.* 84. *Relb.* 155. *Sibth.* 124. *Abbot.* 87. *Curt. Lond. fasc.* 5. t. 30. *Raii Syn.* 470.
-

THE common Ling, so abundant on barren heathy moors and mountainous wastes, is endowed with no small degree of beauty. Its brilliant blossoms, which retain their colour when dried, are produced in profusion from June to September. Its leaves and seeds are the food of Grouse and other animals. Its tough woody stems make excellent brooms, and not only serve the poor cottager for his own fuel, but afford him profit by being useful for firing in towns. It seems hard to deprive the poor of this and other resources, by an extravagant zeal for cultivating every morsel of waste land, however unfit for that purpose, and however useful, or even necessary, to the public in various other respects.

The stems are woody, strongly rooted, and repeatedly branched. Leaves opposite, imbricated in two ranks and forming a quadrangular figure, like a close beaten chain. They are keeled, blunt, ending below their insertion in 2 spurs. In one variety they are hoary all over, which Hudson formerly took for *E. ciliaris* of Linnæus. Flowers in longish clusters, drooping toward one side, of a shining rose colour. Outer calyx of 4 green ciliated leaves; the inner (which is peculiar to this species, and perhaps ought to make it a distinct genus) of 4 large concave coloured leaves like petals, which conceal the true corolla. *Antheræ* shorter than the corolla; *style* longer. Partitions of the capsule originating from the central column.



Adiantum species

ERICA Tetralix.

Cross-leaved Heath.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-leaved. *Cor.* 4-cleft. *Stamina* inserted into the receptacle. *Antheræ* with 2 pores. *Capf.* superior, of 4 cells. *Seeds* many.

SPEC. CHAR. *Antheræ* bearded. *Style* nearly concealed. *Corolla* ovate. *Leaves* in fours, ciliated. *Flowers* in round heads.

SYN. *Erica Tetralix.* *Linn. Sp. Pl.* 502. *Sm. Fl. Brit.* 418. *Hudf.* 166. *With.* 373. *Hull.* 84. *Relb.* 156. *Sibth.* 124. *Abbot.* 87. *Curt. Lond. fasc.* 1. t. 21. *Dicks. H. Sicc. fasc.* 9. 4.

E. Brabantica, folio Coridis, hirsuto, quaterno. Raii Syn. 471.

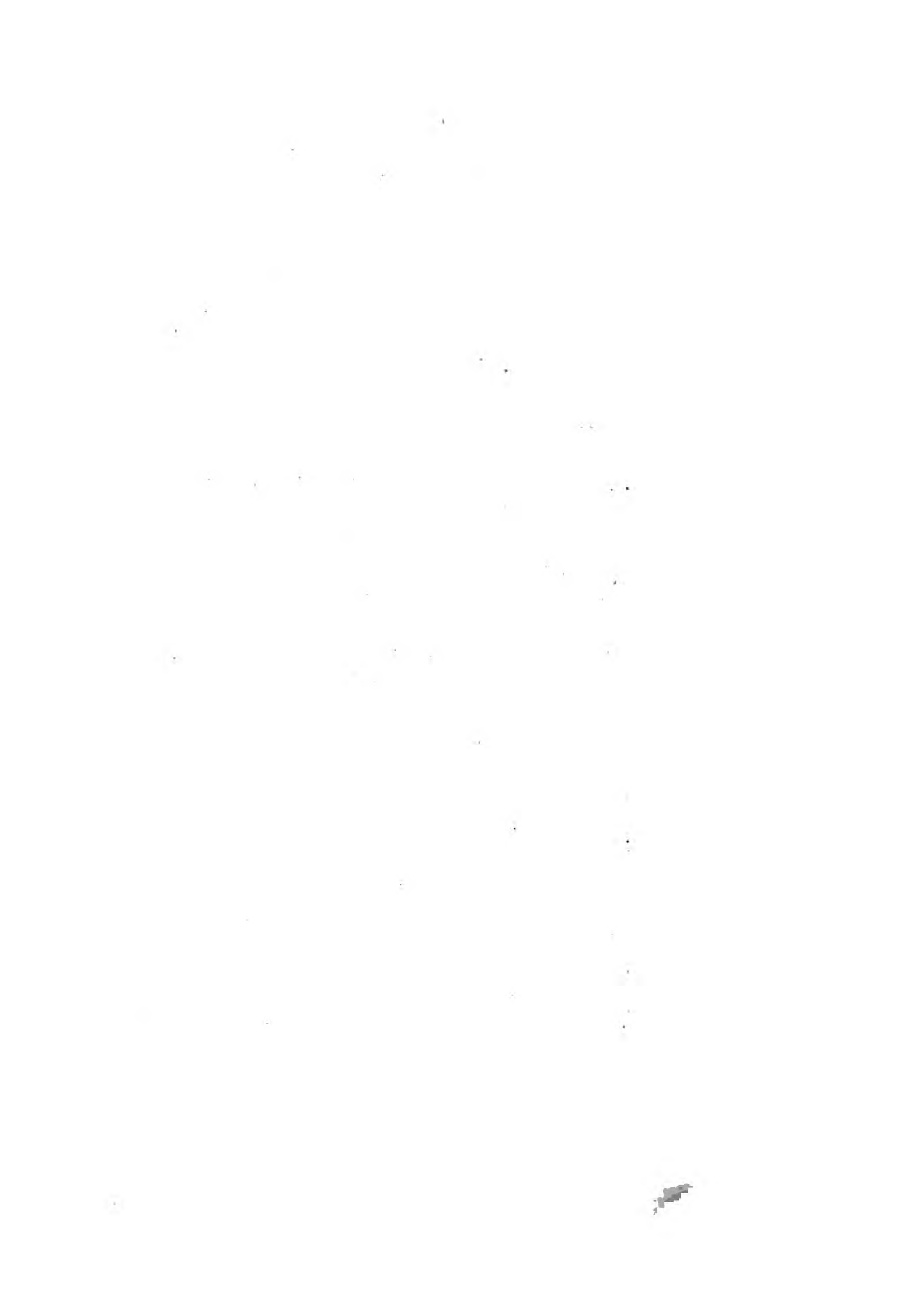
THE Cross-leaved Heath is perhaps the most beautiful of all our species, considering the extreme wax-like delicacy of its blossoms, which vary from deep rose colour to every shade of carnation, and even to a pure white. It is less common than *E. vulgaris* or *cinerea*, and chiefly grows in moist boggy mossy places, flowering in July and August.

The stems seldom rise so high as the Common Ling, and are *determinatè ramosi*, the branches springing many from one centre. Leaves in fours, on stalks, ovate, revolute, sprinkled with glandular rigid hairs. Flowers in round terminal heads, drooping to one side, resembling a cluster of berries. Calyx fringed, and furnished with 2 leaves or bractæ at its base. Corolla elliptical, inflated, with a small four-toothed orifice, not soon falling off, but shrinking before it fades, by which means the style, originally concealed, becomes prominent. *Antheræ* concealed, ovate, spurred. *Stigma* globular. The leaves and branches are often more or less downy. Capsule with partitions from the centre of its valves, as in *Andromeda*, a puzzling circumstance for the philosophical student of natural genera.



1617

April 1. 1802. Published by J. G. Smith, London.



ERICA cinerea.

Fine-leaved Heath.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-leaved. *Cor.* 4-cleft. *Stamina* inserted into the receptacle. *Antheræ* with 2 pores. *Caps.* superior, of 4 cells. *Seeds* many.

SPEC. CHAR. *Antheræ* crested. *Style* a little prominent. *Stigma* capitate. *Corolla* ovate. *Leaves* in threes.

SYN. *Erica cinerea.* *Linn. Sp. Pl.* 501. *Sm. Fl. Brit.* 418. *Huds.* 165. *With.* 374. *Hull.* 84. *Relb.* 156. *Sibth.* 125. *Abbot.* 87. *Curt. Lond. fasc.* 2. t. 25.

E. tenuifolia. *Raii Syn.* 471.

VERY frequent and abundant on heaths, even as much so as *E. vulgaris*, and contributing no less to the ornament of the country, flowering copiously in July and August, or later.

The above specific character is given rather with a reference to the numerous foreign *Ericæ* than to our own; for the notched appendages, or crests, at the base of the antheræ, found in no other British species, are therefore alone sufficient to determine this. The stems are branched, a foot high or more, as in *E. vulgaris*. Leaves growing by threes, with tufts of young ones, on young branches, in their *axilla*, linear-lanceolate, with a furrow on their backs, smooth. Flowers ranged in long whorled leafy spikes or clusters, drooping, purplish-red. Calyx smooth, acute, with 2 leaves at its base. Corolla elliptical, less turgid than that of *E. Tetralix*, with 4 upright segments at the orifice. Stigma capitate, 4-notched. Partitions of the capsule from the centre of its valves, as in the last species.

This, like the 2 preceding, is sometimes seen with pure-white flowers. It is remarkable that no *Erica* is known in America. The Cape of Good Hope abounds with most beautiful species, now frequent in our green-houses.

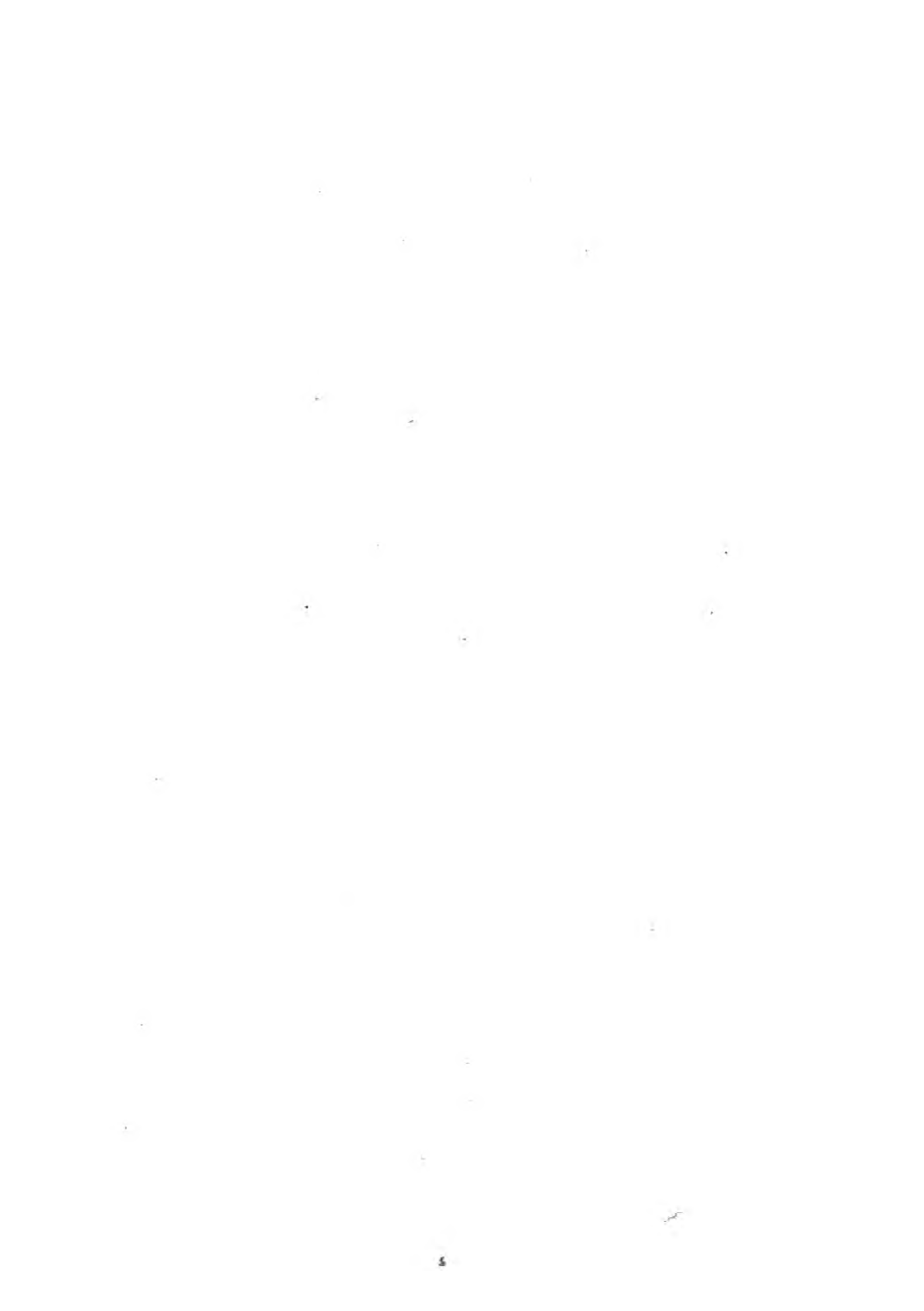
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Illustrated by F. S. Leeby, London.

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[3]

ERICA vagans.

Cornish Heath.

OCTANDRIA Monogynia.

GENERIC CHAR. *Cor.* of one petal. *Cal.* four-leaved, inferior. *Filaments* inserted into the receptacle. *Antheræ* bifid. *Capsule* four-celled.

SPECIF. CHAR. *Antheræ* beardless, prominent: corolla bell-shaped: style prominent. Leaves in fours. Flowers one on each foot-stalk.

SYN. *Erica vagans.* *Linn. Mant.* 2. 230.

E. multiflora. *Huds. Fl. An.* 166.

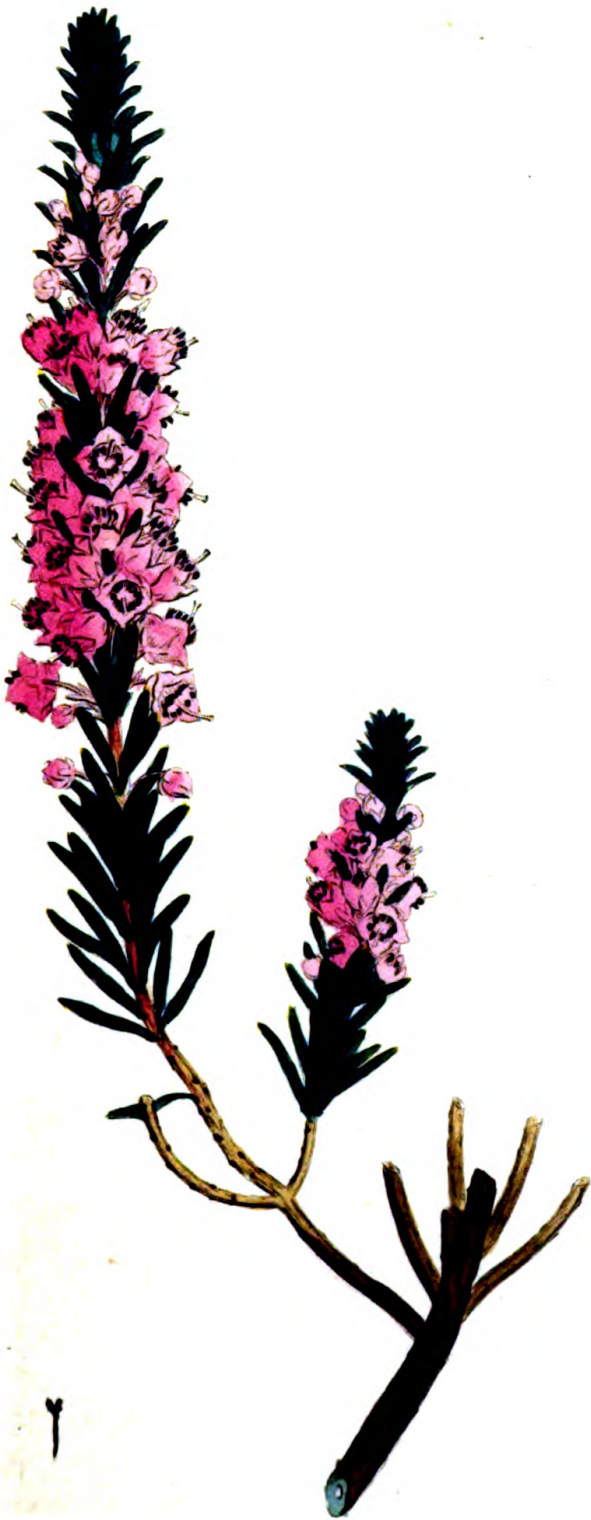
E. didyma. *Witb. Bot. Arr.* 400.

E. foliis Corios multiflora. *J. B. Raii Syn.* 471.

THIS Heath, although very abundant in Cornwall, has not yet been found in any other part of England, nor has its Linnæan name been hitherto determined. Mr. Hudson referred it to the multiflora of Linnæus, which it resembles in appearance, but is a very distinct species. Dr. Stokes first doubted its being that plant, and gave it a new name, *didyma*, from the twin antheræ, a circumstance however by no means peculiar to this species. We therefore retain the Linnæan denomination, though not a very expressive one; as we are assured by Dr. Smith that it is undoubtedly the plant intended by Linnæus, and which he called *vagans* (wandering), because found in so many different and remote countries, as Africa, France, and other parts of the South of Europe; to which we now add our own kingdom, as a further apology for the name.

The Cornish Heath is not unfrequent in the botanic gardens about London, where it grows freely, and looks well. In Cornwall it is as common with white as with red flowers.

We have not been able to meet with a figure of this plant in any author.



L. Lowrey del. Nov. 1790

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DAPHNE Mezereum.

*Common Mezereon.**OCTANDRIA Monogynia.*

GEN. CHAR. *Cal.* 4-cleft, resembling a corolla, withering but permanent, enclosing the stamina. *Berry* with one seed.

SPEC. CHAR. Flowers sessile, about three together, placed on the stem. Leaves lanceolate, deciduous.

SYN. *Daphne Mezereum.* *Linn. Sp. Pl.* 509. *Sm. Fl. Brit.* 420. *Huds.* 167. *With.* 376. *Hull.* 85. *Woodv. Med. Bot. t.* 23. *Meyrick Misc. Bot. t.* 1.

MILLER assures us in his Dictionary that this favourite shrub, so common in plantations, had been in his time discovered wild in woods near Andover, Hampshire, and that the gardens had been plentifully supplied from thence. It is said on good authority to grow also in Suffolk and Staffordshire. The flowers expand in March or earlier, before the leaves, and are remarkable for their beauty and powerful fragrance. The scarlet berries ripen in July, if the birds, which is rarely the case, suffer them to remain so long.

This shrub is commonly 4 or 5 feet high, much branched, tough and pliant, smooth in every part except the tube of the calyx. Leaves lanceolate, entire, deciduous. Flowers sessile in lateral scattered clusters, of a fine rose-colour, (sometimes white,) their calyx being of the nature of a corolla in texture and colour; and indeed botanists dispute about its proper denomination. Stamina short, fixed in the tube in two rows. *Berry* with one large seed.

Every part of the plant is extremely acrid; but the bark of the root is given in decoction, where great debility or insensibility of the stomach or throat requires so violent a stimulus.



Nov. 1. 1804. Published by T. & A. Neave, by J. G. Smith.

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DAPHNE Laureola,

Spurge Laurel.

OCTANDRIA Monogynia.

GEN. CHAR. *Calyx* four-cleft, resembling a corolla, withering but permanent, enclosing the stamina. *Berry* with one seed.

SPEC. CHAR. Clusters axillary, of about five flowers. Leaves lanceolate, smooth.

SYN. *Daphne Laureola.* *Linn. Sp. Pl.* 510. *Huds. Fl. An.* 167. *Witb. Bot. Arr.* 403. *Relb. Cant.* 157. *Laureola.* *Raii Syn.* 465.

THIS shrub, not unaptly resembling a palm-tree in miniature, often occurs in woods and hedges. Its evergreen leaves are conspicuous in Winter, and the flowers come forth early in March. In Summer the black berries remain for a considerable time.

Every part is remarkably smooth. The stem round, about three feet high, tough, but little branched, naked below, crowned at the summit with a tuft of leaves, among which grow bunches of green inconspicuous flowers, of an unpleasant smell, accompanied by several concave bractæ, which soon fall off. This plant, though highly acrid, may be taken internally, and is recommended in worm cases, but the dose is very small. See Dr. Withering.

Gardeners have lately learned to engraft upon this the *Daphne Cneorum*, by which that elegant and fragrant species is the more easily propagated.



1793

✓



ACER Pseudo-Platanus.
Greater Maple, or Sycamore.

POLYGAMIA Monoecia.

GEN. CHAR. Hermaphr. Cal. 5-cleft. Petals 5.
Stamina 8. Pistillum 1. Capsules 2 or 3, single-seeded, terminating in a wing.

Male. Cal. 5-cleft. Pet. 5. Stam. 8.

SPEC. CHAR. Leaves five-lobed, unequally serrated.
Flowers in pendent clusters.

SYN. Acer Pseudo-Platanus. Linn. Sp. Pl. 1495. Huds.
Fl. An. 445. With. Bot. Arr. 1147. Relh.
Cant. 380. Sibth. Ox. 127.

A. majus. Raii Syn. 470.

RAY thinks this tree, so common in hedges, &c. about houses, is not really a native of Britain. We have not observed it in any very wild places. It is said to prefer a maritime situation and exposure, but will grow even in a mountainous one. Being a large, very handsome, quick growing tree, and not injurious to grass, it was much planted about houses formerly, though Evelyn complains that the leaves fall early, putrefy, and "contaminate and mar our walks," so that he would "banish it from all curious gardens and avenues." The wood, as in all trees of rapid growth, is soft, chiefly used for ordinary utensils. Dr. Withering says sugar may be obtained from the sap, which is more remarkably the case with the *Acer saccharinum* of America.

The bark is smooth, ash-coloured. Branches round. Buds opposite, formed of numerous scales. Leaves 5-lobed, the terminal lobe largest, all veined strongly, and unequally serrated. Stipulæ none. Clusters solitary, axillary, long, drooping, branched and many-flowered. Flowers drooping. Petals green, very like the calyx-segments in size, form, and colour. Germen very hairy. Stigma cloven, revolute. Fruit pendent, smooth; seed-wings often 3, not much divaricated. It ripens in August, the flowers appearing in May.

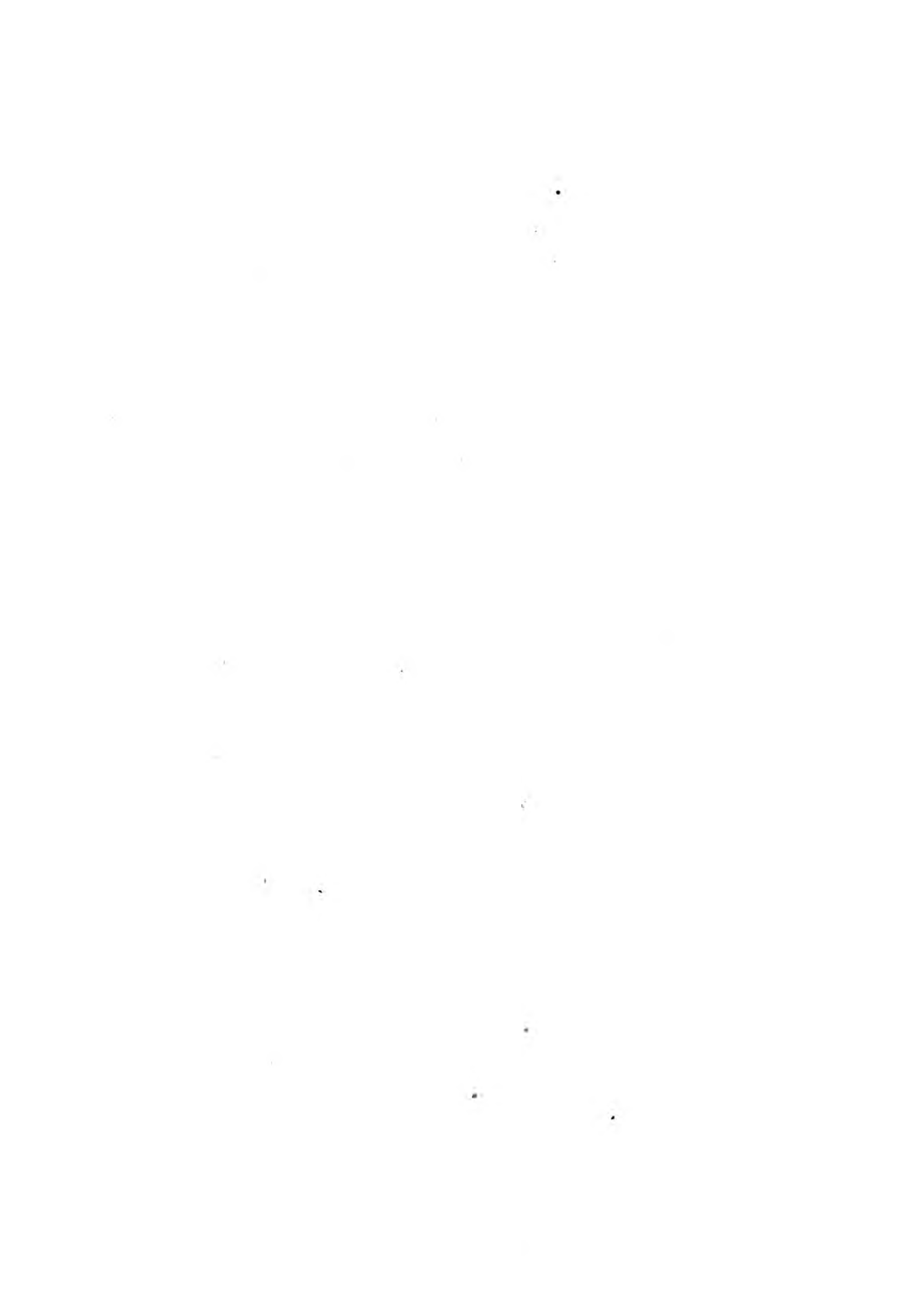
We have great reason to suspect there are two varieties if not distinct species of this tree, in one of which the leaves are glaucous beneath and their serratures very distant; the filaments of this are hairy. Our intelligent friend Andrew Caldwell, Esq. of Dublin, first suggested the idea of this difference, and the Linnæan herbarium confirms his suspicion.



524179. *Pteris caudata*, Linn.

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ACER campestre.

*Common Maple.**POLYGAMIA Monœcia.*

GEN. CHAR. Hermaphr. *Cal.* 5-cleft. *Pet.* 5. *Stam.* 8.
Pist. 1. *Caps.* 2 or 3, single-seeded, terminating in
 a wing.

Male. *Cal.* 5-cleft. *Pet.* 5. *Stam.* 8.

SPEC. CHAR. Lobes of the leaves obtuse, notched.
 Flowers in upright clusters.

SYN. *Acer campestre.* *Linn. Sp. Pl.* 1497. *Huds. Fl.*
An. 445. *With. Bot. Arr.* 1148. *Relh. Cant.* 380.
Sibth. Ox. 127.

A. minus. *Raii Syn.* 470.

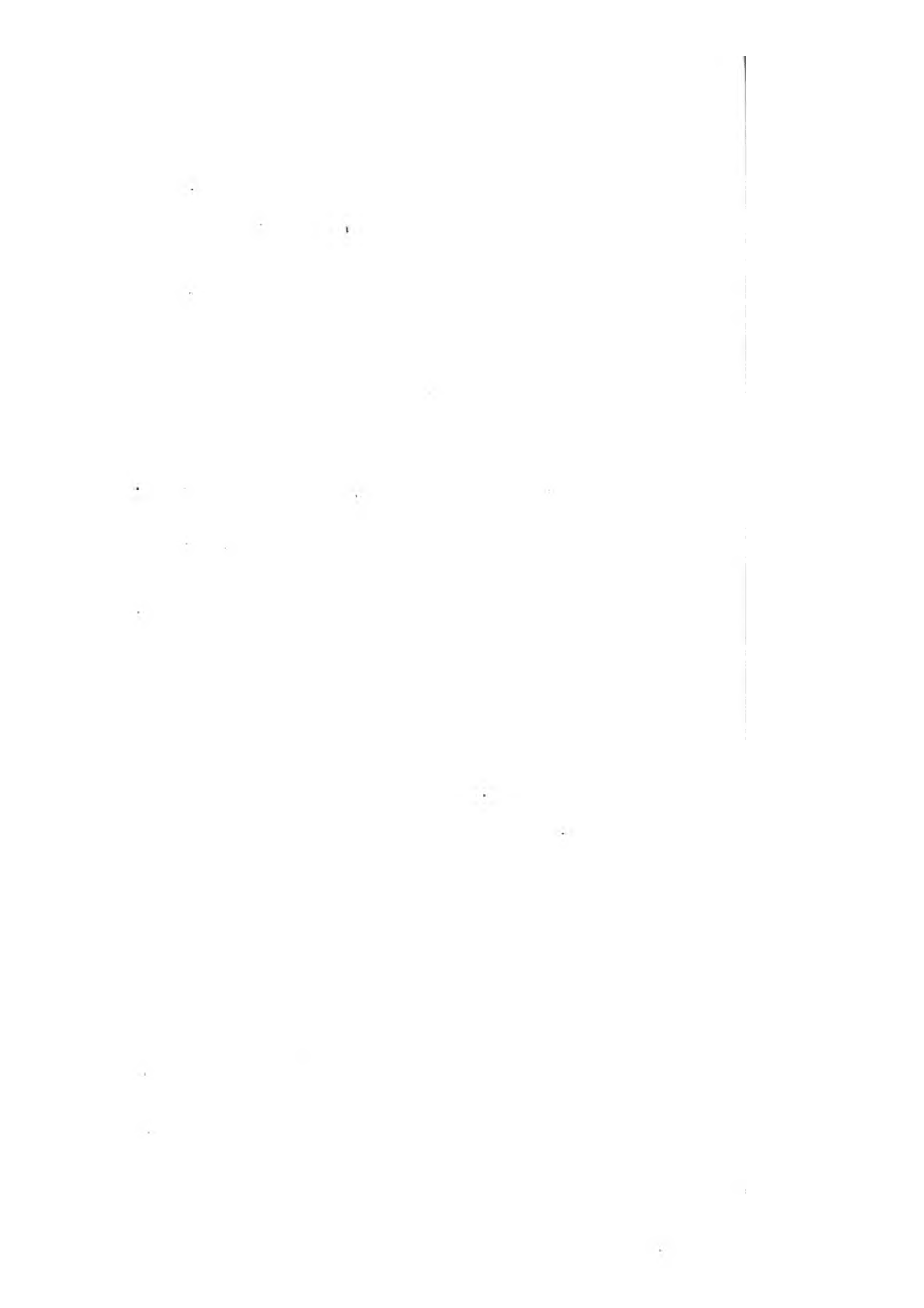
NOT rare in hedges and thickets in the southern counties, though seldom found in the northern ones or in Scotland.

It is a small tree, with spreading divaricated round opposite branches, their bark smooth, though that of the stem is full of corky fissures. Footstalks downy as well as the leaves, which are smaller than in most of our trees, opposite, 5-lobed, each lobe having one or two notches. Stipulæ none. Clusters of flowers appearing in May or June, erect, terminal, branched. Flowers green, much like those of the preceding. Their antheræ (as in that) are hairy between the lobes. Capsules downy, extremely divaricated; wings smooth.

The wood is very useful for turners, being compact, of a fine grain, and often beautifully veined. The antient Romans are said to have set an exorbitant value upon their tables of maple-wood, according to their size and the beauty of their veins. See Evelyn's *Sylva*.



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POLYGONUM amphibium.

Amphibious Persicaria.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Styles* 2 or 3. *Seed* solitary, angular, invested with the calyx.

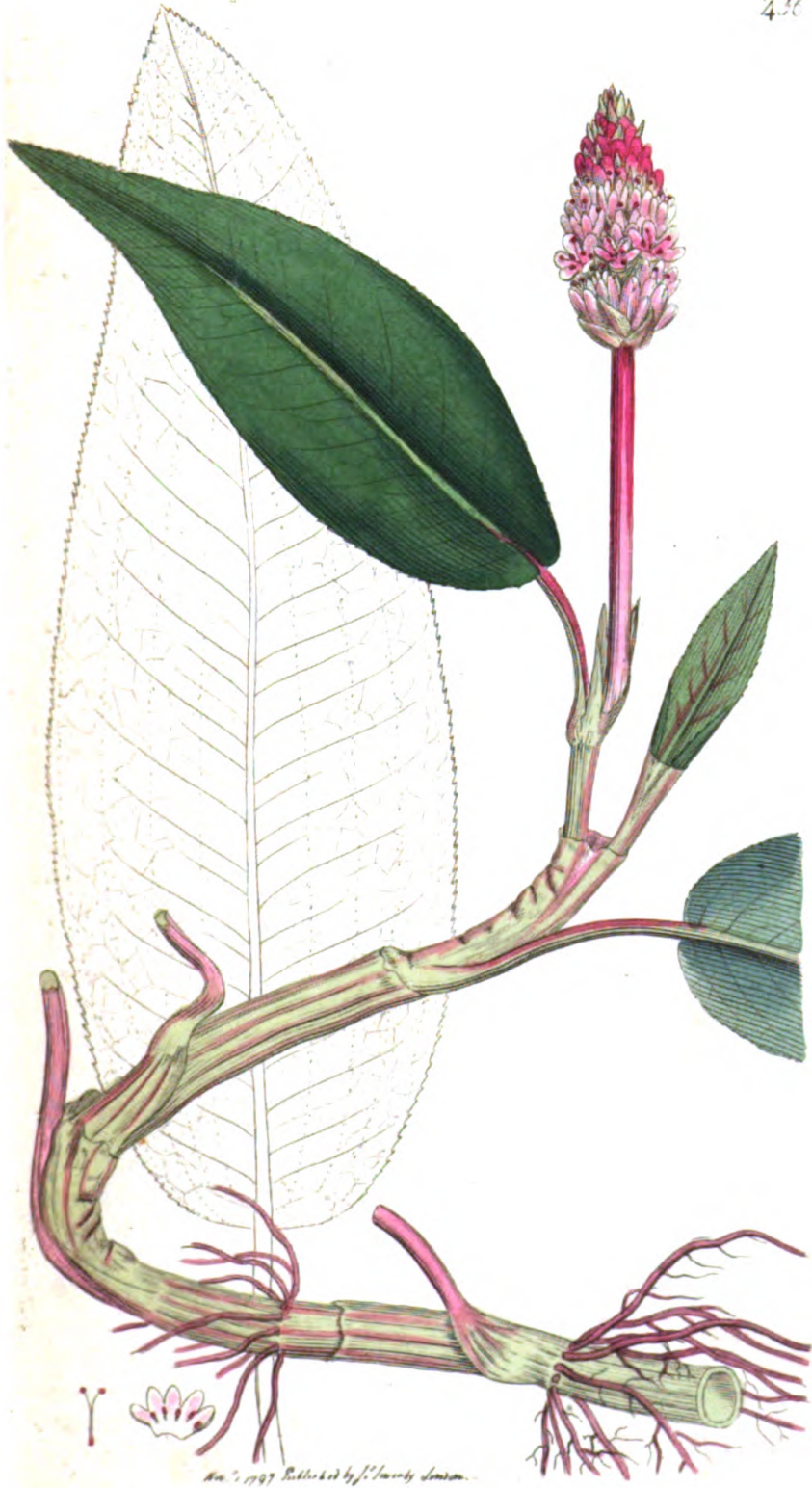
SPEC. CHAR. *Styles* two, united half way up. *Stamina* five. *Spike* ovate.

SYN. *Polygonum amphibium.* *Linn. Sp. Pl.* 517. *Huds.* 169. *With.* 379. *Relh.* 158. *Sibth.* 128. *Curt. Lond. fasc.* 4. *t.* 28.

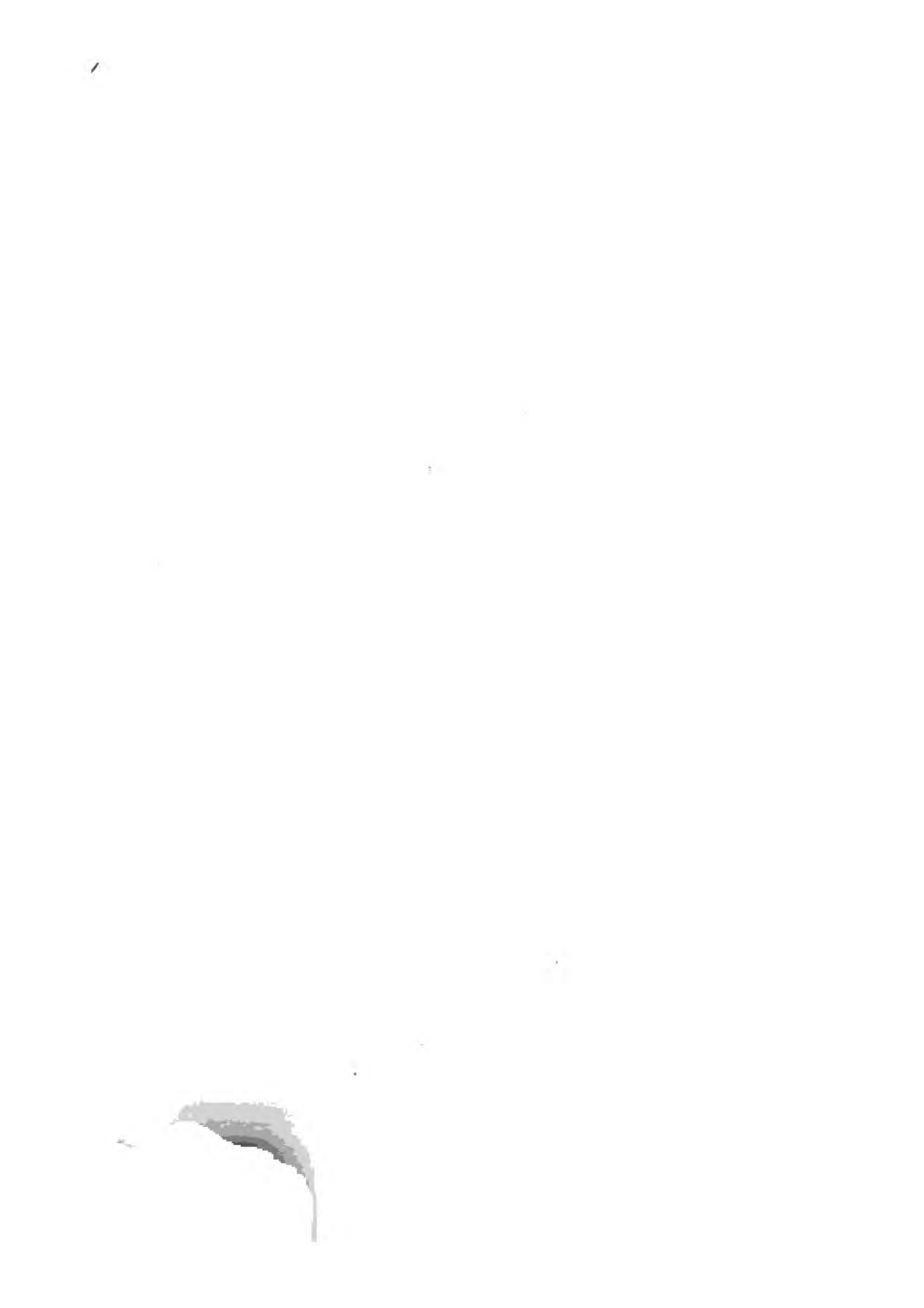
Persicaria Salicis folio perennis. *Raii Syn.* 145.

MOST commonly found growing in ponds and ditches, where its long creeping perennial roots run deep into the mud, throwing out whorls of fibres here and there, while the leaves float upon the surface, and the beautiful spikes of flowers are (in July or August) elevated above it. In this case the leaves are smooth, and of a bright green. Frequently however, as Ray observes, the roots are thrown out with the mud in clearing ditches; and if by that, or any other accident, the plant gets out of the water, the stems grow more erect, the leaves become narrower and hairy, and the flowers are more sparingly produced.

The stem is round, branching in the lower part, leafy, invested with tubular membranous stipulæ, which sheath it above as well as below the insertion of the foot-stalks. Leaves alternate, lanceolate or oblong, heart-shaped at the base, acute, ciliated with short bristly hairs. Spikes ovate, erect, on a reddish, generally smooth, flower-stalk, at first terminal, but at length the stem is protruded beyond it; sometimes two stalks grow together. Bractææ ovate, membranous, pointed. Flowers on short foot-stalks, rose-coloured, composed of only a coloured calyx, for so we beg leave with Jussieu and Curtis to call it, on account of the analogy with *Rumex*, though Linnæus terms it a calyx-like corolla. This part is funnel-shaped, with 5 obtuse segments. *Stamina* but five, varying in length. *Germen* superior, red, bearing 2 styles united and red a good way above their base, white in the upper part, tipped with red globular stigmas. *Seed* compressed, brown, polished; according to Mr. Curtis, a favourite food of water fowl.



Am. 1797 Published by J. Smiley London.



POLYGONUM *Perficaria*.

Spotted Perficaria.

OCTANDRIA *Trigynia.*

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent.

Seed solitary, superior, angular, invested with the calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Flowers with six stamina, and style divided half way down. Spikes ovato-oblong, erect. Common flower-stalks smooth. Stipulæ fringed.

SYN. *Polygonum Perficaria.* *Linn. Sp. Pl.* 518. *Sm. Fl. Brit.* 424. *Huds.* 169. *With.* 380. *Hull.* 85. *Relb.* 159. *Sibth.* 128. *Abbot.* 88. *Curt. Lond. fasc.* 1. t. 23.

Perficaria maculosa. *Raii Syn.* 145.

A COMMON weed in ditches, wet fields, and marshy places, flowering copiously in July and August.

Root annual, fibrous. Stem erect, though sometimes taking root from one or two of the lowermost joints, as in others of this genus, about two feet high, alternately branched, leafy, round, smooth, often reddish, generally swelled above each joint. Leaves almost sessile, lanceolate, entire, rough on the nerve and margin, for the most part marked with a black spot like a horse-shoe. Stipulæ tubular, membranous, fringed, surrounding the stem. Spikes terminal or axillary, on long smooth stalks, erect, cylindrical, obtuse, dense, composed of numerous rose-coloured or whitish flowers. Stamina 6, about as long as the calyx. Style cloven only half way down, sometimes 3-cleft. Seed obscurely triangular.

There is a variety with leaves hoary beneath, and another whose leaves have a silvery hue like the White Willow. These are noticed by Dillenius in Ray's *Synopsis* 145, n. 5 and 7, and are very common. The curious botanist is much indebted to the late ingenious Mr. Curtis for ascertaining the limits between this species and *P. lapathifolium* (his *pensylvanicum*) whose many varieties may always be known by their rough glandular flower-stalks, deeply divided style, and generally beardless stipulæ.

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[1882]

POLYGONUM lapathifolium.

Pale-flowered Persicaria.

OCTANDRIA Trigymia.

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent.
Seed solitary, superior, angular, invested with the
 calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Flowers with six stamina and two distinct
 styles. Flower-stalks rough. Stipulæ beardless. Seeds
 concave on each side.

SYN. *Polygonum lapathifolium.* *Linn. Sp. Pl.* 517. *Sm.*
Fl. Brit. 425. *Relh.* 156. *Sibth.* 129. *Abbot.* 89.

P. pennsylvanicum. *Curt. Lond. fasc.* 1. t. 24, 25.

P. Persicaria ? *Huds.* 170.

P. pallidum. *With.* 381. *Hull.* 85.

Persicaria mitis major, foliis pallidioribus. *Raii Syn.*
 145.

OF this there are several varieties; some with pale whitish
 flowers, as in our figure; others with red flowers and stem,
 or a spotted stem; some whose leaves are smooth, others
 hoary, on the under side. All of them are annual, flowering
 in July and August, and occurring about dunghills and in
 rich moist ground, especially in the low tracts about the
 Thames. Mr. Curtis, as we have observed at *v.* 11. *p.* 756,
 was the first who clearly distinguished this species from the
 more universal *P. Persicaria*. He erred only, with Hudson,
 in supposing ours the *P. pennsylvanicum*, which proves by the
 Linnæan Herbarium to be different. In that collection in-
 deed is no authentic specimen of *P. lapathifolium*; so that its
 name rests on the authority of descriptions and synonyms
 only: but we believe it is not liable to be controverted. The
 specific character depends on the separate styles, glandular
 stalks, and mostly beardless stipulæ.



No. 1304. Published by T. Sowerby, London.

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GEN. CHAR. ...
 DEN. ...
 W. ...
 number.

SPEC. CHAR. ...
 vided half way ...
 unspotted. Spikes ...

SYN. Polygonum Hydropiper ... Pl. 317.
 Sm. Pl. Bris. 426. ... W. 379.
 Hull. 85. Rehb. 100. ... Abou. 39.
 Curt. Lond. fasc. I. t. 26.

Perficaria vulgaris acris, seu Hydropiper. R.
 Syn. 144.

WE have lately (t. 255) described one plant distinguished by the name of *Hydropiper* on very slight grounds; the present had obtained the same denomination previously, on account of its pungent taste, caused by an essential oil which resides in the dots scattered over the herb, particularly the calyx, forming a distinguishing mark of the species. Mr. Curtis however notes that these glandular punctures are sometimes wanting, and therefore they cannot enter into the specific character. No plant is more common than this in ditches and watery places. It flowers in August and September, and may be known from all the other common species by its slender drooping lax spikes, its light-green leaves, always destitute of the black spot so genera. in *P. Prorara*. : 256. Its root is annual, in whorls from the base of the stem. Calyx whitish, tipped with red, glandular as above mentioned. Stamina, 6 rarely 8. Style cloven to half-way down, rarely three-cleft. Stigmas blunt. Mr. Curtis first well distinguished from the *P. ...* whose leaves are flat (not waved. from ... in its ... bent, and style scarcely at all ...



POLYGONUM Hydropiper.

*Biting Persicaria.**OCTANDRIA Trigynia.*

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Seed* solitary, superior, angular, invested with the calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Flowers with six stamina, and style divided half way down. Leaves lanceolate, waved, unspotted. Spikes slender, drooping. Stem erect.

SYN. Polygonum Hydropiper. *Linn. Sp. Pl.* 517. *Sm. Fl. Brit.* 426. *Huds.* 170. *With.* 379. *Hull.* 85. *Relb.* 160. *Sibth.* 129. *Abbot.* 89. *Curt. Lond. fasc.* 1. t. 26.

Persicaria vulgaris acris, seu Hydropiper. Raii Syn. 144.

WE have lately (t. 955) described one plant distinguished by the name of *Hydropiper* on very slight grounds; the present had obtained the same denomination previously, on account of its pungent taste, caused by an essential oil which resides in the dots scattered over the herb, particularly the calyx, forming a distinguishing mark of the species. Mr. Curtis however notes that these glandular punctures are sometimes wanting, and therefore they cannot enter into the specific character. No plant is more common than this in ditches and watery places. It flowers in August and September, and may be known from all the other common species by its slender drooping lax spikes, its light-green leaves, always destitute of the black spot so general in *P. Persicaria*, t. 756. Its root is annual, in whorls from the lower joints of the stem. Calyx whitish, tipped with red, glandular as above mentioned. Stamina, 6 rarely 8. Style cloven full half-way down, rarely three-cleft. Stigmas blunt.

Mr. Curtis first well distinguished from this the *P. minus*, whose leaves are flat (not waved), stem more or less procumbent, and style scarcely at all divided.



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POLYGONUM minus.

*Small Creeping Persicaria.**OCTANDRIA Trigynia.*

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Seed* solitary, superior, angular, invested with the calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Flowers with six stamina, and undivided style. Leaves linear-lanceolate, flat. Spikes slender, upright. Stem rooting at the base.

SYN. *Polygonum minus.* *Huds. ed.* 1. 148. *Sm. Fl. Brit.* 426. *Curt. Lond. fasc.* 1. t. 28. *With.* 380. *Hull.* 85. *Relb.* 161. *Sibth.* 130. *Abbot.* 89. *Persicaria pufilla repens.* *Raii Syn.* 145.

THIS species of *Polygonum*, originally characterized by Mr. Hudson in his first edition, having been afterwards reduced by the same author to the *Hydropiper*, and by Linnæus to the *Persicaria*, has by many persons been considered as very doubtful. At length, however, Mr. Curtis established it beyond all controversy on the clearest principles of distinction.

With *P. Persicaria* it has little affinity; its whole habit, smooth spotless leaves, and very loose slender spikes, bring it much nearer to *P. Hydropiper*: from both it differs in having an undivided style, the stigmas only being separate. The leaves moreover are flat, not undulated, scarcely at all veined; the whole plant smaller and more procumbent than the last mentioned, and the flowers have no glandular dots. The stigmas are sometimes 3, but mostly 2. Root annual. Spikes erect, or very little drooping. *Stipulæ* fringed.

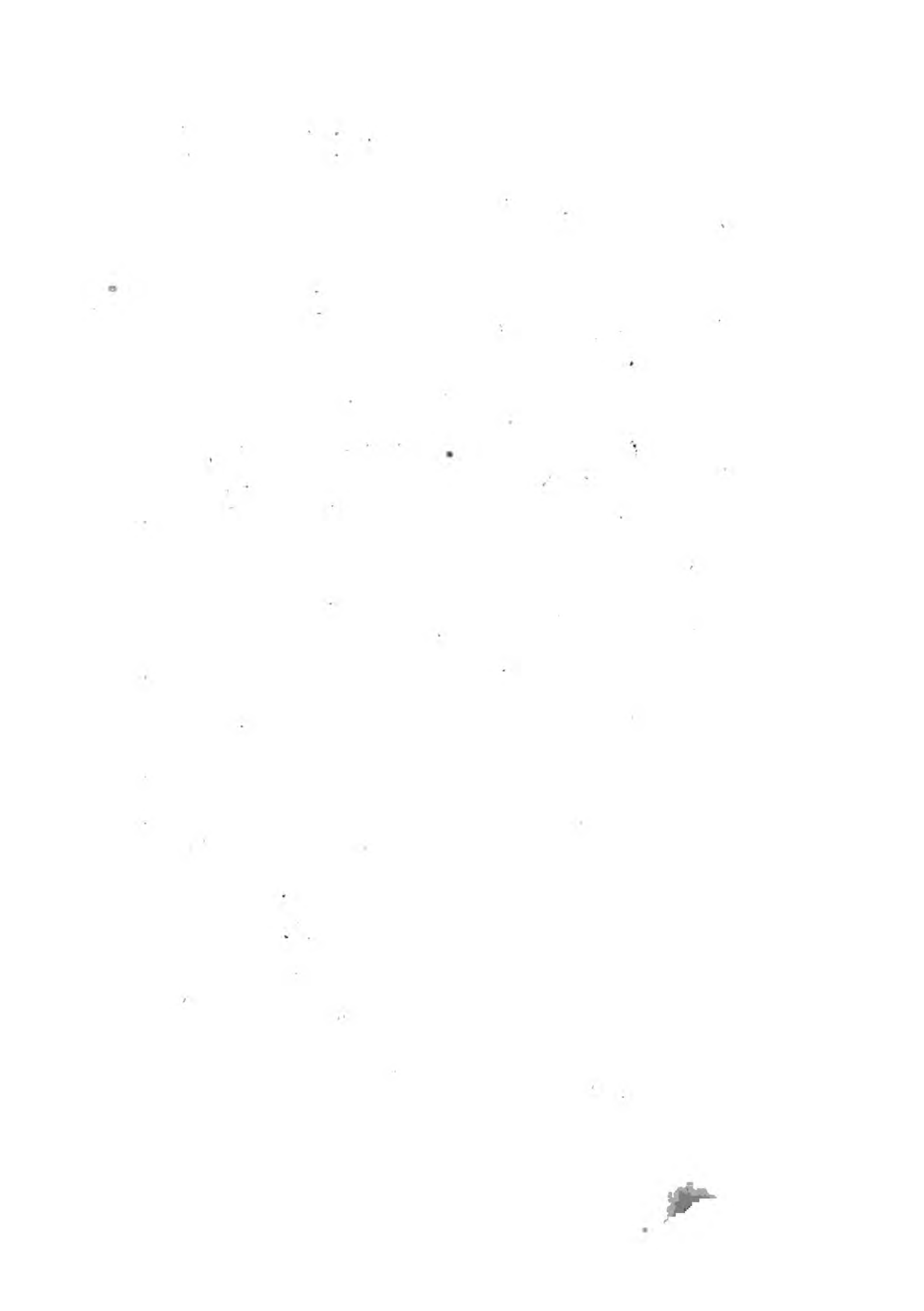
It flowers in September, and may be found on gravelly watery commons, but much more rarely than most of its genus. In Tothill-fields, Westminster, as well as about Blackheath, we find it in the greatest abundance.

1043



July 1 1842. Collected by J. W. Peckham & others.

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POLYGONUM Bistorta.

Bistort or Snakeweed.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent.
Styles 2 or 3. *Seed* solitary, angular, invested with
 the calyx.

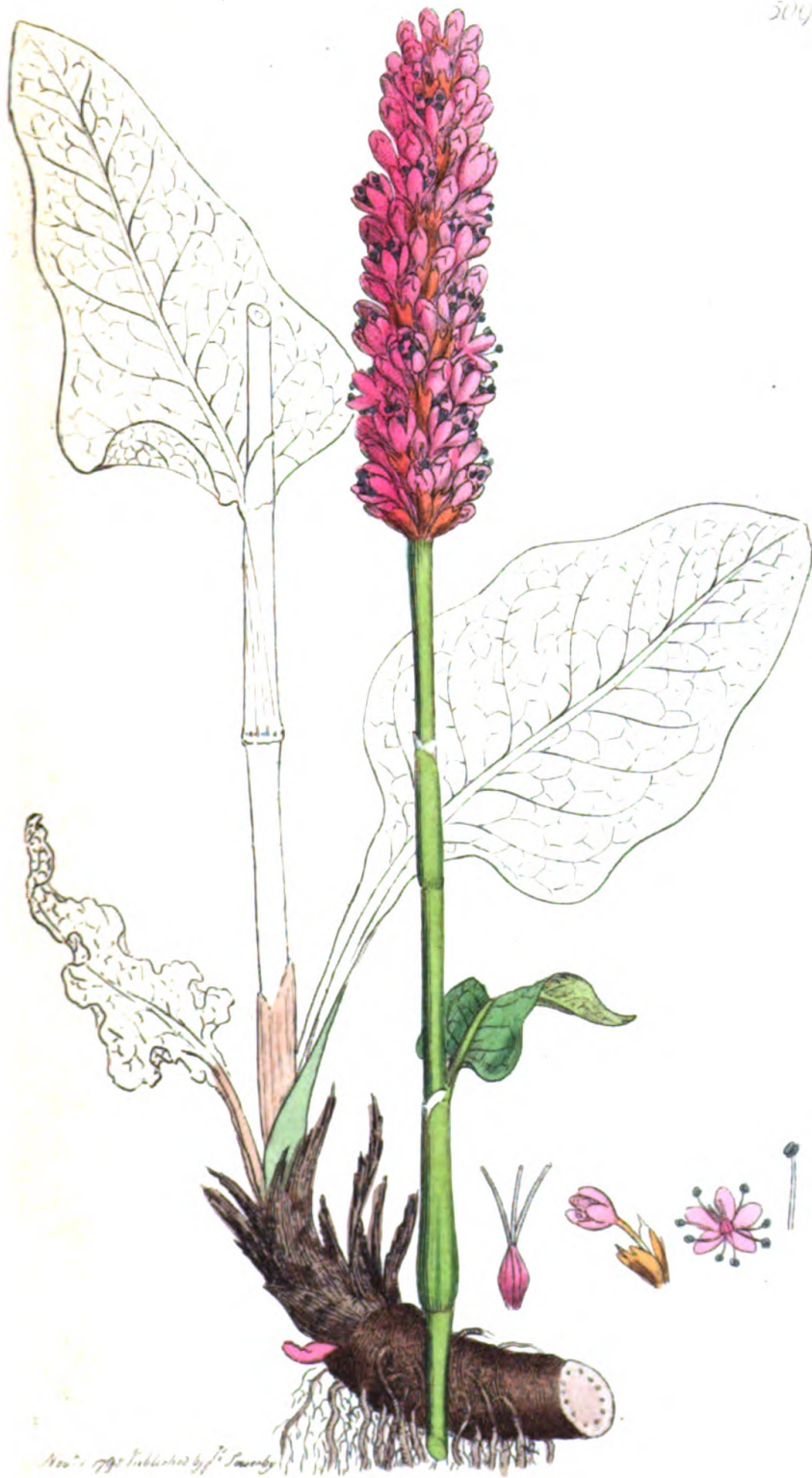
SPEC. CHAR. Stem simple, bearing one spike. Leaves
 ovate, running down into the foot-stalk.

SYN. Polygonum Bistorta. *Linn. Sp. Pl.* 516. *Huds.* 168.
With. 382. *Relh.* 158. *Sibth.* 128. *Curt. Lond.*
fasc. 1. t. 22. *Woodv. Med. Bot.* t. 34.
Bistorta major. *Raii Syn.* 147.

FROM Battersea meadows. The plant is most common in fertile pastures of the north of England, flowering in June. The root is perennial, not easily extirpated: it is somewhat fleshy, creeping, generally a little bent or zigzag, whence the names *Bis-torta* and *snakeweed*, and, being very astringent, has been used with effect where medicines of such a quality were wanted. Dr. Woodville informs us the dose is from a scruple to a dram of the root in substance.

The stem is quite simple, straight and erect, about a foot and half high, round, leafy. Leaves ovate, waved, veiny, entire, of a fine green, smooth, glaucous beneath, their base running down so as to render the footstalk winged. The stalks of the stem-leaves are dilated and sheathing. Spike solitary, terminal, cylindrical, blunt, nearly upright, composed of a great many beautiful pink-coloured flowers, having the proper number of stamina and styles that belongs to the genus, and each standing on a slender red flower-stalk, with a pair of membranous bractæ at the base. The seed is triangular, black, and shining.

504



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(669)

POLYGONUM viviparum.

*Alpine Bistort.**OCTANDRIA Trigynia.*

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Styles* 2 or 3. *Seed* solitary, angular, superior, invested with the calyx.

SPEC. CHAR. Stem simple, bearing one spike. Leaves lanceolate, their margin revolute.

SYN. *Polygonum viviparum.* *Lin. Sp. Pl.* 516. *Sm. Fl. Brit.* 428. *Huds.* 169. *With.* 383. *Lightf.* 206. *Hull.* 86.

Bistorta minor. *Raii Syn.* 147.

β *B. minima alpina, foliis imis subrotundis et minutissimè ferratis.* *Raii Syn.* 147.

A TRULY alpine plant, communicated fresh from a moist spot of ground a little below the Culms near Horton in Craven, by Mr. Bingley in July last. It is principally found in high pastures, or the moist fissures of rocks, Lightfoot says in dry stony pastures, in the most mountainous parts of this island. I have gathered it near the top of Ben Lomond.

The root is tuberous and perennial. Stem about 6 inches high, erect, simple, leafy. Leaves narrow, on footstalks, linear-lanceolate, veiny, smooth (except sometimes beneath), their margins rolled backwards; the root-leaves are often shorter, broader, and finely ferrated, as in the variety β, which has also a very dwarf stem. Spike terminal, slender, obtuse. Flowers reddish, with the proper number of stamina and styles belonging to the genus. The germen is acutely triangular. Seeds rarely perfected, for the lowermost flowers especially have their pistillum generally changed into a bud or bulb, which begins to throw out leaves even before it falls to the ground, and afterwards taking root, forms a new plant, as in many alpine vegetables.

In sensible qualities this species altogether agrees with the more common *Bistort* *t.* 509.

669.



Asplenium adnigrum L.

1





POLYGONUM aviculare.

Knot-grass.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Seed* solitary, superior, angular, invested with the calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Flowers axillary. Leaves elliptic-lanceolate, rough at the margin. Nerves of the stipulæ remote. Stem prostrate, herbaceous.

SYN. *Polygonum aviculare.* *Linn. Sp. Pl.* 519. *Sm. Fl. Brit.* 429. *Huds.* 171. *With.* 383. *Hull.* 86. *Relh.* 157. *Sibth.* 130. *Abbot.* 89. *Curt. Lond. fasc. 1. t.* 27. *Mart. Rust. t.* 91.

P. mas vulgare. *Raii Syn.* 146, and all the following, including *P. marinum*, 147.

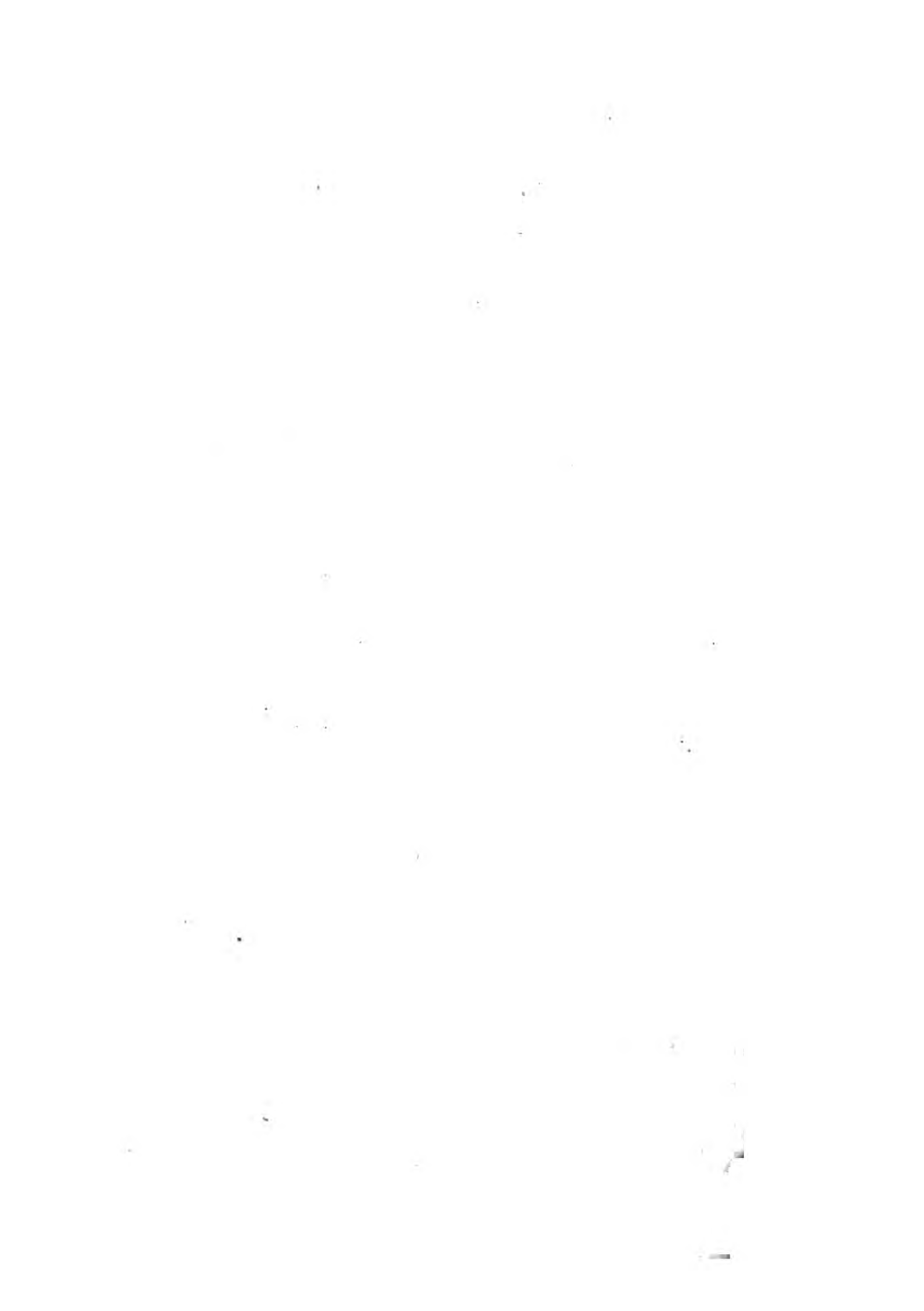
A COMMON weed in all kinds of waste or even cultivated ground, especially in sandy or stony places, flowering all summer long. Birds feed on the seeds.

Root annual, long, very tough. Stems generally prostrate, much branched, various in length and luxuriance, tough, leafy, round, striated, glaucous or purplish, the branches greatly divaricated. Leaves alternate, elliptical or lanceolate, entire, obtuse, tapering at the base, smooth except at the margin, more or less glaucous. Stipulæ membranous, acute, often red, ribbed with a few remote nerves. Flowers axillary, clustered, on short stalks, small, but elegantly coloured with red, white, and green. Stamina 8, rarely 10, short and broad. Germen triangular, crowned with 3 very short styles. Seed black, polished.

Few plants vary more in luxuriance, breadth of leaves, or size of flowers. On the Cornish coast it is found very large and glaucous, when it becomes the *P. marinum* of Ray, but not the *maritimum* of Linnæus, which is still larger and more glaucous, with a perennial shrubby stem, and is essentially distinguished by the numerous parallel nerves of its large stipulæ.



1



POLYGONUM Fagopyrum.

Buck-wheat.

COTYLEDONARIA Trigyna.

GEN. CHAR. Cal. coloured, in 5 segments, permanent. Seed solitary, superior, angular, invested with the chyle. Stam. and Pist. uncertain in number.

SPEC. CHAR. Leaves heart-arrowshaped. Stem nearly upright, without prickles. Angles of the seeds even.

SYN. Polygonum Fagopyrum. *Lin. Sp. Pl.* 522.
Sil. F. Brit. 430. *Hort.* 172. *Witb.* 384.
Flu. M. Sicil. 130. *Arins.* 90. *Mart. Rusf.* t. 46.
 Fagopyrum. *Ram. Syn.* 144.

BUCK-WHEAT, or Brank, is universally allowed to be of exotic origin, though now naturalized on dunghills, or about cultivated land, in England and other parts of Europe. It most probably came from Asia, where there are many other species of *Polygonum* more nearly akin to this than the generality of our own. It is annual, flowering in July and August. The seeds afford a meal, neither unwholesome nor unpalatable, and are excellent food for poultry. In Norfolk it is much cultivated for the sake of pheasants.

The root is fibrous. Herb succulent. Stem a foot high or more, upright, branched, rather crooked or zigzag, round, leafy, smooth, except a downy line more or less conspicuous along one side. Leaves between heart- and arrow-shaped, acute, entire, smooth; the uppermost sessile. Stipulæ small and beardless. Flowers in panicled clusters, variegated with red and white, not elegant. Five of the eight stamina bear anthers whose lobes are separated by a short bar. All the filaments have slow glands between them. The 3 styles are divided to the very base. The 3 angles of the seed are straight and even, neither lobed nor undulated as in some foreign species.



Stem section showing vascular bundles

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POLYGONUM Convolvulus.

*Climbing Buck-wheat.**OCTANDRIA Trigynia.*

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Seed* solitary, superior, angular, invested with the calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Leaves heart-arrowshaped. Stem twining, angular. Segments of the calyx bluntly keeled.

SYN. *Polygonum Convolvulus.* *Linn. Sp. Pl.* 522. *Sm. Fl. Brit.* 430. *Huds.* 171. *With.* 385. *Hull.* 86. *Relb.* 162. *Sibth.* 131. *Abbot.* 90. *Curt. Lond. fasc.* 4. t. 29.

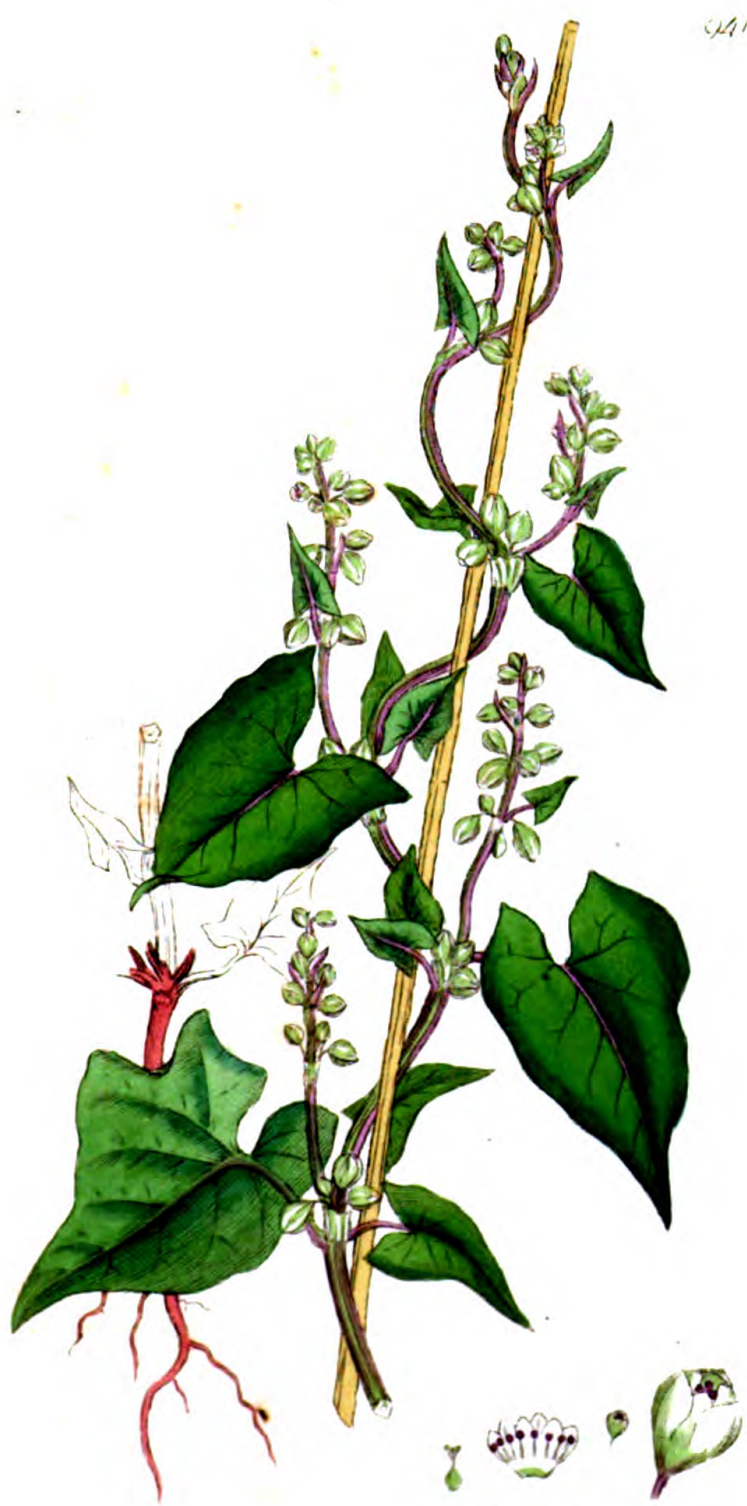
Egopyrum scandens sylvestre. *Raii Syn.* 144.

THIS herb, commonly known by the name of the Black Bindweed, perhaps from the dark colour of its seeds, is but too frequent among corn, as well as in gardens, hedges, out-grounds, &c. flowering and seeding abundantly from June to September.

Root annual, small, and fibrous. Stem twisting round every thing in its way, and thus climbing to the height of 5 or 6 feet, angular, leafy, branching, often roughish; when not supported it is procumbent and short, branching from the base. Leaves alternate, on footstalks, arrow-shaped approaching to the form of a heart, entire, waved, smooth, light-green. Flowers in terminal interrupted spikes, each on a little drooping stalk, whitish with more or less of a reddish tinge, the 3 outer segments furnished with a broad flat (not dilated) keel. Stamina generally 8, and stigmas 3; but sometimes may be found only 6 stamina and a pair of stigmas. Seed triangular, with concave sides.

Small birds are fond of the seeds, which, no doubt, possess the same nutritive qualities as those of *P. Fagopyrum* or Common Buck-wheat, but are inferior in size.

941.



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[7]

P A R I S quadrifolia.

*Herb Paris.**OCTANDRIA Tetragynia.*

GEN. CHAR. *Cal.* four-leaved. *Petals* 4, tapering.
Berry four-celled.

SPEC. CHAR. none, as we know but this species of
the genus.

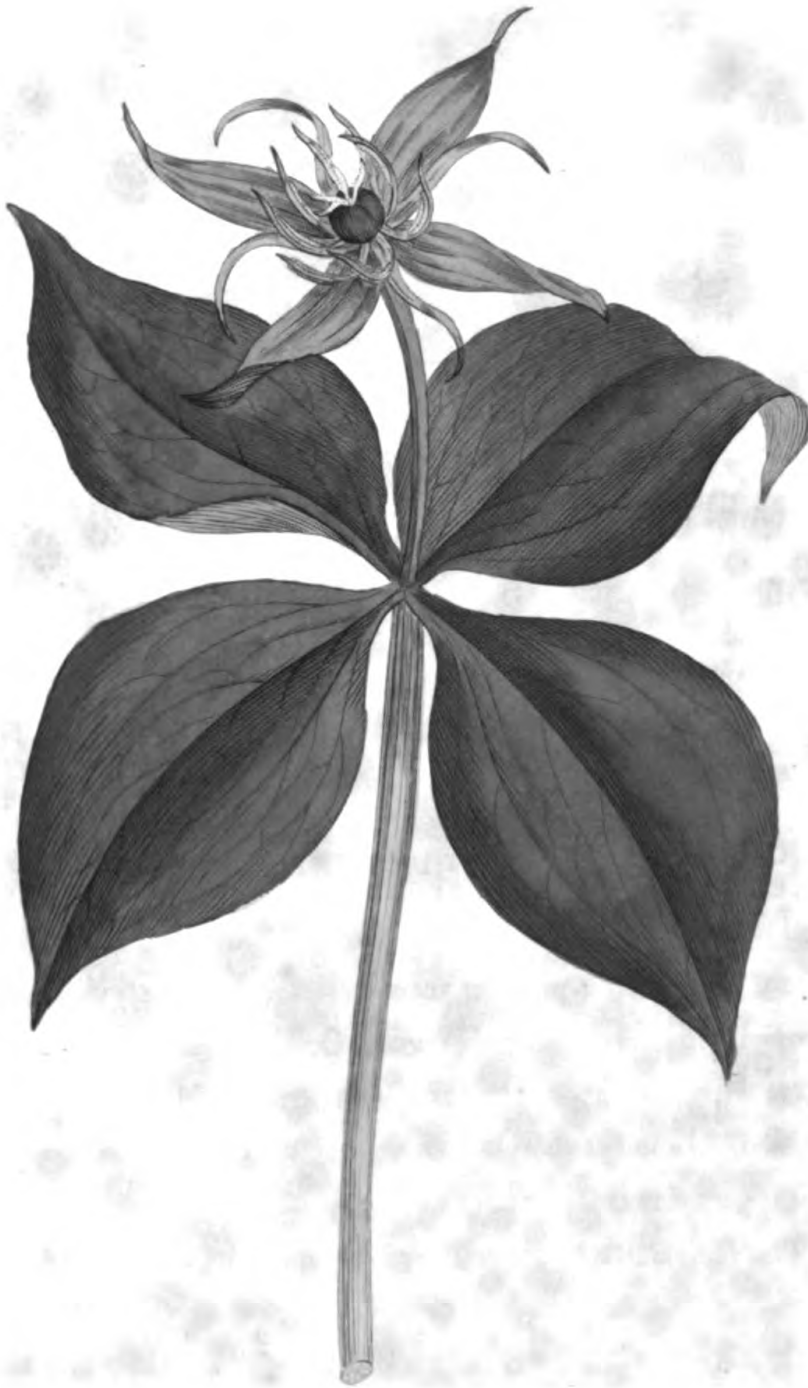
SYN. *Paris quadrifolia.* *Linn. Sp. Pl.* 526. *Huds. Fl.*
An. 172. *Witb. Bot. Arr.* 416. *Relb. Cantab.* 163.
Herba Paris. *Raii Syn.* 264.

THIS plant is a native of shady woods in most parts of England, though very rare in some counties, and not very common in any. Its appearance is singular, and not beautiful. The number four remarkably prevails in its composition, and it is generally constant to that number, though sometimes found with three leaves and sometimes with five. The stem is always simple.

The origin of its name is uncertain. Some etymologists derive it from *par*, a pair, on account of the leaves of this plant growing in pairs*: but this would be more applicable to any plant with two opposite leaves, for the leaves of *Paris* are verticillated. Linnæus therefore more wisely reckons it among the Latin generic names of unknown derivation.

The same author says, in *Flora Lapponica*, its roots may serve instead of *ipecacuanha* as an emetic, but must be given in twice the quantity. The berry is narcotic, and the whole plant has always been esteemed poisonous.

* *Ambrosini Phytologia*, 506.



S. Schumacher del. Tab. 1. 1791

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A D O X A Moschatellina.

Tuberous Moschatell.

OCTANDRIA Tetragynia.

GEN. CHAR. *Cal.* 2 or 3-cleft, partly inferior. *Cor.* 4 or 5-cleft, superior. *Capf.* of 4 or 5 cells, invested with the calyx.

SPEC. CHAR.

SYN. *Adoxa Moschatellina.* *Limn. Sp. Pl.* 527. *Hudj.* 172. *Witb.* 386. *Relb.* 163. *Sibth.* 131. *Curt. Land. fasc.* 2. t. 26. *Dickf. H. Sicc. fasc.* 5. 7. *Moschatellina foliis Fumariæ bulbosæ. Raii Syn.* 267.

NOT unfrequent in groves, thickets, and shady lanes, flowering in April or May. The generic name *Adoxa* (inglorious) admirably expresses the modest appearance of this little humble plant, as it emerges from its wintry bed of withered leaves, and, scarcely daring to lift up its head, welcomes the botanist on his first excursions in the spring. When young, and moist with dew, it has a faint musky smell, which gave rise to its original name.

The root is perennial, formed of fleshy white imbricated scales, from whose interstices the fibres are produced, as well as runners which terminate in fresh roots. Herb of a pale green, succulent, smooth and pellucid. Stem erect, 3 or 4 inches high, angular, bearing two opposite leaves, and a little head of five sessile whitish-green flowers, four of them lateral, one terminal and vertical. The leaves are all ternate, wedge-shaped and lobed, their segments more or less elliptical, entire. One or two grow from the root on long foot-stalks; those on the stem are more simple, and on shorter stalks. The lateral flowers have 10 stamina, the corolla in 5 segments, and the calyx in 5, sometimes 4 or 5; but the terminal flower having but 8 stamens, a quadrisid corolla, and generally bifid calyx, most Linnæus (according to a principle of his own) refer the genus to the 5th class. It is allied to *Corysplegium*, see our t. 24. The styles are 4 in the terminal flower, 5 (rarely 6) in the others. We have never found the ripe fruit. It is described as a capsule of 4 cells, invested with the fleshy calyx, so as to resemble a berry. One of the best descriptions of the *Juss.* is from Mr. Lyons's manuscripts, in the *Flora Cantabrigiæ*.



Mar. 1799 (Lillichid by) Savoy, Louisa

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A D O X A Moschatellina.

Tuberous Moschatell.

OCTANDRIA *Tetragynia.*

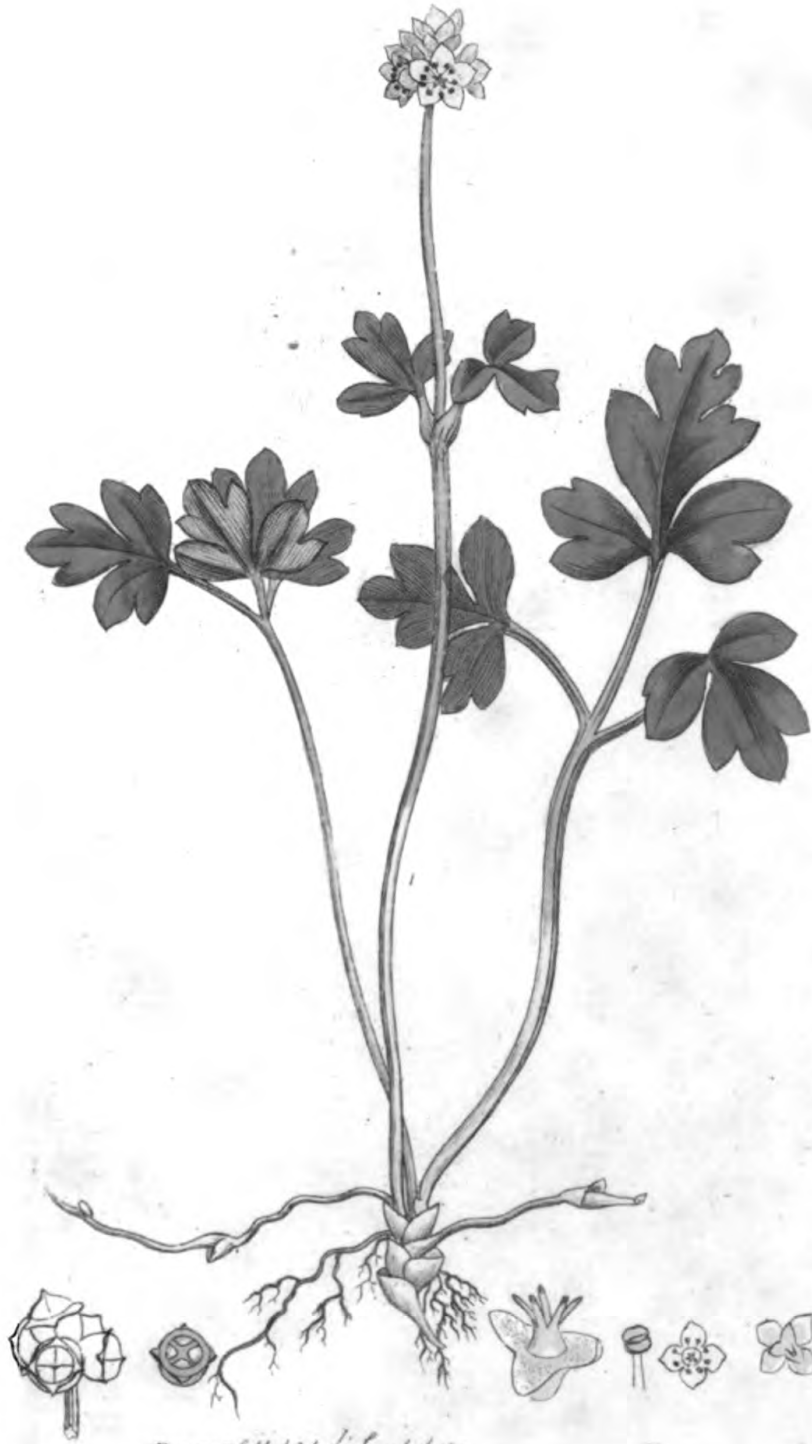
GEN. CHAR. *Cal.* 2 or 3-cleft, partly inferior. *Cor.* 4 or 5-cleft, superior. *Capsf.* of 4 or 5 cells, invested with the calyx.

SPEC. CHAR.

SYN. *Adoxa Moschatellina.* *Linn. Sp. Pl.* 527. *Hudf.* 172. *With.* 386. *Rehb.* 163. *Sibth.* 131. *Curt. Lond. fasc.* 2. t. 26. *Dickf. H. Sicc. fasc.* 5. 7. *Moschatellina foliis Fumariæ bulbosæ. Raii Syn.* 267.

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Man. 1790 published by J. Savary, London

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ELATINE Hydropiper.
Small Waterwort.

OCTANDRIA Tetragynia.

GEN. CHAR. *Cal.* of 3 or 4 leaves. *Petals* 3 or 4.
Caps. superior, of 3 or 4 cells and as many valves;
 the partitions opposite to the fissures. *Seeds* many.

SPEC. CHAR. Leaves in pairs.

SYN. *Elatine Hydropiper.* *Linn. Sp. Pl.* 527. *Fl.*
Dan. t. 156.

Alfinastrum terpyllifolium, flore roseo tripetalo, et
 flore albo tetrapetalo. *Vaill. Par.* 5. t. 2. f. 1, 2.

Hydropiper. *Buxb. Cent.* 2. 36. t. 37. f. 3.

NEVER observed in Britain, till the Rev. Mr. Williams found it, flowering in August 1798, about the eastern shore of Bomere pool near Condover, Shropshire, in a loose sandy soil. This acquisition is more peculiarly welcome to the British Flora, as the other species of *Elatine* must be erased from our catalogue; Dillenius's original specimen proving (strange to tell!) no other than *Centunculus minimus*, a plant quite unlike the *Elatine Alfinastrum*.

Root annual, fibrous, white. Herb smooth in every part, generally under water, even the flowers, which remain closed to shelter the stamina from wet. Sometimes however it grows about the margin of the pool, entirely out of the water. In the latter case it appears from Vaillant that the petals are reddish; in the former white: for both his descriptions most assuredly belong to one species, whose flowers when luxuriant (*Vaill. fig. 2.*) have four calyx-leaves, 4 petals, 8 stamina, 4 cloven styles, and a four-cleft capsule; as we have found some on our specimens; though most of ours have 3 calyx-leaves, 3 petals, 6 stamina, 3 styles, and 3 valves to the capsule, as in Vaillant's *fig. 1.*

This plant might be overlooked for *Montia fontana*, though very different when examined. The stems are procumbent, throwing out roots. Leaves opposite, spatulate, entire. Flowers solitary, on axillary stalks. Buxbaum called it *Hydropiper* (Water Pepper) because he erroneously fancied it allied to the *Pilularia*, whose fruit looks like pepper, see t. 521.



- Dec 1, 1801 Published by J. G. Sowerby London



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119.

BUTOMUS umbellatus.

Flowering Rusb.

ENNEANDRIA Hexagynia.

GEN. CHAR. *Cal. none. Petals 6. Capsules 6, superior, with many seeds.*

SPEC. CHAR.

SYN. *Butomus umbellatus. Linn. Sp. Pl. 532. Hudf. 174. With. 393. Hull. 88. Relb. 164. Sibth. 134. Abbot. 91. Curt. Lond. fasc. 1. t. 29. Butomus. Raii Syn. 273.*

THE elegant *Butomus*, the only British plant of the 9th Class in the Linnæan System, grows in ditches and the margins of rivers and ponds, chiefly on a gravelly soil, flowering in July. Like several other of our aquatics, it may be ranked among the most ornamental flowers.

The root is tuberous, horizontal and perennial. Lower part of the herb entirely under water. Leaves all radical, erect, near three feet long, linear, entire, triangular, smooth, pointed, flat in the upper part. Stalk solitary, simple, naked, round, smooth, taller than the leaves. Umbel terminal, simple, of many flowers, with brown sharp lanceolate bractæ among its flower-stalks. Flowers large, variously shaded with rose-colour, purple and white, of six spreading elliptical petals, the three innermost smaller than the rest. Stamina nine, spreading, equal, white, with red antheræ. Germens six, red, standing in a circle, with short recurved styles, and notched stigmas.



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