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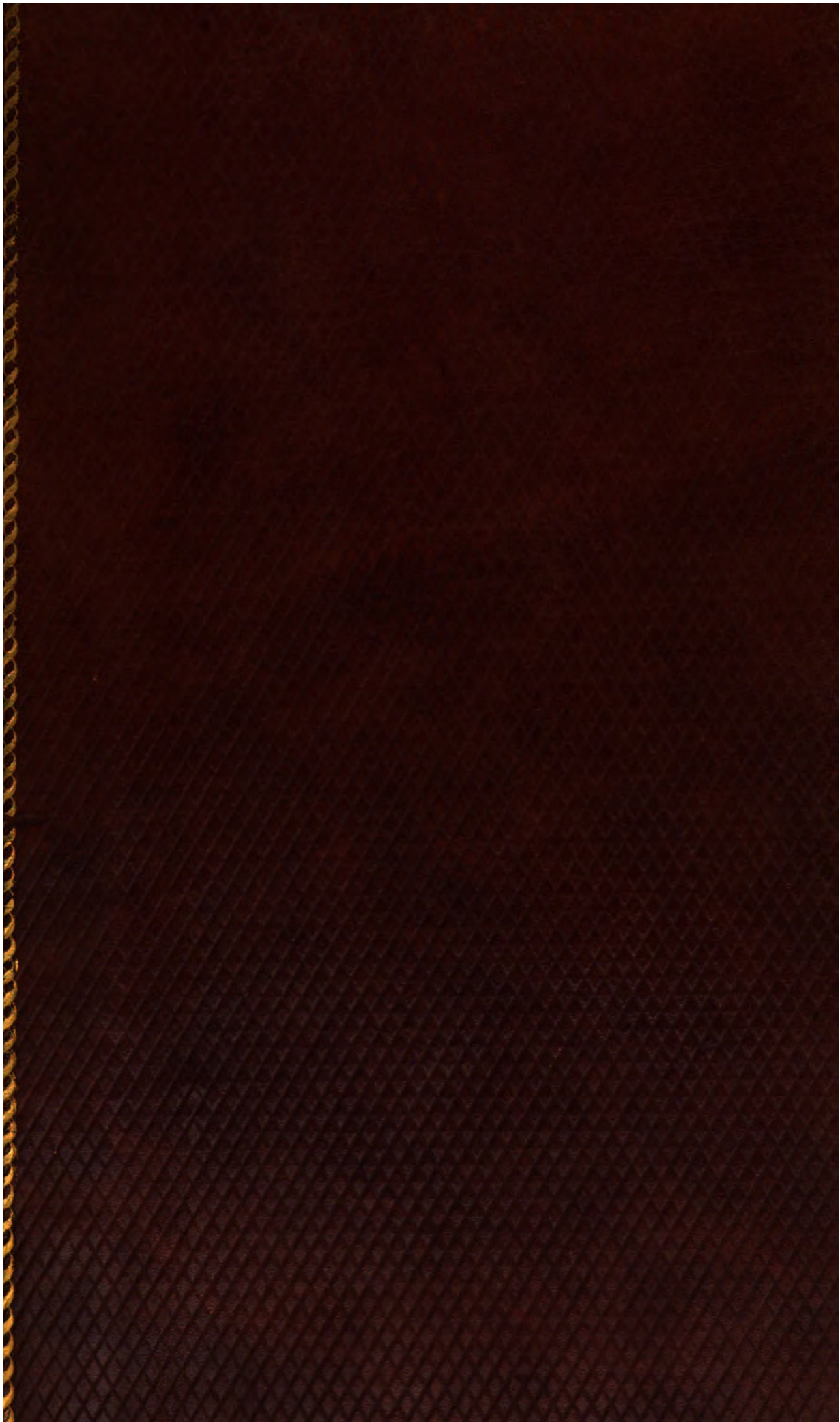
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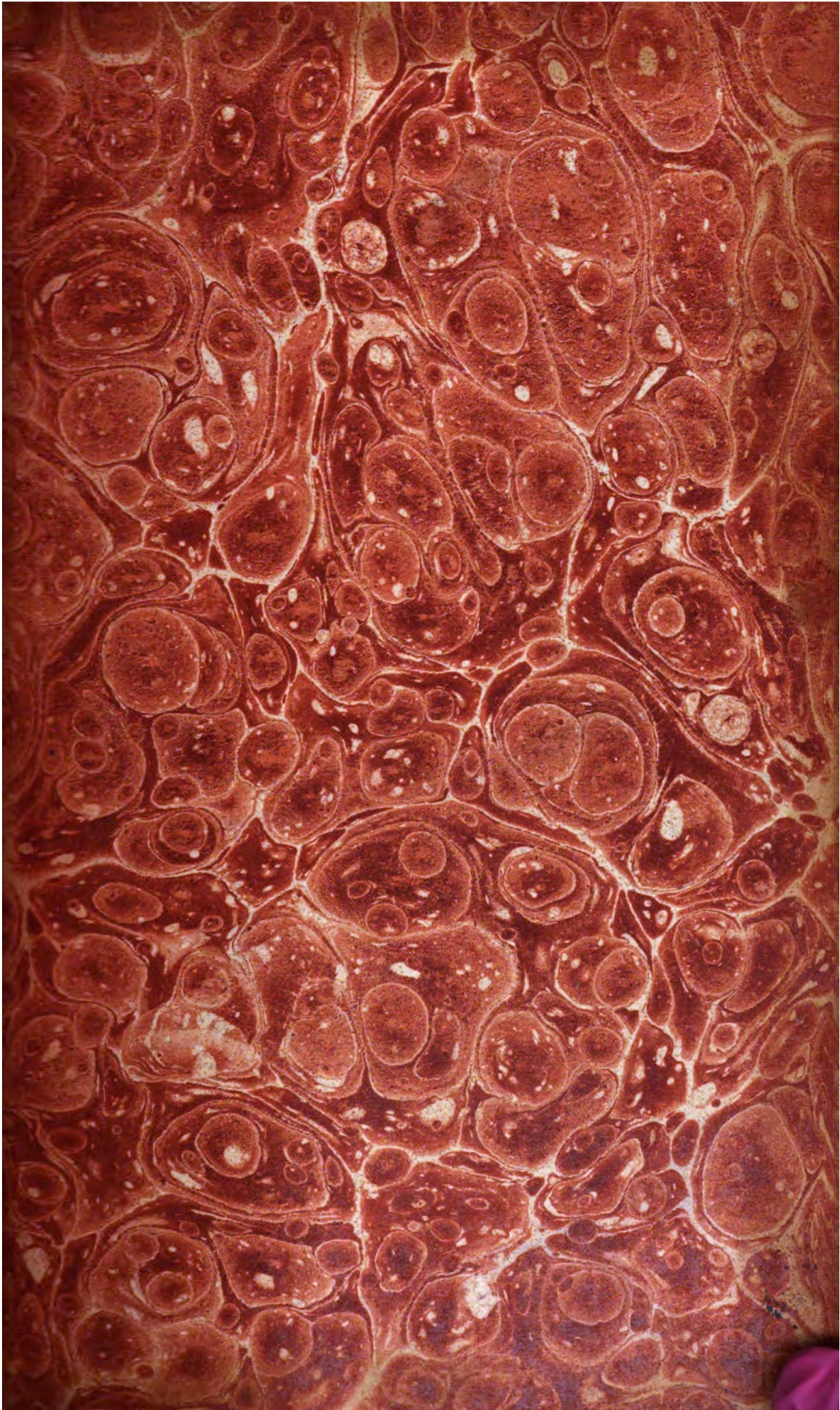
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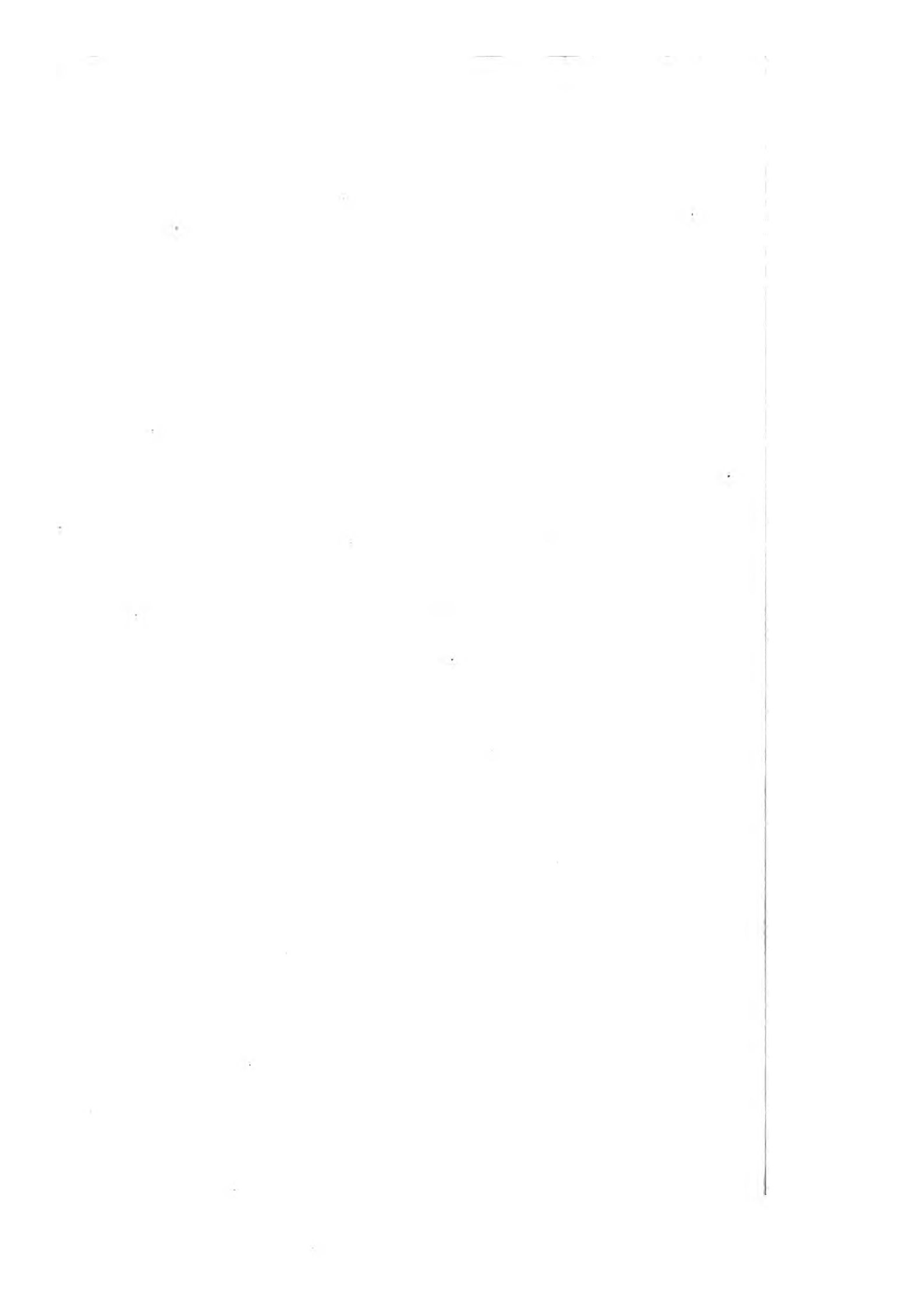


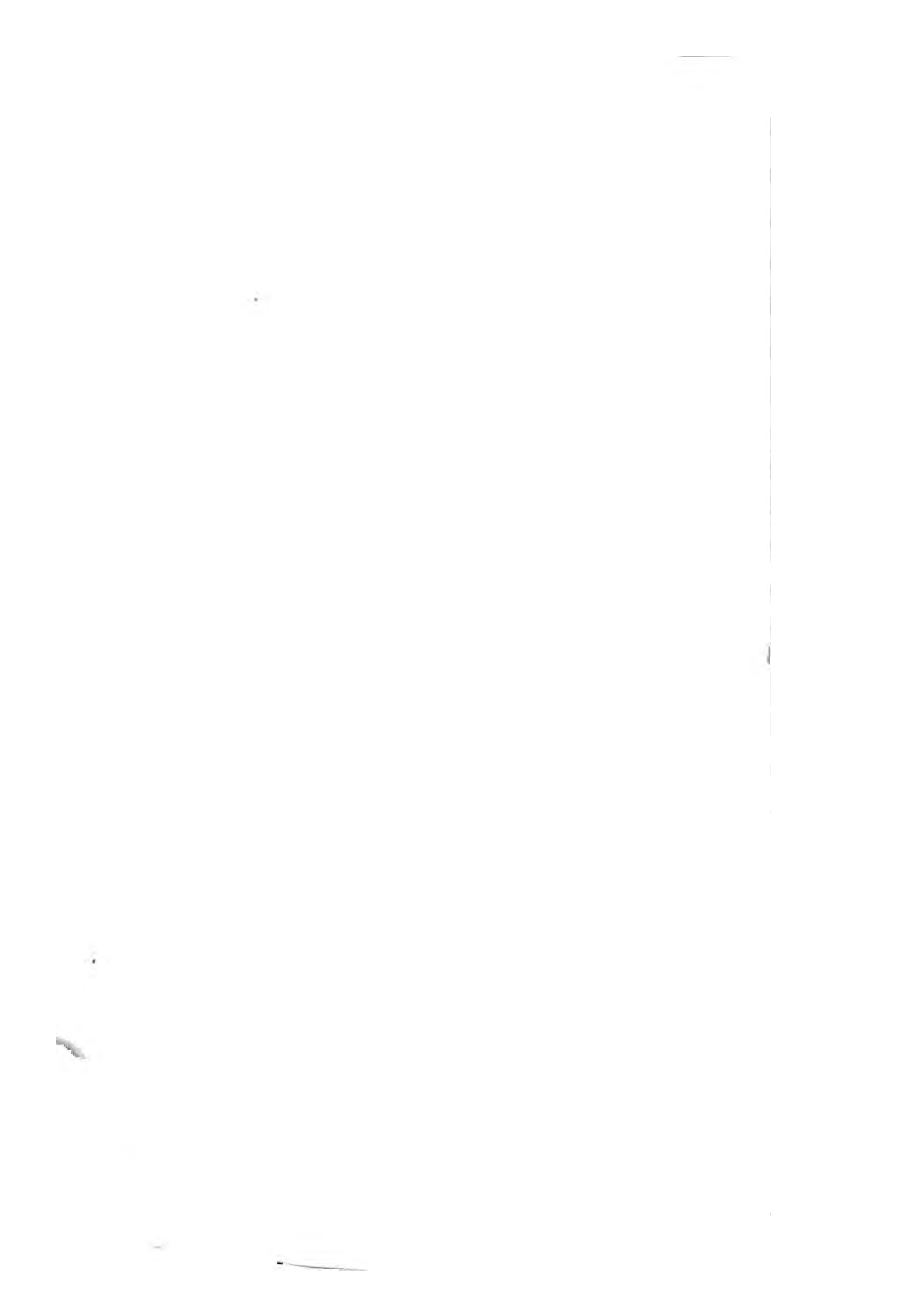


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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,

AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES SOWERBY, F. L. S.

L O N D O N:

PRINTED FOR THE AUTHOR, BY J. DAVIS;

And sold at No. 2, Mead Place, near the Asylum; by Messrs. WHITE,

Bookfellers, Fleet-street; JOHNSON, St. Paul's Church-yard;

DILLY, in the Poultry; and by all Bookfellers, &c.

in Town and Country.

M D C C X C.

—“ QUOS IPSA VOLENTIA RURA
SPONTE TULERE SUA.

VIRG.

P R E F A C E.

THE prevailing taste for botanical pursuits, and the encouragement afforded in this country to every work which tends to advance them, have given rise to the present undertaking, and make any apology for it unnecessary. It remains with the public to judge of the merit of the work, and to decide whether it should be prosecuted or not. It may not however be improper to say something of its intention and plan.

A knowledge of the plants of our own country is in many respects preferable to that of exotics, as it can be much more completely attained, and is on several accounts more directly useful. Nor are the humble productions of our fields and woods deficient in real beauty, elegance, or singularity of structure, in which respects some of them indeed vie with the most favourite exotics. Not to mention the indispensable necessity for those, who are occupied with the rural œconomy of any country, to be well acquainted with its native vegetables; the study of them, as a mere amusement, has this eminent advantage over exotic botany, that it doubles the pleasure of every journey or walk, and calls forth to healthy exercise the bodily as well as the mental powers; while persons who know no such pursuits either sacrifice their health to sedentary employments, or are content to submit, without an object, and without enjoyment, to toil and labour for exercise, and for exercise alone.

As this study then is so much to be recommended,
and

and has of late indeed been so generally approved and pursued, it seems extraordinary that among the many merely descriptive works on British Plants, no successful attempt has hitherto been made to illustrate them by original figures on a cheap and compendious plan; more especially as the advantage of good figures, in promoting the knowledge of plants, is so generally allowed. It is true indeed that most of our native vegetables are already figured in some book or other, and those books are quoted by our systematic writers; but, not to mention the frequent mistakes in such citations, the study of English botany on this plan could not be attempted without a collection of all the books, however voluminous and expensive, that treat of European plants: so that, whatever might be thought of a very large and expensive work of figures of all the plants of Great Britain, it is hoped the present reasonable and commodious publication will by no means be considered as a burthen on the public.

To avoid that imputation as much as possible, the author has in his letter-press declined copying what others have said; and means in general only to refer to the most popular and useful descriptive and systematic books, as the *Species Plantarum* of Linnæus, and the different Floras of Hudson, Curtis, Lightfoot, Withering, Relhan, Ray, &c. He will spare no pains to have his botanical characters and synonyms accurate; and as he is so fortunate as to have access to the first sources of information, he hopes this part of his plan will be executed so as to deserve approbation, and also that in his remarks he may sometimes have an opportunity of presenting his readers with matter altogether new.

Dec. 1, 1790.

TO THE
RIGHT HONOURABLE

GEORGE,

LORD VISCOUNT LEWISHAM, F. R. S. AND F. L. S.

THIS VOLUME
IS MOST RESPECTFULLY INSCRIBED

BY

HIS LORDSHIP'S

MUCH OBLIGED AND

MOST OBEDIENT

HUMBLE SERVANT,

JAMES SOWERBY.

P R E F A C E
T O
T H E F O U R T H V O L U M E
O F
E N G L I S H B O T A N Y .

WHEN Mr. Sowerby undertook to illustrate the Plants of Great Britain by figures, he thought it advisable for those figures to be accompanied by some account of the plants, and requested my assistance for that purpose. I the more readily acceded to his proposal, from having long thought the botanical language of this country required to be improved and fixed, and being ever willing to lend my assistance towards so desirable an end. I have therefore to answer for every word in this publication, except the letter-press to plates 16, 17 and 18, which happened to be communicated by another friend of the editor.

But neither was Mr. Sowerby nor myself at first aware of the importance to which this little work might attain, nor of the utility it might be of as a vehicle for botanical criticism upon British plants. Nor did I in the early part aim at any thing, except, in addition to the essential characters and synonyms, to say something which might allure the careless observer, and stimulate the curiosity of the inexperienced to inquire further into the mysteries and charms of science than such a publication could undertake to conduct them. Descriptions were therefore
for

for the most part omitted, or but slightly sketched, and dissections of the flower were scarcely ever introduced into the plates. Some of my learned friends were pleased to compliment me by thinking the work beneath my notice, and others advised that I should put my name to it by way of giving it consequence. As to the first observation, I have always thought size or mode of publication had very little to do with the value or dignity of a book; for who would not rather have been the author of the little *Fundamenta Botanica* than of all the 26 pompous volumes of Hill's *Vegetable System*? And with respect to the latter remark, I chose rather that the work should make its way by any merit or utility it might be found to possess, than be indebted to other performances for a name. Not that any pains were taken to conceal the real author, nor was I aware that the truth, after a little time, was not generally known, till a criticism appeared in the *Gentleman's Magazine* for February 1793; in answer to which, in that for April following, it became necessary to own the work as entirely mine; and the title page will in future obviate all doubt on the subject, though the style of the descriptions will not be changed. The approbation the book has received will make me anxious to support its credit with my own as it proceeds, and the *English Botany* will serve to illustrate the systematic *Flora Britannica*, which has long been projected, and is now preparing.

J. E. SMITH.

Hammersmith,
November 1, 1795.

P R E F A C E

TO THE

SEVENTH VOLUME

OF

ENGLISH BOTANY.

IN entering upon a Seventh Volume of this work, I embrace the opportunity of thankfully acknowledging the increasing favour with which it continues to be received by the Public in general, as well as the particular assistance it every day experiences from those friends of Mr. Sowerby and myself who enrich it by their communications. These communications are indeed so copious, that, from the limited form of the publication, we find it sometimes impossible to admit them all so early as we could wish, without neglecting more common though perhaps not less interesting or useful subjects. On this point, as well as every other relative to the choice of plants or of matter, we hope those who patronize the work will give us credit for a sincere desire to accommodate all the Students of Indigenous Botany, in their various objects, as much as possible. It is our ambition by degrees to include every vegetable production of Britain, except the *Fungi*, now

VOL. VII.

A

publishing

publishing by Mr. Sowerby alone, in a separate work. Our original views indeed were more limited, but seven years progress has enlarged them. Such plants as were already figured in Mr. Curtis's *Flora Londinensis*, it was thought might be omitted; but to that a great number of our most intelligent purchasers objected, and we have for many reasons acceded to their opinion. It is not without concern that we have found the Editor of that truly valuable work has taken offence at this publication, as clashing with his, which was by no means our aim or desire. On the contrary, I no sooner heard of his displeasure, than I told him, "if he thought the book likely at all to interfere with the success of his *Flora*, we would confine it to such plants as were not to be found within ten miles of London," the limits he had originally prescribed to himself. His answer was, that "he should ever consider our undertaking, in any form, as in all respects hostile to his:" an answer I received with regret, having till then kept up a most friendly botanical intercourse with him; and I record it now merely that the Public may understand the real state of the case.

However averse to literary controversies, being in general I trust better employed, I must notice a German review of the third volume of English Botany, in the *Gottingische Anzeigen* for the 8th of April 1797: this however I should not do, especially as it comes from an anonymous hand, did I not find myself in some respects justly corrected by it. The author truly remarks, upon *Bryum rigidum*, t. 180, that what I have hitherto called
the

the *flower-stalk* of mosses, ought to be named the *fruit-stalk*, as elevating the germen only. But, speaking of the genera of these plants, he says, very uncandidly, "The English have no ideas of the botanical revolutions in Germany, but go on all in the old style, ever averse to reform or improvement." It is easy to see the political allusion of this paragraph, which comes very ill from a German. I can only say, I wish Englishmen ever to be guided by reason and truth, guarded equally against corruption or sophistry at home, and maintaining the dignity of experienced teachers, rather than learners abroad. As to the point in question, the English are neither ignorant nor inattentive. I must claim the honour of having first given an account in this country of the great Hedwig's discoveries (see Dissertation on the Sexes of Plants, published in 1786, p. 60.), and have, under t. 180 above mentioned, assigned the reasons why I hesitated about adopting his generic characters, as being almost entirely artificial. More experience may alter my opinion, but hitherto it remains as it was. The German critic complains, that the stalk of *Pinguicula lusitanica*, t. 145, is not represented hairy. To this an inspection of the plate affords a sufficient answer. It is his opinion that t. 174 contains two very different species under *Lichen uncialis*; that *Pyrus Malus*, t. 179, had better be described with a *simple* rather than a *sessile* umbel; that *Salix repens*, t. 183, is the *depressa* of Hoffmann; that *Lichen immersus*, t. 193, is doubtful; and that in *Marchantia*, t. 210, the receptacle or *discus* is taken for a calyx. This last is a matter of opinion, which I do not see any reason

to give up. In other respects he very liberally praises the work, and certainly honours the author by what he has said of him.

The genera of Mosses is but an unimportant point, compared with that on which I am unhappily obliged to dissent from many most respectable writers, the Reform, as it is called, of the Linnæan System. Every young beginner thinks himself a judge of systems, and, as far as they are artificial, every one may easily be so. But, in natural systems, the most experienced botanist can as yet be but a learner; and rash indeed is that hand which would make an established artificial system abundantly less natural than it was originally, without rendering it at all more easy. Linnæus could certainly have formed his system upon *number* alone, but he wisely judged *situation* and *proportion* might conveniently be taken into consideration. To his class *Polygamia* many students of tropical plants justly objected in his lifetime, and he, as well as his son, listened to their observations. For my own part I could wish all the plants of that class, as well as the *Monœcia* and *Diœcia*, to be removed to the hermaphrodite ones, except such as have a difference of structure in the different flowers; for, where that is the case, the flowers can never vary one into the other, nor the two sexes become united in one flower. By this means many most natural orders of Monœcious or Diœcious plants would still be kept by themselves, which have no affinity with any in the other classes, and only encumber them. Perhaps the order *Syngenesia Monogamia* might be properly abolished; but the other orders
of



of that class require to be physiologically and deeply studied, in a manner that lies out of the ken of most of these reformers. Such plants as do not properly belong to the *Gynandria* ought undoubtedly to be removed from thence; but this is no reason why others, as the *Orchideæ*, should not remain there. Above all, the union of *Icosandria* with *Polyandria* is the most preposterous and ill-judged attempt that has yet been made upon the Linnæan system. A great deal more might be said upon this subject, and I have often thrown out hints relative to it in the course of the present work. I respect and applaud every step towards a knowledge of natural arrangement, but I most heartily disapprove of every whimsical alteration, in an artificial system that has been found to answer its intended purpose. Who would not thank the writer of a dictionary for every improvement in etymology and the true meaning of words? but who would admire him for deranging the alphabet, jumbling b p and v, c g and k, or perhaps all the vowels together, to accommodate those whose intellects were not competent to count to twenty-four? The work of Dr. Withering, being a book of primary importance, has drawn from me these remarks, he having in his third edition adopted some of the above alterations. I lament the confusion that is thereby introduced, and the still greater which may follow from such an example; but I put in my protest only to be considered, not blindly followed, and I keep my own mind ever open to conviction on this and I hope every subject; for he who does not, deserves no credit for any opinions he may entertain.

It

It remains only to add, that, for brevity's sake, I shall in future quote the usual authors as follows ;

Withering's third edition—*With.* ——— When the second and third volumes are referred to, citing only the page—

Hudson's Flora, second edition—————*Huds.*

Relhan's Flora Cantabrigiensis—————*Relh.*

Sibthorp's Flora Oxoniensis—————*Sibth.*

Lightfoot's Flora Scotica—————*Lightf.*

J. E. SMITH.

NORWICH,
Nov. 1, 1797.



Class 1.

SALICORNIA annua.

Annual Samphire, or Jointed Glasswort.

MONANDRIA Monogynia.

GEN. CHAR. *Calyx* inflated, undivided.* *Petals* none.
Stamina one or two. *Seed* one, enclosed in the
Calyx.

SPEC. CHAR. Joints compressed, notched; interstices
obconical. Branches opposite. Spikes cylindrical.

SYN. *Salicornia annua*. *Smith Fl. Brit. in ed. 1.*
Bast. Opusc. v. 2. 105. t. 10.

S. europæa α. *Huds. Fl. An. 1.*

S. herbacea. *Linn. Sp. Pl. 5. With. Bot. Arr.*
3. ed. 3. v. 2. 4. Relh. Cant. Suppl. 2. 1.

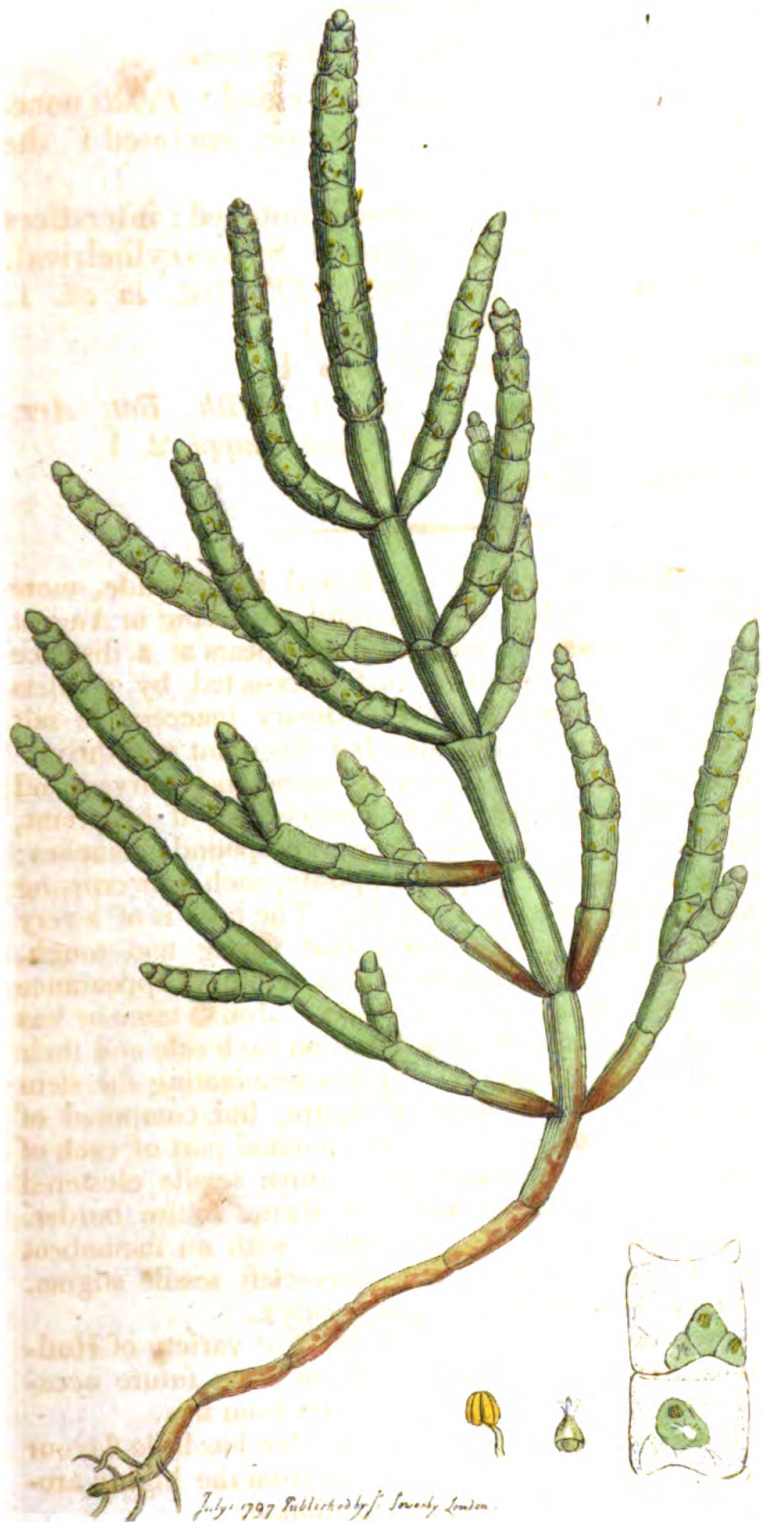
Salicornia. *Raii Syn. 136.*

ON sea-shores in places overflowed by the tide, more especially on a muddy soil, plentiful, flowering in August or later; the ground it covers often appears at a distance clothed with a most beautiful turf intersected by rivulets but on a near approach it proves a dreary inaccessible salt marsh, where scarcely any thing but this plant will thrive.

Root small, annual. Stem erect, sometimes curved and inclining in the lower part, from whence also, if luxuriant, it generally throws out two large compound branches; the others are mostly simple, opposite, each pair crossing the next, and all pointing upwards. The bark is of a very succulent substance; the woody part strong and tough, though slender. The whole herb is of a jointed appearance externally, smooth, destitute of leaves. Joints more or less compressed, notched or lollowed out on each side and their interstices thickened upward. Spikes terminating the stem and branches, and like them in figure, but composed of much shorter joints, just above the pointed part of each of which on either side stand about three sessile clustered flowers. *Calyx* swelling with an abrupt entire border. *Stamen* we have always found solitary with an incumbent anthera. *Germen* ovate with a three-cleft sessile stigma. *Seed* solitary, imbedded in the pulpy calyx.

What we have described is only the first variety of Hudson; the others we hope to illustrate on some future occasion, believing them specifically distinct from this.

This herb is much eaten as a pickle, but has little flavour of its own; in which respect it differs from the highly aromatic true Samphire, *Crithmum maritimum*.



July 1797 Published by J. Smokey London.

J

SALICORNIA procumbens.

*Procumbent Glasswort.**MONANDRIA Monogynia.*GEN. CHAR. *Calyx* swelling, undivided. *Petals* none.*Stamens* 1 or 2. *Seed* 1, enclosed in the calyx.

SPEC. CHAR. Stem herbaceous, procumbent; interstices obconical. Branches simple. Spikes tapering. Stamens two.

SYN. *Salicornia herbacea*. *Ehrh. Beitr. fasc. 7. 178.*

VERY common in salt marshes, where the ground is often covered with water, flowering in August.

The root is annual. Stem procumbent, a span long, with several primary divisions at the lower part only. The branches are simple. Joints of the stem notched; the interstices swelling upward, compressed, or rather quadrangular. Spikes tapering. Stamens always two to each germen. Style but slightly divided. Stigmas notched.

Mr. W. Borrer has long remarked this as a new *Salicornia*. Mr. Turner sent specimens to us from the marshes just above Yarmouth. The establishment of this diandrous herbaceous species will serve to account for the differences of opinion among botanists, who have described what they all supposed to be one and the same, whether by the name of *annua* or *herbacea*; but some declared it to be always monandrous, whilst others as positively asserted the presence of two stamens. See *t.* 415; and *Willd. Sp. Pl. v. 1. 24.*

2476.



Noni published by J. G. Smith, London.

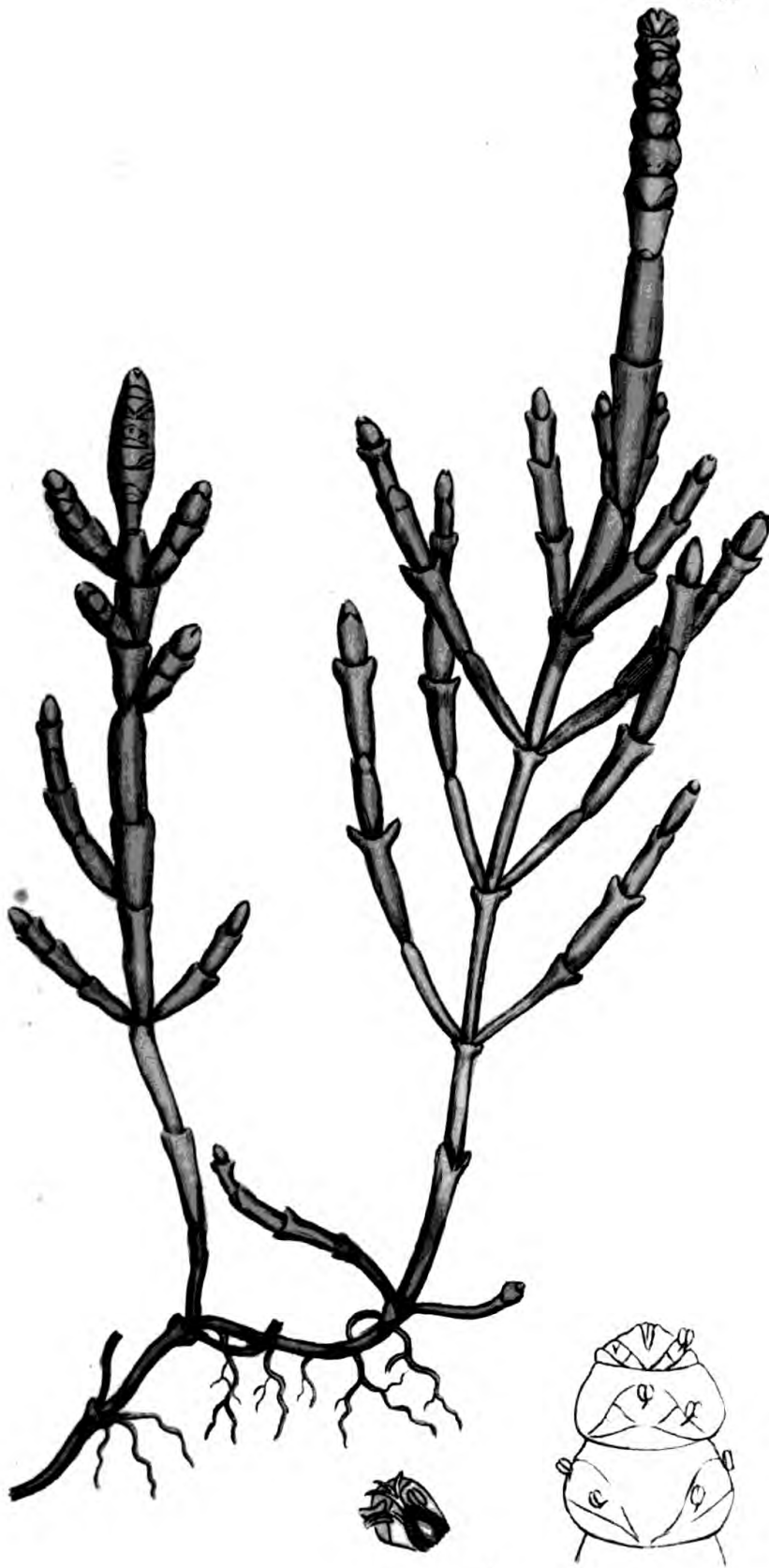
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SALICORNIA radicans.

*Creeping-rooted Glasswort.**MONANDRIA Monogynia.*GEN. CHAR. *Calyx* swelling, undivided. *Petals* none.*Stamens* 1 or 2. *Seed* 1, enclosed in the calyx.SPEC. CHAR. Stem woody; procumbent and taking root at the base. Joints compressed, notched; interstices nearly cylindrical. Spikes oblong. Style deeply divided. *Stamens* two.SYN. *Salicornia herbacea* β. *Sm. Fl. Brit.* 2.*S. erecta*, foliis brevibus, cupressiformis. *Dill. in Raii Syn.* 137.*S. europæa* β. *Huds.* 1.

WE first received this plant in September 1798 from the Rev. Charles Sutton, D.D., who found it on the sea coast at Holm, Norfolk. Mr. W. Borrer has since sent it from the harbour at Shoreham, Sussex, and we have received information of it from Weymouth, and other places. I alluded to it as a distinct species in *v. 6. p. 415*, but in the *Fl. Brit.* was induced to refer it to the common annual kind as a variety. On mature consideration I now resume my first opinion.

It grows in mud, and appears to be a perennial plant, though Professor Afzelius thought it biennial, and it flowers in September. The stem is shrubby, erect or somewhat procumbent, but remarkable for creeping and taking frequent root at the base. The interstices of the stem are more slender and cylindrical than in *S. herbacea*, *Fl. Brit.* the spikes not so uniform in thickness throughout. We have always found 2 stamens to each germen. The style is deeply divided into 2 or 3 parts, in which last respect it differs from the real *S. fruticosa*, of which we have seen English specimens in Sherard's herbarium at Oxford, and the joints of whose spikes are moreover totally different from these, being longer and the flowers more distant.



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SALICORNIA fruticosa.

- *Shrubby Jointed Glasswort.*MONANDRIA *Monogynia.*

GEN. CHAR. *Calyx* swelling, undivided. *Petals* none.
Stamens 1 or 2. *Seed* 1, enclosed in the calyx.

SPEC. CHAR. Stem woody, ascending. Joints and
 interstices cylindrical. Spikes nearly sessile, cy-
 lindrical, obtuse.

SYN. *Salicornia fruticosa.* *Linn. Sp. Pl.* 5. *Sm. Fl.*
Brit. 3. *With.* 3. *Hull. ed.* 2. 2.

S. europæa γ . *Huds.* 1.

Kali geniculatum perenne fruticosius procumbens.
Raii Syn. 136.

Kali. *Camer. Epit.* 246.

THIS plant has found a place in the *Fl. Brit.* on the authority of the original specimens which Ray and Dillenius had before them, as well as of others found by Mr. Yalden near Weymouth; all which have been compared with the Linnæan one, taken to them on purpose. Several of our most intelligent friends having sought for the plant in vain at Weymouth, we are reduced to the necessity of delineating one of Mr. Yalden's specimens, now in Her Majesty's possession; permission having been graciously given to Mr. Sowerby for that purpose. It will serve to show what all the above synonyms intend, if not to establish this *Salicornia* as a certain species. We should have no doubts, were it still to be found on any part of our coasts. The cylindrical slender interstices of the joints, the small short dense spikes, and the shrubby much-branched stem, all indicate a specific distinction. But it is not impossible that these characters may all take place in our *S. radicans*, t. 1691, whenever a few successive mild winters may allow it to acquire a more permanent and woody stem than usual. Still however we find the style only simply divided, at least in the Linnæan herbarium. The other specimens have not been examined in that respect.

2467.



Unpublished by J. R. Hooker, London

v

HIPPURIS vulgaris.

Mare's-tail.

MONANDRIA Monogynia.

GEN. CHAR. *Cal.* obsolete, undivided. *Cor.* none.*Stigma* simple. Seed 1, inferior.

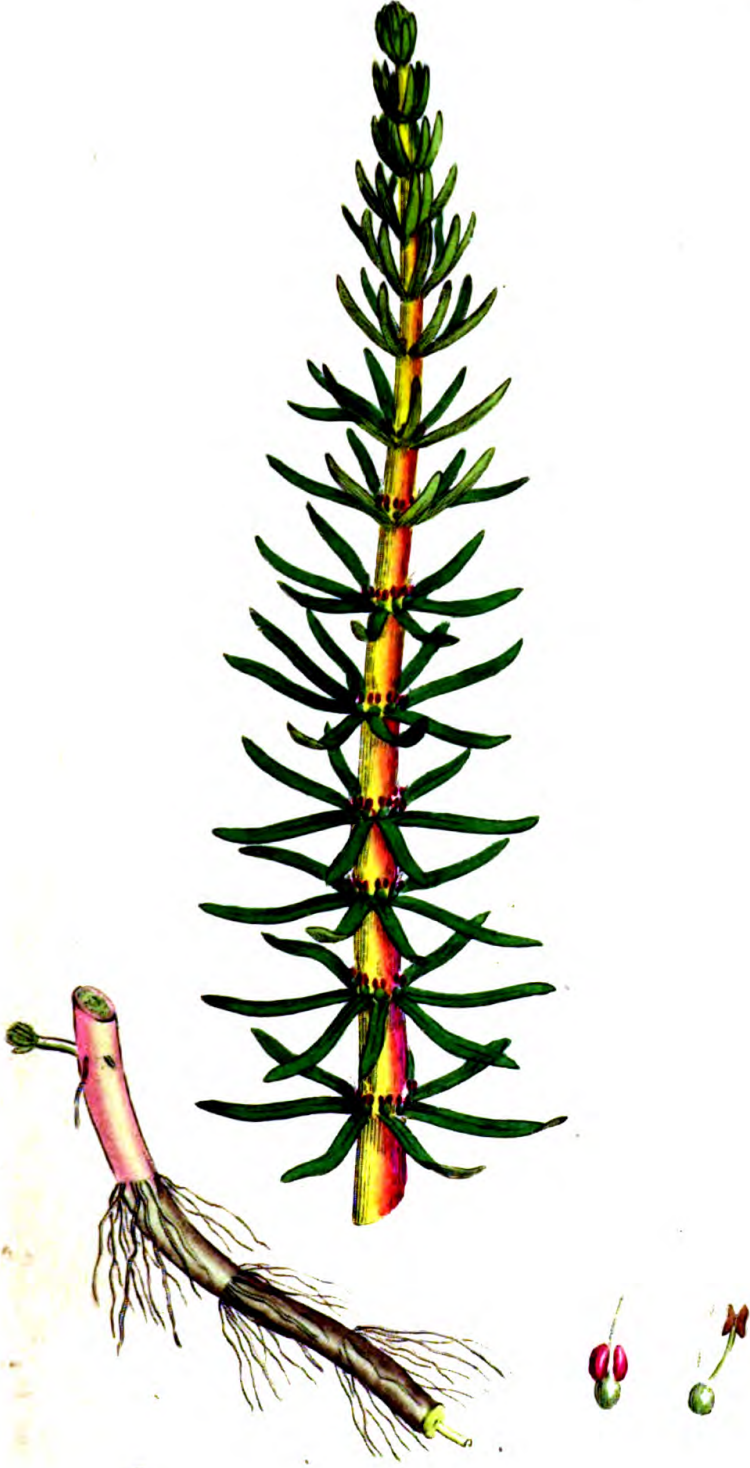
SPEC. CHAR. Leaves whorled, linear.

SYN. *Hippuris vulgaris.* *Linn. Sp. Pl.* 6. *Sm. Fl.**Brit.* 4. *Huds.* 2. *With.* 5. *Hull.* 2. *Relb.* 1.*Sibth.* 1. *Abbot.* 1. *Curt. Lond. fasc.* 4. *t.* 1.*Dicks. H. Sicc. fasc.* 2. 1.Limnopeuce. *Raii Syn.* 136.

IN ditches, pools, and the borders of slow streams this plant may be seen in the months of May and June, rising to the height of 10 or 12 inches straight above the surface of the water, and flowering abundantly. Afterwards its whorled perennial roots, and leafy procumbent branches, only are to be found in the mud at the bottom. It is not indeed a very common plant, but grows in several parts of Norfolk and about London, seeming to prefer a gravelly soil.

Stem perfectly simple, round, smooth, reddish, set with numerous whorls of linear entire smooth leaves, about 8 or 10 in each whorl. Flowers sessile, one in the bosom of each leaf, small, and of the simplest structure; for they consist of only an oval germen, crowned with an almost imperceptible margin or calyx, without a corolla, and terminating in a simple, thread-shaped, pointed style, by whose side stands one simple stamen with a two-lobed anthera. When young this anthera is large and reddish, fitting close to the germen, as represented in our plate. The germen becomes a single naked seed.

The herb in its winter state, immersed in the water, with longer, thick-set, pellucid leaves, has been described by Dillenius in Ray's *Synopsis* as a remarkable variety; but it depends entirely on the time of the year, and is therefore not to be deemed a variety.



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C H A R A vulgaris.

*Common Chara.**MONANDRIA Monogynia.*

GEN. CHAR. *Cal.* none. *Cor.* none. *Anthera* sessile. *Style* none. *Berry* with many seeds.

SPEC. CHAR. Stem and leaves rough, striated, without prickles. Leaves and leaflets tapering, channelled above, not jointed.

SYN. *Chara vulgaris.* *Linn. Sp. Pl.* 1624. *Huds. Fl. An.* 397. *With. Bot. Arr.* 1015. *Relh. Cant.* 345. *Sibth. Ox.* 1. *Gærtn. Sem. v. 2. t.* 84.

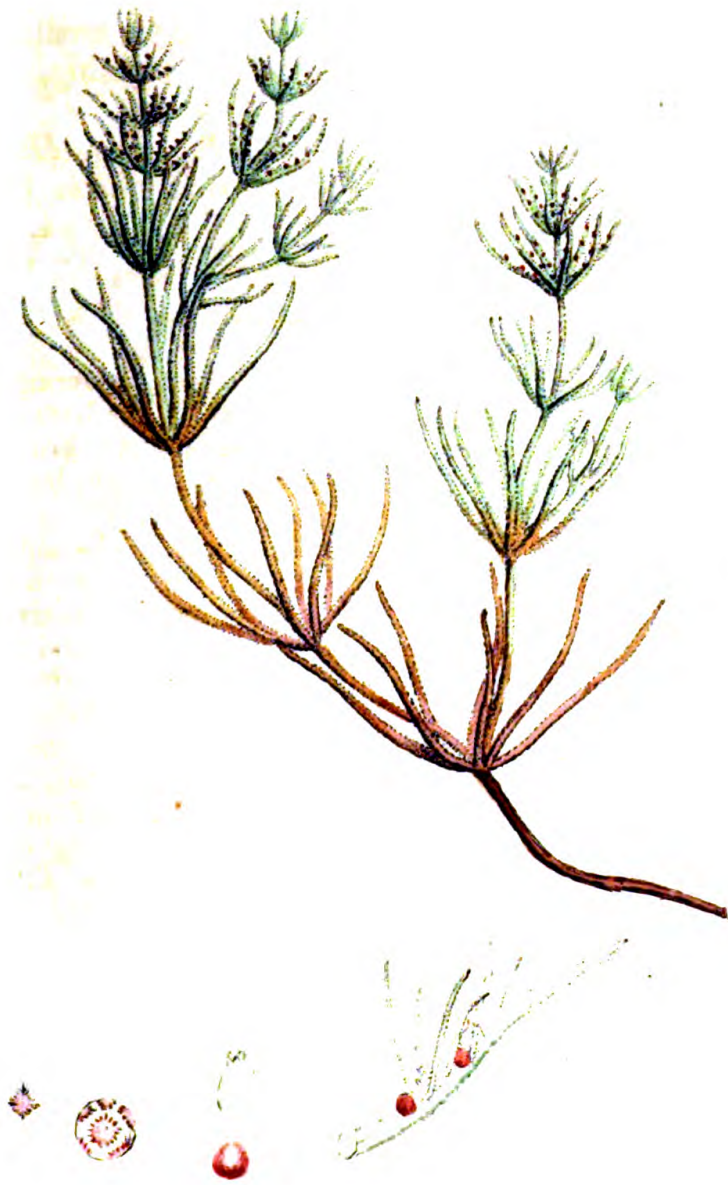
C. vulgaris foetida. *Raii Syn.* 132.

COMMON in muddy stagnant ditches, flowering in July.

The root is presumed to be annual. The herb floats under water, and is harsh to the touch, fœtid; very brittle and gritty when dry. Stems branched, striated, rough, but destitute of prickles. Leaves six or eight in a whorl, as long as the joints of the stem, and of the same texture, awl-shaped, narrow, pointed, channelled above; the lower ones simple; the others bearing on their upper sides rows of erect leaflets, four in a cluster, among which the flowers are placed, and these leaflets are by Linnæus and Jussieu described as the calyx. The analogy of *Hippuris*, to which (as Dr. Stokes and the most intelligent systematic writers have observed) this genus is nearly allied, makes us conceive the flower to be really a naked one. The anthera is solitary, sitting at the base of the germen (or sometimes unaccompanied by any germen), red or yellowish, in decay cracking into several angular portions. Germen ovate, yellow or whitish, spirally striated, and crowned with five little leaves. Fruit with a hard shell. Seeds imbedded in a reddish pulp.

It will easily be perceived how naturally this genus comes into *Monandria Monogynia* next to *Hippuris*. As it flowers under water, no wonder if the nature of its anthera and pollen be obscure; but we cannot with Gærtner (see his preface, p. 33.) doubt the part we have described to be the anthera.

It is the opinion of our ingenious friend Mr. Correa, that the impregnation may be performed within the stem by a clandestine communication between the anthera and germen, and also that the five leaves which crown the germen are not (as has been supposed) the stigma, but the tips of a five-leaved calyx closely enfolding that part in a spiral manner. This merits a further inquiry.



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C H A R A hispida.

*Prickly Chara.*M O N A N D R I A *Monogynia.*

GEN. CHAR. *Cal.* none. *Cor.* none. *Antbera* sessile.
Style none. *Berry* with many seeds.

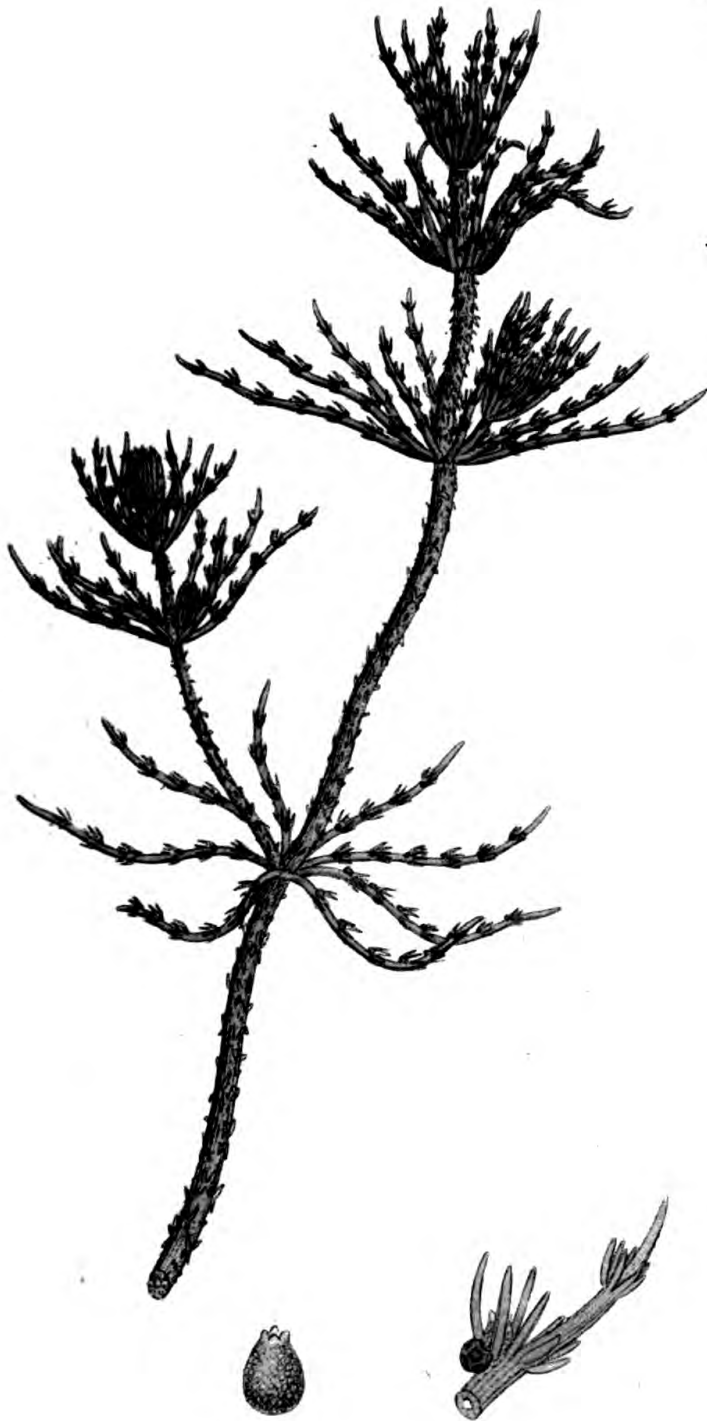
SPEC. CHAR. Prickles on the stem bristly, in clusters.

SYN. *Chara hispida.* *Linn. Sp. Pl.* 1624. *Huds.* 398.
With. 3. *Relb.* 345.

C. major, caulibus spinosis. *Raii Syn.* 132.

WE are obliged for this specimen to Mr. William Skrimshire of Wisbeach, who gathered it in a clay-pit near that place. This plant varies in size, but most commonly resembles in habit the *Chara vulgaris*, t. 336, differing from that species chiefly in having the stem covered more or less uniformly with clusters of short bristly prickles, especially in the upper part, and those prickles are often bent downwards. The leaves also bear similar clusters on their upper side, with a solitary flower accompanying each. The parts of fructification very much agree with those of *C. vulgaris*, of which we are inclined to think this a variety. However that may be, both these plants are generally clothed with a fine earthy crust, expressed in our t. 336, but the present specimen was destitute of it. This crust is commonly supposed to belong to the plant; but having observed it, in some waters, on all kinds of plants that grow under the surface, and in others on but few kinds, or not on any one, we conceive it to consist merely of calcareous earth deposited from the water, the acid which had dissolved and suspended it having been perhaps absorbed by the plant, either in respiration or otherwise. This circumstance merits farther enquiry.

463.1



March 1, 1930. Published by J. P. Sainsbury London

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CHARA flexilis.
Smooth Chara.

MONANDRIA Monogynia.

GEN. CHAR. Cal. none. Cor. none. Anthera seffile.
Style none. Berry with many seeds.

SPEC. CHAR. Smooth, transparent, without prickles.
Leaves cylindrical, blunt with a minute point,
often branched.

SYN. Chara flexilis. Linn. Sp. Pl. 1624. Sm. Fl.
Brit. 6. Hudf. 398. Witb. 3. Hull. 202.

C. translucens minor flexilis. Dill. in Raii Syn. 133-
Conferva nidifica. Fl. Dan. t. 761.

WE have received this *Chara* from the neighbourhood of Yarmouth by favour of Mr. D. Turner. The plants sent by that gentleman in April 1800 had only female fructification, whereas others in April 1802 were furnished with antheræ alone, so that this species should seem to be dioecious. It is supposed to be annual.

The herb is quite smooth, green and pellucid, apparently not liable to be incrustated like the *vulgaris* and *bispida*. Stem round, branched, of an equal thickness, and hollow. Leaves whorled, shaped like the branches, and often subdivided; they are also, like the stem and branches, furnished with a few remote contracted joints, or transverse partitions. The extremities are blunt, tipped with a little point. Antheræ in the forks of the upper leaves, solitary, curiously cracked or reticulated. Germens in similar situations on a different plant, ovate, spirally striated, sometimes 2 together.

The Rev. Mr. Williams has communicated to us, (from some pools near Shrewsbury,) along with this, a much larger variety, the *Chara translucens major flexilis* of Vaillant, not heretofore observed in Britain. We at first judged it a distinct species; but our intelligent correspondent obtained from the same spot the following year specimens of an intermediate size, which prove it a mere variety of the plant we have been describing.



Sept. 11 1862. Published by Jas. Sowerby, London.

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[1855]

CHARA translucens.
Great Transparent Chara.

MONANDRIA Monogynia.

GEN. CHAR. Cal. none. Cor. none. Anthera tessellated. Style none. Berry with many seeds.

SPEC. CHAR. Smooth, transparent, without prickles. Leaves cylindrical, obtuse with a small point, all simple, with transverse internal partitions.

SYN. Chara translucens major flexilis. Vaill. in Mem. de l'Acad. des Sciences for 1719, f. 8.

DRIED specimens of this plant were sent us some years ago, from pools near Shrewsbury, by the Rev. Mr. Williams, as mentioned in *v.* 15. *p.* 1070. We received fresh ones last June, discovered by Mr. W. J. Hooker, at Browston, Suffolk, near Yarmouth; and these have removed all our doubts as to its being a new species, quite distinct from *C. flexilis*, *t.* 1070, as well as from *C. nidifica*, *t.* 1703.

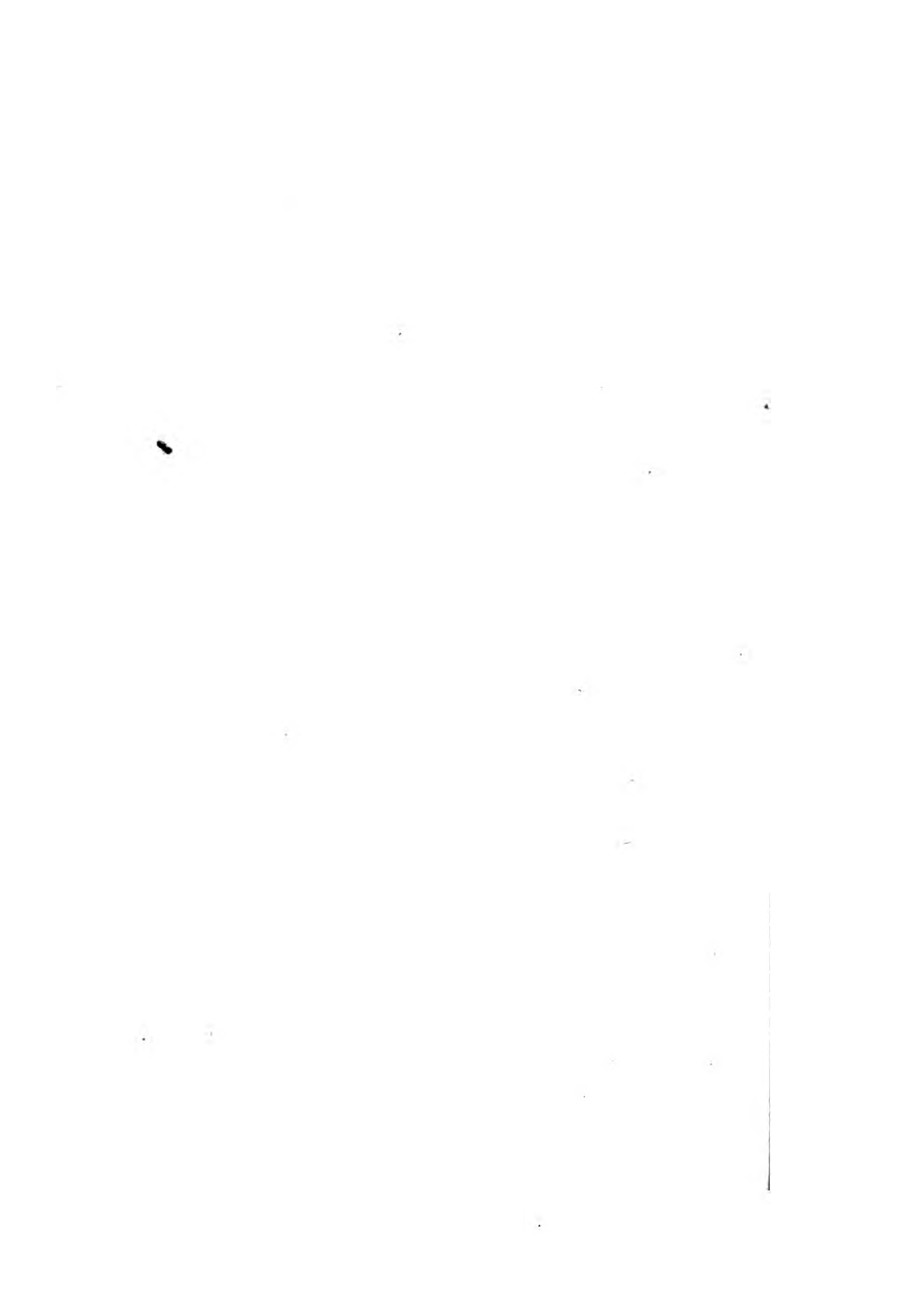
It is a larger plant than either of those, very clear and transparent. The leaves all simple, thicker and shorter than those of the latter, obtuse, each tipped with a small pale point. When dried, and held against the light, they are found to be furnished here and there with transverse, often oblique, internal partitions, which Vaillant gives as a distinguishing character of the plant, though his figure (in the German edition at least, which is all we have within our reach,) represents these partitions more abundantly and strongly than we find them. The anthera is sessile, and soon falls off. Germens one or two adjacent to it. Root of many fine white branched knotty fibres. The uppermost branches of the stem, which bear the fructification, are peculiarly tumid.

1855.



Publ. by James Smeaton, London.

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[1703]

C H A R A nidifica.
Proliferous Chara.

MONANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* none. *Anthera* tessellated. *Style* none. *Berry* with many seeds.

SPEC. CHAR. Smooth, transparent, without prickles. Leaves cylindrical, elongated, all simple. *Anthera* often stalked.

SYN. *Conferva nidifica.* *Fl. Dan. t.* 761.

DISCOVERED at Shoreham harbour, Sussex, by Mr. W. Borrer in the autumn of 1805, and by the same indefatigable and intelligent botanist at Cley, Norfolk, in October 1806. We are obliged to him for distinguishing it from *Chara flexilis*, and for suggesting that the synonym of *Flora Danica*, quoted in *Fl. Brit.* and our *v. 15. t. 1070* for the latter, more properly belongs to this new species.

The whole plant is of a stouter and firmer habit than *Ch. flexilis*, as well as of a more divaricated mode of growth. The leaves differ materially in being twice or thrice as long as in that species, and yet always simple and undivided. The small branches which surround the primary ones, and bear fructification, all spread at right angles from them, and are frequently compound or whorled in their upper part, giving the plant a dense and bushy aspect. Three or four small simple branches, or leaflets, accompany each flower, which consists of an anthera standing on a footstalk (various in length and occasionally wanting), and sometimes of a sessile germen adjoining. In the earlier specimens from Shoreham, whose antheras were most generally stalked, no germens could be found; in those from Cley the anthera was for the most part sessile.

1703



Pl. 1187 Published by J. Sowerby London

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CHARA gracilis.
Slender Shining Chara.

MONANDRIA Monogynia.

GEN. CHAR. Cal. none. Cor. none. Anthera tessellated. Style none. Berry with many seeds.

SPEC. CHAR. Smooth, transparent, shining, without prickles. Lateral branches repeatedly forked; their segments awlshaped, acute. Leaves awlshaped, often branched.

SYN. Chara minor, caulibus et foliis tenuissimis. Vaill. Act. Paris. 1719. 18. n. 6. Dill. in Raii Syn. 133.

Equisetum minus, sub aqua repens, ad genicula polyspermon. Raii Syn. ed. 2. 43.

GATHERED Sept. 4, 1809, in a boggy pool in St. Leonard's forest, Sussex, by Mr. W. Borrer. We have the same, (found by M. Du Cros), from Switzerland, and we are persuaded the above synonyms belong to it, though in the *Fl. Brit.* they are referred to *C. vulgaris*, t. 336, in its unincrusted state, we having at that time not investigated the plant here delineated. It is confidently presumed, however, that the plant mentioned under the above synonym in Ray's *Hist. Pl. v. 3. 104*, as possibly belonging to it, is rather the naked state of the *vulgaris*, and this mistake, confirmed by Vaillant, led us into error. If a specimen exists in the herbarium of Sherard, who found this *Chara* in Jersey, and calls it "an elegant little plant, with slender little branches and leaves," the synonyms above may be ascertained.

All the parts of our *C. gracilis* are remarkably slender; the stem when dry almost colourless, shining like glass. Branches numerous at each joint, repeatedly subdivided, their segments whorled, awlshaped, acute, not blunt, terminating in a sharp appendage. The leaves, if any exist distinct from branches, which seems doubtful in this and other *Charæ*, are similarly formed. The anthers and germens are sessile, usually together, in the forks of the branches. The dense compound lateral branches give this species the aspect of *C. nidifica*, t. 1703, but are differently formed, nor has it any such long simple leaves.



Ap. 1800 published by J. Baro & Co. in

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ZOSTERA marina.

*Common Grass-wrack.**MONANDRIA Monogynia.*

GEN. CHAR. *Spadix* linear, sheathed by the base of the leaf, bearing the fructifications on one side, in two ranks. *Cal.* and *Cor.* none. *Anthera* sessile. *Stigmas* two, linear. *Capsule* with one seed.

SPEC. CHAR. Capsules sessile.

SYN. *Zostera marina*. *Linn. Sp. Pl.* 1374. *Huds.* 395. *Witb.* 496.

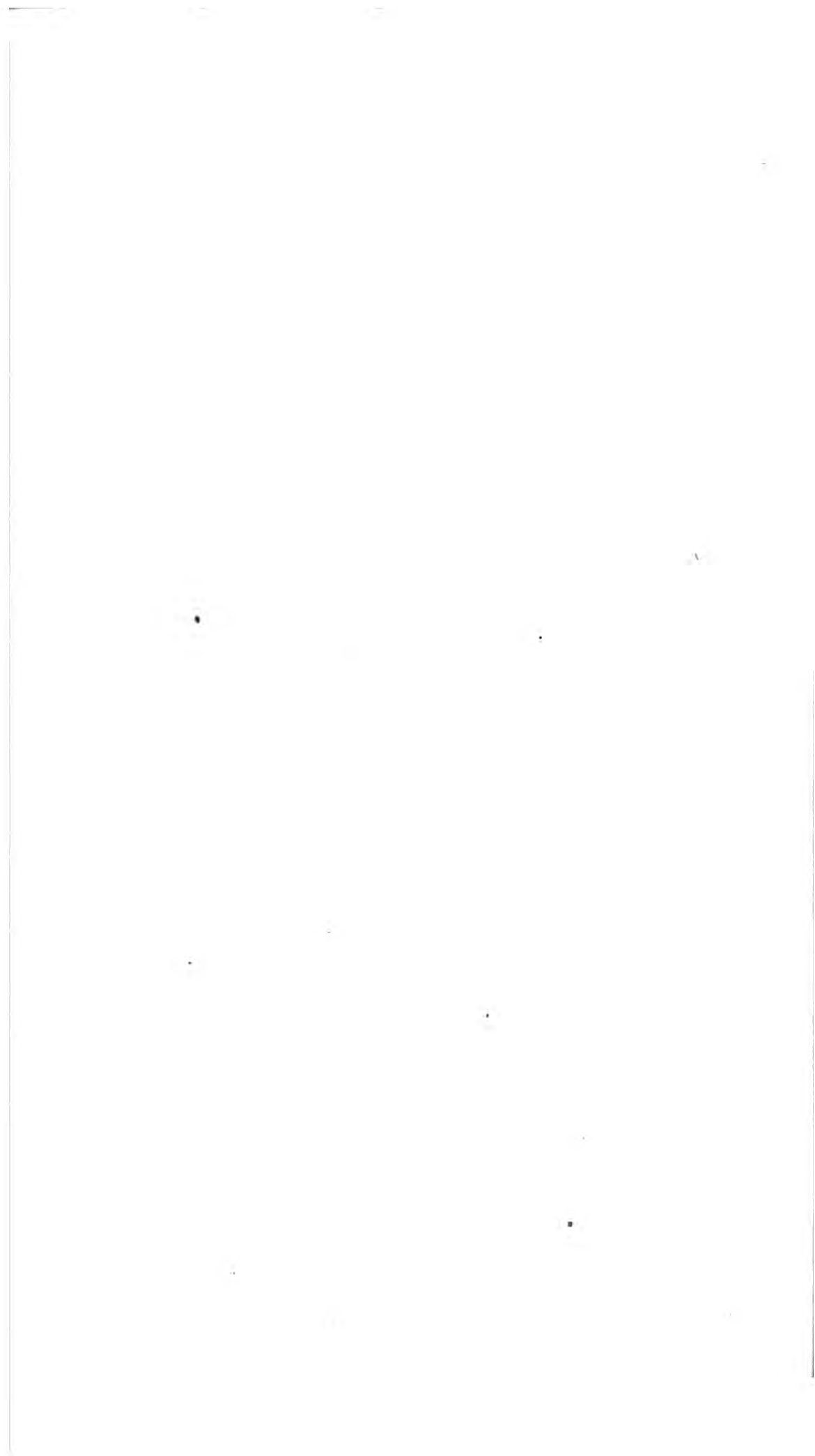
Alga. Raii Syn. 52.

NOTHING can be more desirable to a philosophical botanist, than to acquire a right idea of the fructification of those plants whose peculiar situations require some variation from the usual mode in which impregnation is performed. This is the case with many aquatics, and among others the *Zostera*, whose flowers are completely protected from the salt water, under which they grow, by the sheathing base of the leaf, which closely enfolds them. Their structure is in other respects so peculiar, that botanists have differed about their class in the Linnæan system. The author of that system placed this genus in *Gynandria*, considering its *spadix* as the common receptacle of one flower, composed of many *anthera*, ranged alternately with many *pistilla*. Thunberg and Withering, abolishing that class, have referred *Zostera* to *Polyandria Polygynia*. To us it appears that the flowers are by no means gynandrous, as the *stamina* cannot in any sense be understood to grow out of the *pistilla*; neither are they simply polyandrous, as in every such flower the male organs are invariably collected around the central collected females. Nor will the analogy of *Arum*, however we may understand that flower, at all help us to comprehend this, they having no real affinity. *Zostera* is easiest understood as a simple unilateral spike of naked flowers, disposed in two ranks. The anthera of each is sessile, oblong, a little curved. By its side is affixed an oblong germen, with a short style, bearing two long, linear, pointed stigmas. These organs are arranged along the spike in an alternate manner, so that each anthera may perhaps impregnate the germen of the flower below it; nor should we much dispute the point with any one who might consider them as belonging to each other, only that there would then remain an unoccupied anthera at the bottom of all. The capsule is membranous, containing one elliptical yellowish seed, and is affixed (like the germen) by a short lateral footstalk.—The *Zostera marina* is supposed to be perennial, throwing out roots from the joints of its long round branching stem. The leaves are very long, linear, flaccid, and tender. It is common in salt-water ditches, flowering in August and September. Mr. Turner sent these very perfect specimens from Yarmouth.



Herbario Publico de Lisboa

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CALLITRICHE aquatica,

Water Star-wort.

MONANDRIA Digynia.

GEN. CHAR. *Cal.* none. *Pet.* 2. *Stigmas* acute.
Seeds 4, compressed, naked, with a winged margin
 on one side. Some monoecious flowers.

SPEC. CHAR.

SYN. *Callitriche aquatica.* *Huds.* 439. *Sibth.* 2. *Sm.*
Fl. Brit. 8. *Hull.* 2.

C. verna. *Linn. Sp. Pl.* 6. *With.* 5. *Relb.* 2.
Abbot. 1.

Stellaria. *Raii Syn.* 289.

β. *S. minor et repens.* *Raii Syn.* 289.

Alfine palustris serpyllifolia. *Ger. em.* 614.

γ. *Callitriche autumnalis.* *Linn. Sp. Pl.* 6. *With.* 6.
Relb. 2. *Abbot.* 2.

Stellaria aquatica, foliis longis tenuissimis. *Raii*
Syn. 290.

FREQUENT and abundant in ditches, lakes, and standing pools, flowering from April to October. It is generally supposed to be annual, floating by means of its thick-set broad upper leaves till the impregnation is accomplished; then each flower sinks, by the elongation of the top of the stem, where new ones are produced, and finally the whole herb subsides to the bottom, takes root there, ripens and sows its seeds. The young plants soon rise to the surface, and appear to be nourished from the water by slender simple roots, from each joint of the slender branching stem, which do not reach the ground till the plant subsides as abovementioned. The earlier leaves are opposite, spatulate, entire, three-nerved; but those produced in autumn, after the herb sinks, are linear, single-nerved, and emarginate, which occasioned the distinction of this one species into two. Flowers axillary, solitary, sessile, small, whitish, with one very long stamen and a bivalve anthera, and a four-lobed germen, with 2 capillary styles. Seeds 4, naked, sharply keeled. Some flowers often want the stamen, others the germen and styles; which led Mr. Hudson to remove this genus to the *Polygamia*, a class which if thus rigidly attended to would swallow up half the rest.



Portulaca sp.

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Class ii

LIGUSTRUM vulgare.

*Privet.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* 4-cleft. *Berry* superior, of 2 cells, with 2 *seeds* in each.

SPEC. CHAR. Leaves elliptic-lanceolate, obtuse, with a little point.

SYN. *Ligustrum vulgare.* *Linn. Sp. Pl.* 10. *Sm. Fl. Brit.* 12. *Huds.* 3. *With.* 10. *Hull.* 4. *Relb.* 3. *Sibtb.* 4. *Abbot.* 2. *Curt. Lond. fasc.* 5. t. 1. *Dicks. H. Sicc. fasc.* 13. 2.

Ligustrum. *Raii Syn.* 465.

THE Privet is often met with in hedges and thickets, particularly where the soil is gravelly and rather moist. It also grows in chalky situations; and is very frequently planted for hedges in gardens: for, being in mild winters almost evergreen, and at all times very hardy, and having some resemblance to the foliage of the Myrtle, it has been thought peculiarly eligible for such a purpose. It has also the advantage of bearing the smoke, even of London itself, better than most shrubs.

The whole plant is smooth, bitter, particularly the berries. Leaves opposite, nearly sessile, entire, various in breadth, more or less obtuse, but tipped with a minute point. Flowers produced early in June, white, with a strong unpleasant smell, and growing in dense terminal panicles. The corolla turns brown before it falls. In some others of the same natural order, the *Jasmineæ*, it assumes a purple hue. Berries purplish black, with 4 seeds enclosed in a mealy pulp.



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[1692]

FRAXINUS excelsior.

*Common Ash.**DIANDRIA Monogynia.*

GEN. CHAR. *Calyx* none, or in 4 deep segments. *Cor.* none, or in 4 deep segments. *Capsule* superior, of 2 cells, leaf-like and compressed at the summit. *Seeds* solitary, pendulous. Some flowers only female.

SPEC. CHAR. Leaflets serrated. Flowers without calyx or corolla.

SYN. *Fraxinus excelsior.* *Linn. Sp. Pl.* 1509. *Sm. Fl. Brit.* 13. *Huds.* 446. *With.* 57. *Hull.* 227. *Relh.* 5. *Sibth.* 18. *Abbot.* 220.

Fraxinus. *Raii Syn.* 469.

A COMMON tree, preferring a dry or limestone soil to a boggy one, and flowering in April. The leaves come out after the flowers are past, and the capsules ripen towards autumn.

The stem is tall, straight and handsome, clothed with a smooth grey bark. Branches spreading and rather drooping. Buds singularly black and somewhat downy. Leaves opposite, pinnate. Leaflets 5 or 6 pair, with an odd one, nearly sessile, ovate, acute, serrated, smooth, except that the main rib is fringed beneath. Common footstalk channelled and bordered on the upper side. Flowers from lateral buds below the leaf-buds, paniced, drooping, small, brown, consisting of an ovate germen and short style, with an obtuse stigma, with a small stamen on each side, no calyx nor petals. Sometimes the stamens, rarely the germen, are wanting. Capsules strikingly characteristic of the genus, oblong, flat, leaf-like, with 2 cells, and 1 seed in each, glittering with brown meal like an almond, but bitter and nauseous.

The wood is tough, valuable for many purposes. There is a variety with weeping or drooping branches, and another with simple leaves. Both are propagated by grafting only.



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FRAXINUS heterophylla.

*Simple-leaved Ash.**DIANDRIA Monogynia.*

GEN. CHAR. *Calyx* none, or in 4 deep segments. *Cor.* none, or in 4 deep segments. *Capsule* superior, of 2 cells, leaf-like and compressed at the summit. *Seeds* solitary, pendulous. Some flowers only female.

SPEC. CHAR. Leaves both simple and compound, with tooth-like serratures.

SYN. *Fraxinus heterophylla.* *Vahl. Enum. v. 1. 53.*

F. simplicifolia. *Willd. Berl. Baumz. 121. t. 3. f. 3.*

F. excelsior, var. 2. *With. 57.* var. 3. *Hull. ed. 2. 308.*

IN conformity to the wishes of our friends, rather than to our own judgement, we here exhibit, from a cultivated tree, the Simple-leaved Ash, which is, as we are credibly informed, found wild in different parts of England; nor do we doubt this, though we have never met with it. Lamarck, Willdenow, and Vahl have noticed this tree, which differs from the Common Ash, *t. 1692*, in having most of its leaves, not quite all of them, simple, ovato-lanceolate, strongly but unequally serrated, four or five inches long, and supported by long drooping footstalks. Other leaves are three-lobed or ternate, according to Mr. Aiton in *Hort. Kew. ed. 1. v. 3. 445*; some are said by Lamarck to be pinnate, of five leaflets. Still we allow this is but a slight approach to the foliage of the Common Ash. The seed is observed in the plant before us to be short and elliptical; but that may be a consequence of weakness, or imperfect impregnation. All that we know of the matter is here submitted to the consideration of English botanists.



Herbar. publ. by J. S. Cooper, London

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CIRCÆA lutetiana.

*Common Enchanter's Nightshade.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* of 2 petals. *Cal.* of 2 leaves, superior. *Capf.* of 2 cells. *Seeds* solitary.

SPEC. CHAR. Stem erect. Leaves ovate, slightly toothed, opaque and downy.

SYN. *Circæa lutetiana.* *Linn. Sp. Pl.* 12. *Sm. Fl. Brit.* 13. *Huds.* 10. *With.* 10. *Relb.* 11. *Sibth.* 9. *Abbot.* 7. *Curt. Lond. fasc.* 3. *t.* 3. *Dickf. H. Sicc. fasc.* 8. 1. *Raii Syn.* 289.

C. racemosa, var. 1. *Hull.* 6.

NOT unfrequent in shady lanes, woods, orchards and yards, flowering in June and July.

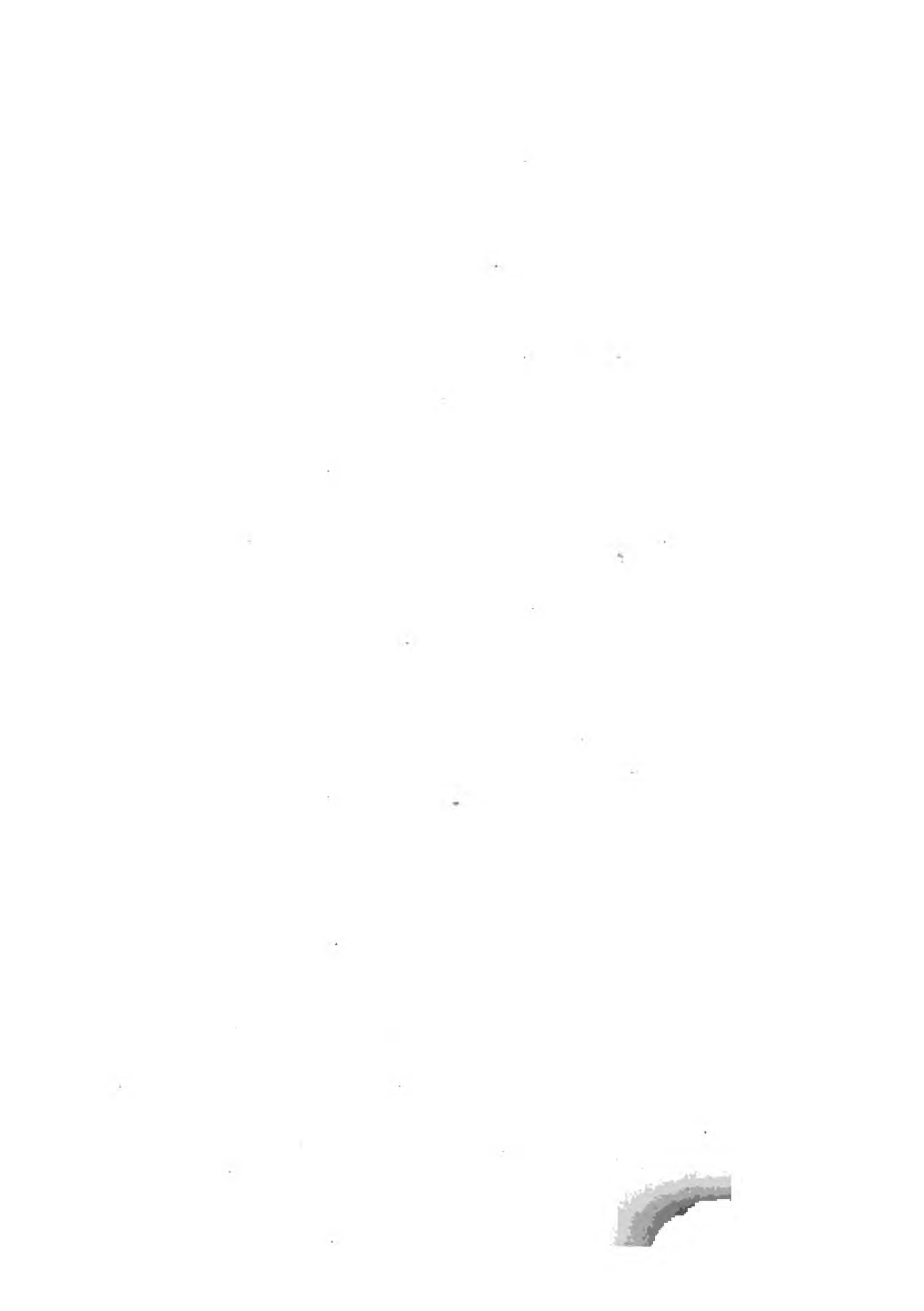
Root perennial, creeping, hard to be rooted up where it has once established itself in a favourable situation. Stem upright, straight, a foot and half high, round, downy, leafy. Leaves opposite, on short stalks, ovate, downy, of a darkish, dull, and not shining, green; their margin waved, edged with short teeth. Flowers in one or more terminal long clusters; their partial stalks spreading, and at length reflexed. Calyx-leaves ovate, reflexed, coloured. Petals inversely heart-shaped, white or reddish, shorter than the stamina and style. Capsule roundish, clothed with little hooked bristles, by which (separating entire from the stalk) it sticks to the coats of animals. The seeds nevertheless are often abortive.

We know not how this plant obtained its romantic name. It has been consecrated to Circe and to St. Stephen, and old writers tell us its principal use is for amorous purposes; but how it is to be applied they are silent; and it should seem from Gerarde that it has merely been mistaken for *Mandragora*, a famous charm for procuring love, but to which our *Circæa* has not the most remote affinity or resemblance.



Aug. 1 1802. Published by Ja. Sowerby. London.

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[1057]

CIRCÆA alpina.

*Mountain Enchanter's Nightshade.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* of 2 petals. *Cal.* of 2 leaves, superior. *Caps.* of 2 cells. *Seeds* folitary.

SPEC. CHAR. Stem ascending. Leaves heart-shaped, ferrated, shining. Calyx membranous.

SYN. *Circæa alpina.* *Linn. Sp. Pl.* 12. *Sm. Fl. Brit.* 14. *Huds.* 10. *With.* 11. *Dicks. H. Sicc. fasc.* 8. 2.

C. racemosa, var. 2. *Hull.* 7.

CHIEFLY confined to mountainous stony shady places in Westmoreland, Cumberland, Lancashire, and some parts of Scotland, flowering in July and August. It differs from the common kind in being much lower and less upright, its leaves heart-shaped, deeply and sharply toothed, of a bright and very shining green. The flowers are more elegant and vivid in hue, their calyx more coloured and membranous, and the clusters generally more plentiful.

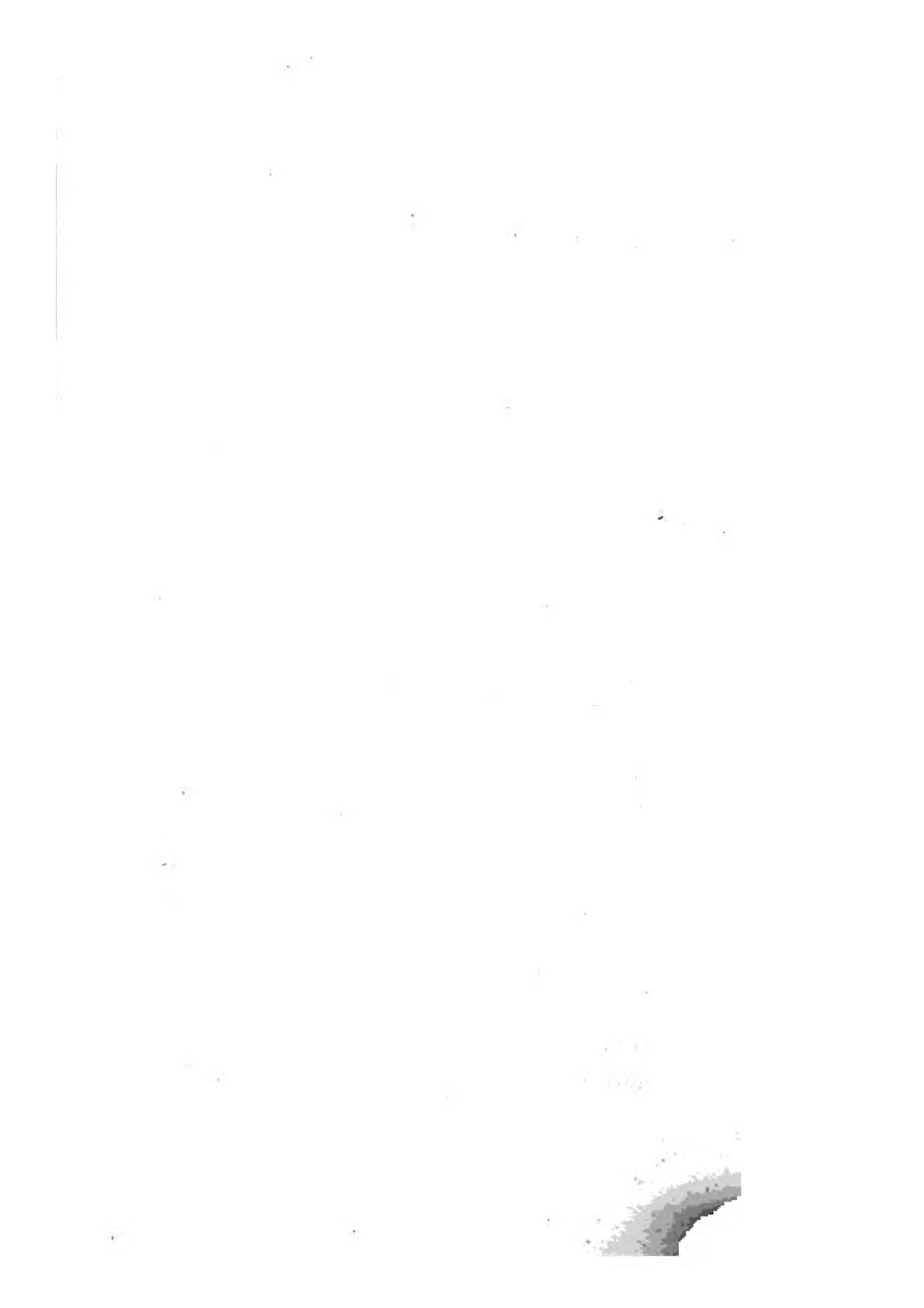
It appears to us, that all the difficulty of distinguishing the two species of *Circæa* has arisen from authors having taken for the *lutetiana* a plant that grows frequently in deep woods in the North, and is figured in *Fl. Dan.* t. 256 as *C. alpina*, of which it is in fact a variety. It indeed nearly approaches *C. lutetiana* in size, uprightness, and fewness of branches, but differs in its paler more shining green, ferrated leaves, and generally more membranous footstalks. The flowers, from their shady situation, are indeed paler than those of *C. alpina* generally appear.

We have repeatedly found the *alpina* continue in a garden permanently distinct from the genuine *lutetiana* of the south of England.



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

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VERONICA *spicata*.*Spiked Speedwell.**DIANDRIA Monogynia.*

GENERIC CHAR. *Cor.* inferior, of one petal, four-cleft; lower division narrowest. *Capsule* two-celled.

SPECIF. CHAR. Spike terminal. Leaves opposite, crenated, obtuse. Stem ascending, undivided.

SYN. *Veronica spicata*. *Linn. Sp. Pl.* 14. *Huds. Fl. An.* 3. *With. Bot. Arr.* 8. *Relb. Cantab.* 3.

V. spicata recta minor. *Raii Syn.* 279.

VERONICA *spicata* is one of those plants which wherever they grow are found in abundance, and yet are by no means common in England. It is plentiful on Newmarket Heath, and in that neighbourhood, on a chalky soil, from whence our specimen was taken. When cultivated it becomes much more luxuriant.

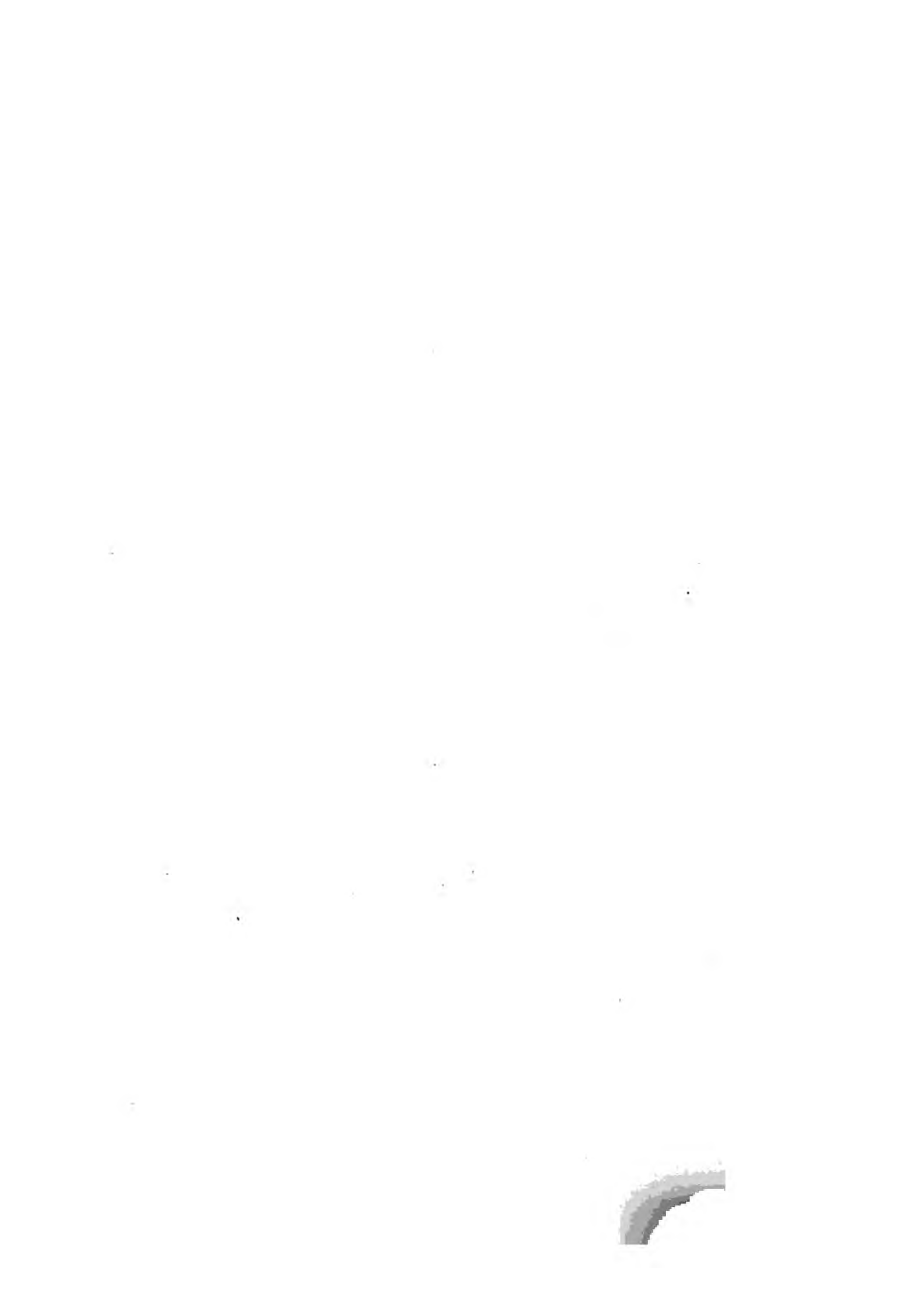
This species is not unfrequent abroad in alpine situations; and its bright blue flowers agreeably enliven the barren places where it generally grows.

The orifice of the tube of the corolla is bearded in this *Veronica*, which we do not find remarked in authors. *Flora Danica*, plate 52, represents no such character; but indeed that figure is so incorrect, it is impossible to be certain whether it be *V. spicata*, or one of the species nearly allied to that plant.



Stemby 44. v. 2. 1790.

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(673)

VERONICA hybrida,

Welch Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of one petal, 4-cleft, wheel-shaped; lower division narrowest. *Capf.* 2-celled.

SPEC. CHAR. Spikes terminal. Leaves opposite, elliptical, obtuse, unequally and bluntly serrated. Stem nearly upright.

SYN. *Veronica hybrida.* *Linn. Sp. Pl.* 14. *Sm. FZ.* *Brit.* 16. *With.* 12. *Hull.* 4.

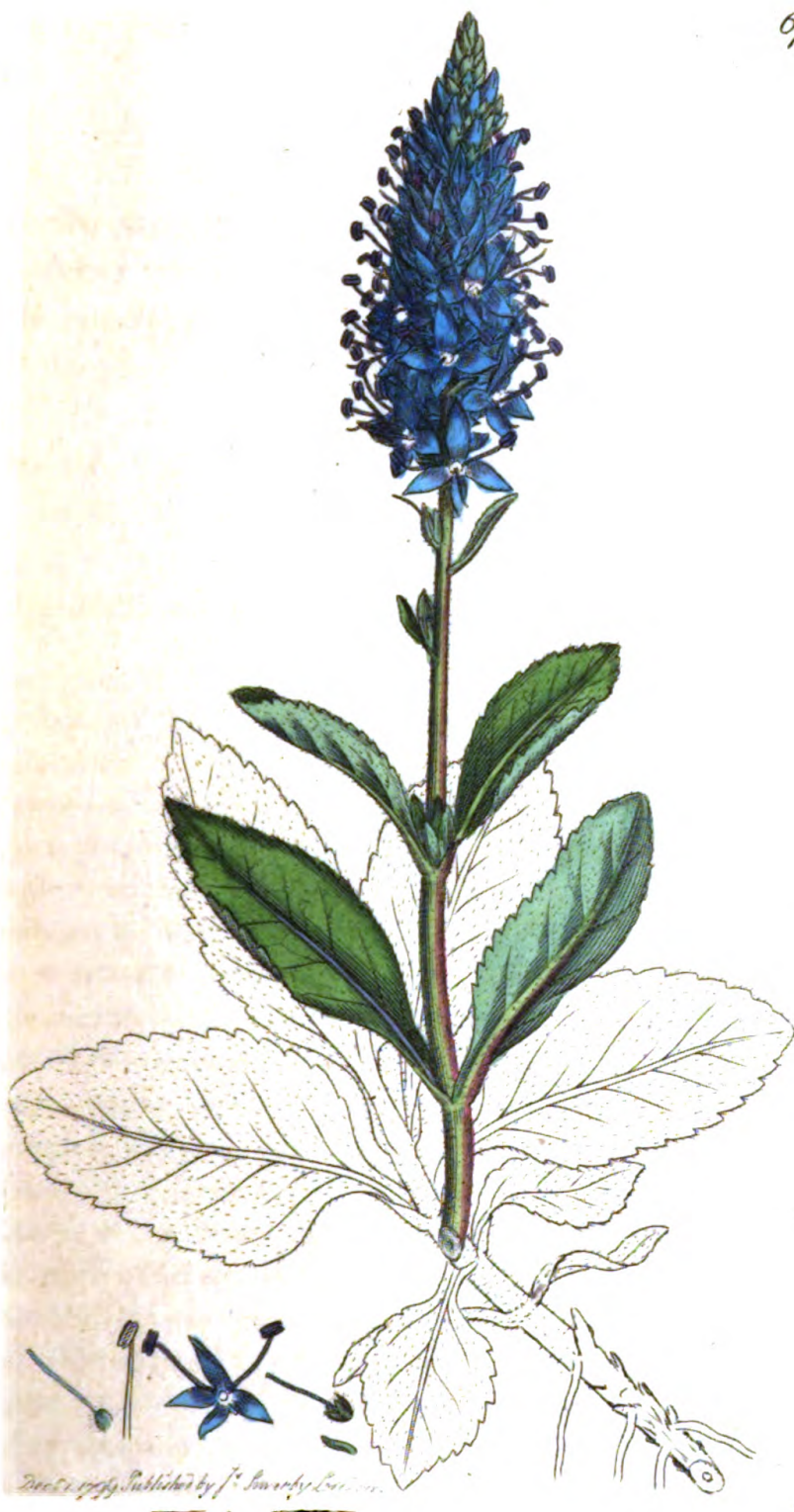
V. spicata β . *Huds.* 3.

V. spicata Cambrobritannica, *Bugulæ subhirsuto folio.* *Raii Syn.* 278. *t.* 11.

MANY have doubted whether this *Veronica* were really distinct from the *spicata* figured in the 2d plate of our work. It must be allowed the difference is not easily defined, and yet we believe them to be distinct. In size and appearance they differ considerably. *V. hybrida* is twice as large, with rougher stem and leaves; the latter are more strongly serrated or notched; of a much broader elliptical form, and of a more grassy green. The winged foot-stalk is common to both kinds. The stem in that now before us generally produces three spikes when luxuriant; the rudiments of the 2 lateral ones appear in our specimen in the bosoms of the upper leaves. It always grows erect. The root is creeping and perennial, and the flowers appear in July and August. We are certain by comparison of its being the plant intended both by Linnæus and Ray.

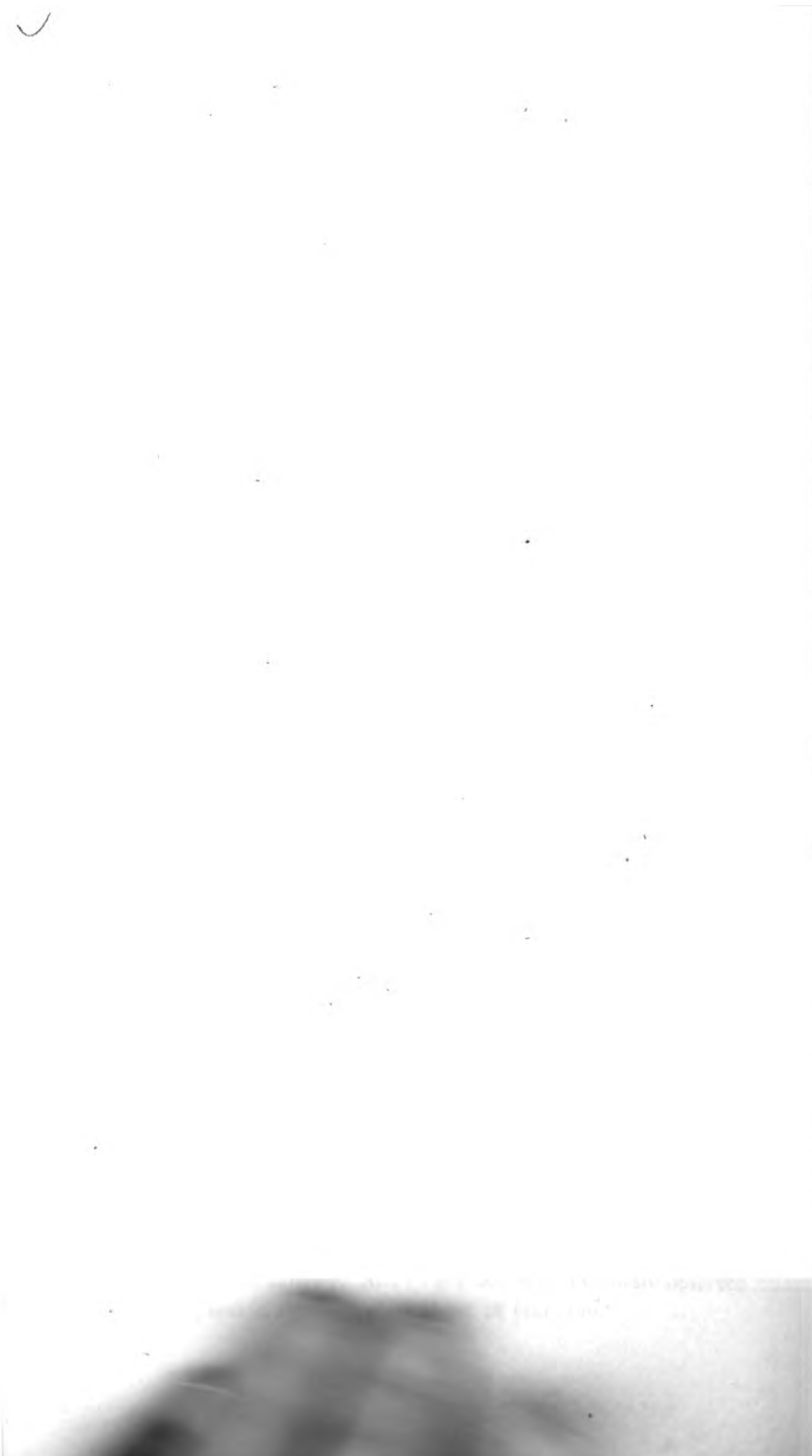
V. hybrida is a very rare species. Mr. Lhwyd found it in Ray's time on the side of a hill in Montgomeryshire called Craig Wreidhin.—Ours was gathered near Cartmel Wells Lancashire, on Humphrey head, a steep rock jutting into the sea, by Mr. Bingley. Mr. Crowe and Mr. Woodward observed this plant in the same place about 18 years ago.

673.



Dec. 1799. Published by J. Smarke, London.

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VERONICA officinalis.

*Common Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Spikes lateral, on stalks. Leaves opposite, rough. Stem procumbent.

SYN. *Veronica officinalis.* *Linn. Sp. Pl.* 14. *Sm. Fl. Brit.* 16. *Huds.* 4. *Witb.* 13. *Hull.* 4. *Relb.* 4. *Sibtb.* 4. *Abbot.* 2. *Curt. Lond. fasc.* 3. t. 1. *Woodv. Suppl. t.* 219. *Dicks. H. Sicc. fasc.* 13. 3. *V. mas, fupina et vulgatissima. Raii Syn.* 281.

PLENTIFUL on dry sandy banks, or in woods and heathy places, flowering in May and June.

The roots are fibrous and perennial. Stems a little woody, prostrate, a foot or more in length, set with numerous, opposite, elliptical, blunt or pointed, serrated leaves, which are rough on both sides, like the stem, with short spreading hairs, that appear under a magnifier to be finely jointed. The spikes of flowers stand solitary, on long stalks, from the bosoms of the uppermost leaves, and rise above the termination of the stem; indeed they generally stand erect, making almost a right angle with it as it lies on the ground. Calyx hairy, in 4 almost equal, elliptical, but narrow, segments. Corolla blue, with darker veins. Capsule obcordate, a little hairy, consisting of 2 valves.

This *Veronica* was formerly much recommended to be used instead of the Chinese Tea, particularly in Sweden. Some have contended that it was the very same plant, brought with so much trouble and expence from China. Those who adulterate tea, however, know better than to mix any of this herb with it, whose appearance and flavour would soon betray it to our more refined tastes. It is astringent, with some degree of acrimony, and a rather unpleasant bitter.

765.



Plantago virginica

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[1027]

VERONICA faxatilis.

*Blue Rock Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4 cleft, wheel-shaped; lower division narrowest. *Capf.* 2-celled.

SPEC. CHAR. Corymbus terminal, of few flowers. Leaves elliptical. Stems spreading. Capsule ovate, of four valves.

SYN. *Veronica faxatilis.* *Linn. Suppl.* 83. *Sm. Fl. Brit.* 17. *Dickf. Crypt. fasc.* 2. 29. *With.* 14. *Hull.* 4. *Scop. Carn. v. 1.* 11.

V. fruticulosa. *Huds.* 4?

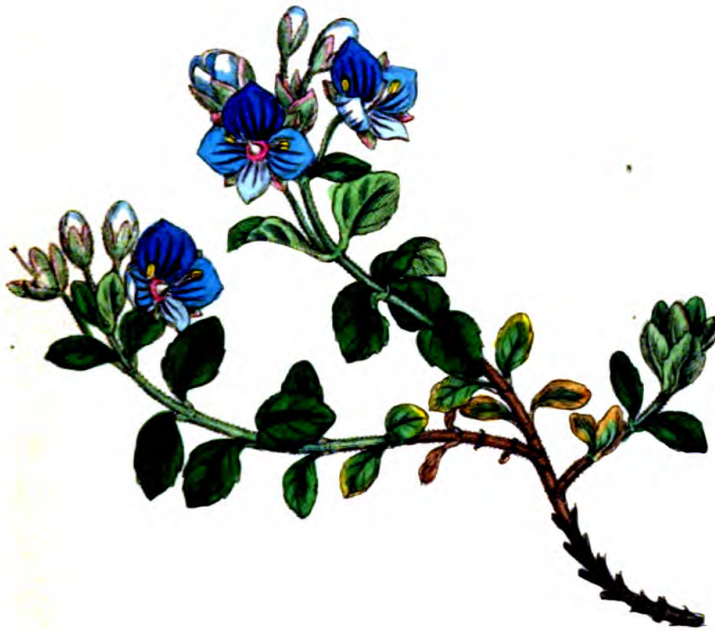
V. fruticans serpyllifolia. *Ger. em.* 628.

SENT from the highland mountain of Ben Lawers by Mr. G. Donn and Mr. J. Mackay. It is perennial and even shrubby, flowering in July.

The roots run deep into fissures of rocks, and the woody branching entangled stems form small tufts, from whence the simple leafy round downy flowering-branches, 3 or 4 inches long, spread in every direction. The leaves are opposite, small, elliptical or oblong, blunt, always entire at their base and extremity, but often serrated in some degree about their middle. They are a little thick or fleshy, smooth, of a dull darkish green, turning black when dry. From 3 to 6 large handsome dark-blue flowers grow in a short terminal corymbus, whose stalks are twice or thrice as long as their corresponding floral leaves. Calyx in 4 nearly equal blunt downy segments. Orifice of the corolla elegantly tinged with red. Capsule longer than the calyx, ovate, downy, splitting as it ripens into 4 lanceolate valves, so that the fruit differs much from the heart-shaped form of our most common species.

This beautiful little plant has long been known in the more curious English gardens by the name of *V. fruticulosa*, with which many botanists (even Linnæus, Haller, and Jacquin originally) have been accustomed to confound it; how unjustly will appear in our next plate.

102



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v



V E R O N I C A fruticulosa.

*Flesh-coloured Shrubby Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Capsf.* 2-celled.

SPEC. CHAR. Corymbus terminal, spiked, many-flowered. Leaves elliptic-lanceolate. Stems erect. Capsule ovate, of four valves.

SYN. *Veronica fruticulosa.* *Linm. Sp. Pl.* 15. *Mant.* 316. *Sm. Fl. Brit.* 18.

V. frutescens. *Scop. Carn. v.* 1. 19.

V. n. 545. *Hall. Hist. v.* 1. 235. *t.* 16. *f.* 1.

THE Rev. Dr. Walker first observed this plant in Scotland, and communicated it to me in 1782. It has been found with the preceding upon Ben Lawers, flowering at the same season.

In strong woody roots, and stems branching and intricate at their base, it agrees with the last; but the flowering-branches are perfectly upright, 6 inches or more in height, each bearing a spike (rather than a corymbus) of a considerable number of flowers, whose corolla is flesh-coloured, never blue, and whose stalks scarcely at all exceed their *bracteæ* in length. The leaves also are rather paler, much more numerous, oblong, a little downy at their edges and veins. They are sometimes quite entire, sometimes crenate or serrated, being in that particular liable to vary greatly. The capsule and calyx agree much with those of *V. saxatilis*, and the flower-stalks are lengthened out as the fruit ripens; but never in so great a degree as in that species.

In both these kinds of Speedwell the flowering branches are merely annual, though the stem below is woody and truly perennial, so that the latter ought rather to be esteemed the naked crown of the root.

The synonym of Morison, quoted by Scopoli, clearly belongs to *V. saxatilis*.

1028.



Tunc 1892. Conducted by L. G. ...

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VERONICA alpina.

*Alpine Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of one petal, four-cleft; lower division narrowest. *Capsf.* two-celled.

SPEC. CHAR. Corymbus terminal. Leaves opposite, ovate, smooth, slightly serrated. Calyx hairy. Stem simple, ascending.

SYN. *Veronica alpina.* *Sp. Pl.* 15. *Witb.* 14. *Dickf. Crypt. fasc.* 2. 29. *Tr. of Linn. Soc.* v. 2. 287.

GATHERED on the mountains of Badenoch, Scotland, in 1794, by Mr. J. Mackay, who sent us this specimen. Mr. Dickson first ascertained the real *V. alpina* to be a native of Britain, and the plant so denominated by Mr. Lightfoot to be a new species, now named *humifusa*; consequently the description in the *Flo. Scot.*, compiled from Linnæus's *Flora Lapponica*, is there misapplied, and belongs to the species here before us.

V. alpina flowers in July and August, and is perennial. It is found only on the highest alps, in boggy spots among trickling rills. Root of long simple fibres. Stems branched and pro-cumbent at the very base, from whence they also throw out roots, then obliquely upright, three or four inches high, leafy, round, smooth or hairy. Leaves opposite, on short foot-stalks, ovate, rather obtuse, often entire, but generally with a few dispersed crenatures, dark green, polished, smooth. Flowers in a short, dense, blunt spike or corymbus, afterwards lengthened out; the lowermost flower-stalks longest. Calyx in four, rather unequal, hairy and ciliated segments. All the hairs are finely jointed. Flowers bright blue, with a white tube. Capsule compressed, notched, hairy, tipped with the permanent style.



Lin. 792. Salicaria sp. / L. sp. sp. sp.

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12

[1075]

VERONICA serpyllifolia.

*Smooth Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Cluster terminal, rather spicate. Leaves ovate, slightly crenate, three-nerved, smooth. Capsule inversely heart-shaped, shorter than the style.

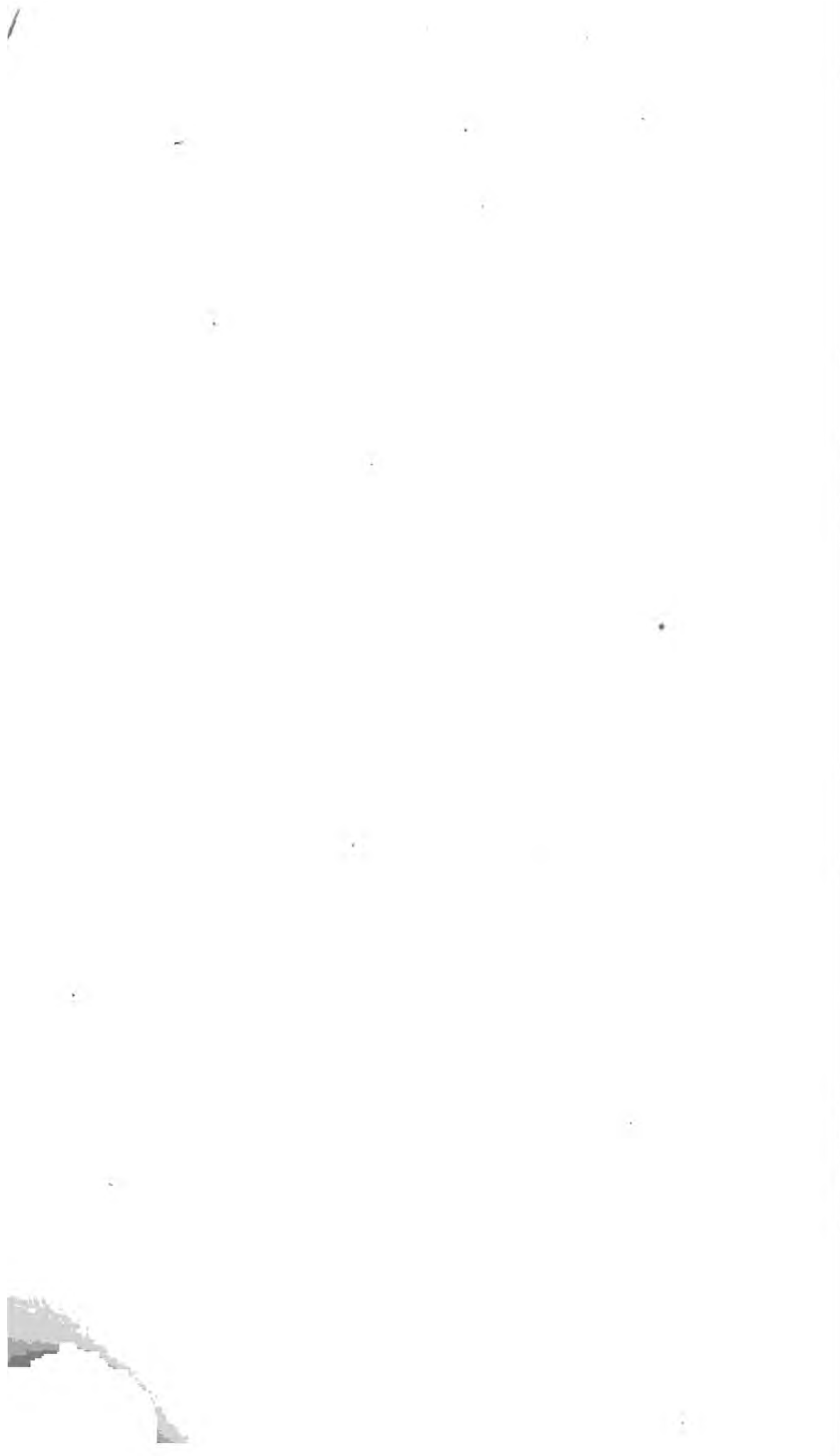
SYN. *Veronica serpyllifolia.* *Linn. Sp. Pl.* 15. *Sm. Fl. Brit.* 19. *Huds.* 4. *With.* 14. *Hull.* 4. *Relb.* 4. *ed.* 2. 7. *Sibth.* 5. *Abbot.* 3. *Curt. Lond. fasc.* 1. t. 3.

V. pratensis minor. *Raii Syn.* 279.

THIS little *Veronica* is common enough in grassy pastures, which are rather moist; sometimes in the shady parts of cultivated grounds, flowering in the early part of summer. The roots are perennial, fibrous, and the prostrate stems throw out numerous radicles by which the plant is much increased. The flowering branches are mostly erect, bearing a few pairs of opposite, roundish, slightly crenate, 3-ribbed leaves on shortish footstalks. Each branch terminates in a lax spike or *racemus* of small, pale blue, sometimes flesh-coloured flowers, accompanied by elliptical, sessile *bractææ*. The segments of the calyx are equal, obovate, blunt, scarcely at all pubescent. The corolla, however pale occasionally, is always marked with dark blue streaks. Capsule inversely heart-shaped, deeply divided, about as long as the style. In wet places the whole herb is very smooth and shining, rather fleshy; when it occurs in very dry spots, it becomes all over downy; indeed the flower-stalks and *bractææ* are frequently liable to this alteration.

From a comparison of specimens of Mr. Dickson's *V. bumifusa*, found in the mountainous rills of Scotland, I have ventured in the *Flora Britannica* to make it a variety of the above species, which is liable to many variations with respect to the position of its stems and form of its leaves.





V E R O N I C A Becabunga,

*Brooklime.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of one petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Clusters lateral. Leaves elliptical, flat. Stem creeping.

SYN. *Veronica Becabunga.* *Lim. Sp. Pl.* 16. *Sm. Fl. Brit.* 20. *Huds.* 5. *With.* 15. *Hull.* 4. *Relb.* 5. *Sibth.* 5. *Abbot.* 3. *Curtz Lond. fasc.* 2. t. 3. *Woodv. Med. Bot.* t. 7.

V. aquatica rotundifolia, *Becabunga dicta,* minor. *Raii Syn.* 280.

BROOKLIME is every-where to be found in ditches and limpid streams, most commonly the companion of Water Cresses; with which it is gathered for medical purposes, and both together with Scurvy-grass enter into that nauseous composition called spring-juices, supposed to be a powerful antiscorbutic.

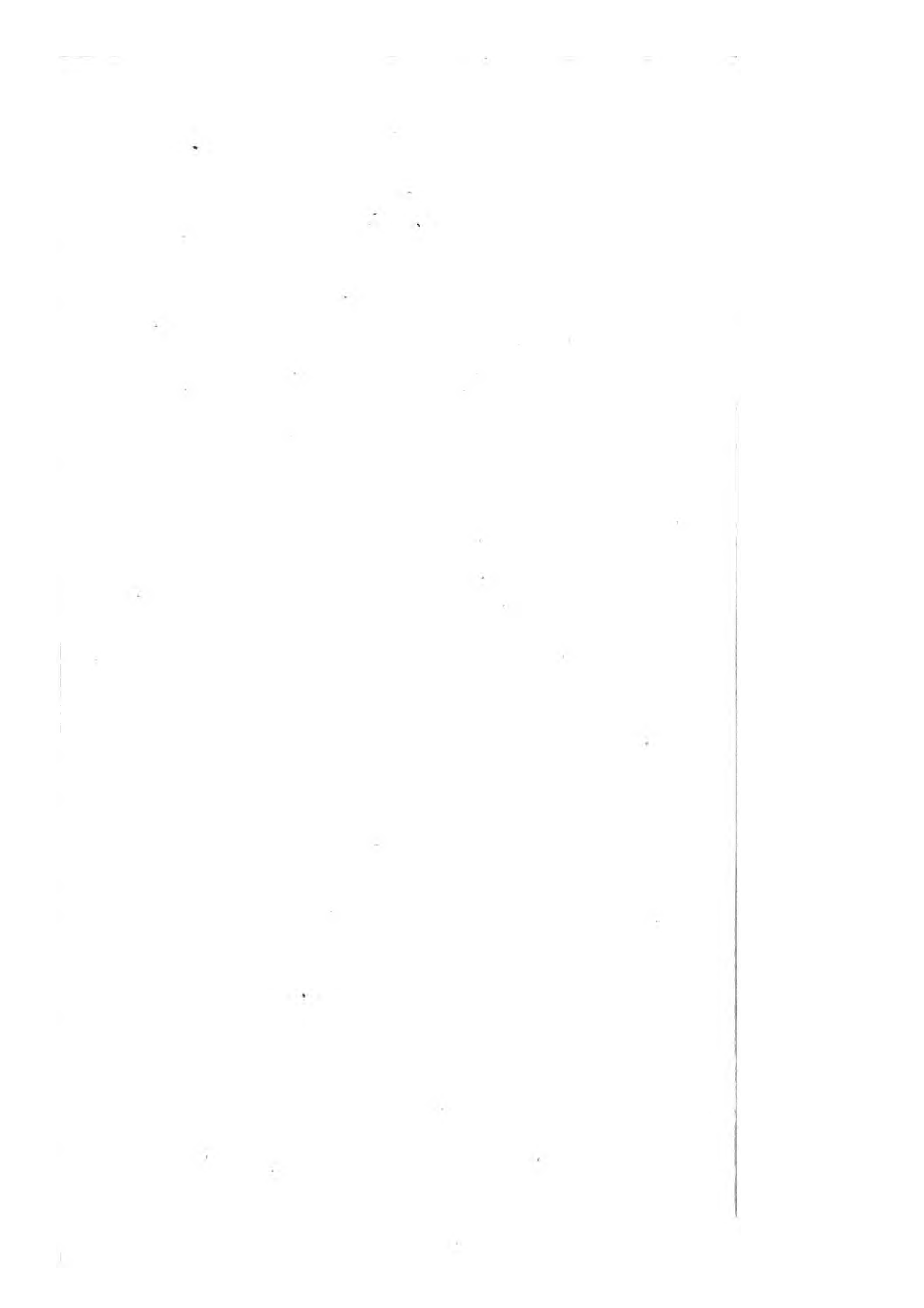
Roots perennial, of long simple fibres. Stems procumbent or floating, taking root from their joints, branched, round, leafy, smooth and shining, as is every other part of the herb. Leaves on short stalks, elliptical, blunt, slightly serrated, of a bright green, somewhat fleshy. Clusters axillary, opposite, erect, longer than the leaves, composed of numerous blue flowers, in perfection about June or July. Bractææ linear-lanceolate, shorter than the partial flower-stalks. Segments of the calyx ovate, acute, shorter than the corolla. Capsule cloven.

055



1799 Published by J. Smeyers.

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VERONICA Anagallis.

*Water Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Capsf.* 2-celled.

SPEC. CHAR. Clusters lateral, opposite. Leaves lanceolate, serrated. Stem erect.

SYN. Veronica Anagallis. *Linn. Sp. Pl.* 16. *Sm. Fl. Brit.* 20. *Hudf.* 5. *Witb.* 15. *Hull.* 5. *Relb.* 5. *Sibtb.* 5. *Abbot.* 3. *Curt. Lond. fasc.* 5. t. 2. *Dickf. H. Sicc. fasc.* 13. 4.

V. aquatica longifolia media. *Raii Syn.* 280.

VERY common in ditches and muddy watery places, flowering in July, and, like all such aquatics as are tenacious of life or easily propagated, it is often found out of the water on the neighbouring banks, merely diminished in luxuriance.

The root is creeping and perennial. Whole herb much agreeing in habit with the Brooklime, V. *Becabunga*, t. 655, except that the stem is erect, and leaves lanceolate, acute, longer than in that species. The clusters are also longer, sharper, composed of more numerous and smaller flowers. Every part of the plant is smooth. Corolla of a pale dull blue, occasionally flesh-coloured, with darker veins. Capsules small, roundish, notched.

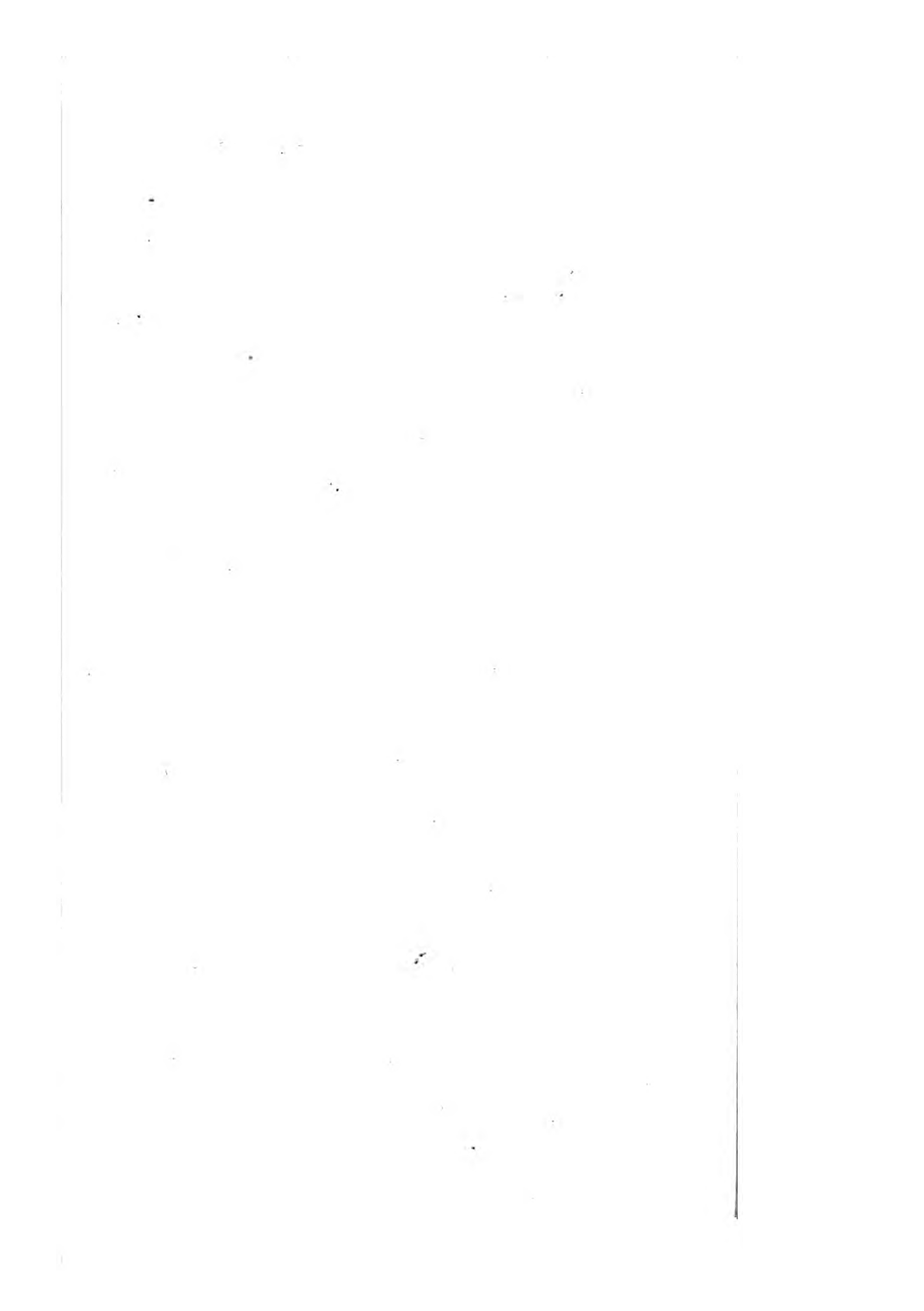
No notice has been taken of this plant in a medical or oeconomic view. Its qualities are probably akin to those of Brooklime, to which it is nearly allied in botanical characters, though unquestionably a distinct species.

781.



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VERONICA *scutellata*.*Marsh Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest: *Capf.* 2-celled.

SPEC. CHAR. Clusters lateral, alternate; partial flower-stalks divaricated. Leaves linear, slightly indented.

SYN. *Veronica scutellata.* *Linn. Sp. Pl.* 16. *Sm. Fl. Brit.* 21. *Huds.* 5. *With.* 16. *Hull.* 5. *Relb.* 6. *Sibth.* 5. *Abbot.* 3. *Curt. Lond. fasc.* 5. *t.* 3.

V. aquatica angustifolia minor. *Raii Syn.* 280.

A MUCH less common plant than *V. Anagallis*, being to be met with only in spongy boggy spots, and chiefly where the soil is sandy, flowering in July or August.

It has a slender perennial root, throwing out creeping runners, and a few weak, spreading, simple stems, 6 or 8 inches long, clothed with opposite linear leaves, which are generally but slightly toothed, sometimes ferrated, sometimes on the contrary (as Linnæus describes them) entire. The clusters grow alternately, and consist of a few pale flesh-coloured, purple-veined, rather elegant flowers, whose slender stalks are bent backwards after the corolla fades, and then the ripening capsules, which are brown, and larger than in the *V. Anagallis*, become conspicuous, and have given rise to the name *scutellata*, resembling small shields. If the above description be attended to, these two species can never be confounded.

Although for the most part smooth, the plant now before us has been found in a downy state by the Rev. C. Sutton of Norwich; and indeed I have observed that variety to be common on St. Faith's Newton bogs.

782.



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VERONICA montana.

*Mountain Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Clusters lateral, elongated, slender, of few flowers. Leaves ovate, serrated, on foot-stalks. Stem hairy in every direction.

SYN. *Veronica montana.* *Linn. Sp. Pl.* 17. *Sm. Fl. Brit.* 21. *Huds.* 6. *With.* 16. *Hull.* 5. *Relb.* 7. *Sibth.* 6. *Abbot.* 4. *Curt. Lond. fasc.* 4. t. 2.

V. chamædryoides, foliis pediculis oblongis infidentibus. *Raii Syn.* 281.

MR. SOWERBY gathered this specimen in Charlton wood, where Sherard is first recorded to have found the *V. montana*, and where it still grows copiously. Nor is it very rare in other parts of England, in shady and rather moist woods, particularly on a chalky soil, flowering in May and June. The root is perennial.

Many botanists have thought this merely a variety of *V. Chamædryis*, see our t. 623; but such an idea can have arisen, as Mr. Curtis observes, only from a very superficial inquiry. In the first place, the hairiness of the stem being general, and not confined to two longitudinal lines, is its very sufficient distinction; to this may be added the stalked leaves which are thinner and more shining than those of the *Chamædryis*; the corolla is much smaller and less beautiful; lastly, the capsule is thrice as large as in that species, more compressed and dilated, and formed as it were of two orbicular portions joined together, instead of being heart-shaped.

766



1802. P. 26. 1. by T. G. G. G. G. G.

v





VERONICA Chamædrys.

*Germander Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of one petal, four-cleft, wheel-shaped; lower division narrowest. *Capsule* two-celled.

SPEC. CHAR. Clusters lateral. Leaves ovate, sessile, rugged, deeply serrated. Stem marked with two longitudinal hairy lines.

SYN. *Veronica Chamædrys.* *Linn. Sp. Pl.* 17. *Sm. Fl. Brit.* 22. *Huds.* 6. *With.* 16. *Hull.* 5. *Relb.* 6. *Sibth.* 5. *Abbot.* 4. *Curt. Lond. fasc.* 1. t. 2. *Mart. Fl. Ruß.* t. 66.

V. *Chamædrys sylvestris dicta.* *Raii Syn.* 281.

FEW of our wild flowers can vie in elegance and brilliancy with this. In the months of May and June every hedge-bottom and grassy bank is adorned with it. At night, or under the influence of moisture, the corolla closes, but in dry bright weather appears fully expanded in all its beauty; and though each flower is short-lived, there is a copious succession.

Root perennial, fibrous, a little creeping. Stems spreading, but slightly raised from the ground, simple, waving, leafy, marked longitudinally, as Linnæus well remarks, with a hairy line on each side. Leaves opposite, sessile, ovate, spreading, deeply and acutely serrated, strongly veined, most hairy about the margin. Clusters axillary, generally opposite, many-flowered, simple, rising above the top of the stem; their common flower-stalk hairy in every direction. Flowers on slender partial stalks with a bractea at their base, large, bright blue, elegantly veined, pale and somewhat flesh-coloured on the outside. Stamina spreading, the style being spontaneously directed first to one and then to the other. Capsule small, inversely heart-shaped.



Veronica spicata L.

VERONICA *agrestis*.*Procumbent Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Capsf.* 2-celled.

SPEC. CHAR. Flowers solitary. Leaves ovate, deeply ferrated, shorter than the flower-stalks. Stems procumbent. Seeds cupped.

SYN. *Veronica agrestis.* *Linn. Sp. Pl.* 18. *Sm. Fl. Brit.* 23. *Huds.* 7. *With.* 17. *Hull.* 5. *Relb.* 7. *Sibth.* 6. *Abbot.* 4. *Curt. Lond. fasc.* 1. t. 1.

V. floribus singularibus, in oblongis pediculis, chamædryfolia. *Raii Syn.* 279.

NO weed can be more general than this in all cultivated fields and gardens, where, though an annual, it is always to be found in some stage or other, and in flower from the beginning of spring till the end of autumn.

The root is small and fibrous. Stems several, procumbent, long, leafy, round, hairy, not branched except at their base. Leaves scattered, on short foot-stalks, ovate, inclining to heart-shaped, deeply ferrated, a little rough and hairy. Flowers on simple solitary axillary stalks, which exceed in length their corresponding leaves, and after flowering are curved downwards. Segments of the calyx ovato-lanceolate, ciliated, generally quite entire, now and then irregularly toothed. Corolla small, bright blue. Capsule of two round swelling lobes, rough. Seeds about 6 in each cell, externally rugged, cupped or hollowed out on the other side, in which hollow the little stalk is fixed that attaches them to the seed-vessel. Their whole structure is curious, and totally different from that of *V. arvensis*.

783.



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VERONICA arvensis.

Wall Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of one petal, four-cleft, wheel-shaped; lower division narrowest. *Capsule* two-celled.

SPEC. CHAR. Flowers solitary. Leaves ovate, deeply ferrated; the floral ones lanceolate, longer than the flower-stalk. Stem erect.

SYN. *Veronica arvensis.* *Linn. Sp. Pl.* 18. *Sm. Fl. Brit.* 24. *Huds.* 6. *With.* 12. *Hull.* 5. *Relb.* 8. *Sibth.* 6. *Abbot.* 5. *Curt. Lond. fasc.* 2. t. 2.

V. flosculus singularibus, cauliculis adhærentibus.
Raii Syn. 279.

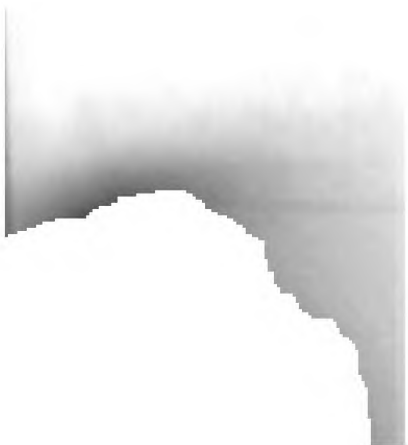
FREQUENT in dry gravelly fields, waste sandy places, and on the tops of walls, flowering in May.

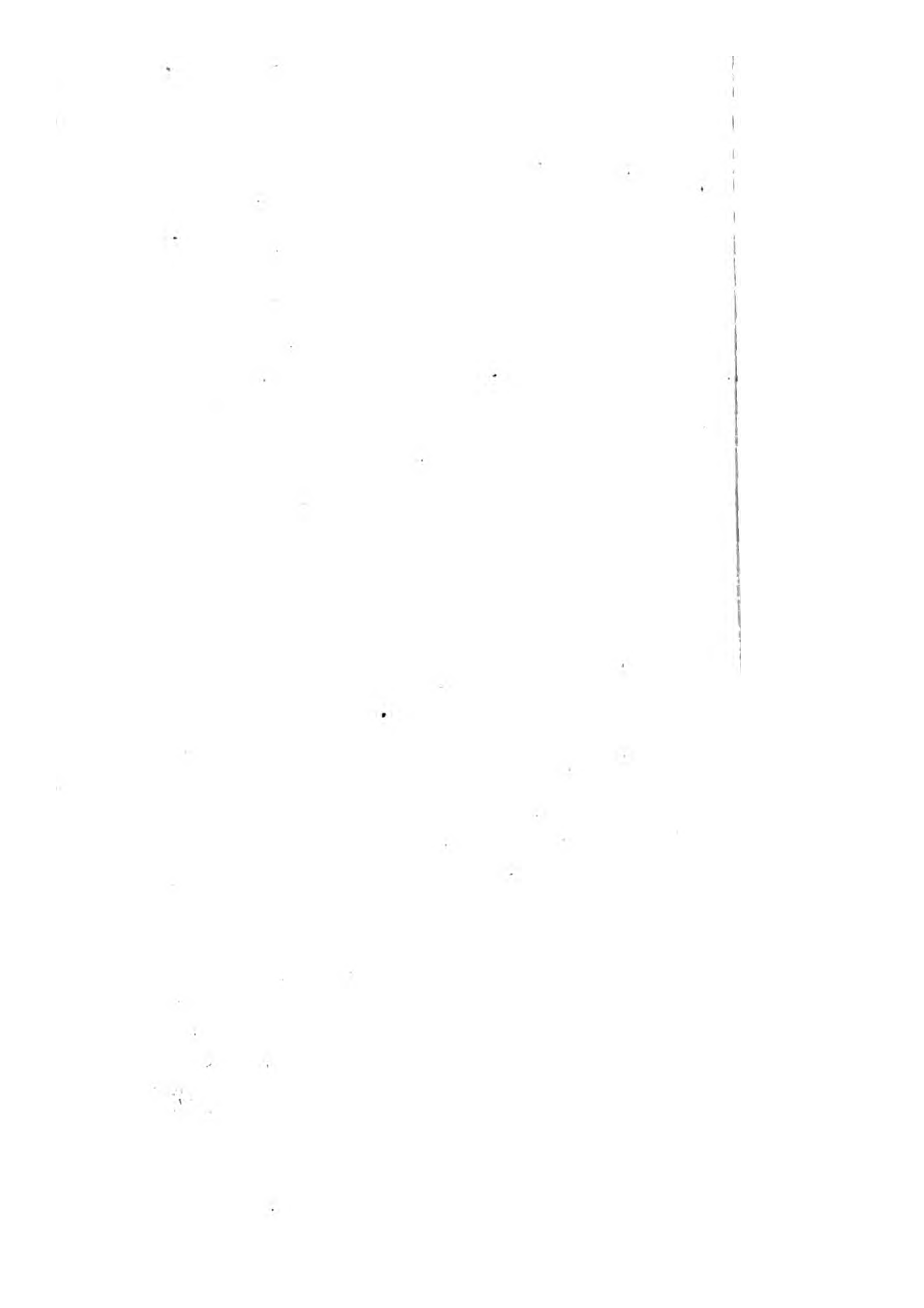
Root annual, fibrous. Whole herb generally of a paler colour than the most common species of *Veronica*, *agrestis* and *hederifolia*, nor is it so apt to turn black in drying. The stem is about 6 inches high, erect, generally branched at the base. Leaves opposite, ovate, hairy, strongly ferrated; the lower ones chiefly on short foot-stalks; the upper ones, from whose bosoms the flowers are produced, are lanceolate, narrow and entire, so as more properly to be called *bractææ*; and hence Dr. Withering has lately removed this and *V. verna* to the spiked section of the genus, to which however they are not naturally akin, nor ought they to be separated from *triphyllus* and other annual species. The flowers of *V. arvensis* stand on short stalks, and are small, pale-blue, with 4 lanceolate, entire, rather unequal, segments to their calyx. Capsule inversely heartshaped, compressed, ciliated. Seeds several, elliptical, flat, with a little dimple in the middle of one side. The form of the seeds and of the calyx-leaves will be found to afford the most beautiful and certain marks of specific distinction, particularly of the annual species, in this genus.

704



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VERONICA hederifolia.

*Ivy-leaved Speedwell.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Capf.* 2-celled.

SPEC. CHAR. Flowers solitary. Leaves heart-shaped, flat, five-lobed. Segments of the calyx heart-shaped. Seeds cupped.

SYN. *Veronica hederifolia.* *Linn. Sp. Pl.* 19. *Sm. Fl. Brit.* 24. *Huds.* 7. *With.* 17. *Hull.* 5. *Relb.* 8. *Sibtb.* 7. *Abbot.* 5. *Curt. Lond. fasc.* 2. t. 1.

V. flosculis singularibus, Hederulæ folio, Morfus gallinæ minor dicta. *Raii Syn.* 280.

WHAT has been said in the last page respecting the place of growth and the duration of *V. agrestis* is exactly applicable to the present plant, its pretty constant companion. Both also agree in the hollow or cup-like form of their seeds, in which they totally differ from other British *Veronicæ*.

Root small, fibrous. Stems prostrate, unbranched. Leaves on foot-stalks various in length, roundish, five-lobed when perfect, the central lobe being much the largest. Flower-stalks spreading, longer than the leaves. Calyx-lobes heart-shaped, acute, fringed. Corolla pale blue. Capsule swelling, with 2 large rugged concave seeds in each cell.

The leaves are sometimes more deeply cut than in our specimen, in which state young botanists often take this plant for *V. triphyllus*, see our 1st vol. t. 26. If the seeds be attended to no mistake can happen.

784



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VERONICA triphyllos.

Trifid Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. Cor. inferior, of one petal, four-cleft, lower division narrowest. Capsule two-celled.

SPEC. CHAR. Flowers solitary. Leaves with deeply fingered divisions. Flower-stalks longer than the calyx.

SYN. Veronica triphyllos. *Linn. Sp. Pl.* 19. *Huds. Fl. An.* 7. *Witb. Bot. Arr.* 15.

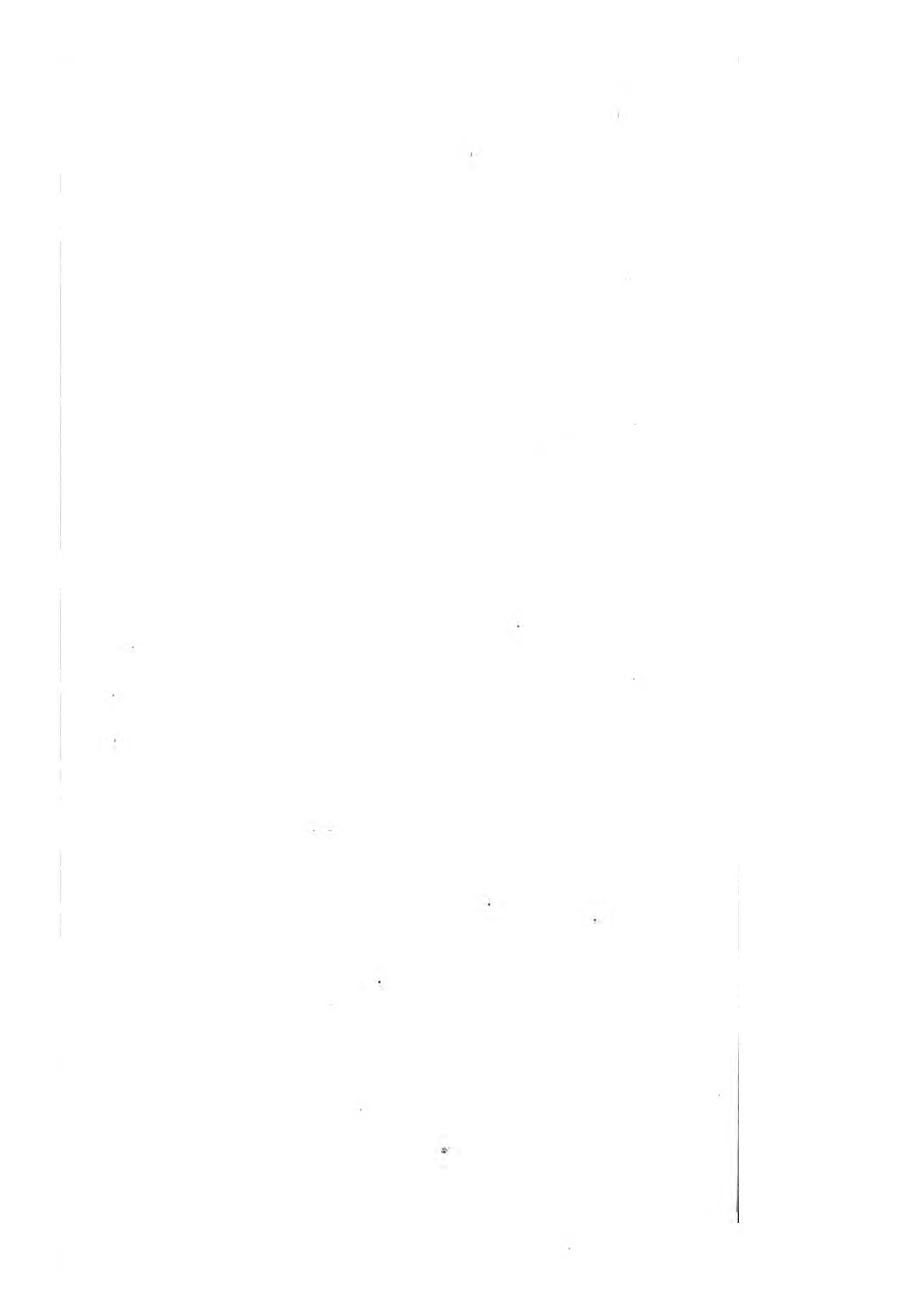
Veronica flosculus singularibus, foliis laciniatis, erecta. *Raii Syn.* 280.

FOR the wild specimens here figured of this plant and the preceding, we are obliged to Sir Thomas Cullum, Bart. who gathered them near Bury, and kindly communicated them in a recent state, along with *Holosteum umbellatum*, and several other rare plants, all which will in due time appear in this work. *V. triphyllos* is always much larger, and more diffuse, than the *verna*, its leaves more deeply divided, and their segments more or less obovate: neither is it quite so rare a plant, having been found in sandy fields in various parts of Norfolk and Suffolk. It flowers early, and, like the *verna*, varies much in size, according to the share of nourishment it meets with. Nothing is more common than for young English botanists, in gathering *Veronica hederifolia* with leaves more than usually deeply cut, to think they have found *V. triphyllos*.



J. Koenig del. Aug. 1. 1701

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VERONICA verna.

Vernal Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of one petal, four-cleft; lower division narrowest. *Capsule* two-celled.

SPEC. CHAR. Flowers solitary. Leaves with fingered divisions, longer than the flower stalks, which are shorter than the calyx.

SYN. *Veronica verna.* *Linn. Sp. Pl.* 19. *Huds. Fl. An.* 8. *With. Bot. Arr.* 15. *Rose's Bot. (Appendix)* 444. t. 2. f. 1.

FIRST found by the late Sir John Cullum, Bart. in dry sandy fields about Bury in Suffolk, and not yet discovered in any other part of England that we know of. It is an annual, flowering in April and May. From its near resemblance at first sight, especially when luxuriant, to *Veronica arvensis*, it may perhaps have been overlooked for that plant. They are however perfectly distinct.

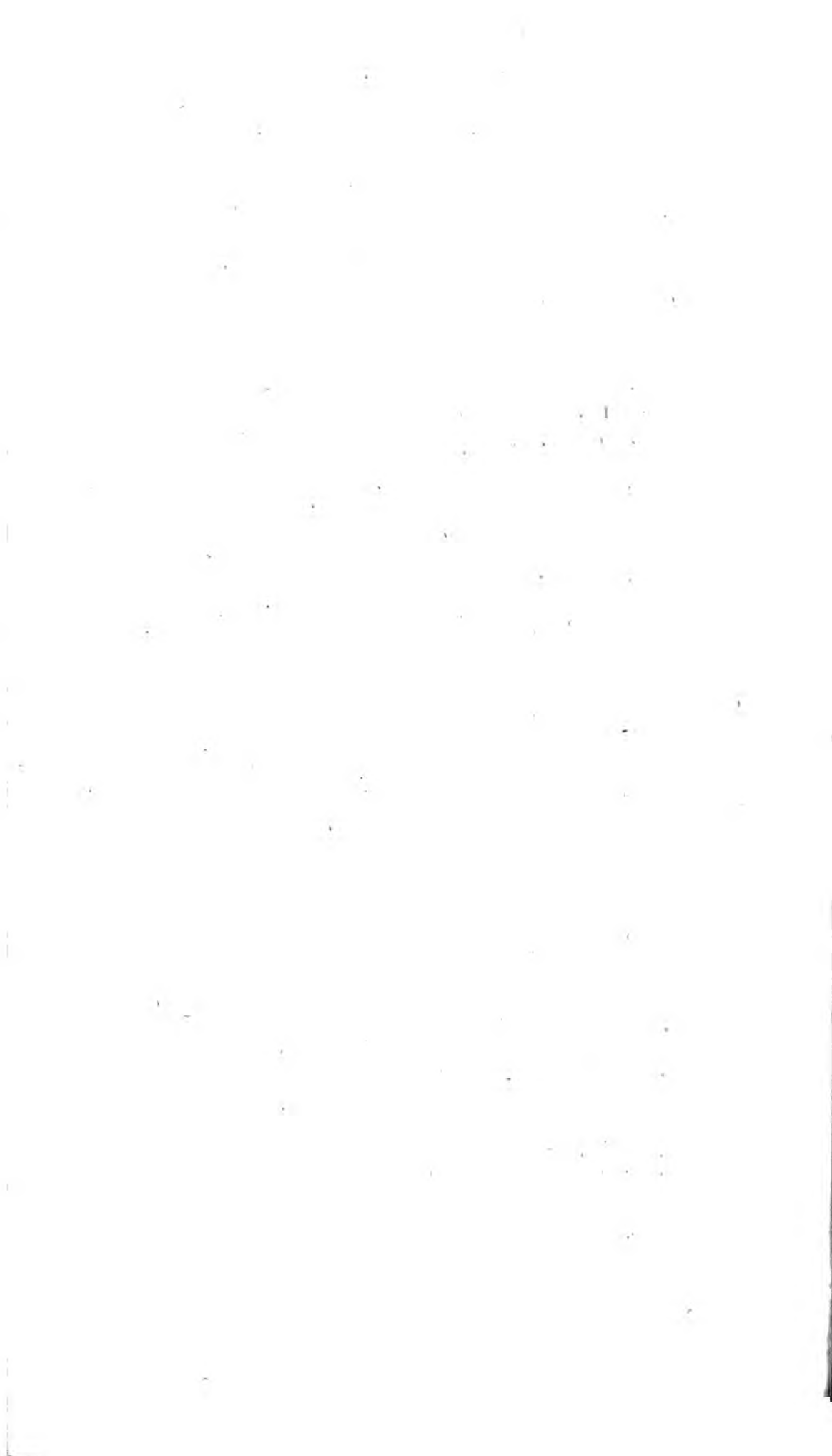
If Morison's figure, sect. 3. t. 24. f. 21. be intended for *Veronica verna*, as Dr. Stokes suspects, it is a very inaccurate representation of the plant.



Edwards del. Aug. 1. 1791.

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PINGUICULA lusitanica.

Pale Butter-wort.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* ringent, spurred. *Cal.* two-lipped with five segments. *Capsule* of one cell.

SPEC. CHAR. Nectary blunt, shorter than the petal. Stalk hairy. *Capsule* globose.

SYN. *Pinguicula lusitanica.* *Linm. Sp. Pl.* 25. *Huds. Fl. An. ed.* 1. 7.

P. villosa. *Huds. Fl. An. ed.* 2. 8. *With. Bot. Arr.* 17. *Lightf. Fl. Scot.* 77. t. 6.

P. flore minore carneo. *Raii Syn.* * 281.

DR. PULTENEY of Blandford Dorsetshire was so obliging as to send us living plants of this very interesting species in the end of June last, gathered on bogs in his neighbourhood, and we embrace with pleasure the opportunity of clearing up that obscurity in which it has been enveloped.

The root is perennial. Leaves like those of other species of this genus, but rather more delicate and pellucid, reticulated with red veins, and much involute in the margin. Stalks hairy, especially in their lower part, with short spreading glandular hairs tipped with a viscid fluid. Flowers a little nodding. Calyx scarcely two-lipped, but almost equally 5-cleft. Tube of the corolla nearly cylindrical, yellow streaked with red; limb in 5 equal obcordate spreading segments, of a pale lilac; orifice hairy; spur inflated at the base, then contracted, terminating in a very blunt conical figure, and when dried (the only state in which Linnæus saw it) much thicker at the end than at the middle, streaked with red. Stamina flattish. Germen hairy. Stigma blunt, excavated on the upper side. *Capsule* perfectly globular, crowned with the withered stigma.

That this is the real *P. lusitanica* we learn from Portuguese specimens compared with those of Grisley, after which probably (seen in some herbarium) Linnæus described it, for he had it not in his own. That it is *P. villosa* of Lightfoot appears from a specimen from Skye, given to Dr. Smith by the Rev. Mr. Stuart, as well as from the figure in *Fl. Scot.* Neither can there be any doubt of its being what Ray and Hudson intended.

The better to distinguish this species from others, we may remark that *P. vulgaris* has an unequal limb, sharp slender spur, and oval capsule: *P. alpina* a very short conical spur, and a long rostrated capsule: *P. villosa* a slender sharp spur, and obcordate compressed capsule, with short round leaves. Its hairy stalk and regular limb agree nearly with *P. lusitanica*, but the *villosa* is the smaller in all its parts.



Epilobium alpinum L.

12



PINGUICULA vulgaris.

*Common Butter-wort.**DIANDRIA Monogynia.*

GEN. CHAR. *Corolla* ringent, spurred. *Calyx* two-lipped, with five segments. *Capsule* of one cell.

SPEC. CHAR. Spur cylindrical, and as long as the petal.

SYN. *Pinguicula vulgaris*. *Lim.* *Sp. Pl.* 25. *Hudf.*

Fl. An. 8. *With. Bot. Arr.* 16. *Relb. Cant.* 8.

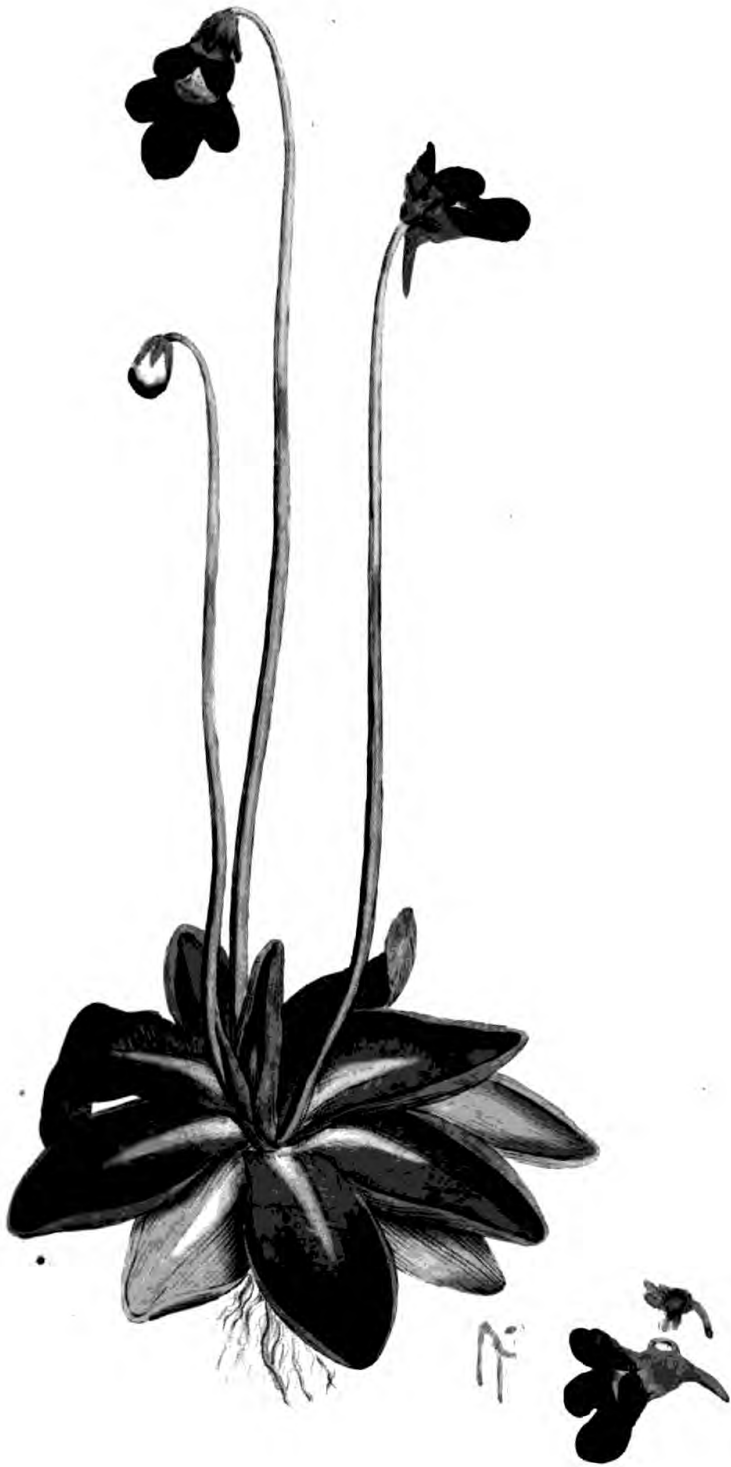
P. Gefneri. *Raii Syn.* * 281.

ON bogs in the northern counties abundantly, also in Norfolk and other parts of England more sparingly. It is perennial, and flowers in the early part of summer. We are obliged for this specimen to Mr. E. Robson of Darlington, a very assiduous and accurate botanist.

The leaves are remarkably glutinous on their upper side, and afford a good example of an involuted margin. The structure of the stigma, and its close application to the stamina in this genus, are very remarkable.

Butterwort is accused of causing the rot in sheep; but Dr. Withering assures us no cattle whatever will feed upon it.

“The husbandmen’s wives of Yorkshire do use to anoint
“the dugs of their kine with the fat and oilous juyce of the
“herbe butterwort, when they are bitten with any venomous
“worme, or chapped, rifted and hurt by any other meanes”—
as Master Gerarde testifieth.



✓

PINGUICULA grandiflora.

*Large-flowered Butter-wort.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* ringent, spurred. *Cal.* two-lipped, with five segments. *Capsule* of one cell.

SPEC. CHAR. Nectary cylindrical, pointed, as long as the petal. Upper lip roundly lobed: lower reticulated. *Capsule* ovate.

SYN. *Pinguicula grandiflora.* *Decand. Fl. Franc. v. 1. 250. v. 3. 575.* *Lamarch. Dict. v. 3. 22. Illustr. t. 14. f. 2.*

THE Rev. Mr. Hincks, Secretary to the Cork Institution, has favoured us with fine specimens of this *Pinguicula*, new to our Flora, found plentifully in marshy ground in the west part of that county, by Mr. Drummond, curator of the botanic garden at Cork, from whose accurate remarks we extract the following.—“The leaves are nearly twice as large as those of *P. vulgaris*, *t. 70*, more veiny, and yellower. Flower-stalks from 6 to 9 inches high, more viscous and stronger. Calyx more obtuse. The chief difference lies in the corolla, which in this is finely reticulated all over with dark blue veins, and twice as large as in *vulgaris*. It flowers in May; loses all its leaves, and forms into little scaly bulbs in the winter. *P. lusitanica*, *t. 145*, very common in that part of Ireland, keeps its leaves through the winter. *P. vulgaris* is not found there.”—Mr. Drummond brought roots of this newly discovered species to his garden in July, when they were quite out of bloom, and our specimens were produced the following spring, 1810. In a wild state the corolla was still larger than in these. From the accounts and figure in the works above quoted, we presume there can be no doubt of its being the plant intended by their authors, as Mr. Hincks first suggested to us.



1810 published by J. Smeyers by London

✓

UTRICULARIA vulgaris.
Greater Hooded-Milfoil.

DIANDRIA Monogynia.

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, spurred. *Capsule* of one cell.

SPEC. CHAR. Nectary conical. Stalk with few flowers.

SYN. *Utricularia vulgaris.* *Linn. Sp. Pl.* 26. *Huds. Fl. An.* 8. *With. Bot. Arr.* 18. *Relb. Cant.* 9. *Sibth. Oxon.* 7.

Lentibularia. *Raii Syn.* * 286.

EVEN this species of *Utricularia* is not extremely common, though more so than the following. It is perfectly an aquatic; nor can it possibly grow out of the water, occurring only in stagnant ditches and pools, and flowering after Midsummer.

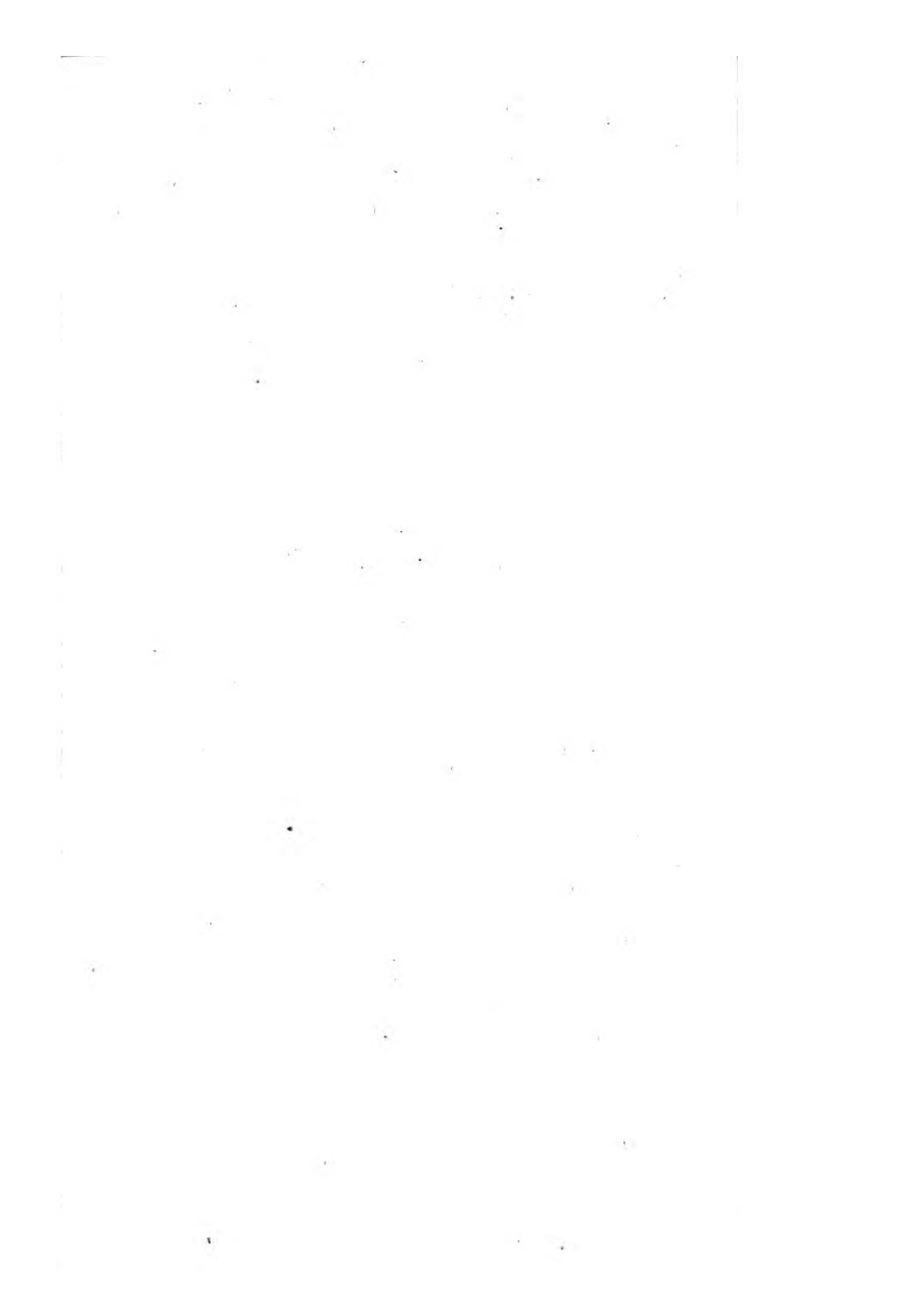
The fibrous floating roots, slightly attached to the mud, are supposed to be perennial. The stem likewise floats horizontally under water, alternately divided into capillary branches, with bristly leaves bearing little compressed curved bladders, open and bearded at the tip, containing a bubble of air, and a drop of watery fluid, in which, when highly magnified, Dr. Withering observed a quantity of extremely minute solid particles. Aquatic insects frequently take up their lodging in these bladders. The stalk only rises erect a few inches above the water, and is rendered conspicuous by its spike of large handsome alternate flowers, whose flower-stalks and calyx are reddish or purple, the corolla of one irregular labiate petal, the spur conical and recurved, the mouth closed, palate prominent, of an orange colour. Stamina thick and short. Germen superior, style short; stigma concave and bearded. See Dr. Withering's excellent description.

We cannot positively determine to which of the varieties mentioned by Linnæus (*Flo. Succ. & Sp. Pl.*) our plant belongs; nor can we learn that any other form of *U. vulgaris* than that here represented has been found in Britain.



May 1 93 Published by J. Van der ...

✓



UTRICULARIA *intermedia**Intermediate Hooded-Milfoil.**DIANDRIA Monogynia.*

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, spurred. *Capsule* superior, of one cell.

SPEC. CHAR. Nectary conical. Stalk two- or three-flowered. Upper lip flat, twice as long as the palate. Leaves crowded, in three deep forked segments.

SYN. *Utricularia intermedia.* Hayne in Schrad. Journ. for 1800. 18. t. 5. Vahl Enum. v. 1. 198.

U. vulgaris minor. Linn. Sp. Pl. 26. Fl. Suec. 9.

FOUND by the late Dr. Scott near Dublin, and by Miss Hutchins in the west of Ireland; we know not of its having been observed in Britain. Linnæus says it grows along with the *U. vulgaris*, t. 253, in Sweden, nor did he distinguish them as species; at which we cannot but wonder. The present is remarkable for the long leafy branches, and comparatively small number of air-vessels. Each leaf is deeply divided into three parts, and those are variously and repeatedly forked; all the segments linear, acute, slightly fringed. The slender stalk bears but two, or at most three, flowers, which are smaller than those of the *vulgaris*, with a flatter upper lip. These having never been found in Ireland, Mr. Sowerby has been obliged to copy them from a plate in a German work published by Dreves and Hayne. We received a perfect specimen from the last-named botanist, through the hands of Dr. Schrader, in whose *Journal* this species is described; but the volume which contains it not having reached us, we trust to Vahl for the above reference.



Linn. s. 1019 published by J. G. Sowerby, London.

u v

UTRICULARIA minor.

Lesser Hooded-Milfoil.

DIANDRIA Monogynia.

GEN. CHAR. *Cal.* of two equal leaves. *Cor.* ringent, spurred. *Capsule* of one cell.

SPEC. CHAR. Nectary keel-shaped.

SYN. *Utricularia minor.* *Linn. Sp. Pl.* 26. *Hudf. Fl. An.* 9. *With. Bot. Arr.* 19. *Relb. Cant.* 9.

Lentibularia minor. *Raii Syn.* * 286.

BY far less frequent than the last. The Rev. Mr. Hemsted sent it from the neighbourhood of Fordham Moor, Cambridge-shire. It also grows on some moors to the north of Norwich, intermixed with *U. vulgaris*, and flowering at the same time. The two species also agree in habit and structure, the *minor* being only about half the size of the other, with paler, and generally fewer, flowers. The essential difference consists in the species now before us having a short blunt nectary, which projects so little, compared with the other, that Linnæus calls it only carinated, not conical. The palate too is not so prominent as to close the orifice of the corolla.

Linnæus's description in *Flo. Suec.* is worthy of him, but we rather wonder at his calling the corolla *dipetalous*, however deeply divided.



April 1795. *Phlox* ...

✓

[926]

LEMNA trifulca.

Ivy-leaved Duck-weed.

MONOECIA Diandria.

GEN. CHAR. Male, *Cal.* of 1 leaf. *Cor.* none.
 Female, *Cal.* of 1 leaf. *Cor.* none. *Style* 1.
Capsf. with several seeds.

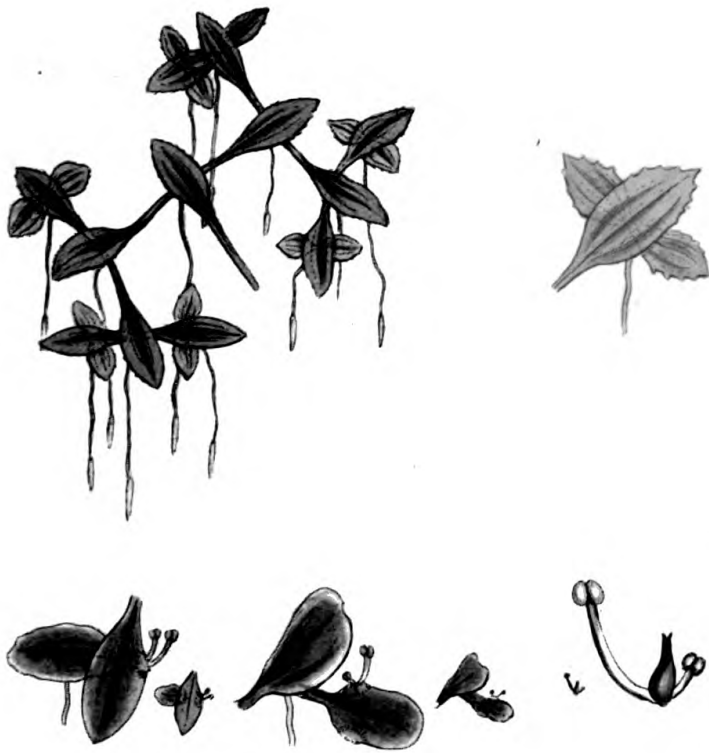
SPEC. CHAR. Leaves on footstalks, lanceolate, pro-
 liferous.

SYN. *Lemna trifulca.* *Linn. Sp. Pl.* 1376. *Sm. Fl.*
Brit. 956. *Huds.* 399. *With.* 43. *Hull.* 202.
Relb. 346. *Sibth.* 14. *Abbot.* 198.

Lenticula aquatica trifulca. *Raii Syn.* 129.

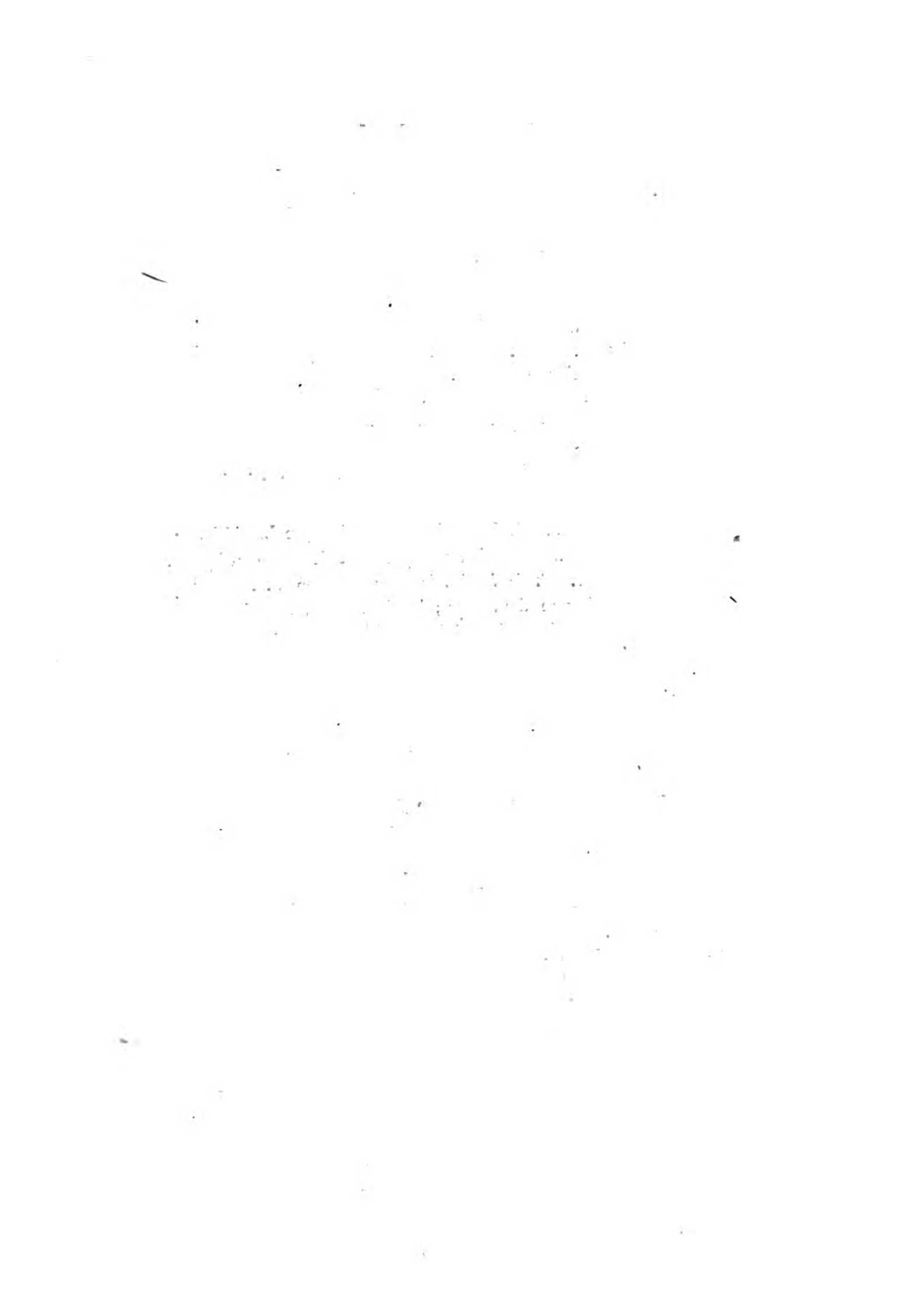
WHEN the late Professor J. Sibthorp had been at great pains and expense for the accommodation of aquatic plants in the Oxford garden, Dr. Stokes wished, as an indemnification for all his trouble, that he might see the flowers of a *Lemna*. This satisfaction however was denied him. A very few foreign botanists only have seen the fructification of *L. minor*, *gibba* and *polyrrhiza*; no one has hitherto given any account of that of *L. trifulca*, though the plant is sufficiently common in stagnant waters throughout Europe. Mr. D. Turner at length met with this grand *desideratum* early in June last near Yarmouth, and we cannot withhold it from the public.

L. trifulca is a pale-green, smooth, pellucid herb, floating in fresh water, near or upon the surface, and consists of several lanceolate, entire, sometimes waved or toothed, leaves or fronds, each having a footstalk at its base, and producing, from its centre beneath, one solitary simple root, and a pair of young leaves, looking like lobes of the old one. The root is tipped with a membranous sheath. The flowers spring from a lateral chink, whose margin forms the calyx. Most of the flowers we have seen are males, having 2 ascending white smooth stamina, each with a 2-lobed yellow anthera. In some an ovate superior germen stands between the stamina, bearing a simple style, with a cloven stigma. We have not detected any flowers purely female.



J





[1095]

L E M N A minor.

*Lesser Duck-weed.**MONOECIA Diandria.*

GEN. CHAR. Male, *Cal.* of 1 leaf. *Cor.* none.
 Female, *Cal.* of 1 leaf. *Cor.* none. *Style* 1. *Caps.*
 with several seeds.

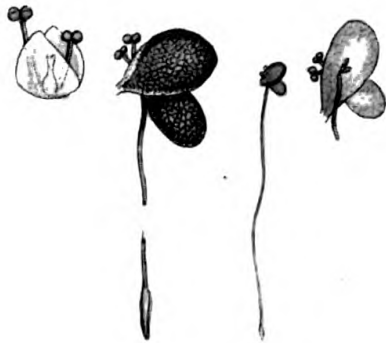
SPEC. CHAR. Leaves sessile, nearly flat on both sides.
 Roots solitary.

SYN. *Lemna minor.* *Linn. Sp. Pl.* 1376. *Sm. Fl.*
Brit. 957. *Huds.* 399. *With.* 44. *Hull.* 202.
Relb. 359. *Sibth.* 14. *Abbot.* 198.

Lens palustris. *Raii Syn.* 129. t. 4. f. 1.

ANOTHER *Lemna* in fructification (see *L. trifulca*, v. 13, t. 926) has been fortunately communicated to us by Mr. W. Borrer. This species is very common in stagnant pools, floating on the surface; but its flowers, though described by some foreign writers, have not till now been noticed in Britain. They are produced in the middle of summer, after which season the plant decays, and as it is acknowledged to be an annual, they must be constantly produced; unless the herb may be propagated by fragments of itself sinking to the bottom of the water, rooting in the mud, and in due time forming leaves, which become buoyant by means of the air generated in their cells. However this may be, we are persuaded the long solitary fibrous roots, tipped with a sheath as in other species, are of temporary use, and do not themselves form offsets.

The leaves are elliptical, and somewhat proliferous as in *L. trifulca*, but much smaller and more succulent, entire at their margin, slightly convex beneath, of a pale green in every part. Flowers from a marginal chink, always, as it appears to us, hermaphrodite, and having a two-valved calyx (or perhaps corolla) much more evident than in *L. trifulca*; so that probably the generic character may hereafter be altered with advantage if the remaining species agree with this.



1

[1233]

LEMNA gibba.
Gibbous Duck-weed.

MONOECIA Diandria.

GEN. CHAR. Male, *Cal.* of one leaf. *Cor.* none. Female, *Cal.* of one leaf. *Cor.* none. *Style* 1. *Caps.* with several seeds.

SPEC. CHAR. Leaves sessile, a little convex above, hemispherical beneath. Roots solitary.

SYN. *Lemna gibba.* *Linn. Sp. Pl.* 1377. *Sm. Fl. Brit.* 957. *With.* 44. *Hull.* 202. *Relh.* 346. *Sibth.* 15. *Abbot.* 199.

L. minor β . *Huds.* 399.

Lenticula palustris major, infernè magis convexa, fructu polyspermo. *Mich. Gen.* 15. t. 11. f. 1.

MR. BORRER, to whom we are obliged for *Lemna minor*, t. 1095, gathered the flowering specimens here delineated of *L. gibba*, the end of last June, at Lewes in Sussex, the only place in which he has observed the fructification*. We do not know that it has been seen any where in Britain before. The plant itself is indeed among the rarer species of *Lemna*.

This differs from the *minor* in being larger, remarkably tumid and succulent, of an extremely vascular texture. Its upper surface is convex, often of a purplish hue; the lower paler, and almost hemispherical. Roots generally solitary, sometimes in pairs. Flowers solitary, from the margin of the leaf. Micheli observed a concave calyx, which he says soon disappears, leaving the stamina and pistillum naked, in which state are our specimens. Probably what we have figured in *L. minor* is only the calyx in its early or more evident state, and not a corolla.

With respect to the place of these plants in the Linnæan system, they seem most properly to belong to *Diandria Monogynia*.

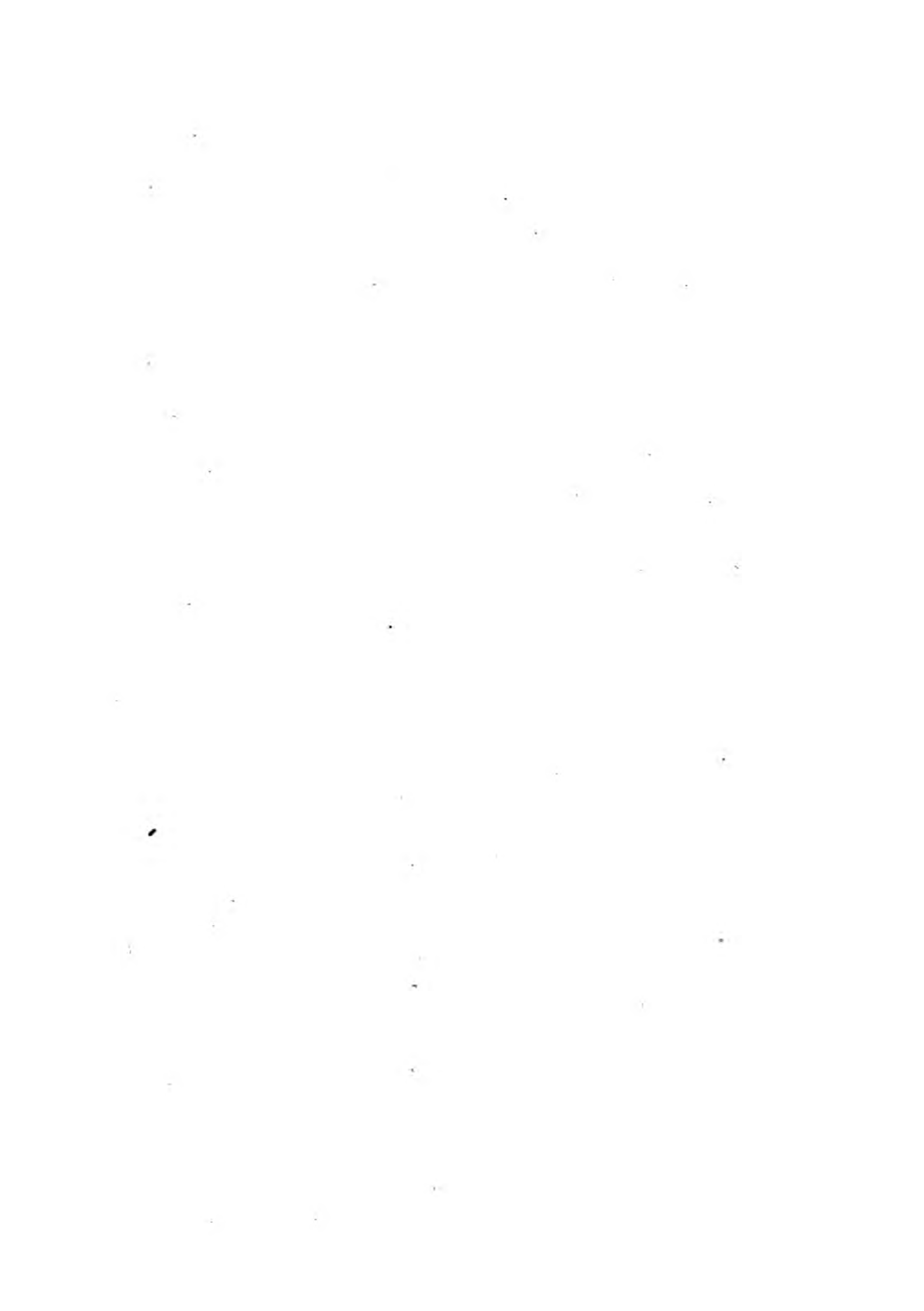
* Ehrhart observed it at Hanover, July 13, 1779.



Nov. 1 1808 Published by J. Sowerby London.

J.





L E M N A polyrrhiza.

*Greater Duck-weed.**DIANDRIA Monogynia.*

GEN. CHAR. *Calyx* of one leaf. *Corolla* none. *Capsule* superior, with several seeds.

SPEC. CHAR. Leaves sessile, somewhat convex beneath. Roots clustered.

SYN. *Lemna polyrrhiza*. *Linn. Sp. Pl.* 1377. *Sm. Fl. Brit.* 958. *Huds.* 399. *With.* 44. *Hull. ed.* 2. 266. *Relh.* 359. *Sibth.* 15. *Abbot.* 199.

Lenticula palustris major. *Dill. in Raii Syn.* 129. *t. 4. f. 2.* *Vaill. Par. t. 20. f. 2.*

Lenticularia major polyrrhiza, infernè atro-purpurea. *Mich. Gen.* 16. *t. 11. f. 1.*

THOUGH so very common on the surface of ditches and standing pools, in the summer months, and though presumed to be an annual plant, the flowers of this species of *Lemna* alone have never been detected in Britain. Those of the other three we have figured, but are obliged to exhibit this without fructification. It is, we believe, the only plant so circumstanced, (except a very few of the class *Cryptogamia*,) throughout the present work. Even Micheli sought the flowers of this *Lemna* in vain, though, as he tells us, he very often bestowed the utmost attention in looking for them. A German named Graver is alone recorded by Wiggers as having found them, situated where the leaves overlay each other, the fruit being larger, and more compressed, than in *L. gibba*, *t.* 1233.

The plant before us is much larger than *gibba*, or *minor*, *t.* 1095, and essentially distinguished by the radical fibres growing many together in a cluster, from the centre where the leaves unite. The upper side of each leaf is level, obscurely striated or ribbed, dark-green; the under purple, and rather convex.

We would, by all means, remove this genus from *Monœcia*.

2708.



Sp. nov. published by J. S. Leach.

✓



LYCOPUS europæus.

*Water Horehound.**DIANDRIA Monogynia.*GEN. CHAR. *Cor.* four-cleft; one of its lobes notched.*Stam.* distant. *Seeds* 4, naked, blunt.

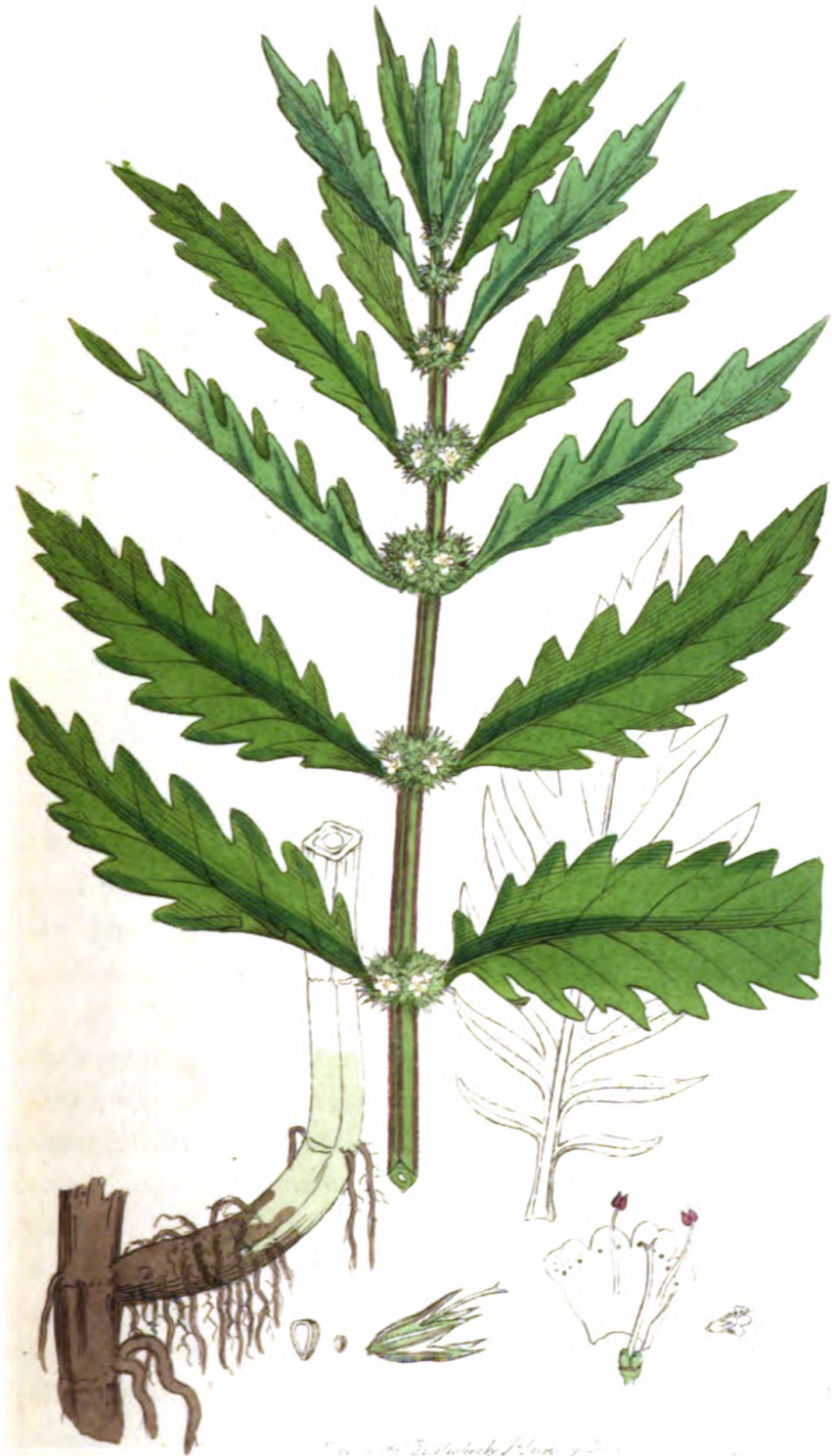
SPEC. CHAR. Leaves deeply serrated.

SYN. *Lycopus europæus.* *Linn. Sp. Pl.* 30. *Sm. Fl.**Brit.* 29. *Huds.* 9. *With.* 20. *Hull.* 6. *Relb.* 11.*Sibth.* 8. *Abbot.* 6. *Curt. Lond. fasc.* 3. t. 2.*L. palustris glaber.* *Raii Syn.* 236.

THIS plant is very frequently to be seen about the banks of rivers, ditches and pools, especially where the soil is sandy and the water clear, flowering plentifully in July and August.

Root perennial, creeping. Stem erect, two feet high, square, leafy, roughish. Leaves opposite, on short stalks, lanceolate or ovate, acute, deeply and coarsely serrated, sometimes pinnatifid, particularly towards their base: they are roughish on both sides, and marked beneath with resinous dots, as in the Mints, but have no aromatic smell. Flowers numerous, in axillary whorls, sometimes fragrant in hot weather. Calyx downy, with sharp bristly teeth. Corolla white, prettily dotted with purple about the orifice, and hairy within. Stamina two, sometimes four. Antheræ with two acute lobes. Seeds four, obovate, blunt, square, and furrowed on each side.

The glandular dots, form of the corolla, and whole habit show the affinity of this plant to *Mentha*; but we believe the seeds would serve sufficiently to distinguish it without adverting to the number of its stamina.



Urtica dioica L. *Urtica dioica* L. *Urtica dioica* L.

✓



SALVIA pratensis.

Meadow Clary.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* irregular. *Filaments* attached laterally to a little footstalk.

SPEC. CHAR. Leaves oblong, heart-shaped at the base, crenated; the uppermost embracing the stem. Bractææ minute. Summit of the corolla glutinous.

SYN. *Salvia pratensis.* *Linn. Sp. Pl.* 35. *Huds. Fl. An.* 10. *With. Bott. Arr.* 21.

Sclarea pratensis foliis ferratis. *Raii Syn.* 237.

THE Meadow Clary is one of our more specious, as well as of our most scarce plants of British growth. Mr. Jacob Rayer gathered this specimen near Cobham in Kent, the seat of Lord Darnley. Dr. Stokes mentions it as common in Surry and Suffex; we have had it too from Oxfordshire. It flowers in June, and cannot easily be overlooked.

Root perennial. Leaves oblong, nearly smooth, irregularly crenated, wrinkled and veiny; the radical, and lower stem-leaves, on longish footstalks, and sometimes sinuated; the uppermost sessile, embracing the stem, sharply pointed. Long whorled spikes of large blue flowers (6 of them in a whorl) terminate the stem and branches, with a pair of very small heart-shaped, acuminate bractææ to each whorl, whence Linnæus defines it *verticillis subnudis*, the bractææ being so much less conspicuous than in most other species. The flower-stalks and calyx, as well as the apex of the corolla, are hairy and viscid. This is not a very aromatic species.



✓

SALVIA verbenaca.

*Wild English Clary.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* irregular. *Filaments* attached laterally to a little footstalk.

SPEC. CHAR. Leaves serrated, smoothish. Corolla much more contracted than the calyx.

SYN. *Salvia verbenaca.* *Linn. Sp. Pl.* 35. *Huds. Fl.*

An. 10. *Witb. Bott. Arr.* 22. *Relb. Cant.* 10.

Horminum sylvestre Lavandulæ flore. *Raii Syn.*

237.

COMMON on chalky and gravelly soils, as about Charlton. The whole plant is of a deeper green than *Salvia pratensis*, and the flowers of a darker blueish purple; they are also much smaller, and by far less conspicuous.

The root is perennial, strong and woody. Radical leaves on footstalks, sinuated and crenate; those on the stem sessile, sharply and grossly serrated. Bractææ entire, heart-shaped, acute, larger in proportion to the flowers than in *S. pratensis*. The flowers appear in June, and may be found even till October. Our figure expresses their structure.

The herb and flowers prove very aromatic upon being rubbed. The seeds are black and smooth, producing a great quantity of soft tasteless mucilage when moistened, whence they become serviceable for removing extraneous matter from the eyes. If put under the eyelid for a few moments, the tears dissolve their mucilage, which envelops any sand or dust that may be in the way, and brings it out safely. Gerarde has noticed this.



70. *Scroph. 11. 21. 1770*

✓



Class iii.

VALERIANA rubra.

Red Valerian.

TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* of 1 petal, superior, gibbous on one side at the base. *Seed* one.

SPEC. CHAR. *Stamen* one. *Flowers* spurred. *Leaves* lanceolate, nearly entire.

SYN. *Valeriana rubra.* *Linn. Sp. Pl.* 44. *Sm. Fl. Brit.* 37. *Huds.* 12. *With.* 65. *Hull.* 10. *Relh.* 16. *Sibth.* 20.

V. rubra Dodonæi. Ger. em. 678.

RAY has omitted the Red Valerian, probably thinking it an outcast of gardens where it is very common. We were of the same opinion till we observed it very abundant, and to all appearance certainly wild, in the chalk-pits of Kent. On old buildings it is frequent. The annexed specimen was taken from that magnificent ruin the Abbot's kitchen at Glastonbury.

It is a perennial plant, and flowers copiously throughout the summer. The whole herbage is perfectly smooth. Stems numerous, round, slightly branched, leafy, a foot and half high. Leaves somewhat glaucous, rather succulent, turning yellow when dried; the lower ones lanceolate and entire; the upper ones sessile, ovate, pointed, sometimes toothed at their broadest part. Flowers numerous, erect, in a dense, terminal, compound corymbus, with a pair of small bractæ to each flower-stalk. Corolla slender, with a lateral spur, elegant, rose-coloured, rarely white; the margin 5-cleft and irregular. Stamen but one, with a large, prominent, dark anthera. Stigma rather obtuse. Seed with an involute feathery crown, which unrolls as it ripens.

The root partakes of the nauseous aromatic flavour of its genus, but is not used in medicine.



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

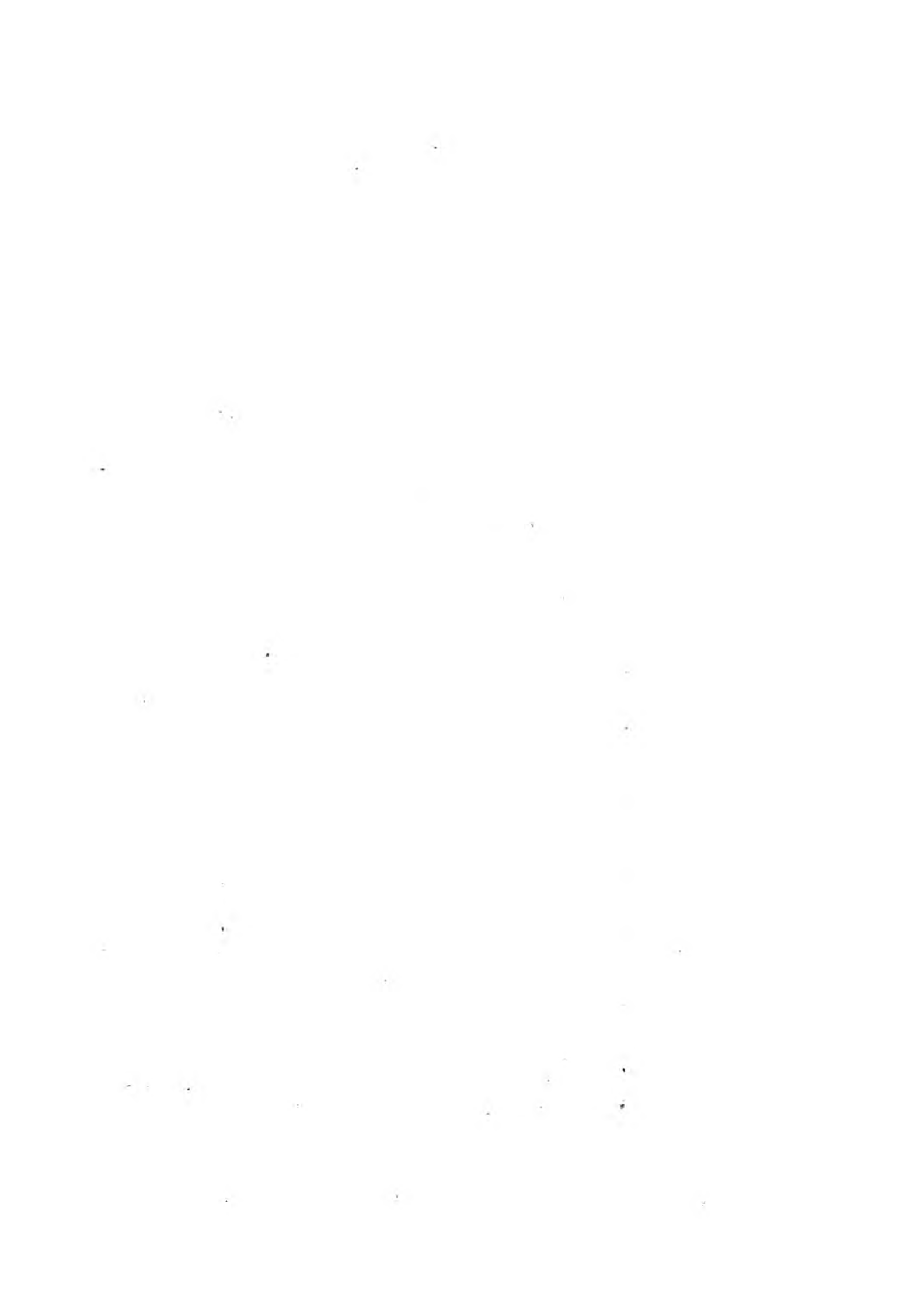
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2

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VALERIANA dioica.

Small Marsh Valerian.

TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* of one petal, superior, gibbous on one side at the base. *Seed* one.

SPEC. CHAR. Flowers dioecious, with three stamina. Radical leaves ovate; those on the stem pinnate.

SYN. *Valeriana dioica.* *Linn. Sp. Pl.* 44. *Sm. Fl. Brit.* 37. *Huds.* 12. *With.* 65. *Relb.* 13. *Sibth.* 20. *Abbot.* 8. *Curt. Lond. fasc.* 4. t. 3.

V. sylvestris minor, & *V. sylvestris,* feu *palustris,* minor altera. *Raii Syn.* 200.

FREQUENT in moist boggy meadows, flowering in June, and the roots are perennial.

Root creeping. Stem 6 or 8 inches high, erect, simple, striated. Radical leaves ovate, on footstalks, undivided; those on the stem opposite, pinnate, or rather pinnatifid in a lyrate manner: all of them smooth, and generally entire; but this last circumstance can by no means be considered as a part of the specific character, though Linnæus has admitted it; for even in his own specimens the leaves are decidedly serrated. A forked cymose panicle terminates the stem. The flowers are of a pale blush-colour, male on one root, female on the other; for although some flowers are frequently found with stamina and pistilla, both organs are scarcely ever perfected in the same individual. The male plant is always smaller and less robust, having a more transient function to perform than the other. The seed is naked, below the flower, furnished when ripe with a radiated feathery crown.



Verbena officinalis L.

✓

VALERIANA officinalis,

Great Wild Valerian.

TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Côr.* of one petal, superior, gibbous on one side at the base. *Seed* one.

SPEC. CHAR. Stamina three. Leaves all pinnated, leaflets lanceolate, nearly uniform.

SYN. *Valeriana officinalis.* *Linn. Sp. Pl.* 45. *Sm. Fl. Brit.* 38. *Hudf.* 12. *With.* 66. *Hull.* 10. *Relb.* 14. *Sibth.* 21. *Abbot.* 8. *Curt. Lond. fasc.* 6. *t.* 3. *Woodv. Med. Bot. t.* 96.

V. fylvestris major. *Raii Syn.* 200.

THE wild Valerian cannot have escaped the most superficial botanist about moist hedges and the margins of rivers, where it lifts up its flowery heads above the tops of Carices and other large grasses, among which it commonly grows. It is perennial, and flowers some time in June. The feathery-winged seeds are scattered in July.

Stem about 4 feet high, furrowed, leafy. Leaves pinnated, with an odd leaflet, all the leaflets serrated, and nearly uniform, those of the radical leaves (especially in the mountain variety mentioned by Dillenius in Ray's Synopsis) being somewhat broader. Flowers numerous, flesh-coloured. It is readily distinguished from *V. dioica*, *t.* 628, by its greater size, pinnated radical leaves, and hermaphrodite flowers.

The root is aromatic, but with a very nauseous flavour. That of the mountain variety, which grows in dry groves and thickets, and is of a more humble growth, is preferred for medical purposes, being more pungent and aromatic. It is celebrated, not unjustly, in nervous diseases, particularly hysteric and epileptic complaints.

698.



Let's 1822 Published by J. ...

1

[1591]

VALERIANA pyrenaica.

Heart-leaved Valerian.

 TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* of 1 petal, superior, gibbous on one side at the base. *Seed* one.

SPEC. CHAR. Stamens three. Stem-leaves heart-shaped, serrated, on footstalks: the uppermost pinnated.

SYN. *Valeriana pyrenaica.* *Linn. Sp. Pl.* 46. *Don. Herb. Brit. fasc.* 4. 77.

THIS is unquestionably a native of Scotland, though never mentioned in any British Flora till Mr. G. Don published a specimen in his *Herbarium Britannicum*, a work rich in rare plants, particularly of the class *Cryptogamia*. That accurate botanist first discovered the *Valeriana pyrenaica* about ditches and walls at Blair-Adam, Kinross-shire, in 1782, and afterwards gathered it about Glasgow and Edinburgh. To him we are obliged for a specimen. We have also been favoured with others from Dr. Brown, Lecturer on Botany in the University of Glasgow, who has observed this plant several years ago at Daldowie 6 miles from thence, and also in woods at Cumbernauld and Pollok, situations remote from each other, separated by hills, and watered by different rivers.

It is a perennial species, flowering in the middle of summer, and possessing the smell, probably the virtues, of *V. officinalis*. The stems are 2 or 3 feet high, leafy, downy at the summit only. Leaves on footstalks, heartshaped, ovate, acute, smooth, sharply and unequally serrated: the radical, and often the lower stem-leaves, simple; the uppermost accompanied by one or two pair of small lanceolate leaflets. Flowers red or flesh-coloured, in a large, terminal, compound corymbus. Spur obsolete. Stamens 3. Seed furrowed, crowned with feathery rays.

This seems to be a rare plant on the continent, not being mentioned by the Swedish, German or Swiss writers, nor by the French, except Lamarck; neither does it occur in Allioni or Scopoli.



Mentha piperita L.

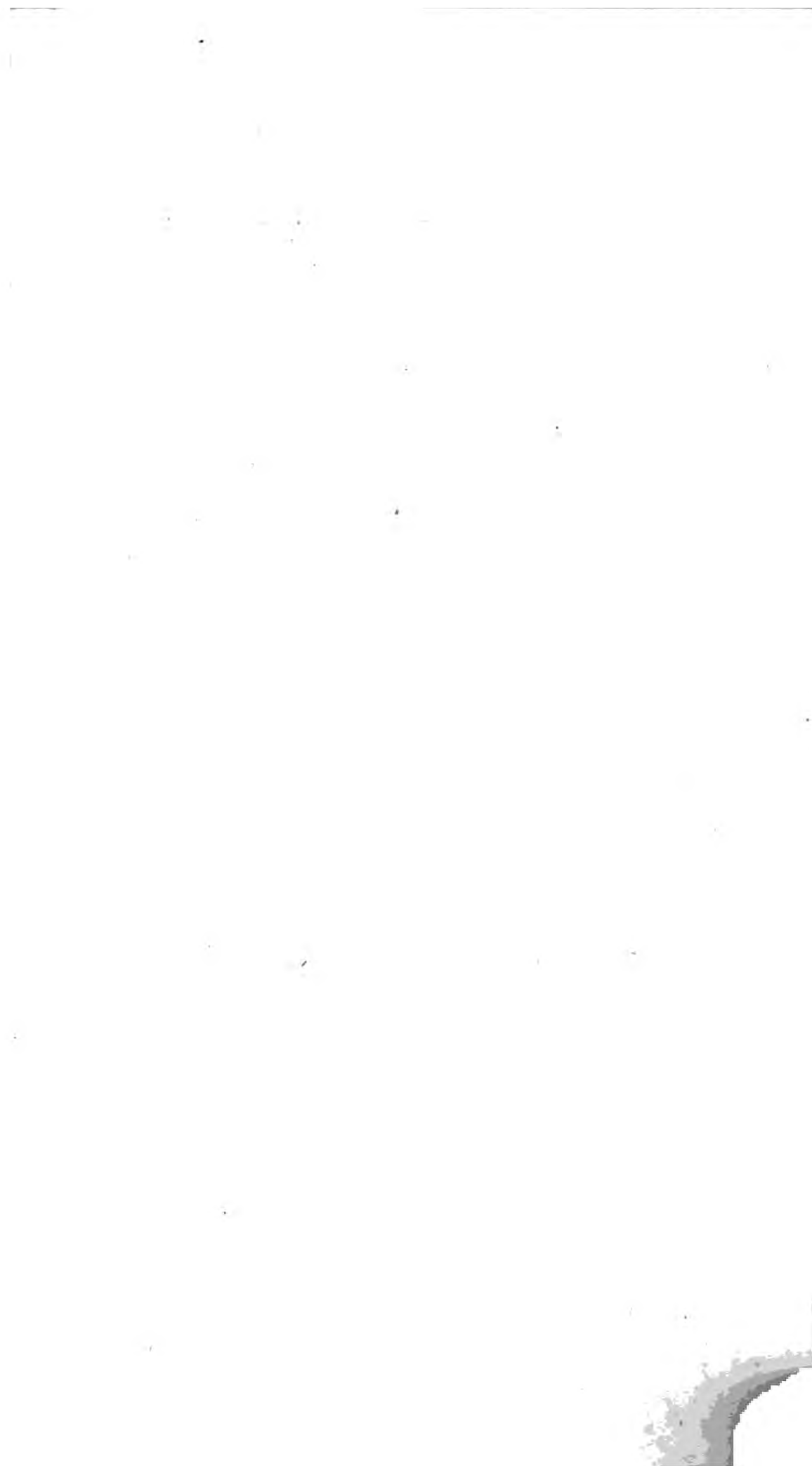
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VALERIANA Locusta.

Corn Salad, or Lamb's Lettuce.

TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* of 1 petal, superior, gibbous on one side at the base. *Seed* one.

SPEC. CHAR. *Stamina* three. *Stem* forked. *Leaves* linear-tongue-shaped, blunt.

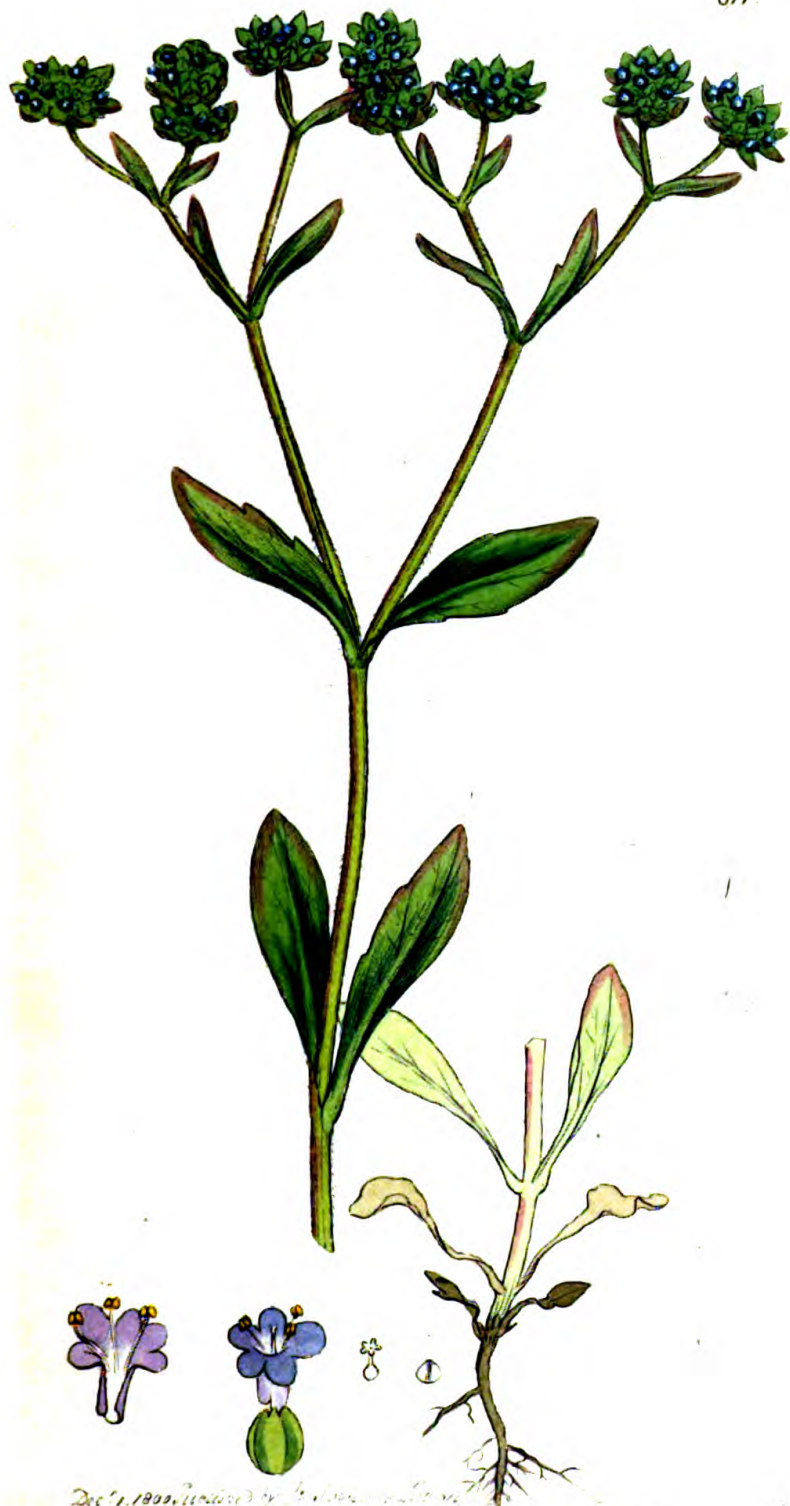
SYN. *Valeriana Locusta.* *Linn. Sp. Pl.* 47, *α.* *Sm. Fl. Brit.* 39. *Huds.* 13. *With.* 66. *Hull.* 11. *Rehb.* 14. *Sibth.* 21. *Abbot.* 8. *Curt. Lond. fasc.* 5. *t.* 4. *Mart. Fl. Rusf.* *t.* 24.

Valerianella arvensis præcox humilis, femine compresso. *Raii Syn.* 201.

IN cornfields and all kinds of cultivated ground the corn-sallad is a common well-known weed, flowering from April to June. At an earlier period its leaves are eaten as a sallad.

The root is small and annual. Herb of a pale grayish green, generally a little downy. Stem forked and spreading, corymbose, each branch topped with a little head of small pale blue or flesh-coloured flowers. Leaves opposite, various in form, but more or less tongue-shaped and bluntish, occasionally entire, serrated, or laciniated. Corolla unequally five-cleft in the border. *Stamina* 3. *Stigma* blunt, notched. *Seed* of a swelling ovate figure, rather compressed, ribbed most on one side, smooth, crowned with 5 minute teeth. The flowers are encompassed with partly membranous bractæ.

Such is our common plant, from which the varieties mentioned by Withering are certainly not specifically different. Those enumerated in the *Species Plantarum*, which differ so widely in their fruit, seem to claim the rank of species; but none of them having been found in Britain, it is not to our present purpose to investigate this point. Mr. Edward Forster has gathered in Cornwall a variety with much less swelling seeds than that now before us, which we recommend to the study of Cornish botanists.



Dec 5, 1909. Received by the University of California

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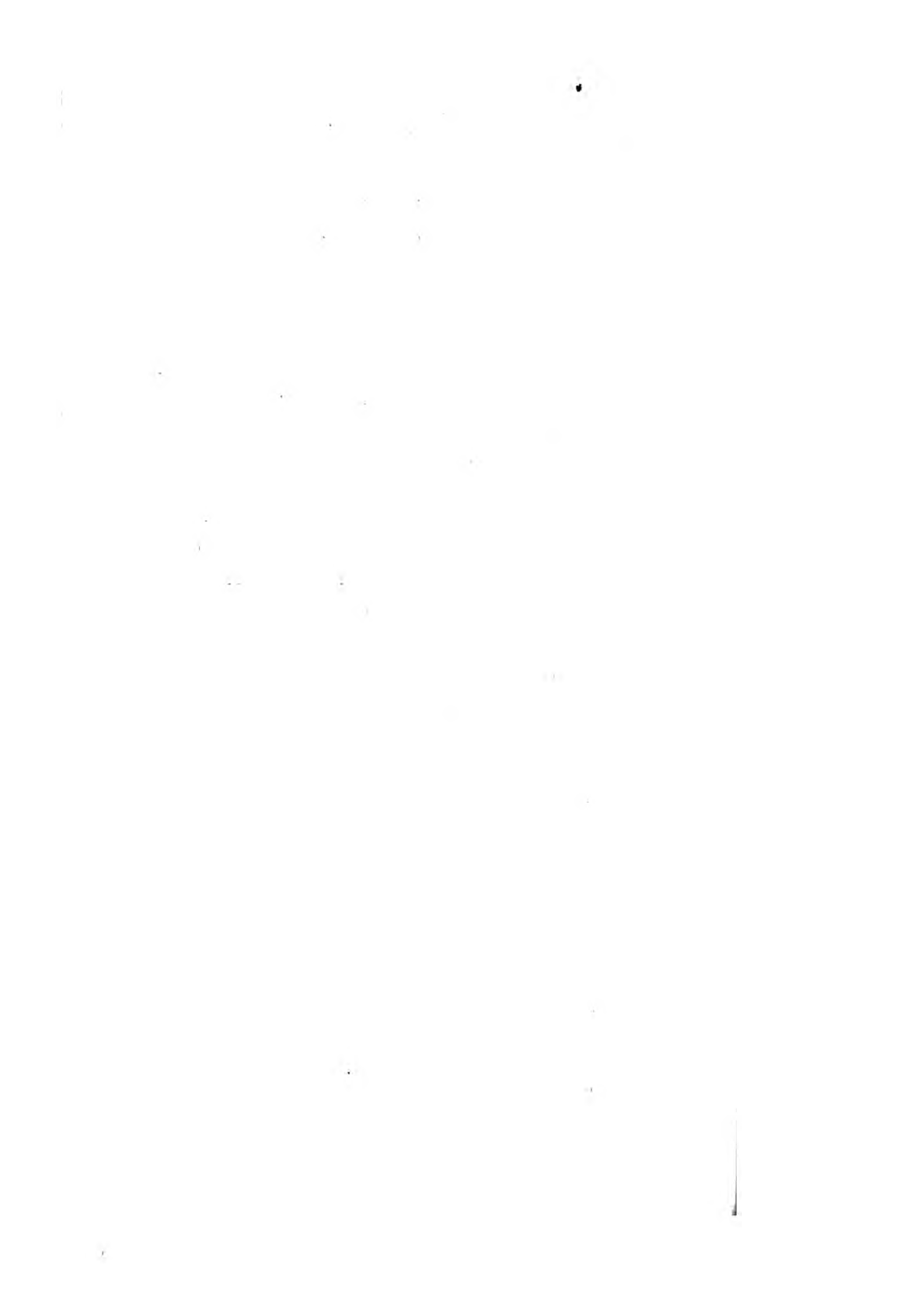
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VALERIANA dentata.

Oval-fruited Corn Sallad.

TRIANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* of 1 petal, superior, gibbous on one side at the base. *Seed* one.

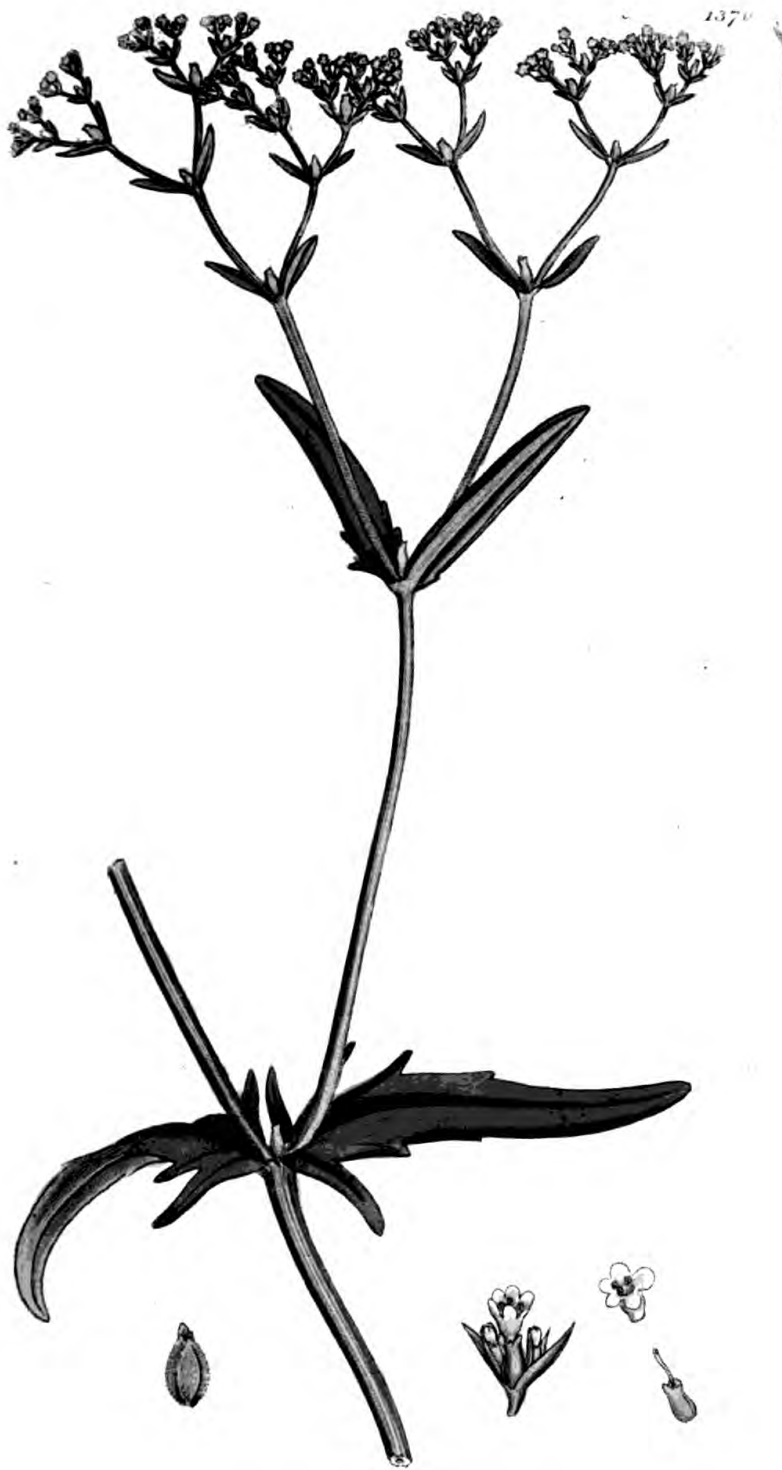
SPEC. CHAR. Stamina three. Stem forked, with axillary flowers. Leaves linear-tongue-shaped. Fruit ovate, pointed, unequally three-toothed.

SYN. *Valeriana dentata.* *Ehrh. Herb.* 122. *Willden. Sp. Pl. v. 1.* 183. *Sm. Fl. Brit.* 1385.

Valerianella altera nudo umbilicato et lævi semine. *Column. Ecphr.* 208. *t.* 209. *f.* 2.

WE alluded to this plant in *v.* 12. *p.* 811, when we were not quite satisfied of its being more than a variety of *V. Locusta*, whose seeds, as well as the leaves, certainly do vary in appearance, though not in essential structure. But on a closer investigation the present seems truly a distinct species. We have received living specimens gathered by E. Forster jun. Esq. in a cornfield near South End, Essex; and others found by E. Hatton Esq. near Rowling Wingham, Kent. In the former the herb is smooth, except near the base, with a hispid seed; in the latter the plant is rough, the seed smooth. These circumstances are surely casual variations. The real differences between this and *V. Locusta*, *t.* 811, consist in its stem bearing solitary flowers at each of its divarications, except the very lowest, whereas the flowers of *Locusta* are all in terminal tufts; and in the ovate, pointed, much less swelling seed, whose top is crowned with 3, or more, very unequal teeth, one of them especially being remarkably elongated, and almost leafy.

This species is annual, and flowers in June and July. Ehrhart and Willdenow have distinguished it; but the latter has certainly misapplied the synonyms of Linnæus, Ray and Rivinus, if not others.



Desf. siliqua. Pl. Indid. de l'Inde. t. 1. p. 104.

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C R O C U S autumnalis.

*Saffron, or Autumnal Crocus.**TRIANDRIA Monogynia.*

GEN. CHAR. *Cor.* in 6 divisions, regular. *Stigmas* convoluted.

SPEC. CHAR. Sheath of one leaf, radical. Tube of the corolla very long. Stigma in three deep linear divisions hanging out of the flower.

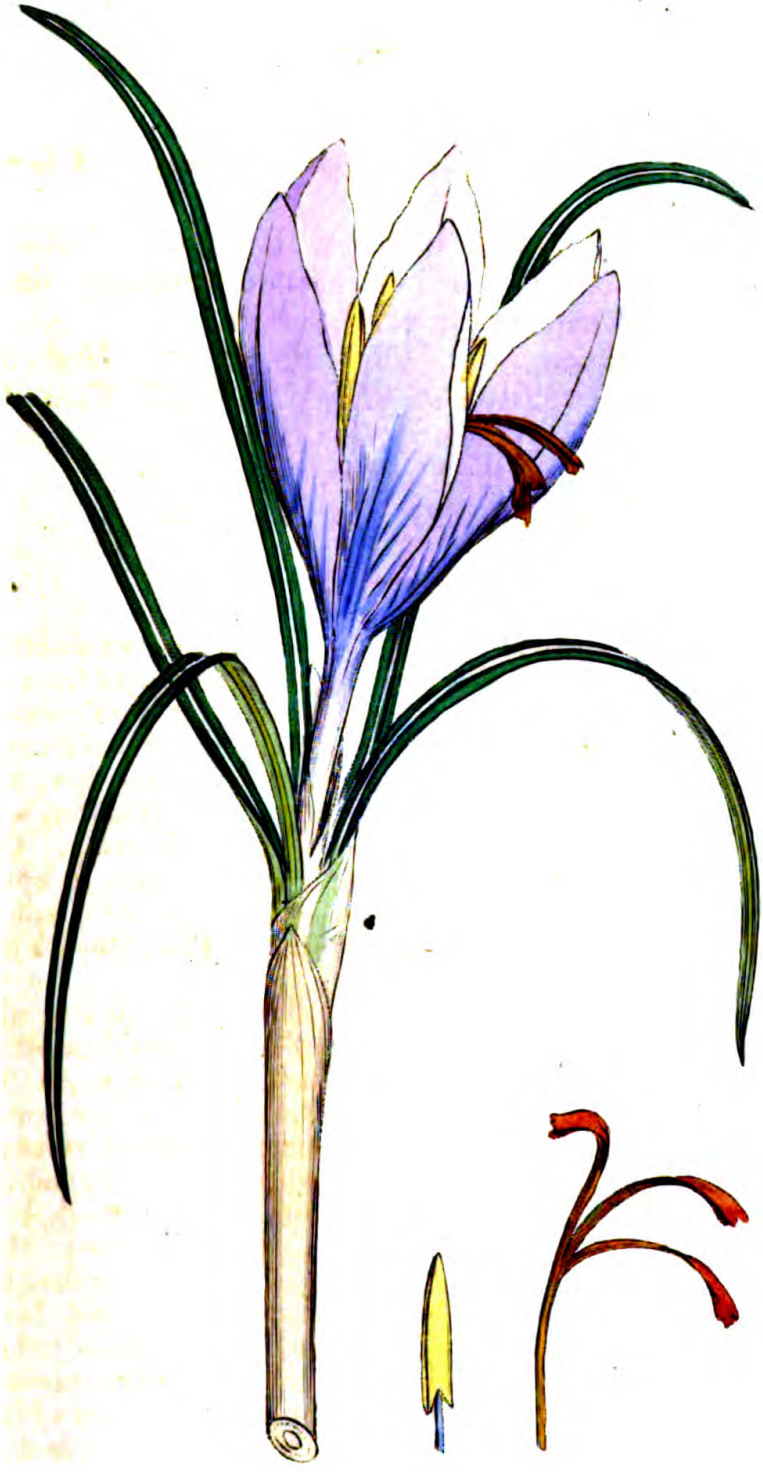
SYN. *Crocus sativus* α. *Linn. Sp. Pl.* 50. *Huds. Fl. An.* 13. *With. Bot. Arr.* 37. *Relh. Cant.* 15. *Woodv. Med. Bot. t.* 176.

C. officinalis. *Mart. Fl. Rust. t.* 58.

Crocus. *Raii Syn.* 374. *Ger. em.* 151.

SAFFRON has very little right, as Professor Martyn observes, to a place in the British Flora, having been introduced from the south of Europe for culture as a medicinal plant. We should scarcely indeed have followed the example of our predecessors in retaining it, were it not for the authority of the Rev. Mr. Wood, who found it about Halifax, and of Mr. Whately, who observed it near Derby, according to Dr. Withering. Our specimen came from Saffron Walden, the only place in which this article of the materia medica is now produced for sale in England. See a full account of it in the Flora Rustica and Medical Botany.

Root a depressed bulb. Leaves all radical, invested with membranous sheaths, from which they emerge but little before the flowers fade; they are linear, dark green above, with a white longitudinal furrow; pale beneath, with a very prominent but flattened mid rib; their margins slightly revolute. Flowers sessile at the root, though with so long a cylindrical tube as to seem pedunculated; the limb in 6 elliptical, concave, rich-purple, regular segments. Stamina shorter than the corolla, erect. Style about equal to the corolla, but hanging out on one side between 2 of its segments, being deeply cloven into three deep-orange linear stigmas (which are the Saffron itself), their edges rolled in, their summits notched.—It flowers in August or September. A kind of tap-root frequently grows from the bulb, which is considered by the cultivators as a disease.

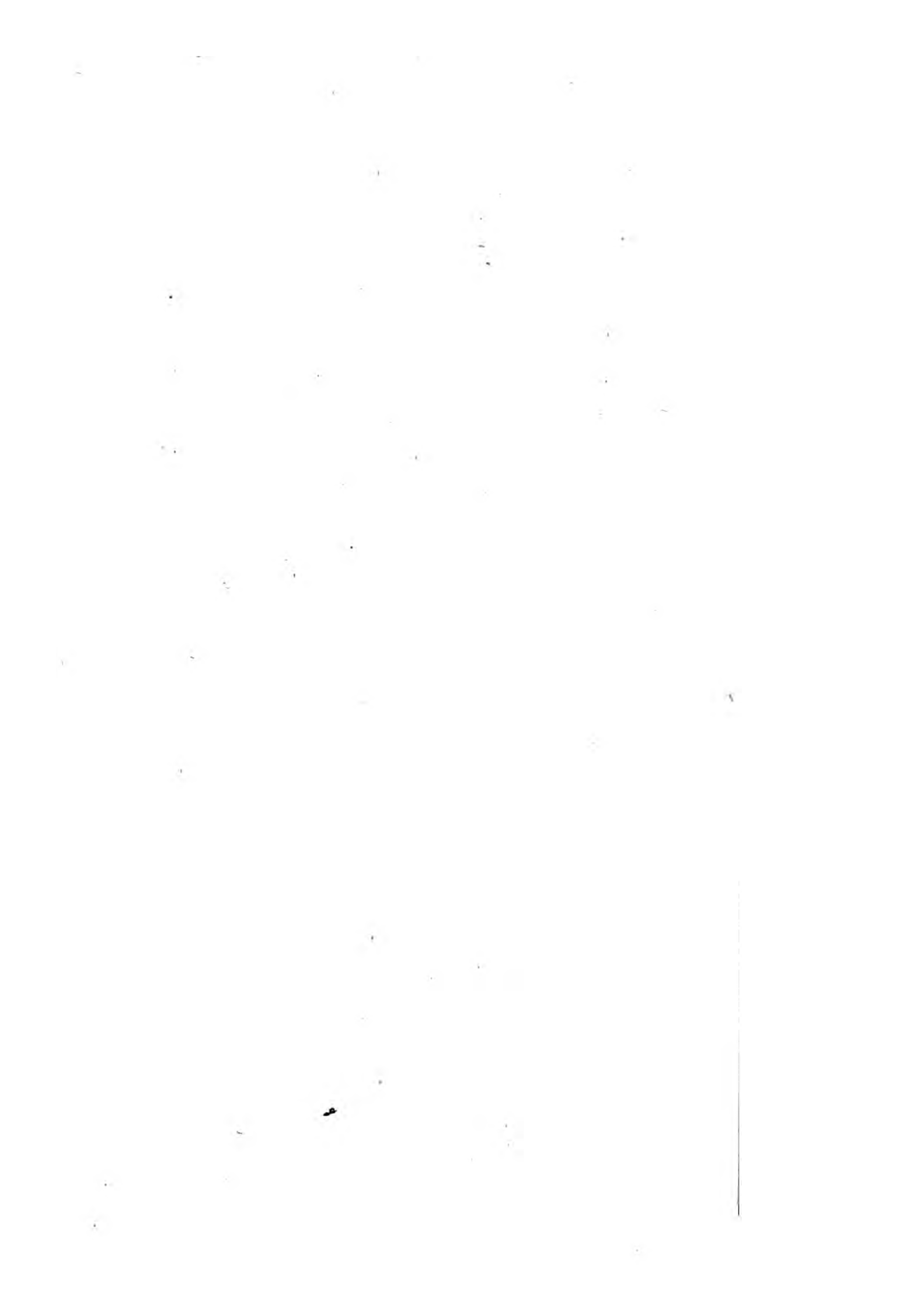


Iris sibirica L. f. *pubescens* Ledeb.

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27





CROCUS vernus.

Spring Crocus.

TRIANDRIA Monogynia.

GEN. CHAR. *Cor.* in 6 divisions, regular. *Stigmas* convoluted.

SPEC. CHAR. Sheath of one leaf, radical. Tube of the corolla very long. Stigma in three short wedge-shaped lobes, enclosed within the flower.

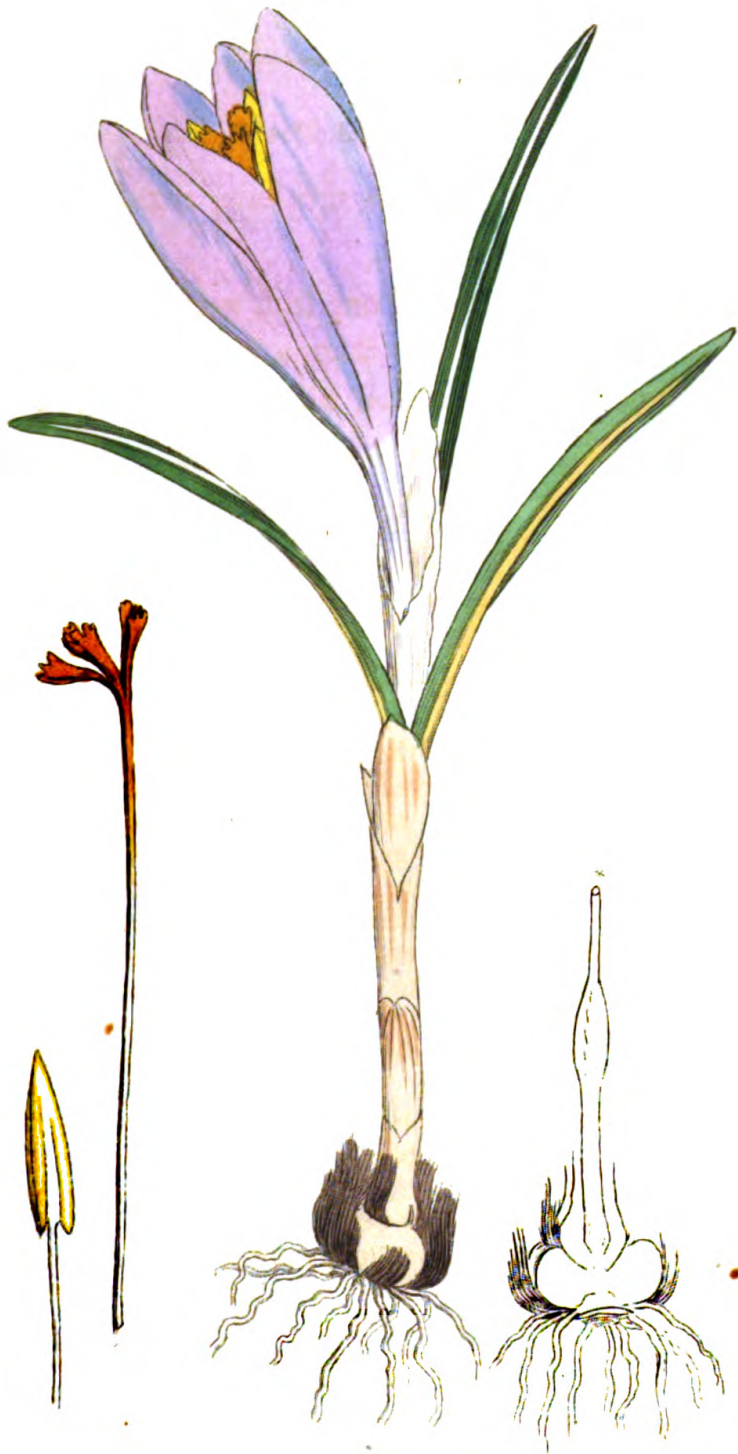
SYN. *Crocus vernus.* *Mart. Fl. Rust. t. 59.*

C. sativus β. *Linn. Sp. Pl. 50.* *Huds. Fl. An. 13.*
With. Bot. Arr. 38.

C. vernalis cæruleus. *Deering Nottingh. 60.*

THIS wild specimen of the Spring, or Garden, Crocus was gathered by Mrs. Sherbrooke of Arnold near Nottingham, March 15th last, in the same meadows where Dr. Deering observed it 60 or 70 years ago, and which are still rendered quite purple by these flowers every spring; so that this species at least appears to have a better right to be reckoned an English plant than many others universally acknowledged, as the Rev. Mr. Wood, F.L.S. to whom we are indebted for the communication, remarks. Professor Martyn mentions having seen it at Battersea, near the mill, in considerable quantity, above 40 years ago.

It differs from the Saffron Crocus in having broader leaves, with flatter or less revolute edges; yet that difference is not so constant as the great one of the stigmas, which in the plant before us are comparatively very little divided, the segments wedge-shaped, much and unequally notched, erect (not hanging out of the flower), of a paler colour, and quite destitute of the smell and cordial qualities of Saffron.—Their times of flowering are also widely different, this being one of the earliest spring plants, as every body knows by the numerous purple, yellow, and white varieties growing in every garden; the other is quite an autumnal flower, and these differences are permanent under every mode of culture hitherto tried.



Crocus sativus L.

2



CROCUS nudiflorus.

Naked-flowering Crocus.

TRIANDRIA Monogynia.

GEN. CHAR. Cor. in 6 divisions, regular. *Stigmas* convoluted.

SPEC. CHAR. Sheath of one leaf, radical. Tube of the corolla very long, leafless. Stigma in three deeply lacinated segments, enclosed within the flower.

SYN. *Crocus sylvestris autumnalis.* *Dodon. Hist.* 214. f. 1.

C. montanus autumnalis. *Ger. em.* 154. f. 6.

Colchicum commune. *Deering Nottingb.* 57.

ANOTHER *Crocus*, in addition to those in our t. 343 and 344, is here offered to the British botanist. We are indebted to the Rev. Mr. Becher of Southwell, Nottinghamshire, for its detection and determination, and from his very accurate observations we have established the following particulars:

The *Crocus nudiflorus* grows, in the greatest profusion, between Nottingham castle and the river Trent, in meadows whose soil is naturally sandy, but from the annual overflowings of the river it is converted into nearly equal parts of sand and clay. There this plant enamels some acres of ground every autumn, and has been mistaken by strangers for a piece of water. From its place of growth, time of flowering, and the information of old inhabitants of the neighbourhood, there can be no doubt of its being what Deering mistook for the *Colchicum*, which does not grow thereabouts. The flowers, perfectly destitute of leaves, are in perfection early in October, and fade before the end of that month. The leaves do not begin to appear till some time in December, and are more erect than those of the other species, their margins scarcely revolute, colour paler, and their ends not decayed. The stigma is enclosed within the flower, as in *C. vernus*, but differs widely from that and the *autumnalis* in having its segments deeply subdivided into from 7 to 12, generally 9, narrow linear lobes. The seeds ripen in May. These characters, and the time of flowering, are found constant in plants cultivated for many years.

The old authors were well acquainted with this plant, as appears by Dodonæus and his copier Gerarde above quoted. The Rev. Mr. Wood of Leeds has favoured us with specimens of the same from a field near Halifax, and mentions its having been found at Nottingham by Mrs. Sherbrooke, from whom we received the *vernus*. These two species grow there intermixed. The authority for the real saffron growing about Halifax, thus however falls to the ground. See our t. 343.



Microstylis longicaulis

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IXIA Bulbocodium.

*Dwarf Ixia.**TRIANDRIA Monogynia.*

GEN. CHAR. *Cor.* in six deep equal segments, superior. *Stigma* thread-shaped, three-cleft. *Sheath* of two valves.

SPEC. CHAR. Stalk short, mostly single-flowered. Leaves linear, channelled. Segments of the stigma deeply divided.

SYN. *Ixia Bulbocodium.* *Linn. Sp. Pl.* 51. *Jacq. Ic. Rar. t.* 271. *Coll. v.* 3. 265. *Sm. Fl. Græc. Sibth. v.* 1. 26. *t.* 36.

Trichonema Bulbocodium. *Ker in Ann. of Bot. v.* 1. 223. *Ait. Hort. Kew. ed. 2. v.* 1. 82.

WILD specimens of this plant from the island of Guernsey were sent long ago by Mr. Gosselin to Mr. Dickson; and bulbs transmitted by the same accurate investigator to Sir Joseph Banks, last year, have produced perfect plants in several gardens. From the above, compared together, our figure is taken.

This plant grows on dry grassy sandy hillocks, flowering in the spring. The root is a solid bulb, like the kernel of a hazelnut, producing offsets from the base, enfolded in torn membranous sheaths. Leaves several, radical, spreading in a curved form, linear; channelled above; sheathing at the base. Flowerstalk solitary, much shorter than the leaves, recurved, bearing one or two flowers in a wild state, in a garden often more. The corolla is purplish, ribbed, sometimes larger than in our figure, and varying to white or yellow, at least in the south of Europe.

2549

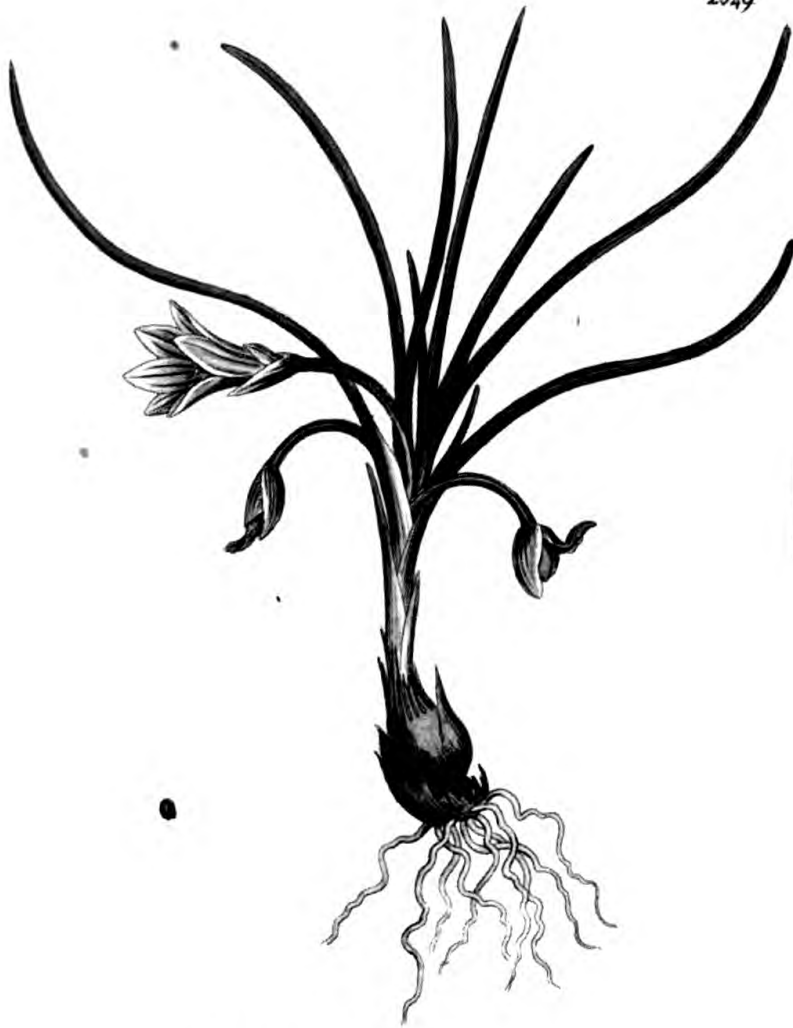
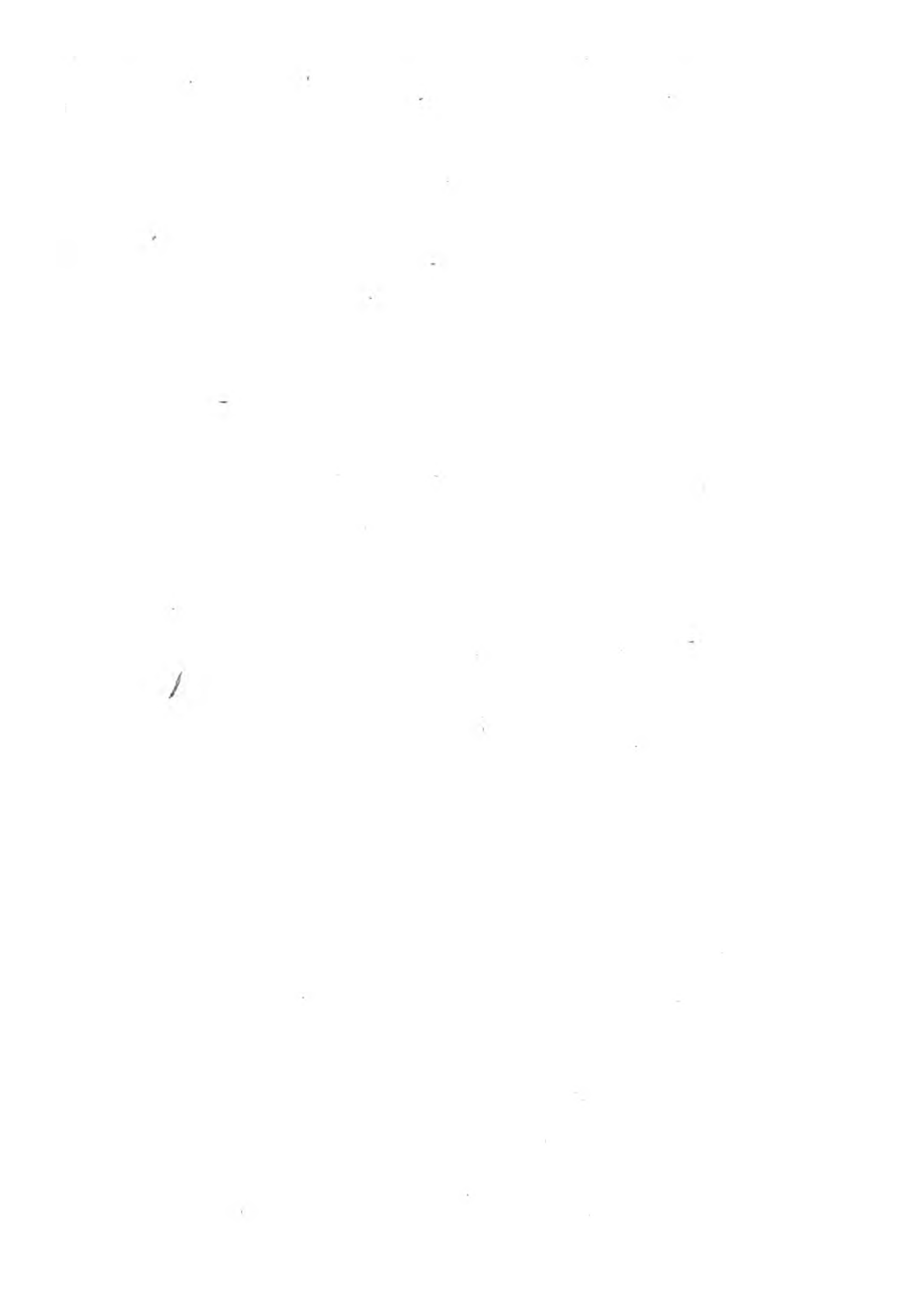


Fig. 118. Collected by J. H. Searby, London

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I R I S Pseud-acorus.

*Yellow Water-Iris.**TRIANDRIA Monogynia.*

GEN. CHAR. *Petals* 6, superior, alternately reflexed.
Stigmas like petals.

SPEC. CHAR. *Corolla* beardless: inner petals less
 than the stigmas. *Leaves* sword-shaped.

SYN. *Iris Pseud-acorus.* *Linm. Sp. Pl.* 56. *Huds.* 14.
Walt. 69. *Rehb.* 15. *Sibtb.* 21. *Abbot.* 9. *Curt.*
Lond. fasc. 3. t. 4. *Woods. Med. Bot.* t. 40.

I. palustris lutea. *Raii Syn.* 374.

VERY common in watery ditches, pools, and the margins
 of rivers, flowering in July, when it makes a very conspicuous
 and handsome appearance.

Root perennial, fleshy, horizontal, depressed, of a reddish
 brown, throwing out numerous long fibres, from its under side.
 Stem upright, roundish, smooth, leafy, bearing from 3 to 6
 flowers, and a little taller than the leaves, which are also erect,
 about 3 feet high, sword-shaped, pointed, ribbed, inclining to
 a glaucous hue. Flowers of a full lemon-colour, the larger pe-
 tals elegantly pencilled with dark purple, their termination
 roundish, broad, dependent. The inner petals are erect, nar-
 row, blunt, much shorter than the arched, fringed and cloven,
 petal-like stigmas, which constitute the singular character of
 this genus, and under which the antheræ are sheltered. Ray
 mentions a variety with paler flowers, which is not very un-
 common, and another with white ones; the latter we have
 never seen.

A slice of the fresh root, which is acrid and violently astrin-
 gent, being held between the teeth, will very quickly remove
 some kinds of tooth-ache.



Wright 1899 Published by J. S. Gentry

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I R I S *foetidissima*.*Stinking Iris.**TRIANDRIA Monogynia.*

GEN. CHAR. *Petals* 6, superior, alternately reflexed.
Stigmas like petals.

SPEC. CHAR. Corolla beardless : inner petals spreading. Stem with one angle. Leaves sword-shaped.

SYN. *Iris foetidissima*. *Linn. Sp. Pl.* 57. *Huds.* 14.
Relb. 15. *Abbot.* 9.

I. foetida. *Witb.* 70. *Hull.* 11.

I. sylvestris quam *Xyrim* vocant. *Raii Syn.* 375.

IN groves, thickets, and under hedges, but rarely. It is found near Hornsey, and at Charlton; we have also met with it in Hertfordshire, and Norfolk. Dr. Withering mentions it as very common in all the South-west counties. The flowers appear in May, and the seeds in the open capsules make a conspicuous figure in Autumn.

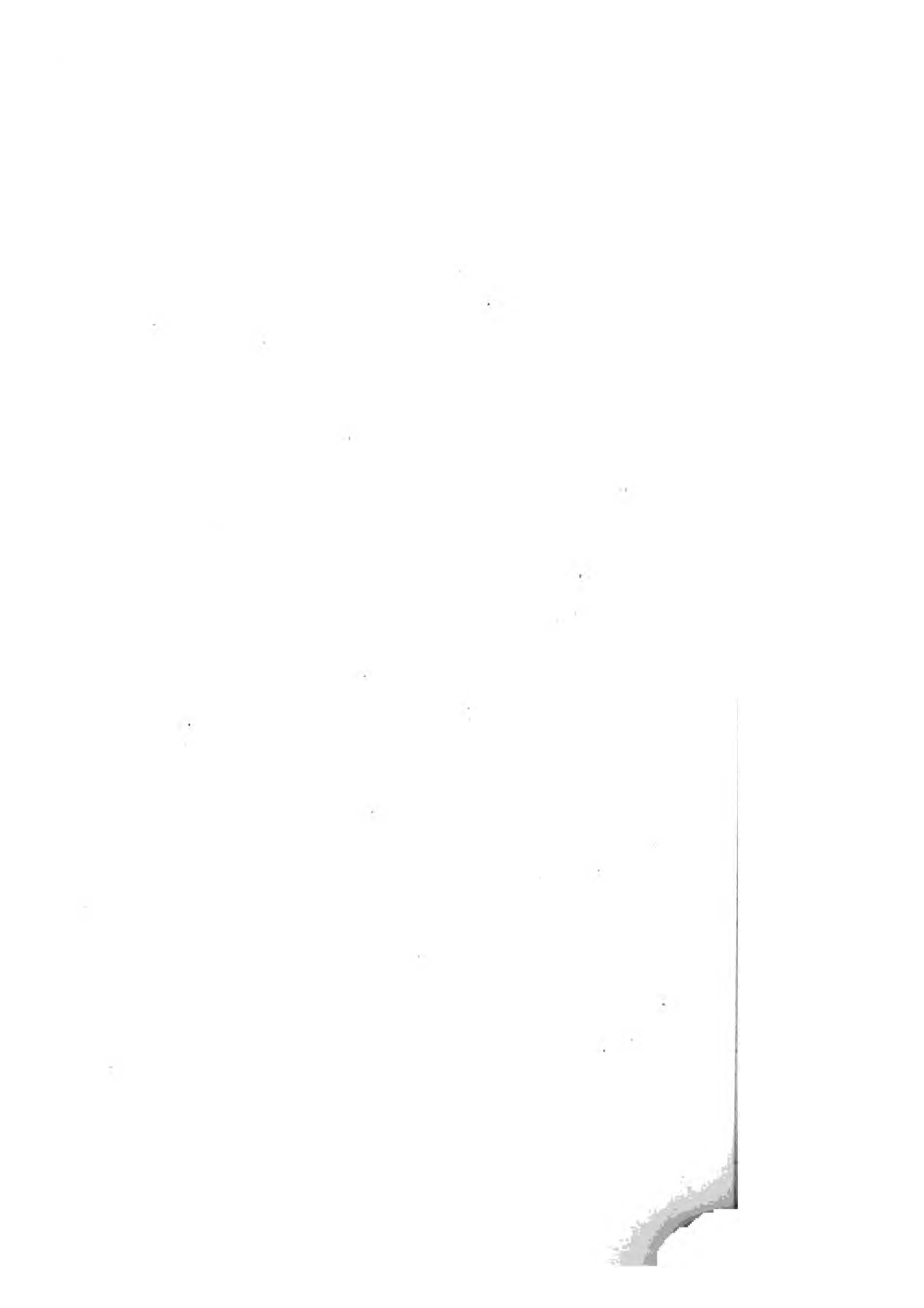
Root perennial, fleshy, forming thick tufts. Stems near 2 feet high, smooth, leafy, roundish, with one angle or edge, and bearing several flowers. Leaves erect, sword-shaped, deep-green. Flowers springing out of large sheathing bractæ, inodorous, of a dull pale purple, but from their finely-pencilled veins not unworthy of a close examination. The inner petals spread nearly as much as the outer ones, and are about as large as the stigmas, which are cloven, but scarcely fringed. The capsules are large and inflated, green externally, white within, containing several globular, polished, deep orange-coloured seeds.

The leaves, when bruised, have a very peculiar offensive smell, which gave occasion to the trivial name; yet this smell having some resemblance to the effluvia of roast beef, the name of Roast-beef plant has been applied as a title of honour to this *Iris*.



Iris sibirica L. *Iris sibirica* L. *Iris sibirica* L.

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SCHÆNUS Mariscus.

Prickly Bog-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem round. Leaves prickly at the margin and keel.

SYN. Schœnus Mariscus. *Linn. Sp. Pl.* 62. *Sm. Fl. Brit.* 43. *Huds.* 14. *Witb.* 79. *Hull.* 12. *Relb.* 16.

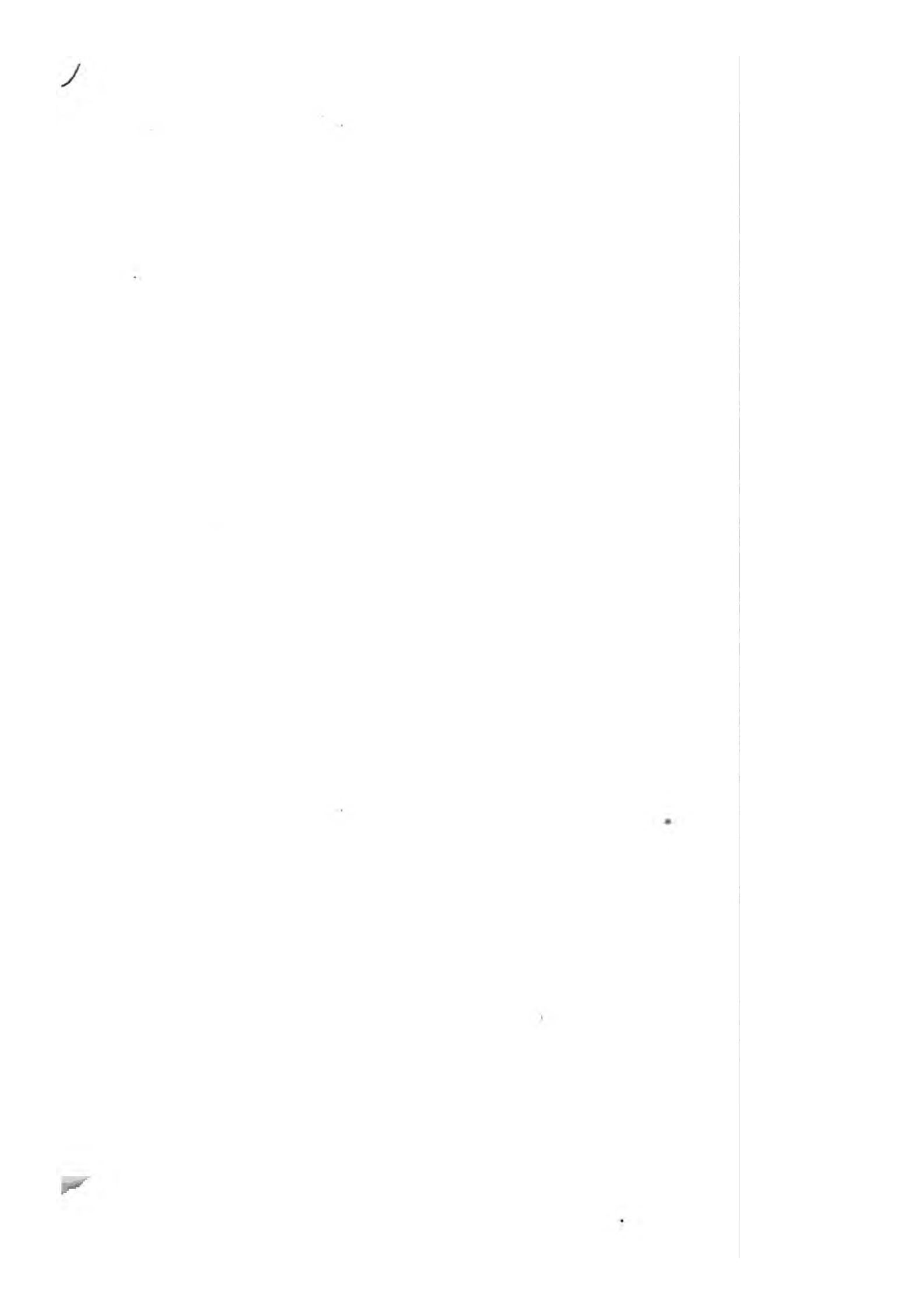
Cyperus longus inodorus sylvestris. *Raii Syn.* 426.

A NATIVE of boggy moors in several parts of England, but not common. It is said to be peculiarly abundant about Cambridge, from whence our specimens were supplied by the Rev. Mr. Holme. Mr. Wigg gathered it this autumn near Yarmouth. It is perennial, and flowers throughout July and August.

The roots are long, creeping, and run deep into the ground. Stem erect, 3 or 4 feet high, straight, paniced, leafy, round and quite smooth. Leaves numerous, long, tapering to a sharp triangular point; their edges and keel very neatly and acutely serrated; the base sheathing, cylindrical, and entire. The flowers are brown, cylindrical or somewhat ovate, clustered; the clusters collected into *corymbi*, furnished with numerous sheathing bristle-pointed bractæ. Glumes ovate, keeled, smooth; the outermost shortest and barren. Mr. Sowerby has observed the stamina to be but two, and the stigma to consist occasionally of 2, 3 or 4 divisions. The fruit has none of those bristles or hairs at its base observable in *S. compressus*, *albus*, and some others; neither does it resemble them in structure, being a real ovate *drupa*, externally quite smooth and polished. The seed is elliptical, pointed, marked with 3 angles, and enclosed in a mealy pulp. This circumstance might probably authorize the establishment of a new genus, when Haller's name of *Mariscus* would properly come into use; but several foreign plants allied to this require previously to be studied.



Del. et sculp. auct. J. S. Burchy London.



[1121]

SCHOENUS nigricans,

Black Bog-rush.

 TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem round, naked. Head of flowers ovate. Involucrum of two leaves, of which the longest is awl-shaped.

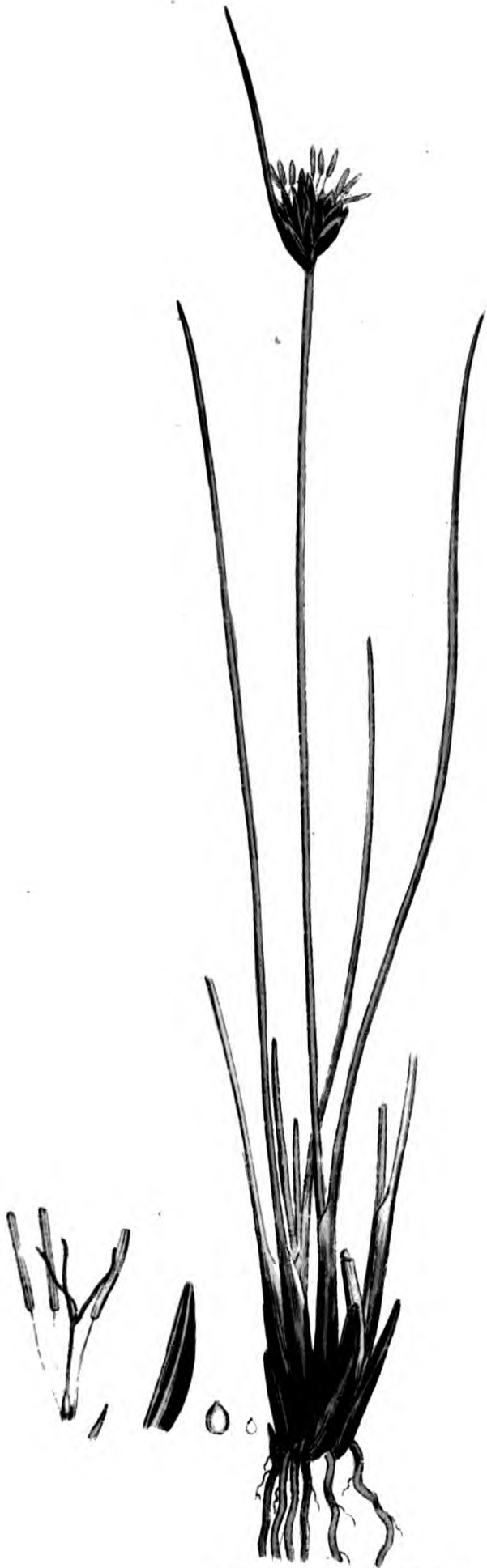
SYN. *Schoenus nigricans.* *Linn. Sp. Pl.* 64. *Sm. Fl. Brit.* 43. *Huds.* 15. *With.* 80. *Hull.* 12. *Relb.* 19. *Sibth.* 22. *Abbot.* 9. *Dicks. H. Sicc. fasc.* 1. 1.

Cyperus nigricans. *With.* 78. *Hull.* 12.

Juncus lævis minor, paniculâ glomeratâ nigricante. *Raii Syn.* 430.

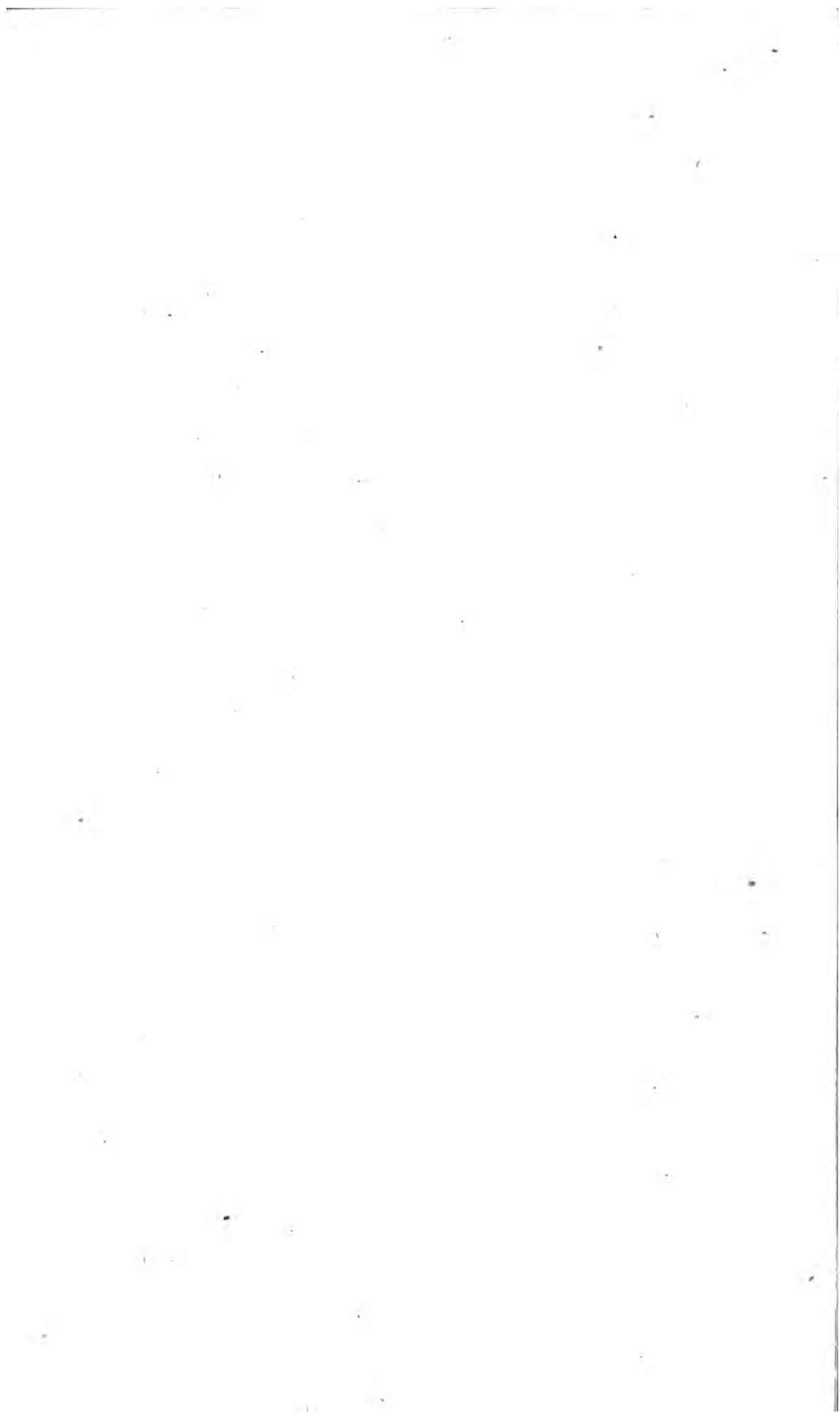
NOT unfrequent on turfy bogs, where it flowers in June, and is perennial.

The roots consist of long strong black fibres. The stem is from 8 to 12 inches high, erect, simple, round, naked and smooth. Leaves erect, very narrow, acute; round on the under side, flat above; their base dilated and embracing the stem. Head of flowers terminal, erect, composed of several spikelets of imbricated florets, and subtended by an involucrum of two upright leaves, very much dilated into a brown concave membrane at their base, both of them in fact awl-shaped, but one only rises above the flowers. Each glume is keeled, dark brown, destitute of nerves, and more or less sharp-pointed. Stamina three. Stigma, as far as we have seen, three-cleft; but that circumstance being variable in some neighbouring species, we dare not found upon it any character of distinction between this and *S. rufus*. The germen is surrounded by a few narrow scales. Seed roundish with 3 angles, white and polished, as Ehrhart and Mr. L. Wigg have remarked. We are obliged to the latter for hinting (what indeed we had already discovered in investigating the Greek plants) the great importance of the seed in distinguishing species in this tribe.



Ca. - 1693 Published by J. Sowerby London

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SCHŒNUS compressus.

Compressed Bog-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem roundish, naked. Spike two-ranked, shorter than the bractea, which is simple. Spikelets many-flowered. Leaves flat.

SYN. *Schœnus compressus.* *Linn. Sp. Pl.* 65. *Sm. Fl. Brit.* 44. *Huds.* 15. *With.* 80. *Hull.* 12. *Relb.* 17. *Dicks. H. Sicc. fasc.* 3. 2.

Gramen cyperoides, spicâ simplici compressâ distichâ. *Raii Syn.* 425.

A NATIVE of turfy bogs, and spongy meadows, which should seem to be less rare than it has generally been supposed; in Norfolk at least it is not at all uncommon, flowering in July, nor are its bright-chestnut polished spikes easily overlooked, if the surrounding herbage does not conceal them from our view.

The root is a little creeping. Stems simple, scarcely a foot high, upright, roundish, smooth, naked except at the very base. Leaves 3 or 4 investing the bottom of the stem, sheathing, alternate, flat, with a projecting nerve, of a grass green, smooth except at the margin. Spike solitary, terminal, composed of several spikelets alternately disposed in 2 ranks, the lower ones a little remote, and the lowest subtended by a bractea, which commonly exceeds the general spike in length, and is triangular and rough at the end. The outer glumes are barren; each of the rest serves as a calyx to each floret. Stamina 3. Style simple, with a downy cloven stigma. Seed invested at the base with several rough bristles, showing a near approach to the genus *Eriophorum*.

This is certainly what Linnæus originally meant for his *Carex uliginosa*, he having neglected to examine the fructification, trusting probably to the resemblance of the plant to *C. arenaria*, &c.

79.



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SCHÆNUS rufus.

Brown Bog-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

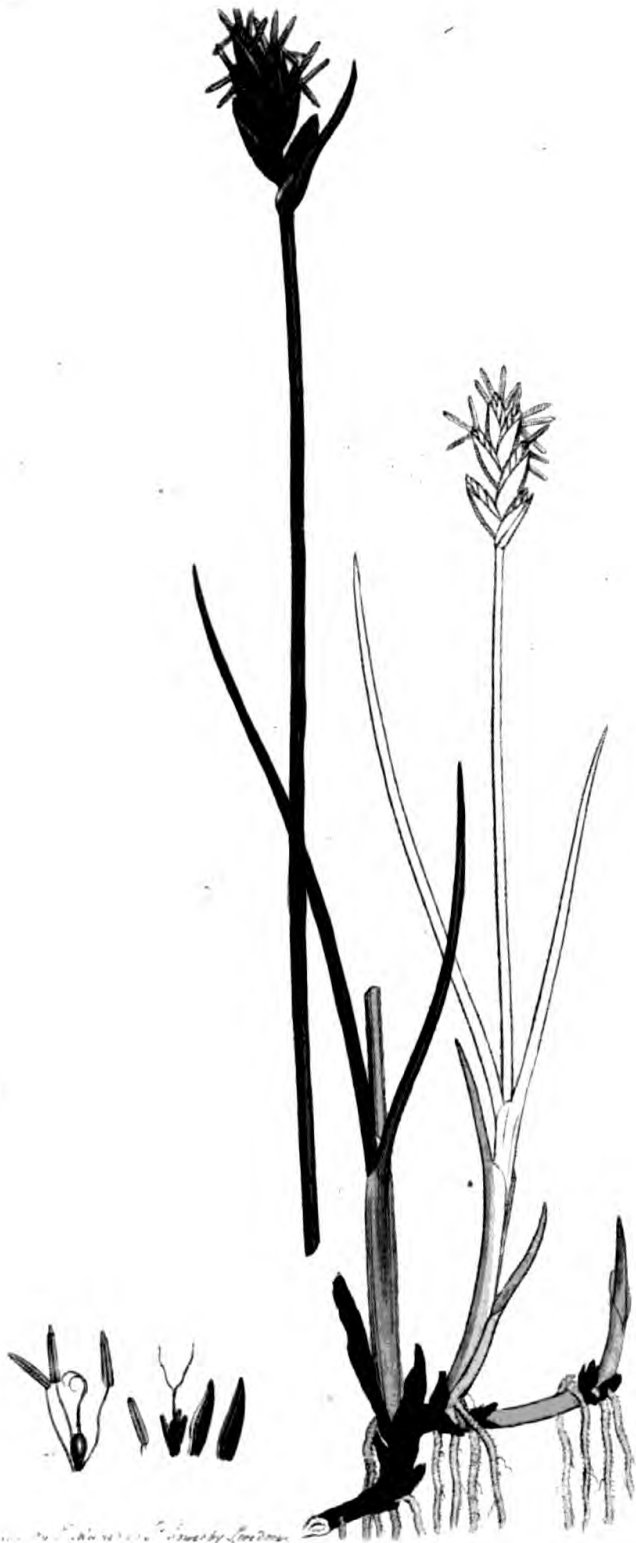
SPEC. CHAR. Stem round, naked. Spike two-ranked, longer than the solitary blunt involucre: spikelets of few flowers. Leaves channelled.

SYN. *Schœnus rufus.* *Huds.* 15. *Sm. Fl. Brit.* 45. *With.* 80. *Hull.* 12. *Dicks. H. Sicc. fasc.* 10. 6. *S. compressi* varietas. *Lightf.* 1138. t. 24. f. 2.

THIS *Schœnus*, unknown to Linnæus, has been found in marshes near the coast in several parts of Scotland and the Hebrides. Lightfoot placed it in his work (probably on the authority of Yalden, who had it from its original discoverer Dr. Walker) by the erroneous name of *S. ferrugineus*, p. 86; but in his appendix fell into another mistake in supposing it a variety of *S. compressus*. Hudson described it as new by the name of *rufus*, and we believe it to be also his *ferrugineus*, adopted from report of Dr. Hope. Mr. Mackay has sent it from the coast east of Dunbar, as well as from Arran, Skye, &c. and Mr. G. Donn from Fifeshire and Angusshire. The specimen in our plate was gathered in Anglesea by the Rev. H. Davies, whose remarks confirm the description in *Fl. Brit.* except that the recent stem is smooth, not striated, and that the stigmas are never more than two.

It is perennial, flowering in July. The root creeps horizontally. The fibres are a little downy. Stems erect, 4 to 6 inches high, naked, except the 2 leaves with broad sheathing bases at their lower part. Leaves smooth, semicylindrical, channelled above, mostly shorter than the stem. Spike terminal, ovate, flat, mostly subtended by a short leafy *bractea*, and composed of 5 or 6 alternate spikelets of 2 or 3 flowers each, with smooth turgid polished brown glumes. Stamina 3, with pale yellow linear antheræ. Stigmas revolute.

1000



Hyacinthoides non-scripta L. *Hyacinthoides non-scripta* L.

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SCHÆNUS albus.

White-headed Bog-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem triangular, leafy. Flowers clustered. Leaves bristle-shaped. Seed with ten bristles at the base.

SYN. *Schœnus albus.* *Linn. Sp. Pl.* 65. *Sm. Fl. Brit.* 46. *Huds.* 16. *With.* 81. *Hull.* 12. *Relb.* 17. *Abbot.* 10. *Dickf. H. Sicc. fasc.* 1. 2.

Cyperus minor palustris hirsutus, paniculis albis paleaccis. *Raii Syn.* 427.

THIS pretty *Schœnus* is found on turfy bogs, but is rare except in mountainous countries. Mr. Borrer sent it from Suffex. It flowers in July or August, and is perennial.

Whole plant smooth, as Dillenius properly remarks under the above faulty synonym by which it is distinguished in his edition of Ray. Stem from 6 to 12 inches high, erect, leafy, triangular. Leaves setaceous, with a tubular sheathing base. Flowers in small, terminal or axillary, stalked clusters. Glumes white, with a tinge of reddish brown, polished, oblong, concave, acute, slightly keeled. Seed triangular, surrounded with 10 rough bristles about its own length, and crowned by the cloven style which extends but little above the glumes.

A similar plant with brown glumes is occasionally found, which has always been taken for *S. fuscus* of Linnæus; whose own specimen having also a triangular stem, convinced me the two species ought to be united. Mr. Turner however has pointed out a remark in Ehrhart's *Beiträge, fasc.* 4. 155, that *S. fuscus* has only 3 bristles to the seed, and a style twice as long as the glumes. It remains to be examined whether we really have this in Britain. The same excellent observer first found only 2 stamina in *S. albus*. He has moreover in the same book, p. 48, anticipated my remarks on the fruit of *S. mariscus*, t. 950.



Taf. 1302. *Produced by J. G. Burges London.*

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[1575]

S C H Œ N U S fuscus.

Brown-headed Bog-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem triangular, leafy. Flowers clustered. Leaves thread-shaped. Seed with three bristles at the base.

SYN. *Schoenus fuscus.* *Linn. Sp. Pl.* 1664. *Ehrh. Beitr. v. 4.* 154. *Phytoph.* 1. *Roth. Germ. v. 2.* 48. *Turn. and Dillw. Bot. Guide,* 753.

Cyperus minor angustifolius palustris, capitulis fuscis paleaceis. *Moris. sect. 8. t. 11. f. 40?* *Dill. in Raii Syn.* 427?

GATHERED very sparingly on a bog near Killarney, Ireland, by Mr. Mackay, in August 1805. The same had previously been found on Cromlyn bog, near Swansea, by Mr. E. Forster. We consider it as a very interesting, if not altogether a new, discovery. What the plant of Dillenius and Bobart may be, is not very clear from the figure above cited; still less can we tell what Hudson may have observed. In the *Fl. Brit.* this species is confounded with *S. albus*, t. 985, and we are obliged to those excellent observers *Ehrhart* and *Roth* for their true specific differences, as well as for specimens of *fuscus* which agree with those of Linnæus.

The whole plant is smaller, and the leaves narrower and more thread-shaped, than *S. albus*. The spikes are constantly of a shining reddish brown. But the most satisfactory marks exist in the parts of fructification. *S. fuscus* has 3 stamina, *albus* but 2; while *albus* has about 10 bristles at the base of the seed, *fuscus* but 3, alternate with the permanent stamina. The greater length of the style in the latter, indicated by *Ehrhart*, appears to us not so invariable, and perhaps may be different in different stages of its growth.

1675



March 2 1866. Published by J. Sowerby, London.

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SCHOENUS monoicus.

Monoecious Bog-rush.

TRIANDRIA Monogynia.

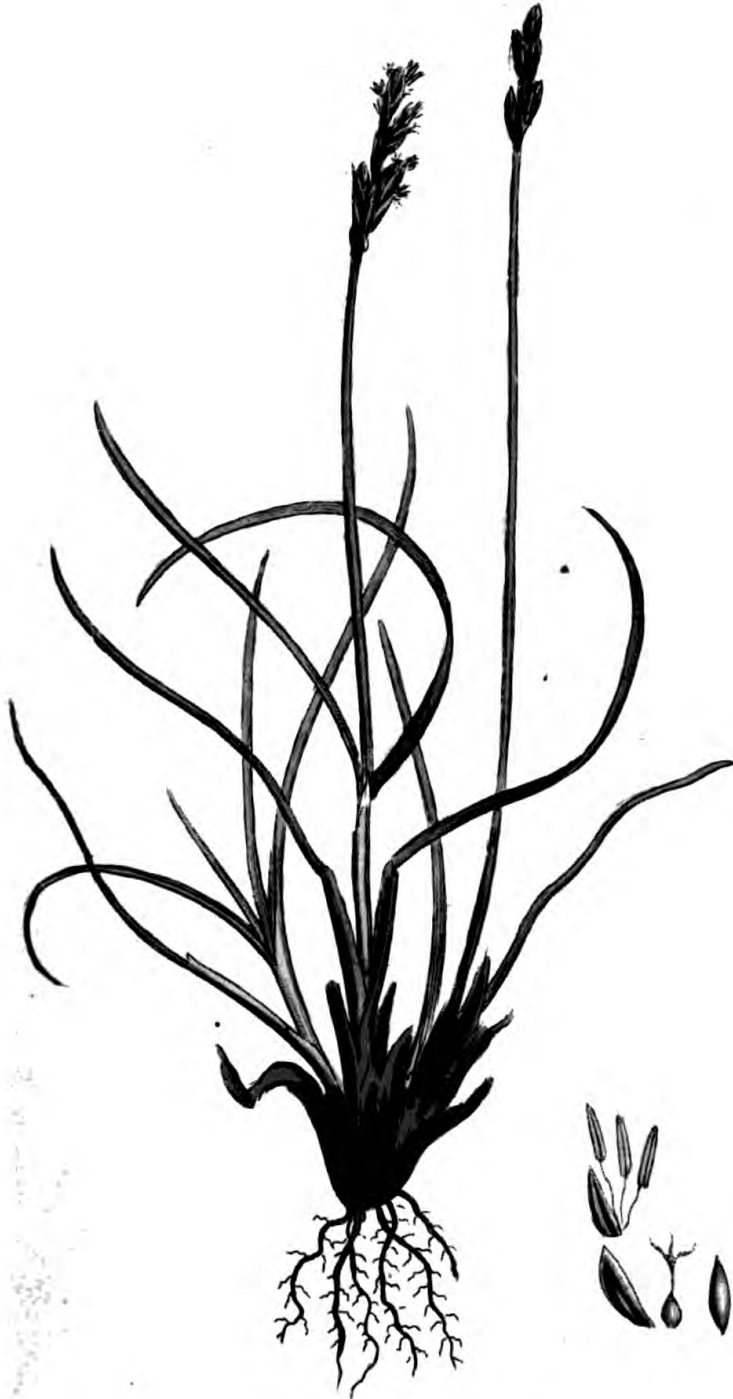
GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem round, naked. Spike compound. Flowers monoecious, in pairs. Leaves channelled, rough.

THE honour of making this singular plant known is due to Mr. Dickson, who gathered it in the county of Durham in 1799. The Rev. Mr. Harriman had indeed found it in 1797; but not being aware of its novelty, he liberally disclaims the merit of the discovery. For the same reason I can pretend to little of the honour, though I gathered the same species on Mount Cenis in August 1787, having ever since kept it unsettled in my herbarium. Indeed I have been deterred by the extraordinary difficulty of settling its genus. Every body, even the able Mr. Schkuhr when it was sent to him, took it for a *Carex*, and the greatest praise is due to Mr. W. Brunton for judging it a *Schoenus*. Mr. Harriman, to whom we are obliged for specimens, finds it wild on the mountain of Cronkley, Durham; also near Widdy bank in Teesdale forest.

The roots form dense perennial tufts, scaly at the crown with the brown bases of old leaves. Stems erect, solitary, 3 to 5 inches high, simple, naked, round, striated, angular and rough-edged at the summit. Leaves radical, sheathing the base of the stem, recurved, narrow, linear, channelled, acute, rough-edged. Stipula very short. Spike upright, an inch long, branched, brown, with a sheathing, keeled, brown, membranous bractea at each of its subdivisions, the lowermost pointed, and sometimes leafy. Flowers sessile, a male and a female together, each with its own simple glume which resembles the bractea. Stamina 3, capillary, longish. Antheræ linear, yellow. Germen oblong. Style simple. Stigmas 3, linear, downy. Seed without any other covering than the glume, oblong, triangular, horny, smooth, crowned with the base of the style.

The want of a tunic, and the structure of every part, prove it a *Schoenus*.



Toul. 1. 1865. Published by J. L. Jewerly, London.

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CYPERUS longus.

Sweet Cyperus, or English Galingale.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated in 2 ranks.
Cor. none. *Seed* 1, beardless.

SPEC. CHAR. Stem triangular, leafy. Umbel leafy,
 twice compounded; its stalks naked. Spikelets al-
 ternate.

SYN. *Cyperus longus.* *Linn. Sp. Pl.* 67. *Sm. Fl. Brit.* 47.
Huds. 17. *With.* 79. *Hull.* 13. *Jacq. Ic. Rar.*
t. 297. *Raii Syn.* 425.

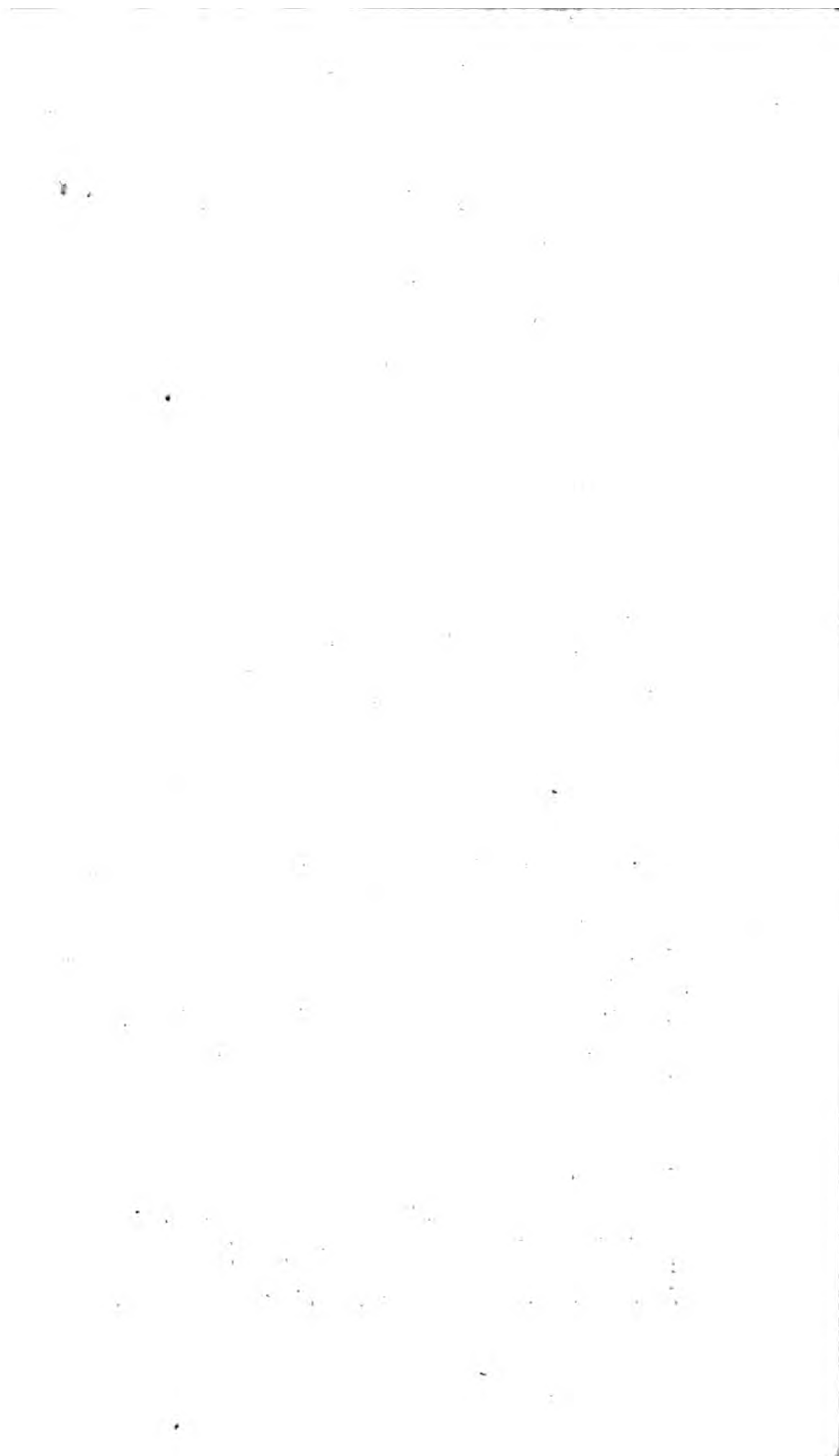
FOR this *Cyperus* we have been obliged to have recourse to a garden specimen, but it differs in no respect from wild ones. Few British plants are so rare. It is no longer to be found in the isle of Purbeck, nor was it ever found on St. Faith's bogs (see Hudson); a garden specimen, given by Mr. Humphrey to Mr. Rose, having caused the mistake. Sir J. Cullum indeed observed it in 1775 by a rivulet near St. David's, and since that time it has been gathered at Walton in Gordan, Somersetshire, by Mr. Dyer of Bristol. It is perennial, flowering in July.

The root is long, creeping, twisted, astringent, chiefly remarkable for an agreeable spicy odour, in which it resembles the roots of some East Indian grasses, which when moistened are used by the English to perfume their houses. Stem simple, triangular, 2 feet high, with smooth edges. Leaves sheathing the lower part of the stem and crowning its top, flat, long, acute, rough-edged, keeled. Umbel composed of many triangular slender stalks, of various lengths, sheathed at their lower extremities, and each bearing a leafy umbel of similar, but lesser, stalks, every one of which supports several alternate, linear, compressed spikelets, formed of 2 ranks of imbricated glumes, brown with a green keel, very neat and pretty when closely examined. Stigmas 2.



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SCIRPUS palustris.

Marsh Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* one, beardless.

SPEC. CHAR. Culm round, naked. Spike somewhat oval, terminal.

SYN. *Scirpus palustris.* *Linn. Sp. Pl.* 70. *Hudf. Fl. An.* 17. *Witb. Bot. Arr.* 46. *Relb. Cant.* 18.

Sc. *Equifeti capitulo majori.* *Raii Syn.* 429.

VERY common every where in ditches, marshes, and rivulets. The root is perennial, creeping, throwing out many yellowish fibres, and producing thick tufts of upright, cylindrical, smooth, naked stems, becoming striated when dry, clothed at their base with a close, blunt sheath, which is invested with two or three other shorter, more membranous, and reddish sheaths. The plant seems perfectly destitute of leaves. The spikes are solitary at the end of each stem, erect, oblong, appearing oval from the spreading of their scales in flowering, and sometimes accompanied by a small, membranous, close-pressed bractea. Glumes oval, solitary, acute, with a membranous edge. Filaments slender, as in all grassy plants; anthers large, yellow, projecting entirely beyond the glumes. Style short, with three long, taper, downy stigmas. Seed roundish, smooth, yellow, with a brown apex. This *Scirpus* flowers in June and July, and varies very much in size occasionally.



J. Smeets p. 11. Aug. 1793

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[1187]

SCIRPUS multicaulis.

Many-stalked Club-rush.

 TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem round, sheathed at the base. Spike ovate, terminal. *Glumes* obtuse, all equal. Root fibrous.

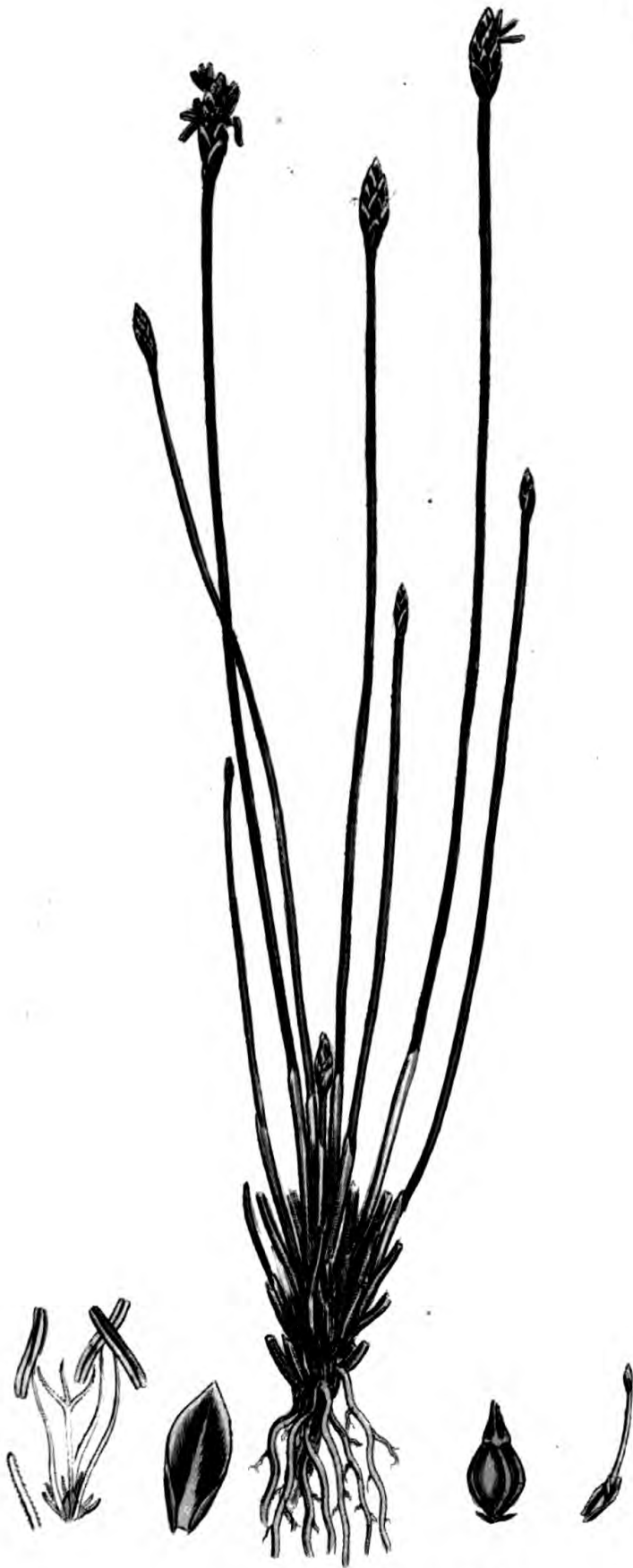
SYN. *Scirpus multicaulis.* *Sm. Fl. Brit.* 48.

S. palustris varietas. *Linn. Fl. Lapp. ed. 2.* 16.

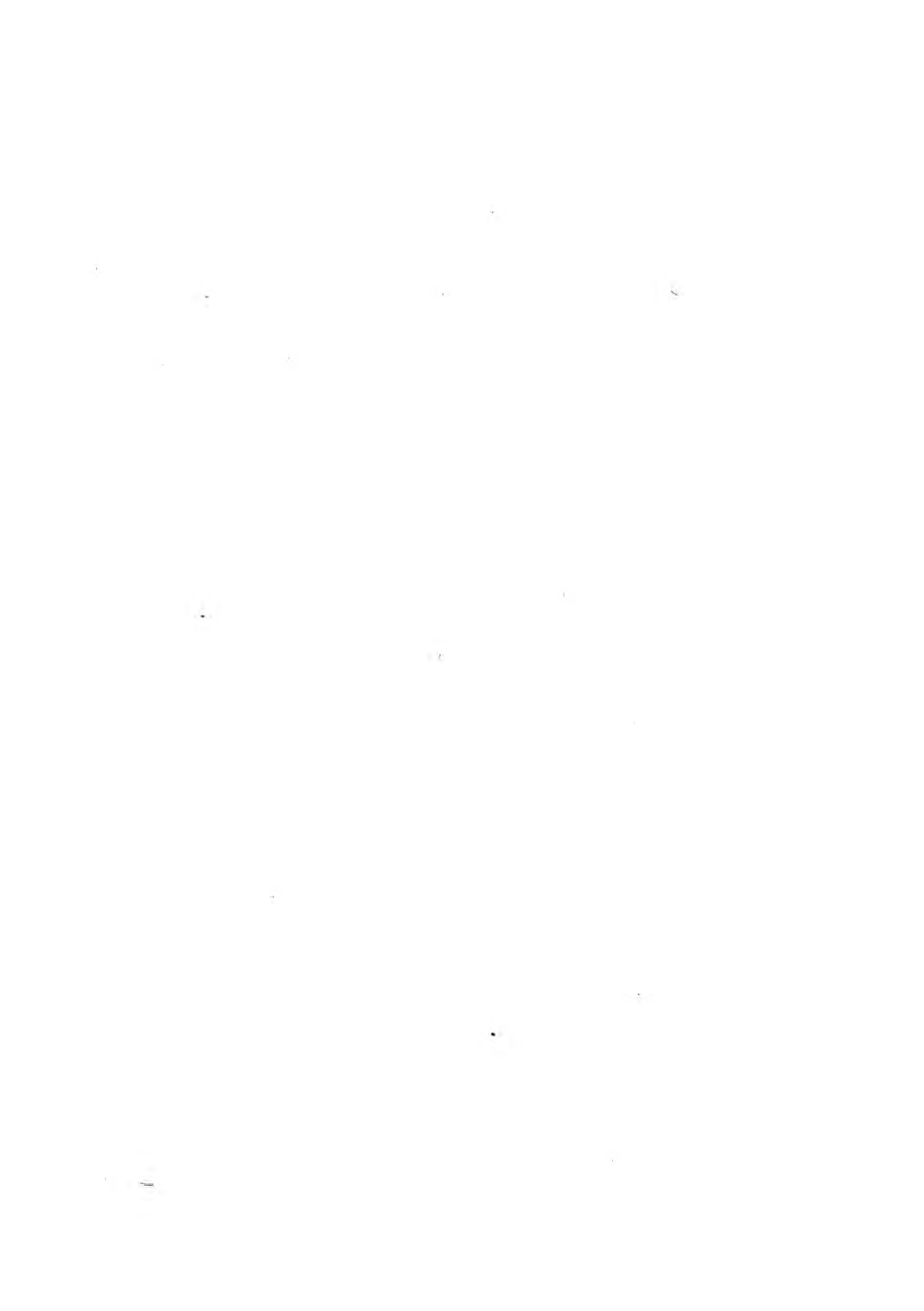
S. multicaulis, equiseti capitulis minoribus. *Rel. Rudb.* 28. *f.* 2.

THE *Scirpus* in the annexed plate, though entirely unnoticed by British botanists till Mr. Mackay found it in Skye, has, since its publication in the *Fl. Britannica*, been detected in many different parts of England and Scotland. We have it from Cornwall, Sussex, Yorkshire, and Norfolk. It grows on turf bogs and wet commons, flowering in July, and can only have been passed by as the common *S. palustris*, from which however it proves on examination clearly distinct. Our specimens were gathered near Yarmouth by Mr. Turner and Mr. Wigg, but its first discoverer in England was Mr. E. Forster.

The root is perennial, formed of long strong perpendicular fibres, and does not creep. Stems very numerous, growing in a tuft, 8 or 10 inches high, simple, round, smooth, leafless, closely invested at the base with a single or double tight abrupt sheath, of a red or purplish colour, but without the numerous intermediate scales of *S. cæspitosus*, *t.* 1029. Leaves none. Spike erect, solitary, ovate, of a red or rusty brown, many-flowered. *Glumes* all of equal size, bluntish, imbricated. One or two of the lower flowers are often viviparous. The seed is brown and triangular, surrounded by a few short rough bristles.



July 1. 1803 Published by Ja^s Sowerby. London.



SCIRPUS cæspitosus.

*Scaly-stalked Club-rush.**TRIANDRIA Monogynia.*

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

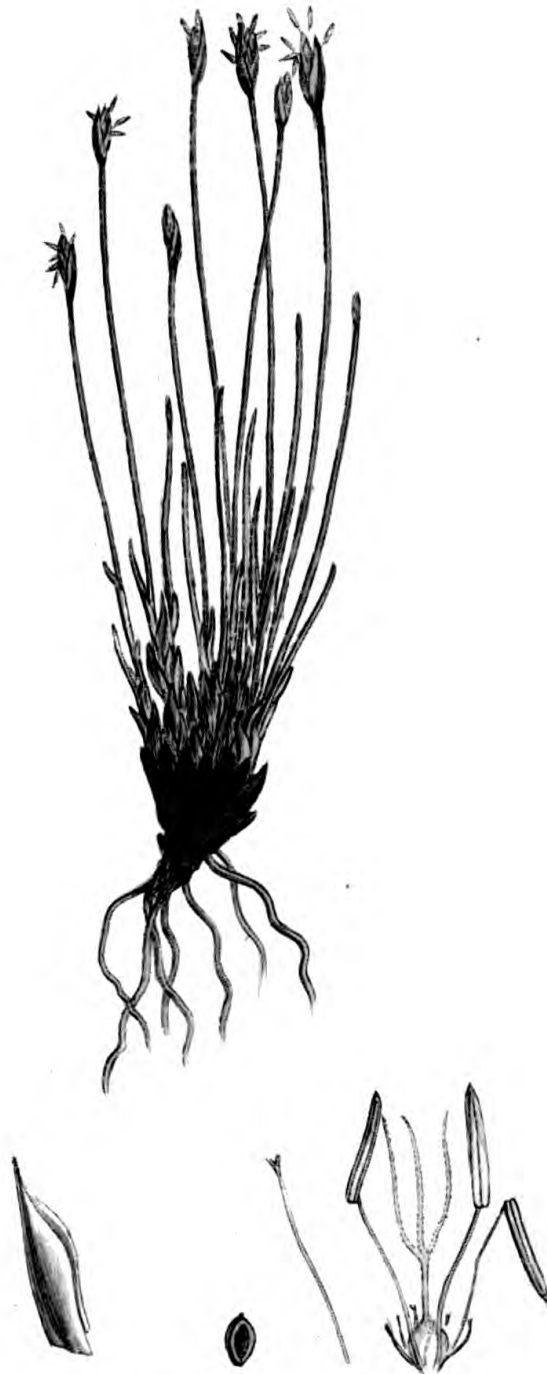
SPEC. CHAR. Stem round, striated, sheathed, and invested with numerous scales, at the base. Spike terminal. Outer glumes largest.

SYN. *Scirpus cæspitosus.* *Linn. Sp. Pl.* 71. *Sm. Fl. Brit.* 49. *Huds.* 17. *With.* 73. *Hull.* 13. *Relb.* 18. *Abbot.* 10. *Rel. Rudb. t.* 28. *f.* 1.

S. montanus, capitulo breviori. *Raii Syn.* 429.

COMMON on barren turfy heaths, among ling and coarse grasses, flowering in July.

Roots perennial, fibrous, not creeping, of many zigzag, thick, simple fibres. Stems numerous, in dense tufts, erect, from 2 inches to a foot high, striated, smooth; clothed at the base with 2 or 3 very short leaves with long membranous furrowed sheaths, and invested moreover with numerous, imbricated, ovate, thick, furrowed, white and shining scales, seemingly abortive leaves, (for the innermost are often pointed,) which clearly distinguish this species from some nearly related to it. The spikes are small, solitary, terminal, of a reddish chestnut colour, shining, erect, of which the two outer glumes are the largest and have a leafy point; and though every glume has its own 3 stamina and style, these larger ones only, for the most part, ripen seed. Stigma generally in 3, rarely 4, divisions. Seed elliptical, triangular, smooth, brown with green edges, its base surrounded by about 6 bristles, rather longer than the seed, forked at their points.



June 1 1908 Published by J. Sowerby, London.

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SCIRPUS pauciflorus.

Circular-headed Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. Glumes chaffy, imbricated every way,
all fertile. Corolla. Seed 1.

SPEC. CHAR. Stem round, sheathed at the base.
Spike terminal, of few flowers, longer than its
outer glumes.

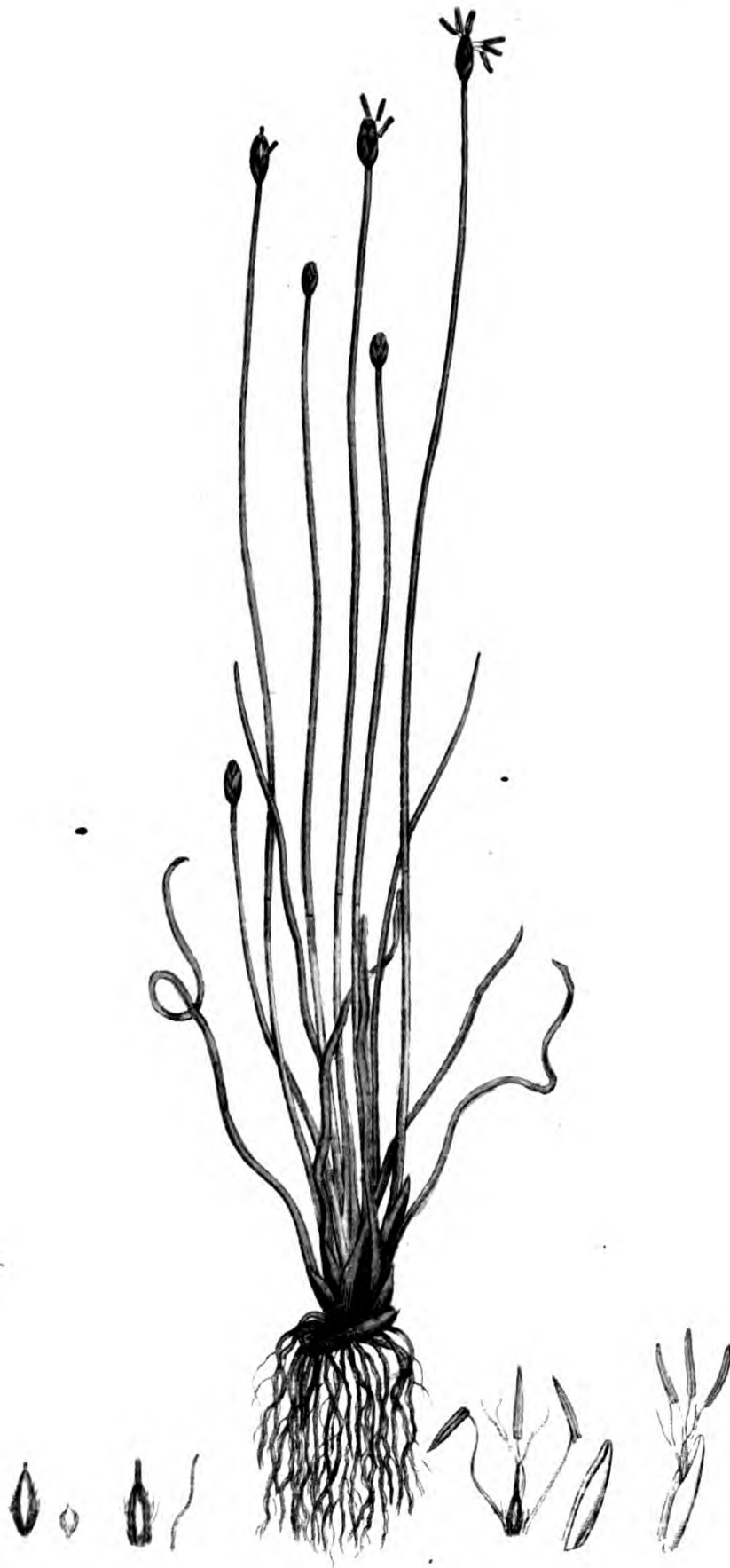
SYN. Scirpus pauciflorus. *Lichtf.* 1078. *Sm. Fl.*
Brit. 50. *Hall.* 648. *Willd.* 74. *Hull.* 13.
Sibth. 23.

S. Brothwood. *Edin. Phyt.* 31. *Linn. Suppl.* 103.

THE Scirpus here represented, though found on moors and bents in Scotland and even Norfolk, as well as in various parts of the continent, and now sufficiently well known and understood, was overlooked by Ray, Dillenius, Linnæus and Hudson; for the latter merely adopted it from the *Fl. Scotica*. Our specimens were gathered near Yarmouth by Mr. D. Turner, flowering in August.

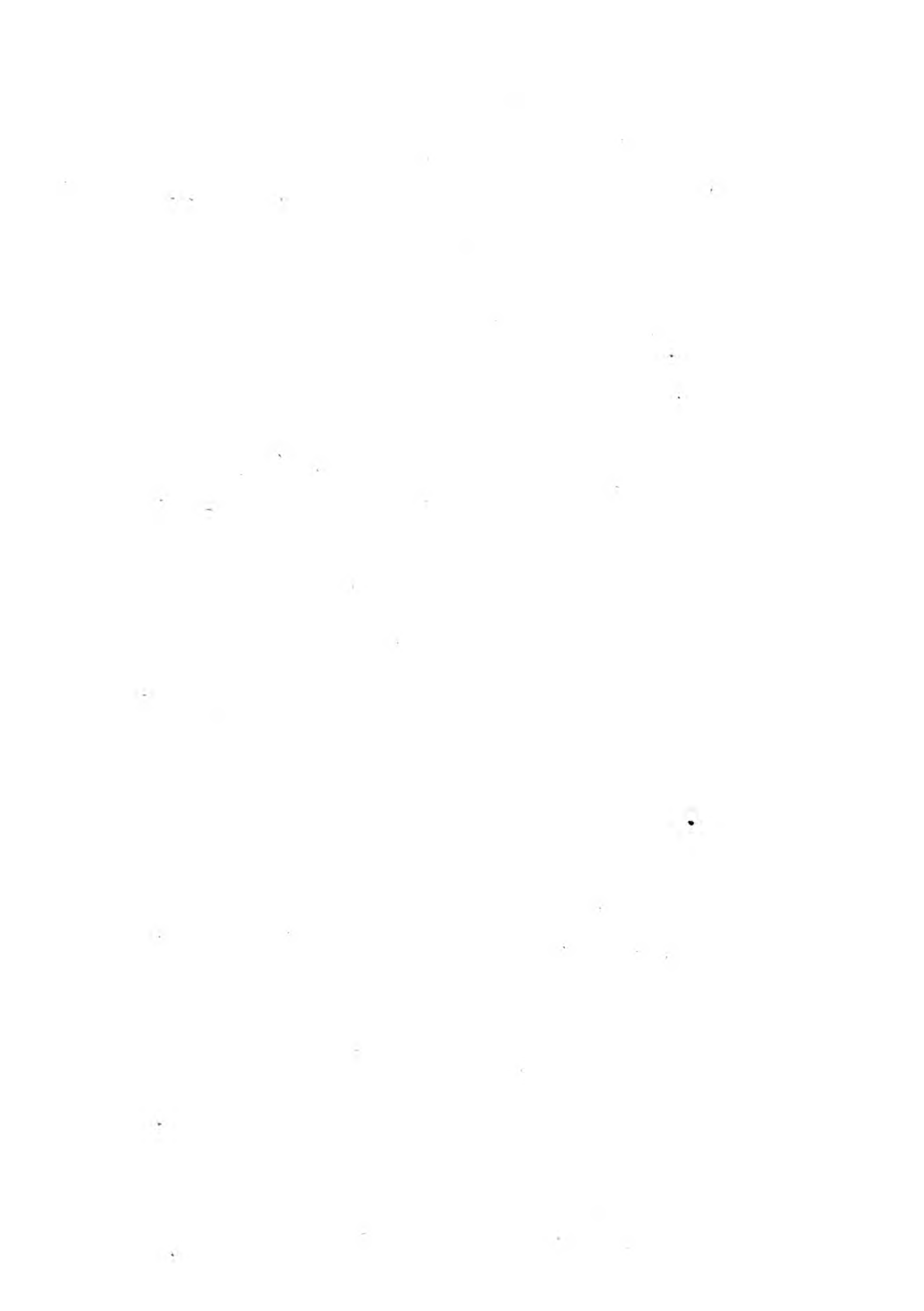
The roots are perennial, formed of black or reddish fibres. Stems erect, simple, naked, slender, round, rigid, smooth, less crowded than those of *S. capillaris*, t. 1029, and destitute of the numerous imbricated scales at their base, that part being only closely enclosed by an entire, abrupt, pointless sheath. Leaves sheathing at their base, narrow, bluntish, smooth, somewhat concave above, generally shorter than the stem. Spike erect, simple, smaller and blacker than that of *S. capillaris*, formed of about 4 flowers, the glumes of which are nearly equal in size, the 2 lowermost not rising so high as the top of the spike. Stigma three-cleft. Germen angular, surrounded by several rough simple bristles, which remain investing the seed, which is triangular, swelling in the middle, contracted below the top.

We have received this plant from Dr. Roth as the *S. campestris* of his excellent *Flora Germanica*.



*Jun' 1. 1861. 1. *Melospiza cinerea* by London*

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SCIRPUS acicularis.

Least Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem with 4 angles, with a blunt sheath at its base. Spike ovate, acute, terminal, solitary. Outer glumes the largest.

SYN. *Scirpus acicularis.* *Limn. Sp. Pl.* 71. *Sm. Fl. Brit.* 51. *Huds.* 18. *Sibth.* 23. *Dicks. H. Sicc. fasc.* 14. 1.

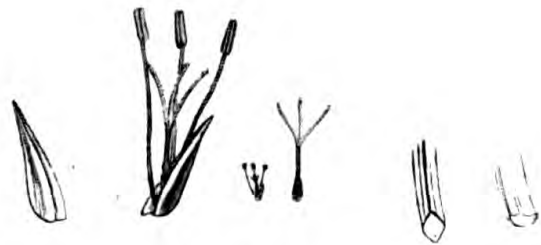
S. minimus, capitulis equiseti. *Raii Syn.* 429.

Cyperus acicularis. *With.* 78. *Hull.* 13.

THIS minute *Scirpus* grows in damp heathy places, where water has stagnated during the winter, but is very rarely met with. Our specimen came from Wanstead Park, Essex, in the middle of August.

Root fibrous, perennial. Stems numerous, simple, from 2 to 4 inches high, very slender, erect, roundish when fresh, but marked with 4 smooth angles, which in drying become very conspicuous. The base is invested with a tight blunt beardless sheath. Leaves few, shorter than the stems, obsoletely quadrangular, being flat above, and somewhat rounded beneath. Spike small, solitary, terminal, ovate, acute, composed of 5 or 6 flowers, whose glumes are truly imbricated in every direction, not two-ranked, so that it properly belongs to this genus, and by no means, either in character or habit, to *Cyperus*. Each glume is sharply keeled, pointed; the margin membranous; the 2 lowermost are rather the largest, and sometimes barren. Seed elliptical, without any bristles at the base.

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SCIRPUS fluitans.

Floating Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1, beardless.

SPEC. CHAR. Flower-stalks round, naked, alternate. Stem leafy, flaccid.

SYN. *Scirpus fluitans.* *Linn. Sp. Pl.* 71. *Hudf. Fl. An.* 18. *Witb. Bot. Arr.* 48. *Sibth. Oxon.* 23.

Sc. *Equiseti capitulo minori.* *Raii Syn.* 431.

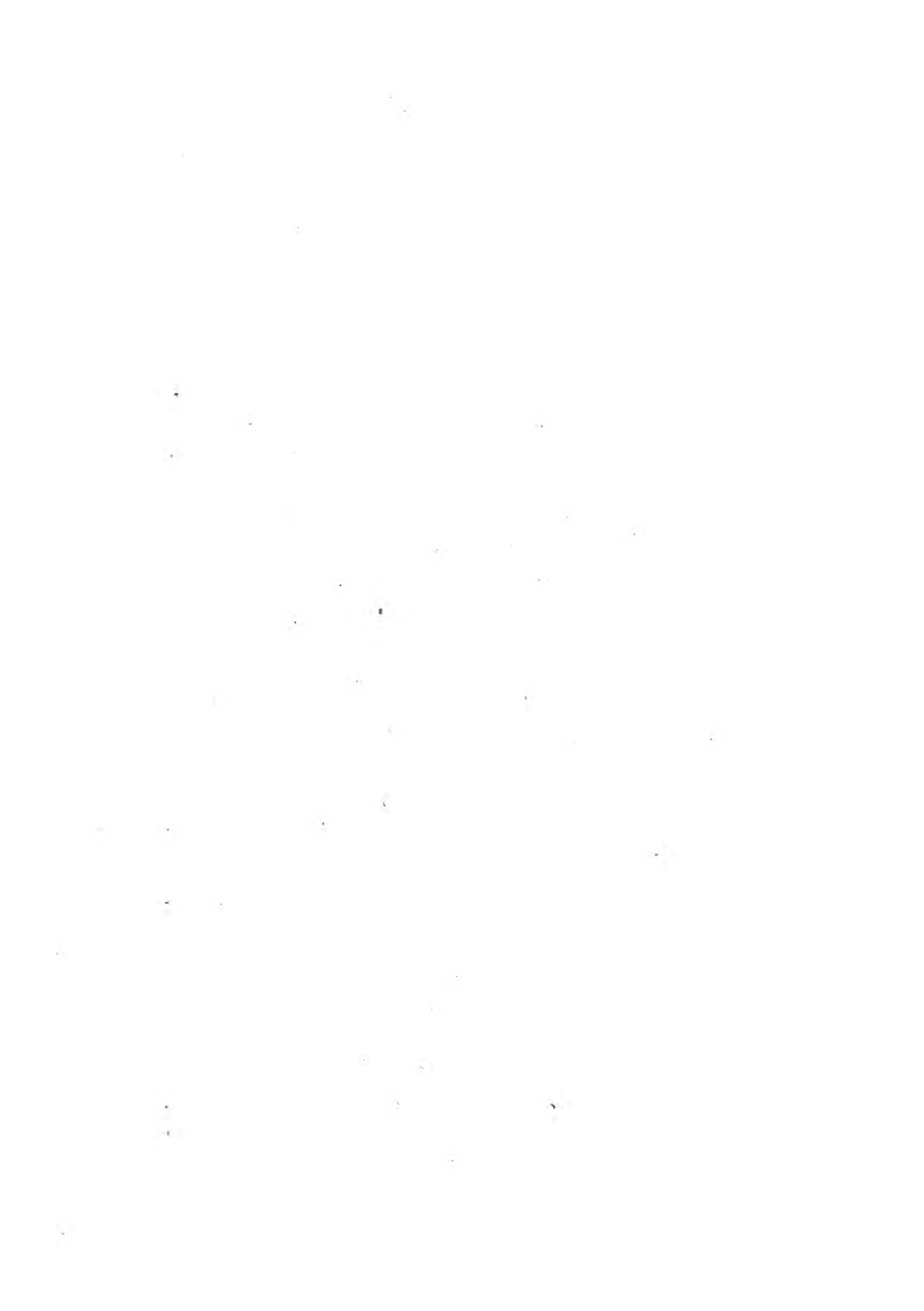
THIS occurs in ditches, and in little pools upon grassy commons and heaths, the water of which is apt to be dried up in summer, but is by no means a common species. It may be found on St. Faith's bogs near Norwich, on Hounslow Heath, and Epping Forest, flowering in June and July.

The root is perennial, and the stems throw out many long radicles as they stretch in a floating position many together over the surface of the water. The leaves are alternate, sheathing at their base, and then much divaricated, partly floating, partly above the water. The spikes stand erect above the surface, and, though small, are conspicuous by their number and whitish colour. Each consists of but few flowers, whose glumes are not much shorter than the stamina, and the two lowermost are particularly large, so as to appear like bractæ; but they have always parts of fructification belonging to them. The stigmata are only two in number.



Howe, 1894. Published by J. B. Power & Co. Ltd.

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SCIRPUS lacustris.

Bull-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1, beardless.

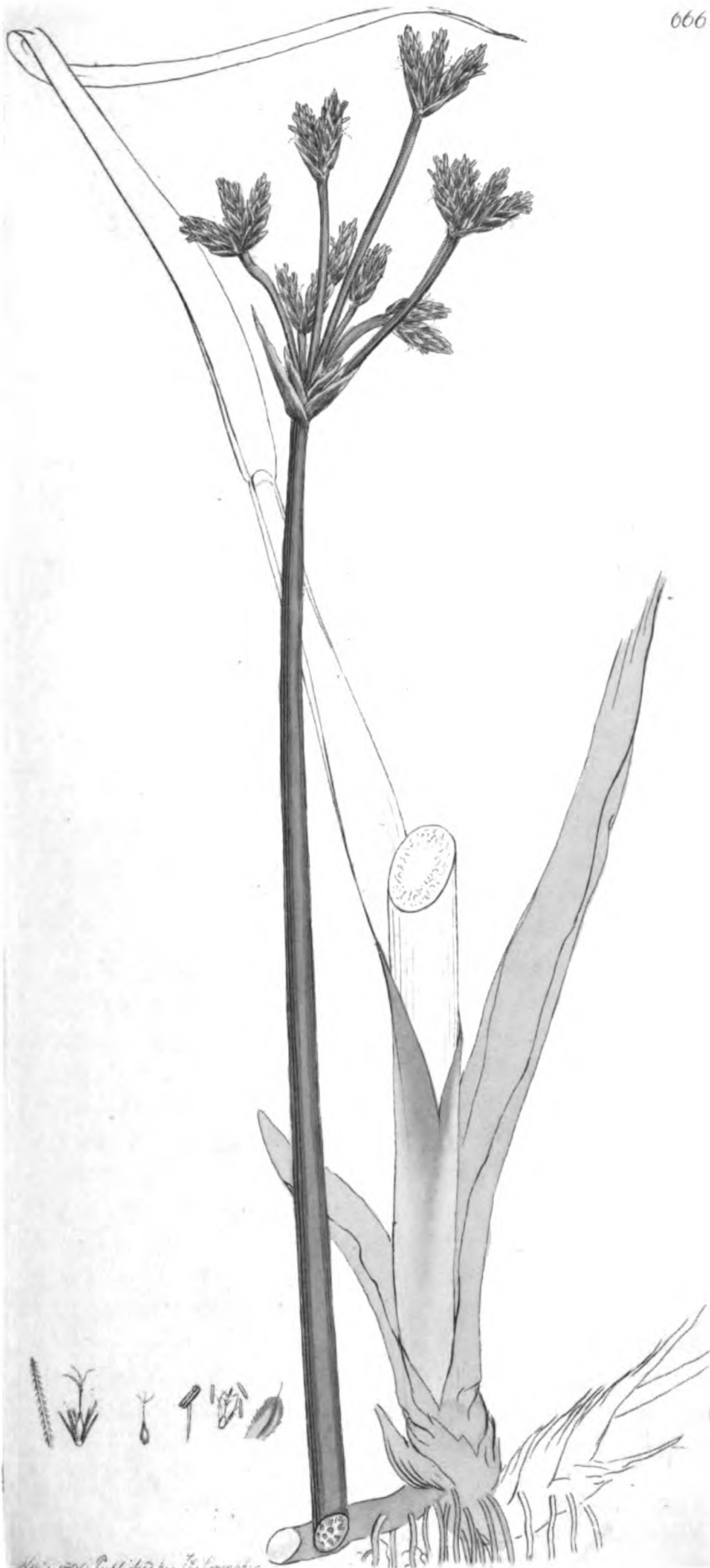
SPEC. CHAR. Stem round, naked. Panicle cymose, twice compounded, terminal. Spikelets ovate.

SYN. *Scirpus lacustris.* *Linn. Sp. Pl.* 72. *Sm. Fl. Brit.* 52. *Huds.* 19. *With.* 75. *Hull.* 13. *Relb.* 19. *Sibth.* 23. *Abbot.* 10.

S. palustris altissimus. *Raii Syn.* 428.

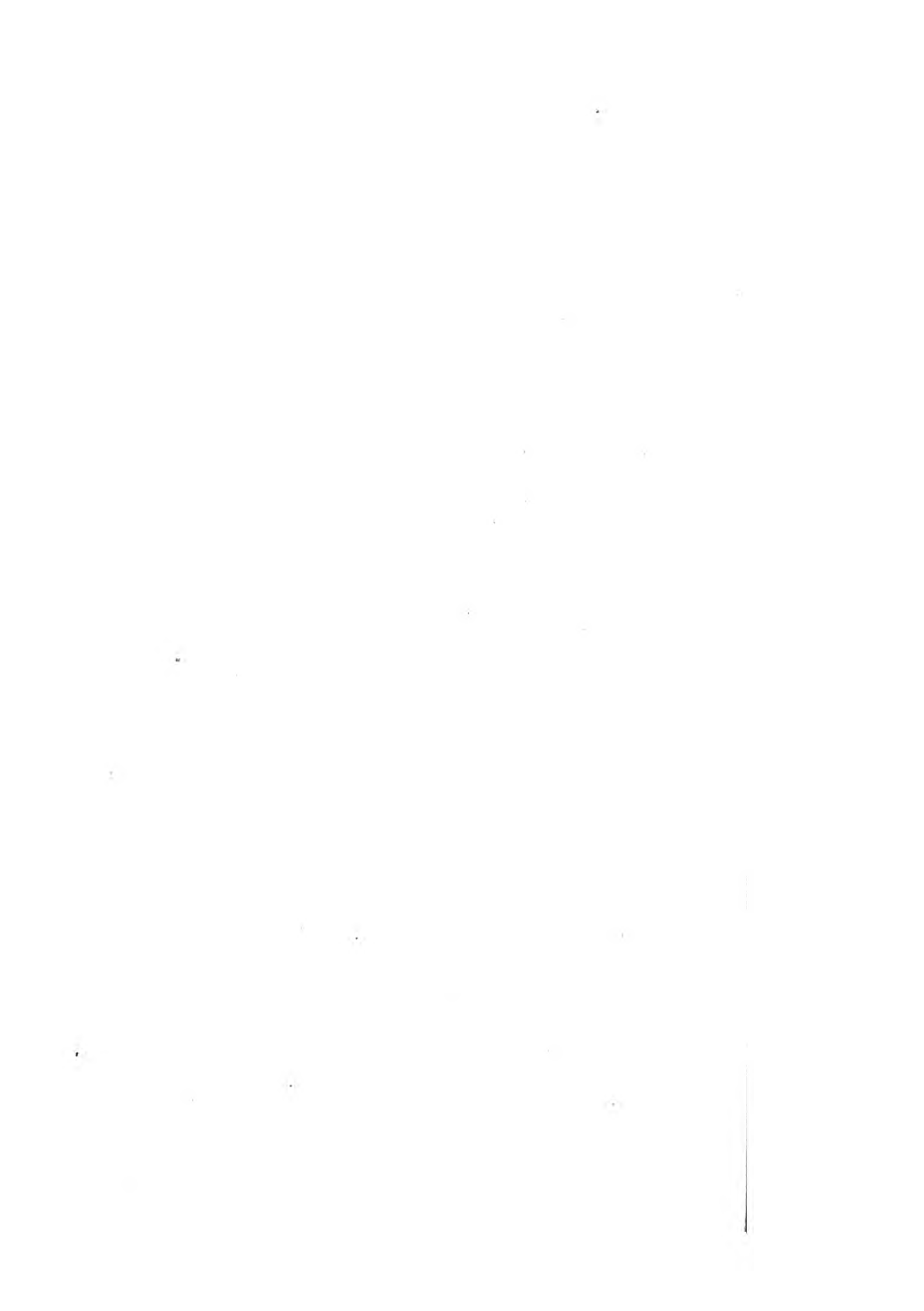
THE Bull-rush grows abundantly in clear ditches, streams, and the borders of lakes, flowering in July and August. Of its stems the rush bottoms of chairs are made; cattle in hard seasons will eat it, and it is also used for thatching, and packages occasionally, being of a soft pliant texture, totally destitute of the roughness, or cutting edges, of many grass-like plants.

Roots creeping under water horizontally, thick and strong. Stems upright, 4 or 5 feet, or much more, in height, perennial, simple, naked, round, smooth, dark-green, very spongy and full of watery juice within, clothed at the base with several sheathing scales. Panicle doubly compounded in a cyme-like form, terminal, spreading; its branches very unequal, compressed, fringed towards their extremities, sheathed at their base with several unequal lanceolate chaffy bractæ. Spikes generally 2 or 3 together, clustered, ovate, brown, with a shining rusty tinge. Glumes concave, keeled, pointed, fringed, sometimes cloven, but with a ferrated point in the cleft. Stamina not very long. Stigma three-cleft. Seed flat on one side, convex on the other, with 5 or 6 short rough bristles at its base, as in *S. maritimus*, t. 542.



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SCIRPUS glaucus,
Glaucous Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way,
 all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem round, naked, glaucous. Panicle
 cymose, not higher than the bractea. Spikelets
 conglomerated, ovate. Stigmas two.

SYN. *Scirpus lacustris* β . *Sm. Fl. Brit.* 52. *Huds.* 19.
With. 75. *Hull. ed.* 2. 17.

S. palustris humilior. *Scheuchz. Agr.* 356.

Juncus sive Scirpus medius. *Raii Syn.* 428. *Bauh,*
Theatr. 181.

THE late Mr. J. Mackay sent us specimens of this in 1800, from the sides of a salt-marsh, to the west of Ardbigland in Galloway. That in our plate was gathered near ditches in the marshes at Shoreham, Sussex, by Mr. W. Borrer, who has found the same near Cley, Norfolk; nor is it indeed a rare plant in such places. We do not hesitate to separate this from *S. lacustris*, *t.* 666, as it differs in being much smaller, (not above two feet high) of a glaucous hue, with a less compound panicle, which does not rise above the upper bractea. The spikelets moreover are crowded, ovate, darker in colour, their glumes broader, and, as Dr. Stokes well observes in *Withering*, dotted with purple in their paler part. The stem being round all the way up, besides most of the above characters, distinguishes it from *carinatus*, *t.* 1983. The stigmas are only two, as in this latter, but we find some flowers with two, others with three, in Norfolk specimens of *lacustris*.



Fig. 1. published by J. B. Smith, 1841.

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[1612]

SCIRPUS *Holoschœnus*.*Round cluster-headed Club-rush.*TRIANDRIA *Monogynia*.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem round, naked. Flowers in round, sessile or stalked, heads. Bractea of two unequal leaves. Leaves channelled.

SYN. *Scirpus Holoschœnus*. *Linn. Sp. Pl.* 72. *Sm. Fl. Brit.* 53. *Huds.* 19. *With.* 75. *Hull.* 14. *Dicks. Dr. Pl.* 2.

S. maritimus, capitulis rotundioribus glomeratis. *Raii Syn.* 429.

SENT from Braunton Boroughs, a sandy tract on the Devonshire coast, by Dr. Wavell to Mr. Lambert, to whom we are obliged for it. Ray and Dr. Goodenough have observed it in the same place, and Hudson in Somersetshire and Hampshire. The last-named botanist mentions the *Sc. romanus*, which I am convinced is a small variety of this, as growing in marshes near Throgmorton, Worcestershire. No plant varies more as to luxuriance; for I have a Teneriffe specimen with at least 60 heads, gathered by the excellent Masson, who, after disinterestedly devoting his life to the service of botany, has lately finished his career in North America, universally lamented.

S. Holoschœnus is perennial, and flowers late in the autumn. The root forms dense tufts. Stems upright, commonly 2 or 3 feet high, round, smooth, with a membranous sheath at their base. Leaves radical, linear, acute, smooth, marked with a white channel on their upper side. Stem crowned with 2 unequal bracteas exactly like the leaves, and bearing several globular brown heads, either sessile, or on stalks which are sometimes branched. Each head is composed of innumerable spikelets, and those of imbricated, obtuse, carinated, downy glumes. Stamens 3. Stigmas 3. —It is remarkable that botanists in the South of France and in Italy often take this plant, without examination, for *Juncus conglomeratus*. See *Tour on the Continent*, v. 1. 164, 265.



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[1693]

S C I R P U S setaceus.

Least Club-rush.

 TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem naked, bristle-shaped. Spikes lateral, generally in pairs, sessile, without bracteas.

SYN. *Scirpus setaceus.* *Linn. Sp. Pl.* 73. *Sm. Fl. Brit.* 54. *Huds.* 20. *With.* 76. *Hull.* 14. *Relh.* 21. *Sibth.* 24. *Abbot.* 11. *Dicks. H. Sicc. fasc.* 12. 1.

S. foliaceus humilis. *Raii Syn.* 430.

FREQUENT in gravelly or sandy watery places, where it blossoms in July and August.

Root annual, fibrous. Stems numerous, tufted, various in luxuriance, from 2 to 5 inches high, slender, round, smooth, pointed, bearing one or two sheathing leaves at their base, which are much shorter than the stem, but of a similar form. There are also many short reddish imbricated scales on the outside of the base of the leaves. Near the top of each stem are placed 1 or 2, sometimes 3 or even 4, lateral, sessile, ovate, short spikes, formed of numerous broad reddish-brown glumes, each with a green margin and keel. Stamens and stigmas 3. Seed, as Leers justly observes, without any bristles at its base.

Linnæus in his 2d *Mantissa*, p. 321, confounded another species of *Scirpus* with this, which is perhaps his own *Cyperus minimus*.

1693



See also, Plate #2 to 4, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

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SCIRPUS triqueter.

Triangular Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem triangular, straight, naked, sharp-pointed. Spikes lateral, sessile or pedunculated. Stigmas two.

SYN. *Scirpus triqueter.* *Linn. Mant.* 1. 29. *Sm. Fl. Brit.* 55. *With.* 76. *Hull.* 14.

S. mucronatus β . *Huds.* 20.

Juncus acutus maritimus, caule triquetro maximo molli, procerior nostras. *Raii Syn.* 428.

β . *Scirpus mucronatus.* *With. ed.* 2. 50. *Huds.* 20, α .

Juncus acutus maritimus, caule triquetro rigido, mucrone pungente. *Dill. in Raii Syn.* 429.

FOUND, though rarely, about the muddy banks of great rivers exposed to the tide, especially in the Thames, above and below London. Our specimens were gathered in August at Lambeth, Battersea, &c.

Root perennial, creeping, forming large entangled tufts. Stems a yard high, erect, naked, triangular, smooth, sharp-pointed, the angles more or less acute. Spikes near the top, lateral, generally, but not always, accompanied by a small sharp floral leaf. They vary much in number, as well as in the length of their stalks, being all sometimes quite sessile, in which state the plant has been taken, though very wrongly, for *S. mucronatus* of Linnæus. The spikes have a few scales between them, and are ovate, their glumes red-brown, keeled, pointed, with a pale, dilated, jagged margin. The stamens are accompanied by 2 or 3 short rough intermediate bristles, and the stigmas are 2*. The variety β , found near the sea, is said to be more hard and rigid in its stem.

* Which was justly observed by the late Mr. W. Brunton to be the case likewise with *S. palustris*, though in our *t.* 131 three are expressed. The error arose from *S. multicaulis* not being then well understood. See Mr. Turner's *Bot. Guide* 667. In the preceding page, indeed, my lamented correspondent has charged me with an error of his own respecting *Veronica Chamædrys*, as his specimens, now before me, prove.





[1983]

SCIRPUS carinatus.

Blunt-edged Club-rush.

 TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem bluntly triangular upwards, naked; round at the base. Panicle cymose, terminal. Bractea upright, pungent, channelled. Stigmas two.

SYN. *Scirpus lacustris* γ . *Sm. Fl. Brit.* 32. *Huds.* 19. *With.* 75. *Hull.* 13.

Juncus aquaticus medius, caule carinato. *Dill. in Raii Syn.* 428.

Doody's furrowed Bull-rush. *Pet. Conc. Gram. n.* 199.

GATHERED in the Thames below Battersea bridge. Mr. Edward Forster found it above Westminster bridge, and we are obliged to him for pointing it out as distinct from the Common Bull-rush, *t.* 666, as well as for verifying the above synonyms by Buddle's Herbarium.

In its root, general habit, and aspect, as well as in the round base of its stem, it agrees with *S. lacustris*, *t.* 666, but differs in having the stem bluntly triangular, with rather convex sides, in its upper part, even below the middle, as well as in having a strong, erect, pungent, concave, leaf-like bractea, approaching to the nature of the extended point of the stem of *S. triqueter*, *t.* 1694, to which latter species this is most nearly allied, belonging to the same section of its genus, and having likewise but 2 stigmas, while *lacustris* has 3. *S. triqueter* is acutely triangular to the very base of its stem, and its panicle commonly much smaller and more simple than in the plant before us.

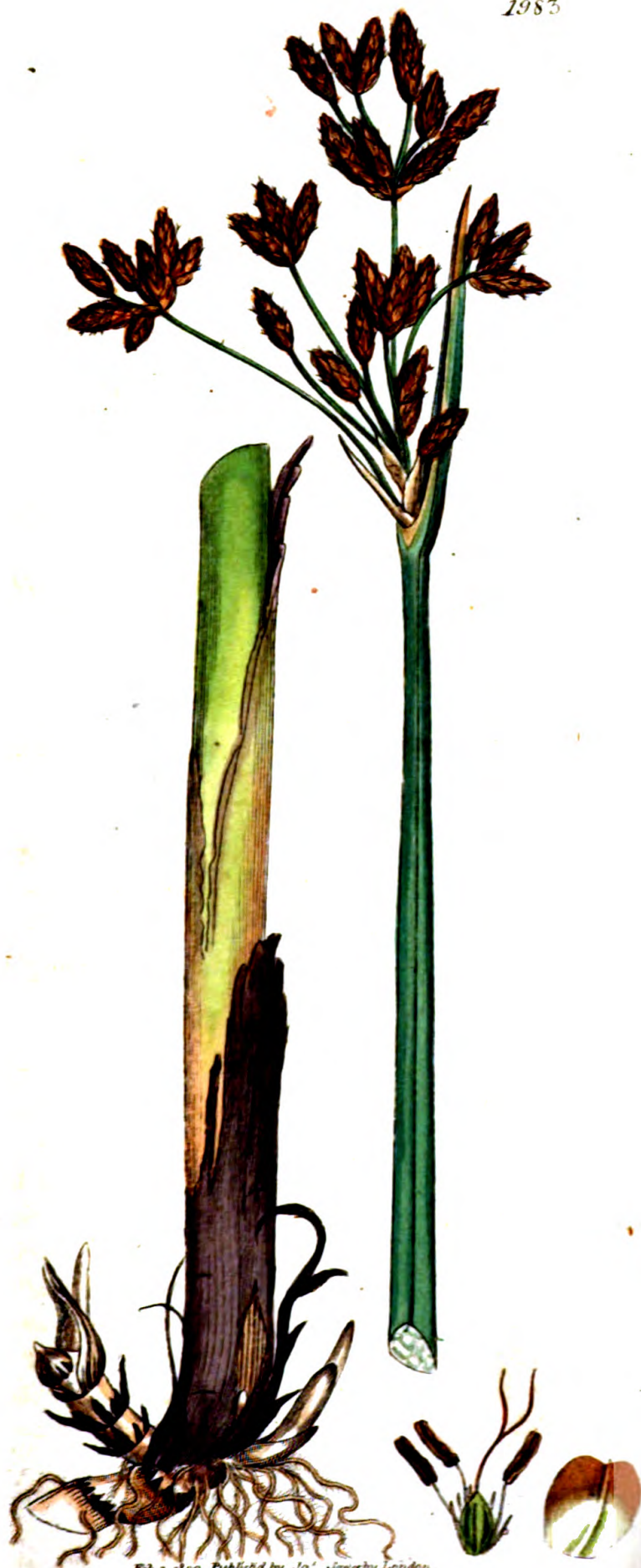


Fig. 1. *Steg.* Published by J. J. Sowerby London.

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[542]

SCIRPUS maritimus.

*Salt-marsh Club-rush.**TRIANDRIA Monogynia.*

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1, beardless.

SPEC. CHAR. Stem triangular. Panicle clustered, leafy, terminal. *Glumes* pointed, torn into three segments.

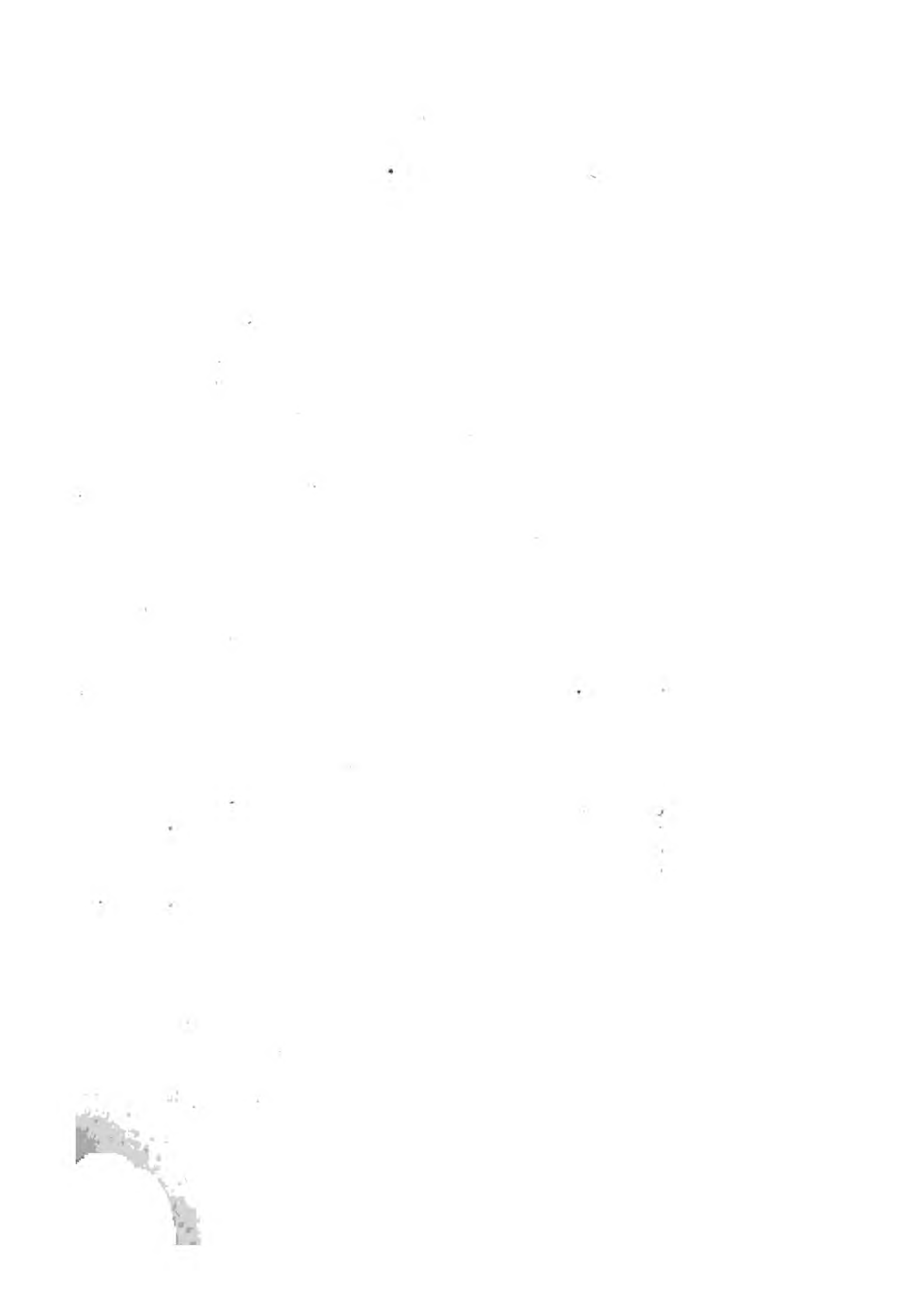
SYN. *Scirpus maritimus.* *Linn. Sp. Pl.* 74. *Huds.* 21. *Witb.* 77. *Relb.* 20. *Curt. Lond. fasc.* 4. t. 4.

Gramen cyperoides palustris paniculâ sparsâ. Raii Syn. 425.

IN salt marshes, and about the banks of great rivers exposed to the tide, in many different parts of the kingdom, flowering throughout July and August.

The roots are perennial, creeping, knotty at their extremities, sometimes more evidently and constantly so than they are in general; hence the *Cyperus rotundus littoreus inodorus* of Lobel, Ray, and others, has been erroneously described as a distinct species. The stem or straw is erect, from one to three feet high, triangular, striated, leafy, the angles roughish. Leaves linear, carinated, long, rough at the edge, suddenly for the most part contracted to a sharp point; the lower ones sheathing and alternate; those under the panicle sessile, and very unequal in length. Spikes forming a panicle among the upper leaves, more or less numerous, sessile or pedunculated, ovate, chestnut-coloured; sometimes lengthened out into a very long cylindrical figure. *Glumes* shining, ovate, keeled, ribbed, long-pointed, torn at the summit. *Stamina* long, with yellow linear antheræ. *Seeds* triangular, flattest on one side, furnished at the base with one or more short rough bristles; so nearly are the genera of *Scirpus* and *Eriophorum* allied!

Mr. Curtis observes that the roots are very sweet, and would probably afford good and nutritious food for hogs, being larger than those of *S. palustris*, which are collected for that purpose in Sweden.



SCIRPUS *sylvaticus*.*Wood Club-rush.**TRIANDRIA Monogynia.*

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem triangular, leafy. Cyme leafy, terminal: its stalks naked and repeatedly subdivided. Spikes clustered.

SYN. *Scirpus sylvaticus*. *Linn. Sp. Pl.* 75. *Sm. Fl. Brit.* 57. *Hudf.* 21. *Witb.* 77. *Hull.* 14. *Sibtb.* 24.

Cyperus gramineus. *Raii Syn.* 426.

MR. GROULT, a very assiduous investigator of English plants, gathered this specimen of the *Scirpus sylvaticus* between Hampstead and Highgate. It is perennial, flowers in June and July, and loves moist shady situations, but is by no means frequently to be met with.

Root fibrous. Stem 3 feet or more in height, simple, erect, leafy, triangular, smooth. Leaves linear, broad, taper-pointed, strongly ribbed, smooth, except the margin of the uppermost; the radical ones numerous, forming a dense tuft; the others alternate. Panicle cymose, spreading, repeatedly branched, the stalks rough, each accompanied by a sheathing bractea at its base. Spikes terminal, most of them clustered, small, ovate. Glumes ovate, entire, bluntish, keeled, green with a tinge of brown towards the extremity. Stamina slender. Style deeply three-cleft. Seed orbicular, with 3 angles, compressed, whitish, smooth, its base enveloped with 6 or 8 bristles twice as long as the seed when arrived at maturity.

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ERIOPHORUM vaginatum.

Hare's-tail Cotton-grass.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated on all sides.Cor. none. *Seed* 1, invested with very long hairs.SPEC. CHAR. Stem round, invested with a tubular sheath. Spike solitary. *Glumes* membranous.SYN. *Eriophorum vaginatum.* *Linm. Sp. Pl.* 76.*Sm. Fl. Brit.* 58. *Huds.* 22. *With.* 71.*Hull.* 14. *Curt. Lond. fasc.* 4. t. 10. *Dicks. H.**Sicc. fasc.* 4. 3.*Juncus alpinus cum caudâ leporinâ.* *Raii Syn.* 436.

THE Hare's-tail or Single-headed Cotton-grass is not unfrequently seen on the high barren heathy moors of the north of England, but it is rather remarkable that so mountainous a plant should have been found near Croydon by Sherard, and between Grimston and Lynn, Norfolk, by Mr. Pitchford. Its silvery-blue flowering spikes, with the yellow antheræ a little projecting between the scales, are observable in March; but the plant becomes much more conspicuous in May and June, when the snow-white clusters of hair that encompass the seeds form a dense oval tuft, not unaptly compared to a hare's-tail. The roots are perennial. Stems erect, straight, clothed with one or two cylindrical, swelling, membranous blunt sheaths, often tipped with a small point, from whence originated the trivial name *vaginatum*. The leaves are straight, linear, somewhat triangular, smooth, upright, sheathing at their base.

The larger size of the spike, and especially the sheath of the stem, sufficiently distinguish this species from *E. alpinum* represented in our 5th volume.—Sheep are said to be very fond of it. See Curtis.



Andropogon distachyus L. f. *Andropogon distachyus* L.

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ERIOPHORUM capitatum.

*Round-headed Cotton-grass.**TRIANDRIA Monogynia.*

GEN. CHAR. *Glumes* chaffy, imbricated on all sides.
Cor. none. *Seed* 1, invested with very long hairs.

SPEC. CHAR. Stem round to the summit, invested with
 a tubular sheath. Spike solitary, roundish.
Glumes membranous.

SYN. *Eriophorum capitatum.* *Host. Gram. v. 1. 30.*
t. 38. Schrad. Germ. v. 1. 151.

E. Scheuchzeri. *Roth in Sims and Konig's Annals*
of Botany, v. 1. 149.

Juncus alpinus, capitulo tomentoso majori.
Scheuchz. Agrost. 304. Prodr. 27. t. 7.

DISCOVERED by Mr. Geo. Don August 12, 1810, by the side of a rivulet on Ben Lawers, near the limits of perpetual snow. The plants were rooted in a sand-bank, and appeared to have been brought by alpine torrents from some still more inaccessible part of the mountain. His specimen agrees exactly with those sent by Professor Schrader and from Switzerland, and is doubtless Scheuchzer's plant.

This differs from *E. vaginatum*, *t. 873*, in having a more widely creeping root, which throws up here and there tufts of shorter and thicker leaves, channelled above, convex beneath, with a solitary stem, about a span high, remarkably straight, round to the very top, and much thicker, as well as shorter, than that of *E. vaginatum*, whose upper part is triangular, though the rest is round. The spike is round, not ovate or oblong. Sometimes the outer glume is broad, and looks like a sheath, but that is not the case in our only Scottish specimen.

This is unquestionably a most distinct species.

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Her. rep. published by J. L. Harvey, London.

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ERIOPHORUM polytachion.

Broad-leaved Cotton-grass.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated on all sides.
Cor. none. *Seed* 1, invested with very long hairs.

SPEC. CHAR. Stem round. Leaves flat. Spikes several, on flower-stalks.

SYN. *Eriophorum polytachion.* *Linn. Sp. Pl.* 76.
Dicks. Tr. of Linn. Soc. v. 2. 289. *H. Sicc. fasc.* 4. 1.
Witb. 72. *Leers t.* 1. f. 5.

Linagroftis paniculâ minore. *Vaill. Par. t.* 16. f. 2.

OBERVED by Mr. Dickson on bogs in Northamptonshire, afterwards near Dunstable, Bedfordshire, in Yorkshire, Cumberland, and very commonly in Scotland, from whence we received it by favour of Mr. Mackay. It is perennial, flowering in April, and bearing its white tufts of seeds from June to August or September.

Root fibrous, not creeping. Stem erect, 2 feet high, round, striated, smooth, leafy. Leaves alternate, much shorter than the stem, flat, slightly keeled, linear-lanceolate, smooth, towards the top more acutely keeled, sheathing at the base. The floral leaves are 2 or 3, dilated and membranous at their base. Spikes several, ovate, on stalks, which are sometimes branched, as in our figure, but more frequently simple. Glumes lanceolate, filmy. After flowering, the flower-stalks are lengthened out, and the spikes are pendent; the white hairs which invest the seed also grow out to a considerable length, though less so than in the more common species, figured in our next plate, which was always in England confounded with this till Mr. Dickson distinguished them.

The down of both species is used in poor mountainous countries for stuffing pillows, but there is a prevailing opinion of its not being wholesome to sleep on. It is too brittle to be manufactured into thread of any kind.



March 1799 Published by St. Paul by Le. 1799

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ERIOPHORUM angustifolium.

Common Cotton-grass.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated on all sides.*Cor.* none. *Seed* 1, invested with very long hairs.

SPEC. CHAR. Stem round. Leaves channelled, triangular at the tip. Spikes several, on flower stalks.

SYN. *Eriophorum angustifolium.* Hoffm. *Fl. Germ.* 19.
Dickf. Tr. of Linn. Soc. v. 2. 289. *H. Sicc. fasc.* 4. 2.
With. 72.*E. polytachion.* Hudf. 21. *Relb.* 20. *Sibtb.* 24.
Curt. Lond. fasc. 4. t. 9.*Linagrostis.* Raii *Syn.* 435.*L. paniculâ majore.* Vaill. *Par. t.* 16. f. 1.

VERY common and plentiful on turfy bogs, flowering in April, and its brilliant white tufts look, throughout the summer, like feathers scattered over the country. Root creeping. Stem round, more slender than the last, striated, smooth. Leaves but little shorter than the stem, semicylindrical, channelled, smooth, narrower than in *E. polytachion*, sheathing at the base, terminating in a triangular point; the floral ones 2 or 3, linear, flat, various in length. Spikes from 3 to 5, ovate, on stalks of different lengths, but always (as far as we have seen) simple. Glumes brown with a filmy edge. After flowering, the spikes are partly erect, partly drooping, but by no means pendent, and the white hairs are protruded to full twice the length of the kind last described, which renders this much more conspicuous and handsome.

Cattle feed readily upon the leaves of this grass in the northern countries early in the spring, before other herbage is sufficiently advanced, but in more favourable climates it is not worth the farmer's notice.

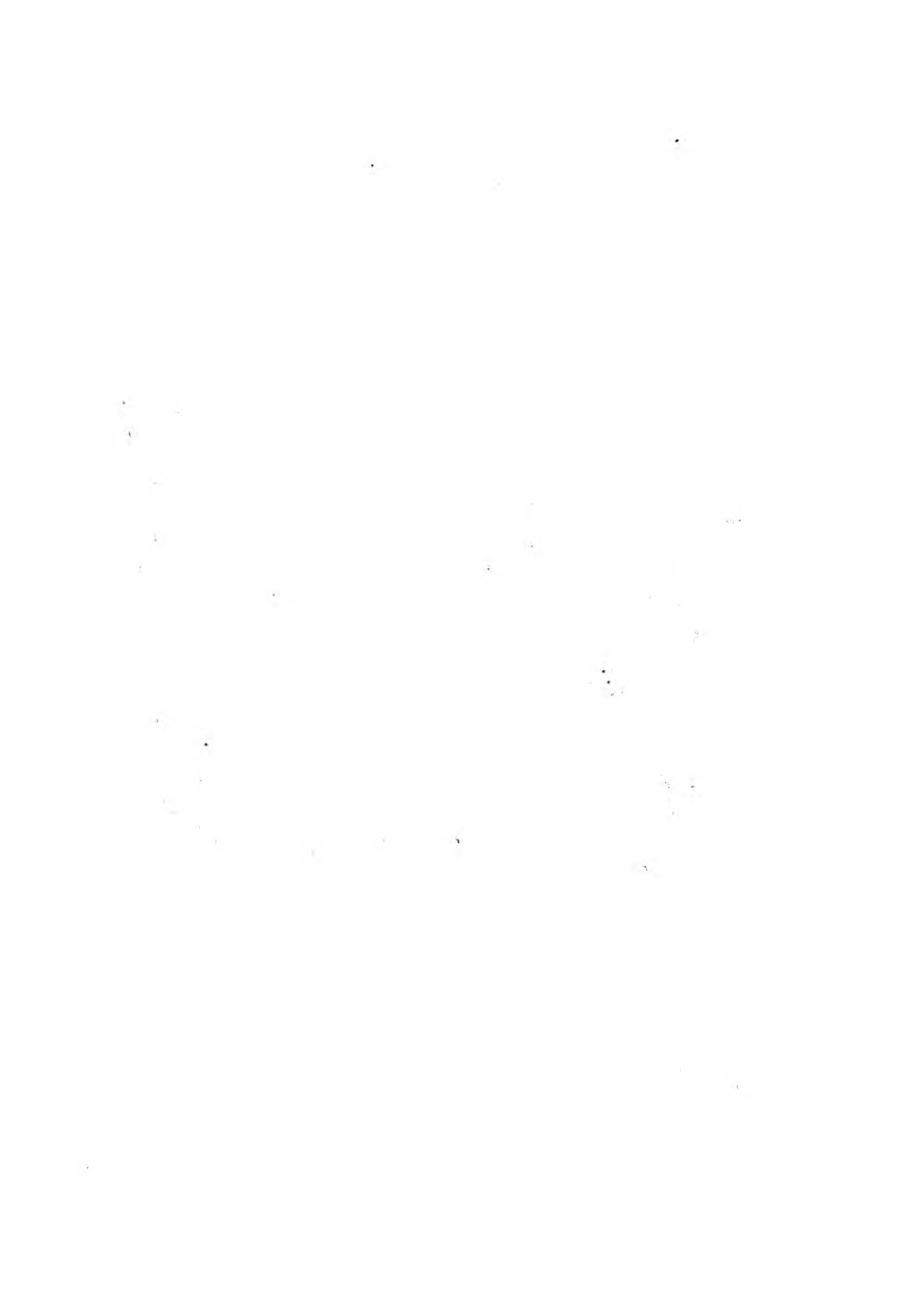




March 1794 Published by J. Smokey London.

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ERIOPHORUM gracile.

Slender Mountain Cotton-grass.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes chaffy, imbricated on all sides.**Cor. none. Seed 1, invested with very long hairs.*SPEC. CHAR. *Stem round; compressed towards the top. Leaves triangular, channelled in the upper part. Spikes several, stalked; longer than the bractea. Seeds linear.*SYN. *Eriophorum gracile. Roth in Sims and Kon. Ann. of Bot. v. 1. 150.*

FOUND in boggy places in the micaceous soil of Ben Lawers, by Mr. G. Don, who determined it to be the above plant of Dr. Roth; and though we have no further means of judging than by the work here quoted, we think there can be little doubt.

Every part is much smaller and more delicate than the common lowland *E. angustifolium*, t. 564. The leaves are triangular, and scarcely channelled except towards the point. The compression in the upper part of the stem, described by Dr. Roth, our dried specimens are not in a state to exhibit, neither are they forward enough to determine whether the seed be, as he says, linear. But the short membranous floral leaf, so different from those in t. 564, agrees with his description, and the blueish colour of the flowering spikes resembles that of *E. vaginatum*, t. 873. This new *Eriophorum* flowers late in July, and has long, very slender, perennial roots.

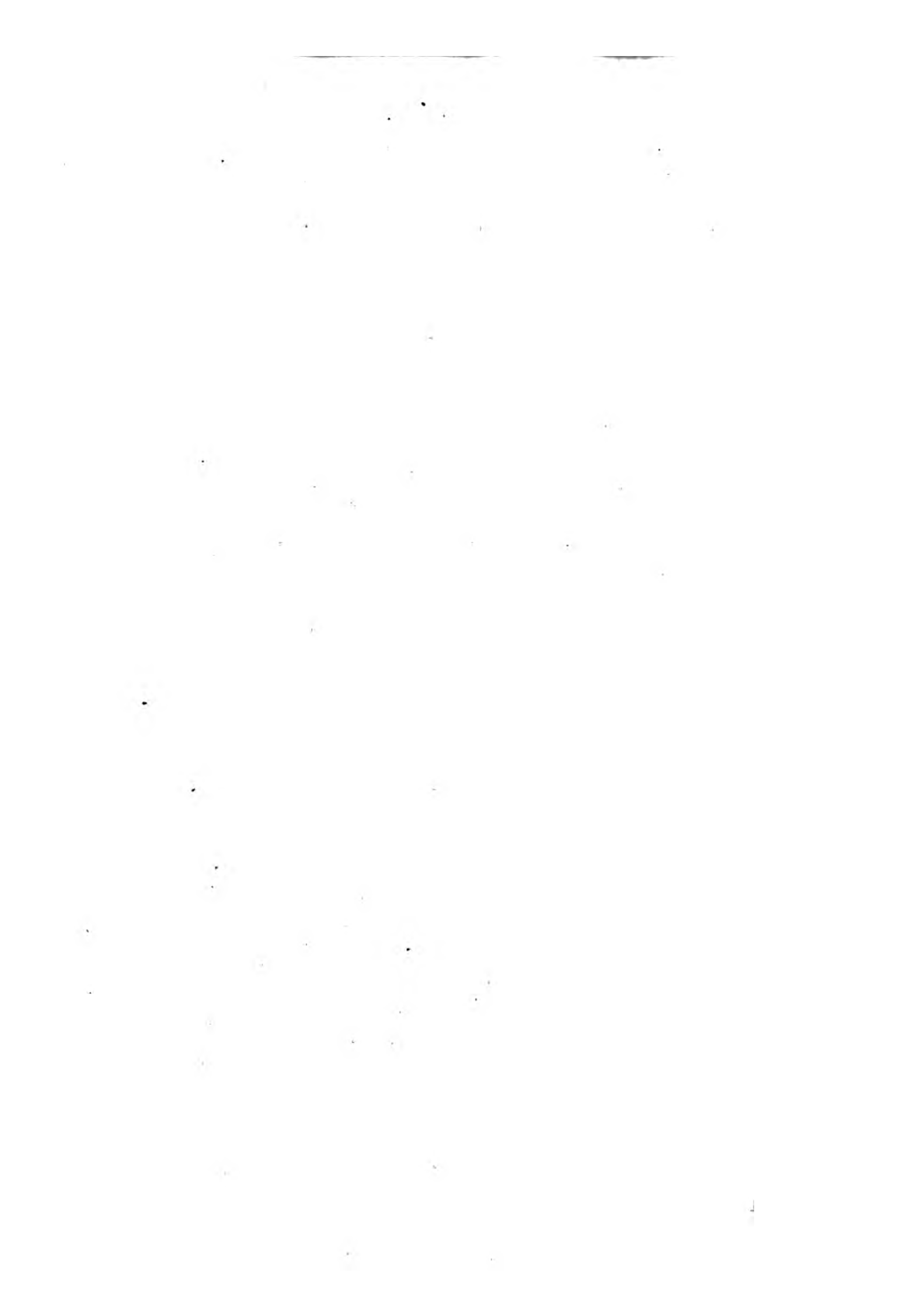
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After published by J. R. Burdell

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ERIOPHORUM alpinum.

*Alpine Cotton-grass.**TRIANDRIA Monogynia.*

GEN. CHAR. *Glumes* chaffy, imbricated on all sides,
Cor. none. *Seed* 1, invested with very long hairs.

SPEC. CHAR. Stem naked, angular. Spike solitary,
 erect, shorter than the hair of the seeds.

SYN. *Eriophorum alpinum.* *Linn. Sp. Pl.* 77. *Flo.*
Lapp. Ed. 2. 20. *Transf. of Linn. Soc.* V. 2. 290 &
 356. *Fl. Dan.* t. 620. *Dicks. Hort. Sicc. Fasc.* 8. 3.

Juncus alpinus bombycinus. *Scheuchz. Prod.* 27.
 t. 8. f. 1.

FIRST discovered in Britain by Mr. Brown and Mr. George Don, in a turfy bog 3 miles east of Forfar, in the shire of Angus, Scotland.

We are obliged for wild specimens to Mr. John Mackay of Edinburgh, a most diligent and skilful investigator of the vegetable kingdom, by whose communications we have often been enriched. It grows in alpine situations, flowering about July, and has hitherto been announced as a native of our island, in the 2d volume of the Linn. Society's Transactions only.

Root perennial, creeping horizontally among bog-earth and sand, with many fibrous radicles. Leaves few, linear, rough on the edges, obtuse, sheathing at their base, erect, sometimes 3 or 4 together on a barren branch. Stems several, erect, much taller than the leaves, close together, with 3 and sometimes 4 rough angles, striated, their base enveloped in one or more short sheathing leaves, and a few tubular, membranous, bluntly acuminate scales, seeming like the rudiments of leaves. Spike solitary, terminal, erect, oval, small, of several ovate, yellowish brown, sharply keeled scales, the lowermost tipped with a leafy point. Seed sharply triangular, clothed with long, not very numerous, hairs, which originate from its base, and rise much above the top of the style. Their extreme whiteness and their delicate texture give an elegant appearance to the plant, though it boasts none of those gaudy colours requisite to excite the attention of many, who really fancy themselves persons of taste and admirers of Nature, but who are as inadequate judges of their own talents, as of the universal elegance and wisdom of the creation around them.



Herb. 1796 Published by P. Sowerby London.

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