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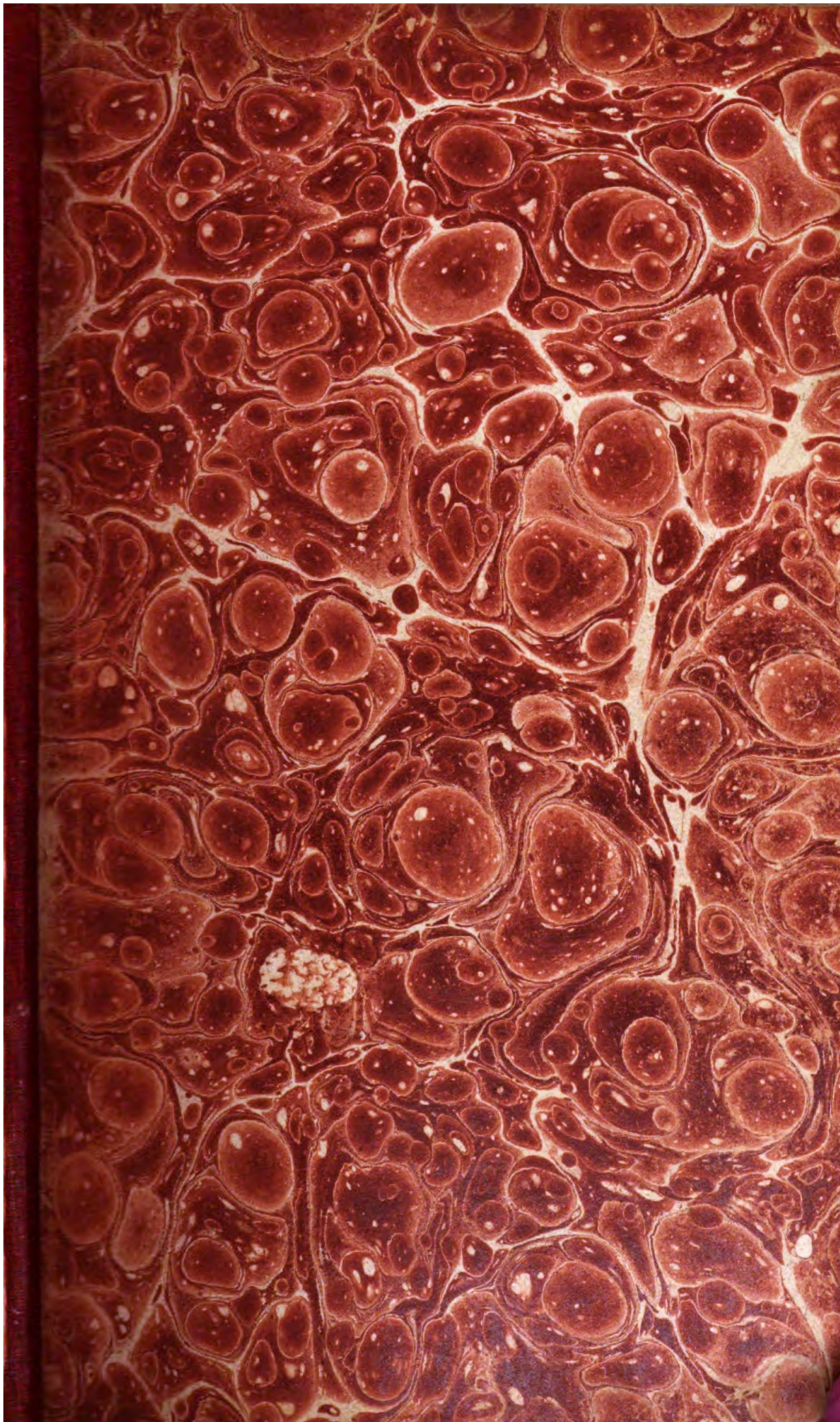


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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

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

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE
ACADEMIES OF STOCKHOLM, UPSAL, TURIN,
LISBON, LUND, BERLIN, PHILADELPHIA, AND
THE NAT. HIST. SOCIETY OF PARIS;
PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

—“VIRESCQUE ACQUIRIT EUNDO.”—*Virg.*

V O L. XII.

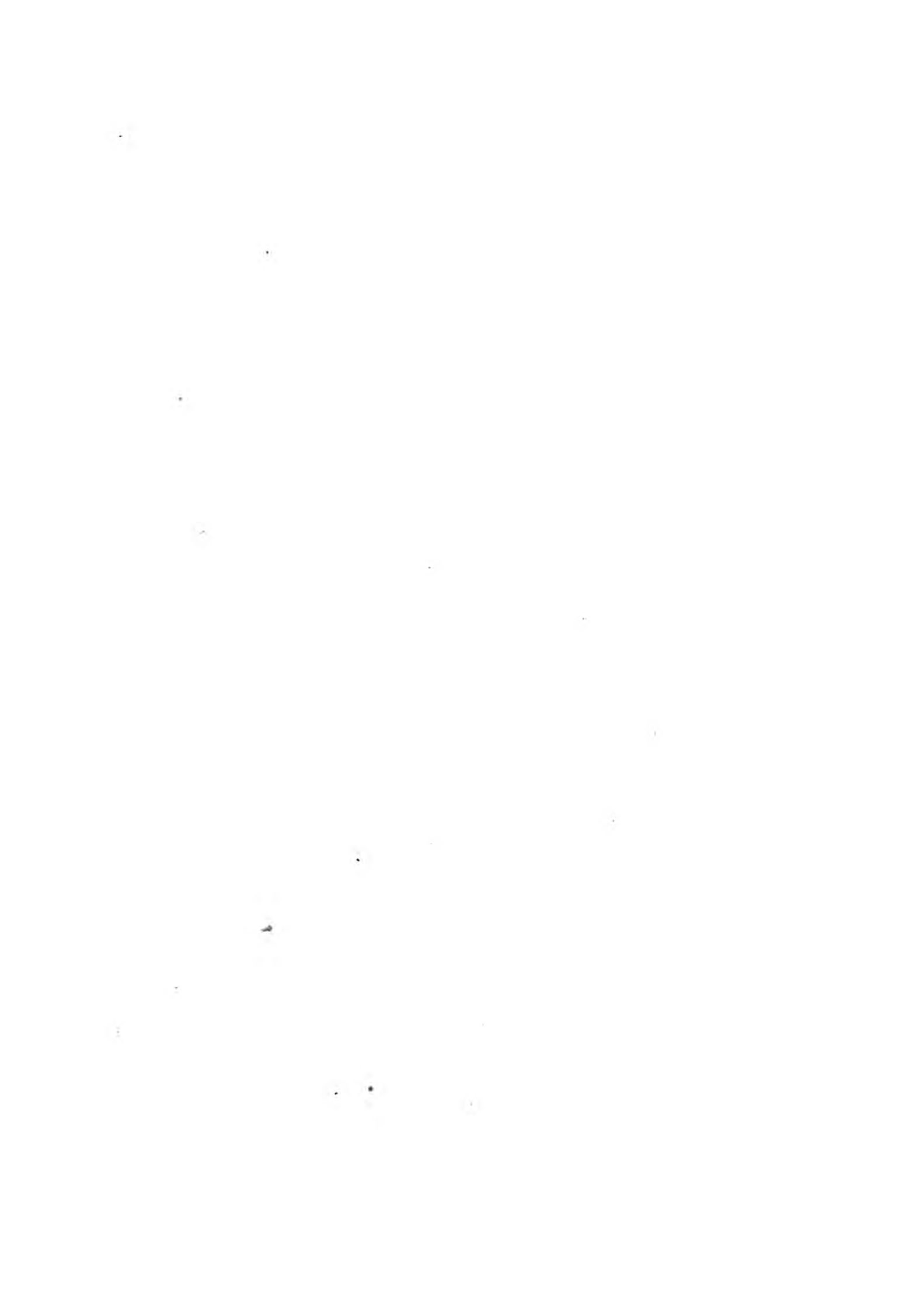
L O N D O N:

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And sold by the Proprietor, J. SOWERBY, at No. 2, Mead Place,
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Paul's Church-yard; DILLY, in the Poultry; and by
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MDCCCI.





ORCHIS bifolia.

*Butterfly Orchis.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary lanceolate and entire, the horn very long. Outer petals spreading.

SYN. *Orchis bifolia.* *Linn. Sp. Pl.* 1331. *Hudf. Fl. Ann.* 382. *Witb. Bot. Arr.* 967. *Relb. Cantab.* 331.

Orchis hermaphroditica bifolia. *Raii Syn.* 380.

IN meadows and pastures throughout most parts of England, but seldom in great plenty. The flowers appear about the beginning of June, and are highly fragrant, especially in an evening. Their pale greenish white colour, without any mixture of red, is unusual in this genus. The leaves are large, and of a bright unspotted green, like those of lily of the valley.

The synonym of Ray above quoted seems to agree best with our figure and the usual appearance of the plant, though cited as a variety by Mr. Hudson; the *Orchis alba bifolia minor calcari oblongo* of Ray's Synopsis, which is smaller, and flowers later, being considered in the *Flora Anglica* as the original species. This is well figured in *Flora Danica*, t. 235, which is our principal reason for figuring the other. *



J. Sowerby del. July 1 1791

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ORCHIS pyramidalis.

Pyramidal Orchis.

G Y N A N D R I A *Diandria.*

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary in three equal segments, entire, with two protuberances, the horn long. Petals ovato-lanceolate.

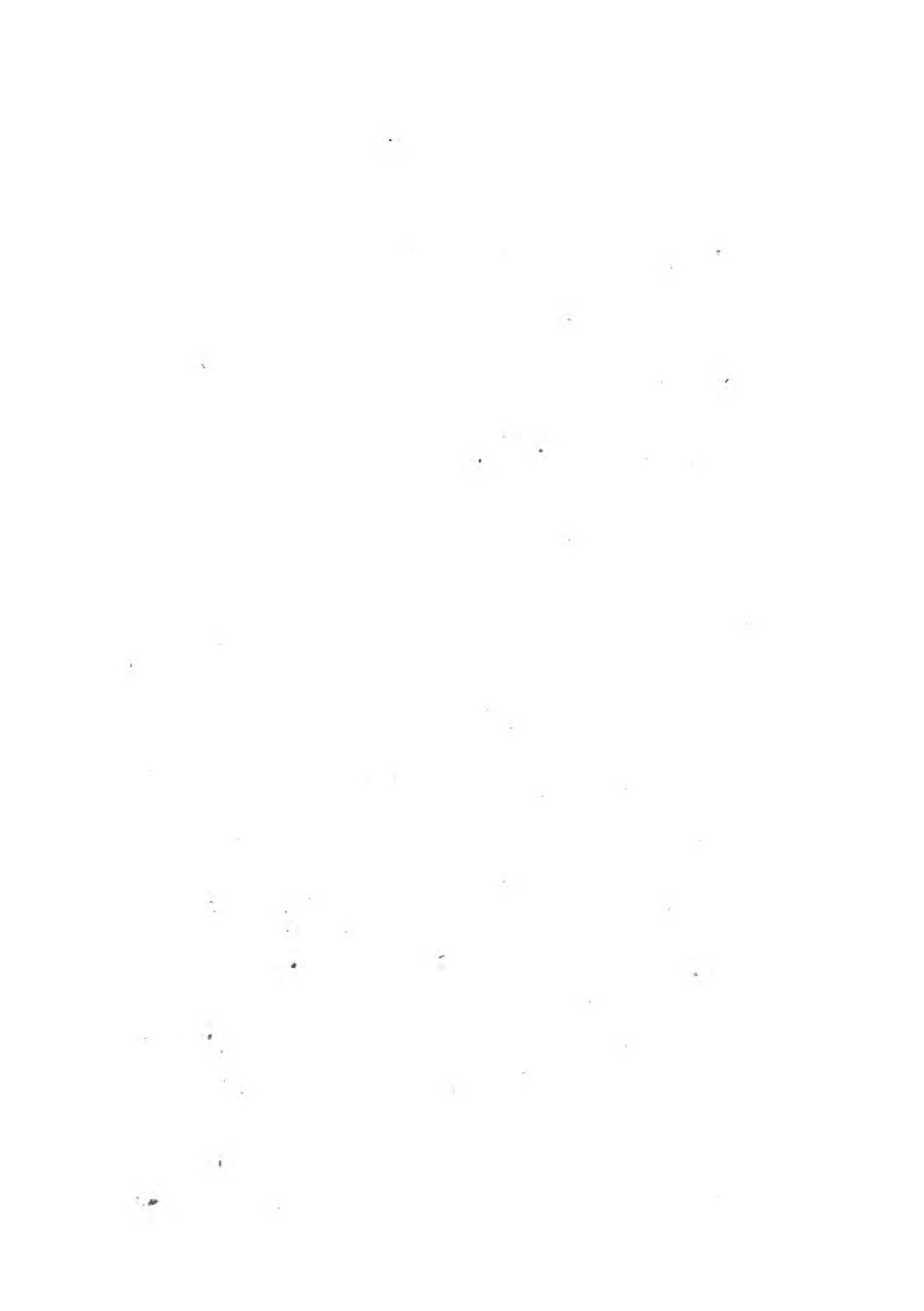
SYN. *Orchis pyramidalis.* *Linn. Sp. Pl.* 1332. *Huds. Fl. An.* 382. *With. Bot. Arr.* 969. *Relb. Cant.* 332.

O. purpurea spica congesta pyramidalis. *Raii Syn.* 377. *tab.* 18.

GROWS in meadows and pastures in a calcareous soil, more especially on chalky downs, flowering later than most others of the Orchis tribe, seldom before July. The whole herb is, as Dr. Stokes remarks, of a silky glossiness, and of an unspotted palish green. Spike dense, the buds erect; but as they open, the lowermost first, the flowers stand out horizontally, giving the spike a pyramidal form, which it loses again when all the flowers are expanded. The essential character of this species consists in two protuberances in the front of its lip near the base. Our figure represents the plant as it occurs in meadows; in chalk-pits and dry barren places it is smaller, the buds of a more deep blood-colour, and the spike more dense. The flowers are rarely found white. When drawn up in woods or among bushes, every part is more slender, straggling, and pale than in the present specimen.







ORCHIS Morio.

Green-winged Meadow Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

SPEC. CHAR. Bulbs undivided. Lip of the nectary four-cleft, somewhat crenate; spur obtuse, ascending. Outer petals cohering, many-ribbed.

SYN. *Orchis Morio*. *Linn. Sp. Pl.* 1333. *Sm. Fl. Brit.* 920. *Swartz. Orchid.* 12. *Huds.* 383. *With.* 23. *Hull.* 194. *ed.* 2. 252. *Relh.* 343. *Sibth.* 10. *Abbot.* 192. *Curt. Lond. fasc.* 3. *t.* 59.

O. morio fœmina. *Raii Syn.* 377.

A NATIVE of meadows and pastures that are rather moist, flowering in May, or early in June.

Root of two nearly globose bulbs, one of which is a little removed from the other by its stalk. Leaves lanceolate, of a deepish, but rather glaucous, unspotted green; paler and shining underneath. Spike rather loose, of from 4 to 8 or 10 flowers, whose predominant colour varies from a very pale to a rather deep reddish purple*, but in all the varieties the green ribs of the outer petals, (or rather 3-leaved calyx), which mark this species, are equally strong. These leaves cohere over the 2 real petals within. The spur is curved upward, and obtuse. Lip of 2 deflexed parallel lobes, each of which is cloven and irregularly crenate, the central ridge between them white, dotted with purple. The common stalk, bracteas and germens are more or less tinged with the same hue.

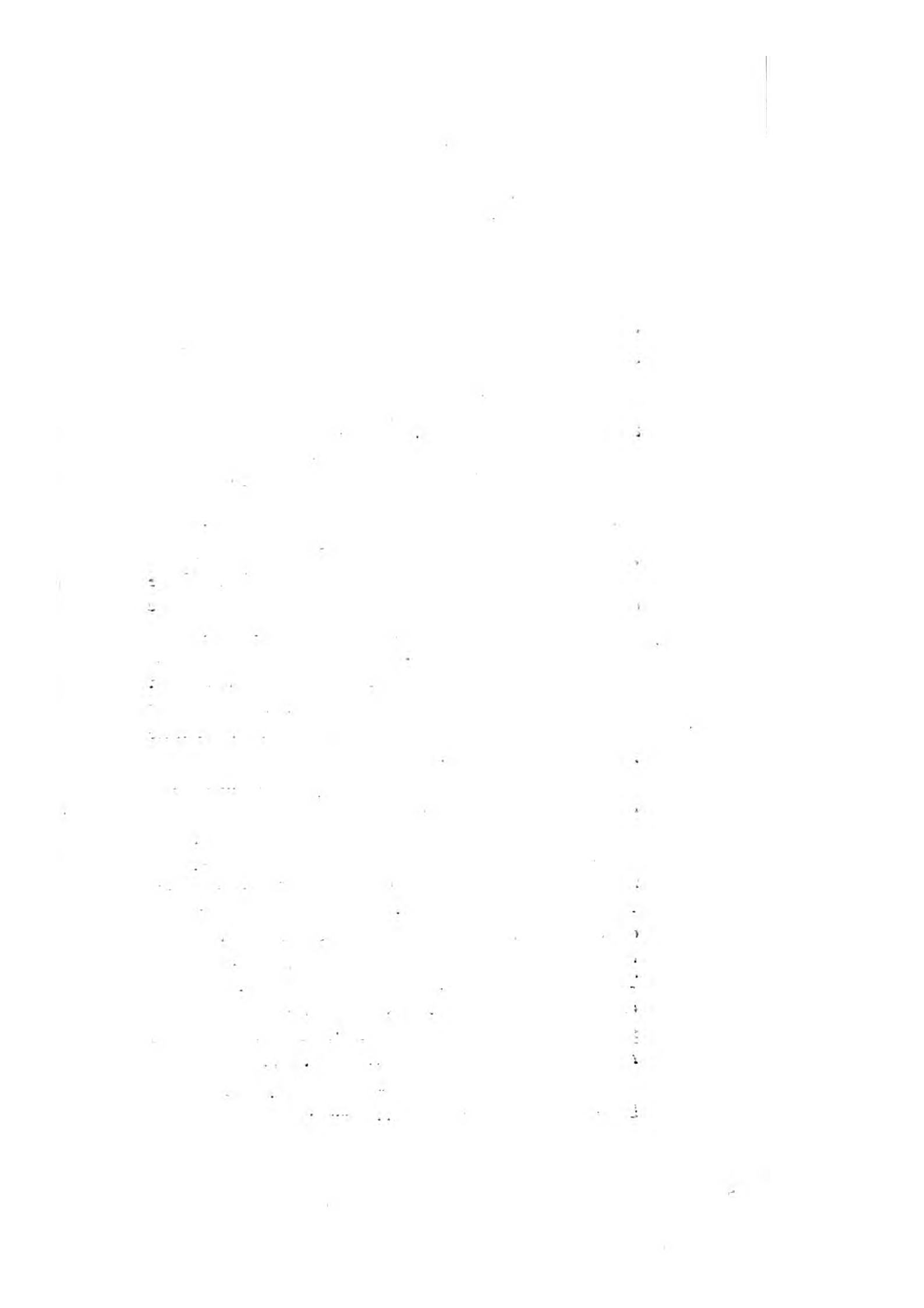
We are persuaded of the propriety of terming the 3 outer leaves of the flower, in the *Orchis* tribe, a calyx, and the 2 inner ones petals, see *Introd. to Bot.* 461, according to which principle our descriptions may, at the pleasure of the reader, be reformed.

* See Mr. Sowerby's very ingenious *Elucidation of Colours*, tab. 5. f. 23.



Ep. 1869, published by J. Sowerby, London

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ORCHIS mascula.

Early Purple Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* a spur behind the flower.

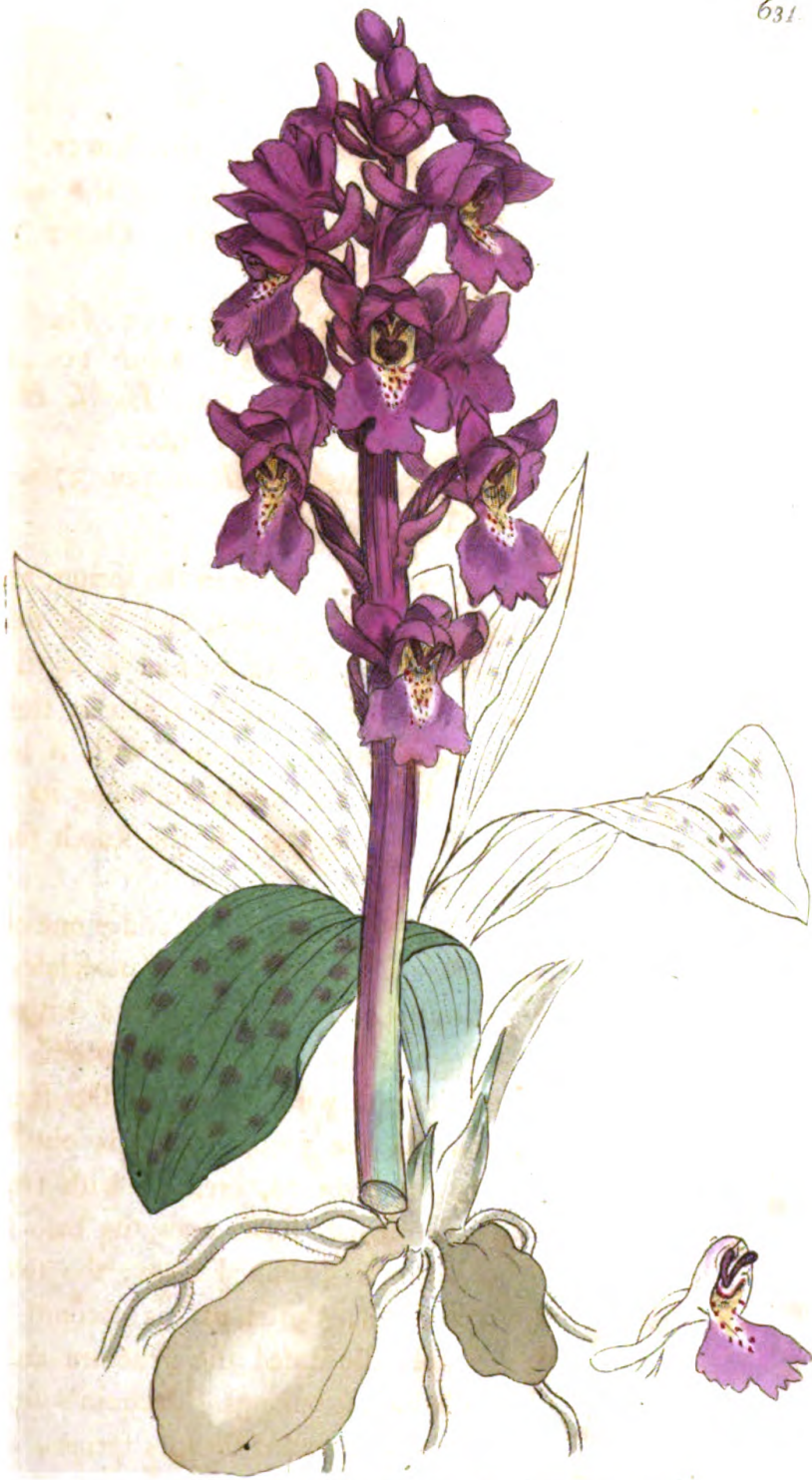
SPEC. CHAR. Bulbs undivided. Lip of the nectary in four crenate lobes: spur blunt. Outer petals reflexed.

SYN. *Orchis mascula*. *Lin. Sp. Pl.* 1333. *Huds.* 383. *With.* 24. *Hull.* 194. *Rehb.* 333. *Sibth.* 10. *Abbot.* 192. *Curt. Lond. fasc.* 2. t. 62. *Dicks. H. Sicc. fasc.* 11. 14. *With. Med. Bot.* t. 90.

O. morio mas foliis maculatis. *Rau Syn.* 376.

THIS is the first *Orchis* that appears in the spring, and one of the most common. Pastures, groves, and shady dells are adorned with its purple blossoms about the end of April or the beginning of May. Then the *Cardamine pratensis*, the *Saxifraga granulata*, or the Cowslip, combine with it to form many a rustic nosegay, while the *Adoxa*, diffusing its musky scent in vain, is trampled under foot, in the search for these more ostentatious flowers.

The root consists of two large oval bulbs, and is one of those most used for making Salep. Leaves radical, lanceolate, broad, smooth, shining, generally more or less spotted with purple stains. Stalk a foot high, terminating in a large loose upright spike of purplish-red flowers, with bractæ of the same hue. Their spur swells towards the point which is obtuse, and curved upwards. The lip is broad, crenate, with two large side-lobes, and two intermediate small ones, its base spotted. Three inner petals cohering in a vaulted form; the two outer ones reflexed upwards. Mr. Curtis in his account of this plant, has very admirably illustrated the structure and œconomy of the tribe to which it belongs. Jacquin's figure, *l. rar. v. 1. t. 180*, if really intended for this species, does not give a correct idea of its usual appearance.



Orchis latifolia L.

ORCHIS *ustulata*.*Dwarf Orchis.*GYNANDRIA *Diandria.*

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary four-cleft, rough with points; horn obtuse, petals distinct.

SYN. *Orchis ustulata*. *Linn. Sp. Pl.* 1333. *Huds. Fl. An.* 384. *With. Bot. Arr.* 973.

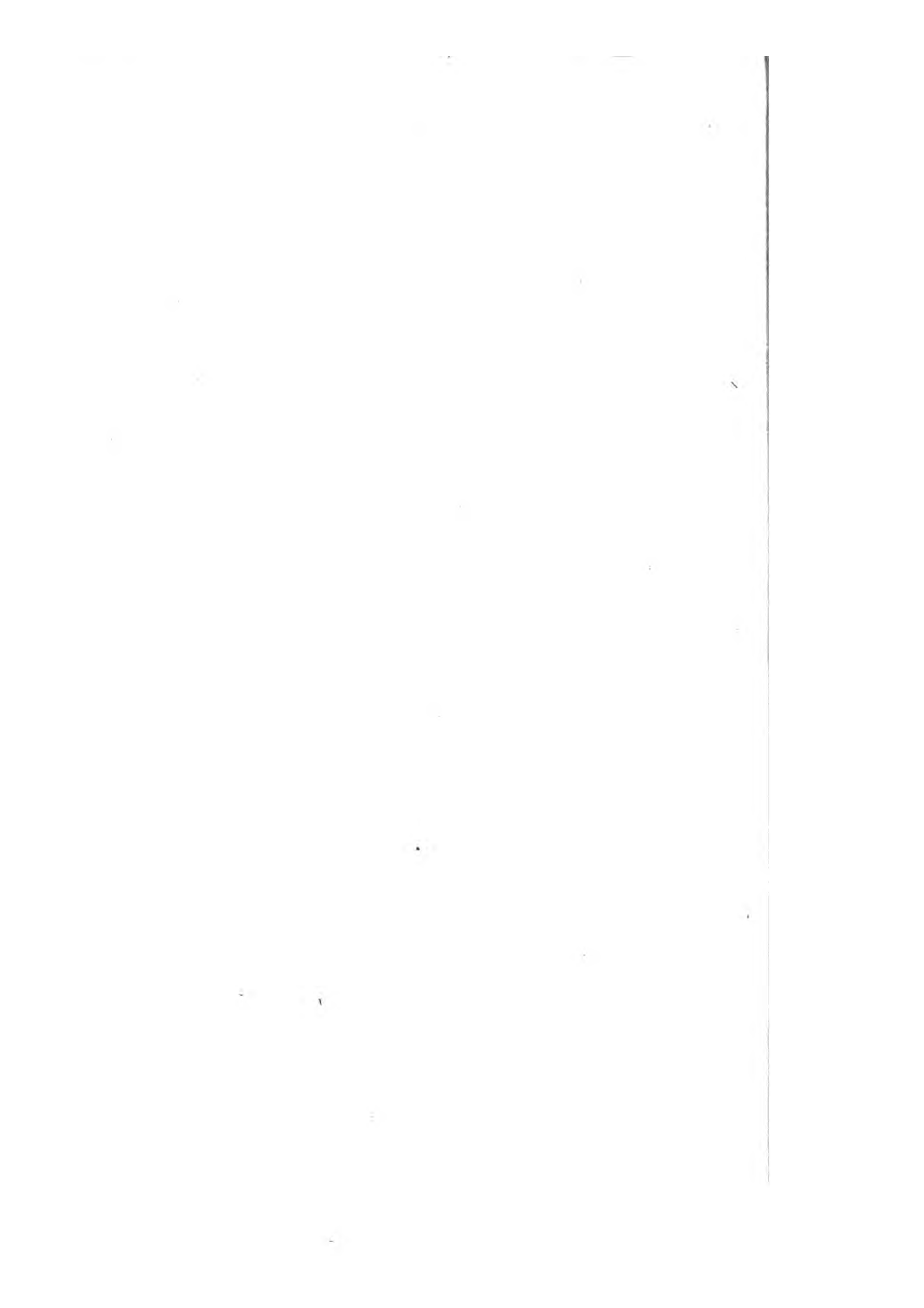
O. pannonica 4. *Raii Syn.* 377.

THE Little Orchis figured on this plate has obtained its trivial name of *ustulata*, from the remarkable colour of its flowers, which appear on a cursory view, and especially before they are fully expanded, as if scorched or blackened by heat. When viewed narrowly they are by no means destitute of beauty; the upper part of the flower being of a purple brown, while the lower part or nectarium is of a clear white, sometimes slightly tinged with purple, and speckled with dark brown points. It frequently happens that the flowers are somewhat more thickly or closely set than in the specimen here figured; but this is a circumstance which varies much in different individuals. The *Orchis ustulata* occurs only on dry and chalky soils, and flowers in June.



Pl. May 1 1791.

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[1873]

ORCHIS *militaris*.*Narrow-lipped Military Orchis.*GYNANDRIA *Monandria*.

GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

SPEC. CHAR. Bulbs undivided. Lip of the nectary five-cleft, rough with points; its segments linear. Petals acuminate, confluent.

SYN. *Orchis militaris*. *Linn. Sp. Pl.* 1333. *Sm. Fl. Brit.* 922. *Swartz. Orchid.* 14. *Huds.* 384. *With.* 26. var. 3. *Hull.* 194. var. 3. *Sibth.* 10. *O. galeâ et alis ferè cinereis. Raii Syn.* 378.

WE have in *v. 1. t. 16*, figured the Broad-lipped Military Orchis, or *O. militaris* β , *Fl. Brit.* 923; and as the present plant, gathered near Dartford by Mr. Peet, F.L.S., is generally esteemed a distinct species, and is decided to be so by the greatest botanist in this tribe Professor Swartz, we think it essential to make the English student acquainted with it, especially as its beauty and rarity render it a general favourite. A frequent examination of these charming plants in the grassy walks about Rome, see *Tour on the Continent*, ed. 2. v. 2. 312, determined me to consider them as varieties; but possibly the acuminate calyx or petals, and the more or less linear lobes of the lip, may keep this distinct from *t. 16*, which must then retain the name of *fusca*, and of this the *moravica* of Swartz is not even a variety, while his *tephrosantos* is a very slight one of *O. militaris*. The bractees vary in size.

All the varieties of these two species smell like Woodruff while drying. They flower with us in May, and love a chalky soil, being chiefly found in Kent and Oxfordshire. If treated as mentioned in *Intr. to Bot.* 110, they succeed well in a garden-pot. The reader is referred to *p. 458* of the same work for the reasons which lead us now to refer all the *Orchideæ*, except *Cypripedium*, to *Gynandria Monandria*, they having properly but 1 anther.—According to the system of Swartz, *Satyrium hircinum*, *viride* & *albidum* are species of *Orchis*, and Nature confirms this arrangement.

1873



Apr. 1. 1873. Published by J. & J. Sowerby London.

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ORCHIS *militaris*.*Military Orchis.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary five-cleft, rough with points : horn obtuse. Petals confluent.

SYN. *Orchis militaris.* *Linn. Sp. Pl.* 1333. *Huds. Fl. An.* 384. *With. Bot. Arr.* 974.

O. magna, *latis foliis*, *galea fusca vel nigricante.*
Raii Syn. 378.

THERE are few of the English Orchises which can come in competition with the species here represented, in point of elegance. From a fancied similitude in the nectarium to the shape of the human body, it has obtained its popular title of Man-Orchis. In the colour of its flowers it varies considerably: the nectarium indeed generally preserves an uniformity of colour in most individuals; but the petals in some are of a much deeper tinge than in others, being frequently of a pale ash colour; at other times of a brownish cast, and in some individuals even of a deep brownish purple, which variety is usually called the blackish-flowered Man-Orchis. This species flowers in the beginning of June, and grows generally on dry and chalky soils, and in the neighbourhood of woods. It is much less common than several others of this genus. As there is another species of British Orchis which is generally known by the title of Man-Orchis (and which will hereafter be figured in the present work), we have thought it better to apply the term *Military* to this species, taken from the Latin name, which has been given on account of the resemblance which the upper part of the flower bears to a helmet.



Schwarz del. May. 1. 1791.

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ORCHIS latifolia,

Marsh Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

SPEC. CHAR. Bulbs somewhat palmate. Horn of the nectary conical: lip three-cleft, Bracteas double the length of the flowers.

SYN. *Orchis latifolia*. *Linn. Sp. Pl.* 1334. *Sm. Fl. Brit.* 924. *Huds.* 385. *With.* 26. *Hull. ed.* 2. 253, *Relh.* 334. *Sibth.* 11. *Abbot.* 192. *Curt. Lond.* fasc. 5. t. 65. *Fl. Dan.* t. 266.

O. palmata pratensis latifolia, longis calcaribus.
Raii Syn. 380.

β . *O. palmata palustris, tota rubra.* *Dill. in Raii Syn.* 382.

FREQUENT in marshy meadows, flowering in May and June.

The roots are imperfectly palmate, consisting of unequal awlshaped straightish lobes or portions. Stem hollow, leafy, from one to two feet high. Leaves sheathing, lanceolate, broadish, gradually smaller upwards, unspotted. Spike dense, many-flowered, pointed. Bracteas remarkably long, erect, leafy, sometimes coloured. Flowers varying in hue from a pale flesh-colour to a full rose or crimson, the side petals dotted, the middle of the lip elegantly variegated. Spur deflexed, somewhat shorter than the germen.

We adopt the variety β from Dillenius only. This species is certainly variable in size and colour, and, as Ray observes, is described in books several times over. It has been thought by some of our friends that two species, differing somewhat in their times of flowering, length of bracteas, and colour of the corolla, exist in England, but we have not been able to ascertain this point.



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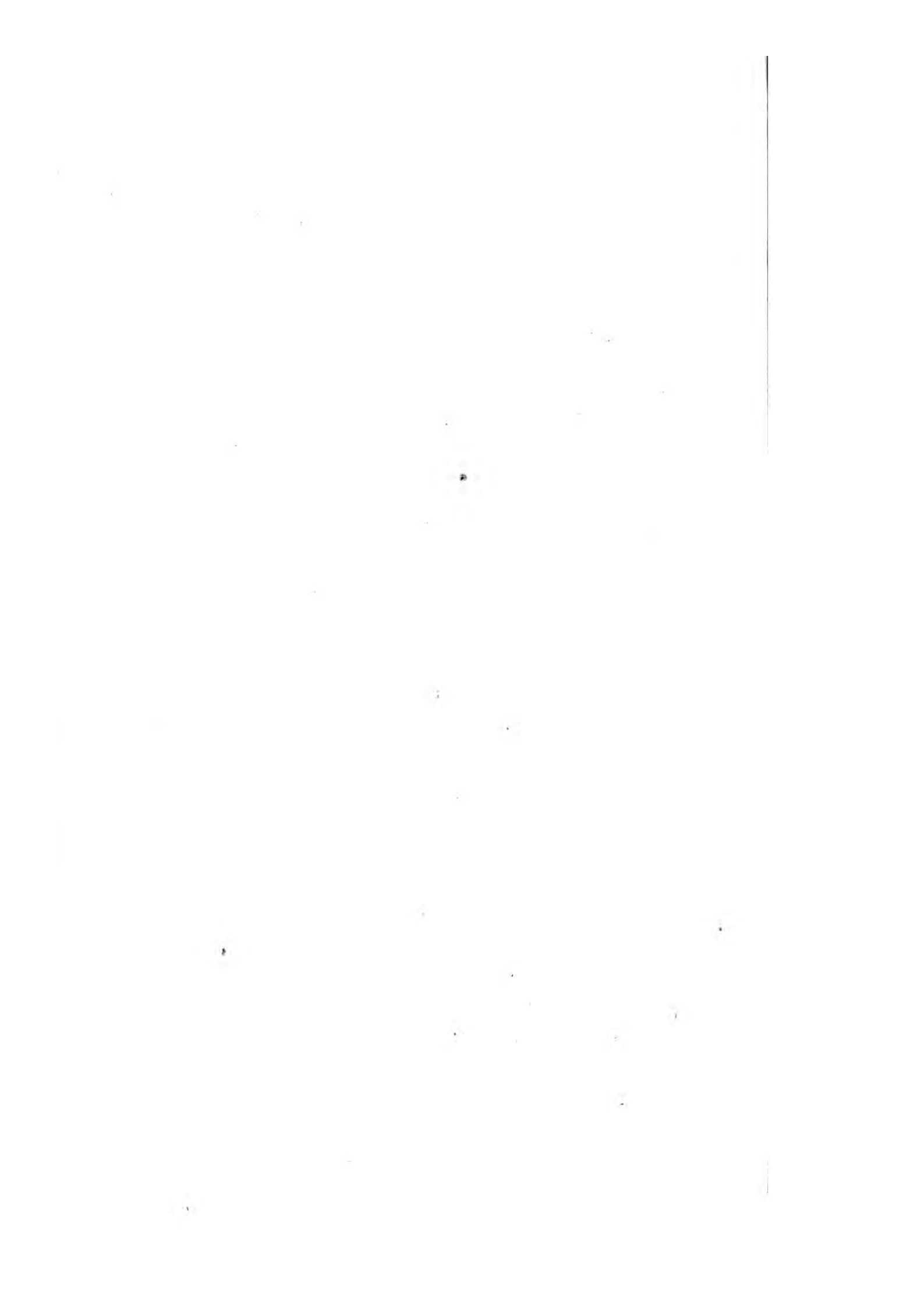
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O R C H I S maculata.

Spotted Palmate Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs palmate, spreading. Spur rather shorter than the germen: lip three-cleft, flat. Outer petals divaricated.

SYN. *Orchis maculata.* *Linn. Sp. Pl.* 1335. *Huds.* 385. *With.* 27. *Hull.* 195. *Relb.* 334. *Sibth.* 11. *Abbot.* 193.*O. palmata speciosiore thyrsis, folio maculato.* *Raii Syn.* 381.

MOST common in meadows or moist pastures, but it occurs also in groves, and sometimes in dry barren ground, flowering towards the end of June or beginning of July.

The bulbs in this species are palmate as in *O. conopsea*. Stem leafy, simple, 12 or 18 inches high, round, solid. Leaves lanceolate, keeled, spotted on both sides with scattered purple blotches. Spike ovate, various in size. Bractæ scarcely longer than the germen, purplish. Flowers very variable in size, as well as in the purple lines and spots on the nectary. In general the ground of the whole flower is white, tinged with a purple blush, and the spots are deep purple, making a very elegant appearance when closely examined. The lip is flat, with two large rounded side-lobes, and an intermediate sharp small point. Stamina green.

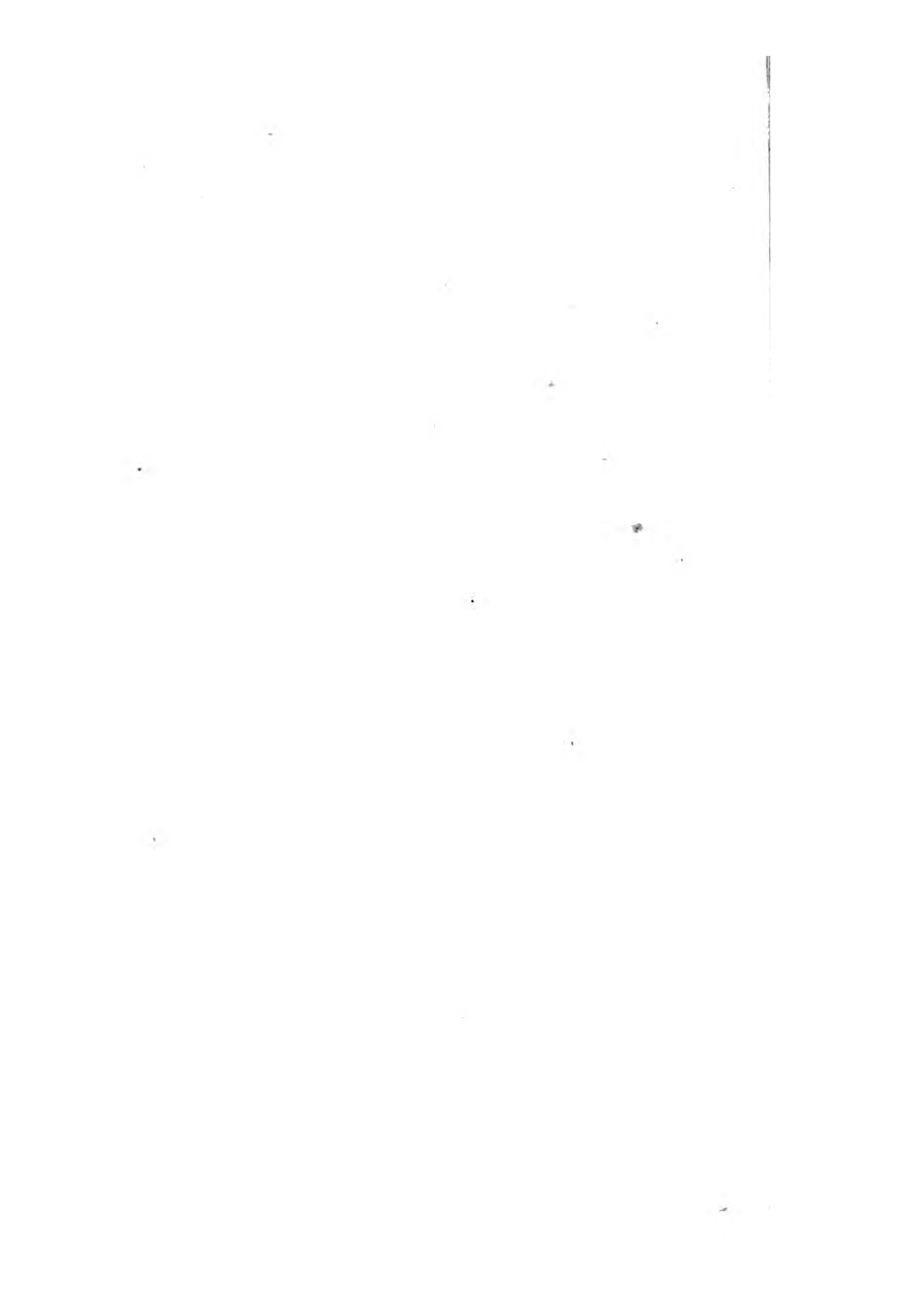
The only species with which this can be confounded is *latifolia*, but that is easily known by the great length of its bractæ, and its uniformly green leaves.

Linnæus in *Flo. Succ.* remarks that the bulb which is destined to bear the plant of next year is so heavy as to sink in water, while that from which the present herb springs is light enough to swim. This is plainly his meaning, which is not so clearly expressed in Dr. Withering's concise translation as usual with him.



1821 1779 Published by J. Sowerby.

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ORCHIS conopsea.

*Aromatic Orchis.**GYNANDRIA Diandria.*GEN. CHAR. *Nectary* a spur behind the flower.SPEC. CHAR. Bulbs palmated. *Nectary* very slender and acute, longer than the germen; lip in three parts. Two of the petals spreading very much.SYN. *Orchis conopsea.* *Linn. Sp. Pl.* 1335. *Huds. Fl. An.* 385. *Witb. Bot. Arr.* 977. *Relb. Cantab.* 335.*Palmata rubella cum longis calcaribus rubellis.* *Raii Syn.* 381.

THIS *Orchis* is found in wet pastures and bogs, in June and July. Its flowers are highly fragrant, approaching in smell to the red clove pink; their colour varies from deep purplish red, to flesh colour, and even white. Its leaves are long, and narrower than those of any other English species.

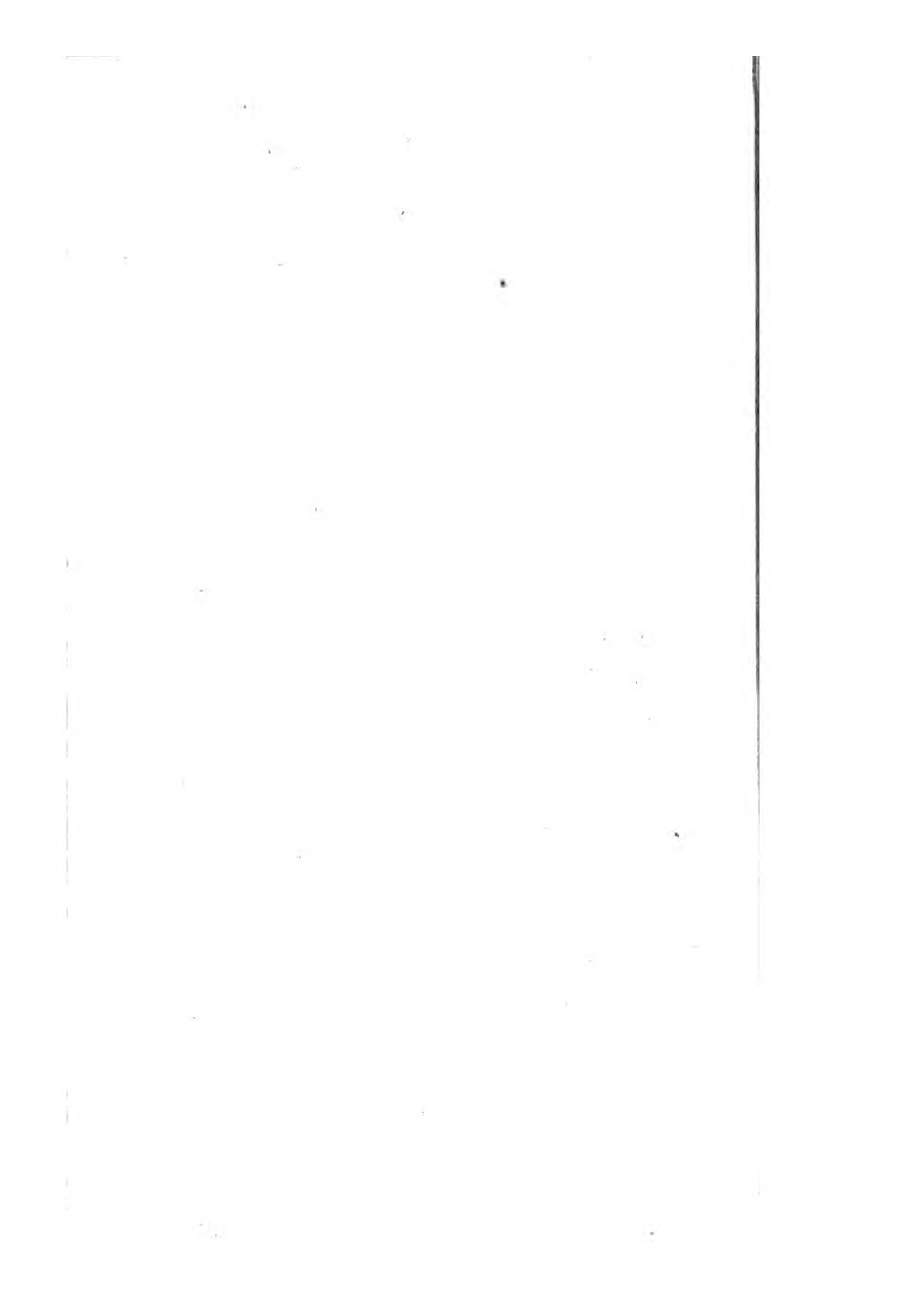
The specific name *Conopsea* alludes to a fancied resemblance of the flowers of this plant to the genus of insects called *Conops* by Linnæus. In many other species of this tribe the flowers much more evidently resemble insects.



J. Hervey del. An. 1. 1791.

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SATYRIUM hircinum.

*Lizard Satyrion, or Orchis.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* an inflated roundish bag behind the flower.

SPEC. CHAR. Bulbs round. Leaves lanceolate. Lip in three segments; the intermediate one very long, twisted, linear, abruptly jagged at the tip.

SYN. *Satyrium hircinum.* *Linn. Sp. Pl.* 1337. *Huds. Fl. An.* 386. *With. Bot. Arr.* 979.

Orchis barbata foetida. *Raii Syn.* 376.

IT is with peculiar pleasure we present the public with so very rare and curious a plant as that which is here figured, and which was drawn from a wild specimen obligingly communicated from the neighbourhood of Dartford by Mr. Lewin, well known by his fine work on British birds. Ever since the time of Ray it has been occasionally met with in that neighbourhood, though no where else in England; but the greediness of collectors has frequently endangered its total destruction, and in some seasons none can be found in flower. It is the largest English plant of this tribe, frequently attaining the height of three feet, and producing from twenty to sixty or more flowers, which appear in July, and are remarkable for their fetid goat-like smell. The upper part of the lip is downy, and marked with elegant purple spots on a white ground, otherwise the flowers are more singular than beautiful. They dry tolerably well. The plant loves a chalky soil, and shaded situation among shrubs and tall grass.



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Schweby del. 1791

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S A T Y R I U M viride.

Frog Satyrion, or Orchis.

G Y N A N D R I A Diandria.

GEN. CHAR. *Nectary* an inflated roundish bag behind the flower.

SPEC. CHAR. Bulbs palmated. Leaves oblong, obtuse. Lip linear, three-cleft, the middle segment smallest.

SYN. *Satyrium viride*. *Lim. Sp. Pl.* 1337. *Hudf. Fl. An.* 386. *Witb. Bot. Arr.* 981. *Relb. Cant.* 335.

Orchis palmata minor flore luteo-viridi. *Raii Syn.* 381.

IN meadows and pastures, especially in a gravelly or rocky soil, in most parts of England, flowering about May, June or July, but growing dispersed, so as to be rarely found in any quantity together. We were favoured with this specimen from near Luton Hoo, Bedfordshire, by Mr. Sibley, a gentleman who has paid much attention to the Orchis tribe.

Dr. Stokes has given an excellent and full description of this plant in the *Bot. Arr.* to which we have nothing to add, nor can the species be confounded with any other. The colour of the lip varying from yellowish green to brown, and its middle segment varying likewise in size, a common accident in this tribe, gave occasion to Mr. Hudson to describe a *Satyrium fuscum*, *Fl. An. ed. 1.* but on no sufficient grounds, as the brown colour and the equally divided lip by no means constantly accompany each other, witness our figure.



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SATYRIUM albidum.

White Satyrion.

GYNANDRIA Diandria.

GEN. CHAR. Nectary an inflated roundish bag behind the flower.

SPEC. CHAR. Bulbs fasciculate. Leaves lanceolate. Lip of the nectary three-cleft, acute; the middle segment longest.

SYN. *Satyrium albidum*. Linn. *Sp. Pl.* 1338. *Huds.* 387. *With.* 31. *Lightf.* 519. *Dicks. H. Sicc. fasc.* 1. 15.

Orchis palmata thyrso specioso, longo, dense stipato, ex viridi albente. *Dill. in Raii Syn.* 382.

FRESH specimens of this rare plant were sent us in June last from Hafod, Cardiganshire, by Miss Johnes. It grows copiously on the elevated exposed grassy hills which surround that romantic place, as well as in similar situations in Scotland; nor have we ever observed it in moist meadows, as Hudson (after Dr. Richardson in Ray's Synopsis) mentions. Hence I have been led to suspect the propriety of this synonym, and whether the preceding *Orchis*, n. 23. which remains unnoticed by late authors, may not rather belong to the plant before us. It must be confessed, indeed, that the epithet "*odorata*" scarcely agrees with *Satyrium albidum*, but neither does "*thyrso specioso*." I have had some idea of this n. 23. being the *Orchis sambucina*, which the Rev. Mr. Wood of Leeds thinks he once found near Snowdon.

The root of *S. albidum* is thus explained by Mr. Sowerby, from the consideration of several specimens: *a* a central fibre; *b* one a little above it; *c c* a pair of fibres, one on each side; *d d* a pair of old bulbs, the origin of the present plant; *e e* a pair of bulbs for next season; *f f* a younger pair.

The stem is scarcely a foot high, roundish, leafy. Leaves sheathing, lanceolate, of a light green, rather glaucous beneath, the lowermost broadest and most obtuse. Spike of many small greenish-white flowers, almost inodorous, each of them accompanied by a lanceolate bractea rather longer than the germen. Petals concave, all nearly equal. Spur longer than in most of the genus, so as almost to make it an *Orchis* according to Linnæan rules, and it certainly has great affinity with several of that genus in other respects. Lip green, palmate, with three lobes, of which the middle one is larger, and sometimes blunter, than the others.



Orchis latifolia

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SATYRIUM repens.
Creeping Satyrion.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* an inflated roundish bag behind the flower.

SPEC. CHAR. Roots fibrous, creeping. Leaves ovate, radical. Flowers leaning one way.

SYN. *Satyrium repens.* Linn. *Sp. Pl.* 1339. Huds. *Fl. An.* 387. With. *Bot. Arr.* 982. Lightf. *Fl. Sc.* 520. f. 22. bad. Dicks. *Dr. Pl.* 85.

ACCORDING to the custom we have hitherto adopted of beginning each volume with some peculiarly interesting plant, we here exhibit one of the most rare of the favourite Orchis tribe, for which we are obliged to James Brodie, Esq. the gentleman who discovered *Pyrola uniflora* (t. 146.) in Scotland, and communicated it to Mr. James Hoy, as Mr. Hoy himself has informed us since our account of that plant was published. This *Satyrium* grows in Alpine fir forests, not in "pastures and thickets." Our specimens were sent fresh from Scotland by the post, and came in perfectly good order, as plants of this tribe dry so very slowly.

The roots are perennial, truly creeping, not bulbous, very succulent, downy, running among moss, and attaching themselves to decayed fragments and leaves of fir in the manner of fungi. Leaves in tufts at the end of each runner, on broad sheathing footstalks, ovate, succulent, strongly 5- or 7-ribbed, and reticulated with transverse veins which are often brown, and the leaves are now and then prettily chequered with that colour. Stalks erect, 6 or 8 inches high, round, downy upwards, clothed with a few alternate sheathing bractæ, and terminated with an erect spike of numerous pale flesh-coloured fragrant flowers, leaning one way, but turning a little spirally round the stalk; each being accompanied by a lanceolate, concave, coloured, downy bractea, longer than the germen, which also is clothed with viscid downiness, as well as the three broader external petals. Haller describes the flower as having only three petals, besides the nectary, which Lightfoot copies, having probably never seen the plant alive, for his plate is excessively faulty. Mr. Sowerby found two internal lanceolate petals (as in the figure) which, like those of *Orchis ustulata*, are very difficult to be detected in a dried specimen, being "glued as it were" to the upper one, which the others are not by any means, though Haller says they are. Perhaps that great naturalist might make slight notes in the field, and confuse himself in copying them afterwards. Lightfoot's account is compiled from Haller's without acknowledgment. His whole book is nearly made up of such plagiarisms, and he is hence often deservedly led astray.



30001795 P. ... led by J. ...

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OPHRY S Nidus avis.

Bird's-nest Ophrys.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs in the form of fleshy clustered fibres. Stem clothed with scaly sheaths, without leaves. *Nectary* cloven.

SYN. *Ophrys Nidus avis.* *Linn. Sp. Pl.* 1339. *Hudf. Fl. An.* 388. *With. Bot. Arr.* 983. *Relb. Cantab.* 336.

Nidus avis. *Raii Syn.* 382.

THIS singular species of *Ophrys*, whose habit so nearly approaches the genus *Orobanche*, is probably like that genus parasitical. It is rather an unfrequent inhabitant of woods and thickets among decayed leaves, flowering in the early part of summer, and cannot be made to grow in a garden. Dr. Smith has found it in Norfolk, and it is often met with in Kent.

Its hue of sober brown is the opposite of the usual gaiety and brilliancy of the vegetable kingdom: but the scientific observer will consider it with admiration, as a plant whose appearance and economy are extremely singular; and the systematic botanist will cherish it as an important link in Nature's chain, combining several apparently discordant tribes.



v



[1547]

OPHRYS corallorhiza.

*Coral-rooted Ophrys.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Root branched, fleshy, zigzag, divaricated. Stem sheathed, without leaves. Lip of the nectary slightly three-lobed.

SYN. *Ophrys corallorhiza*. *Linn. Sp. Pl.* 1339. *Sm.*

Fl. Brit. 932. *Huds.* 388. *With.* 32. *Hull.* 196.

Lightf. 523. t. 23. *Fl. Dan.* t. 451.

Corallorrhiza n. 1301. *Hall. Hist.* v. 2. 159. t. 44.

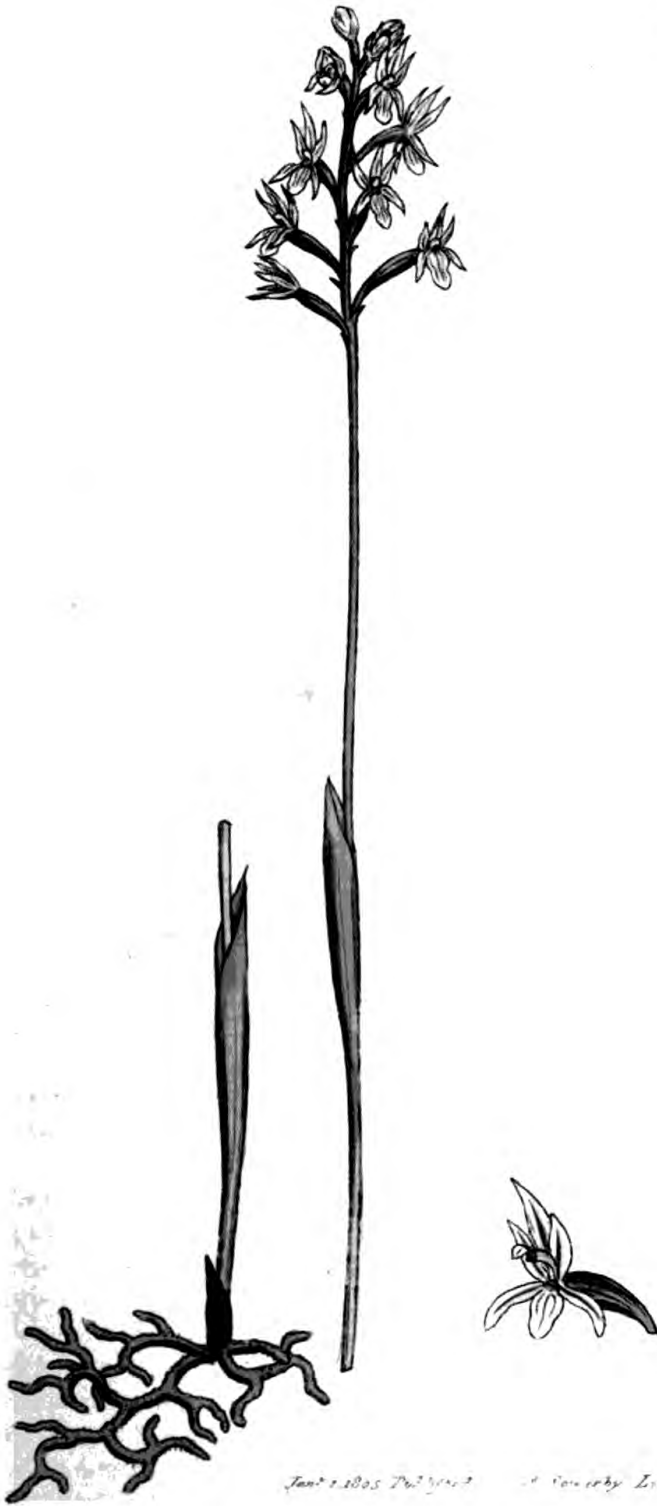
Cymbidium corallorrhizon. *Swartz. Act. Holm. ann.* 1800. 238.

Dentaria minor. *Ger. em.* 1585.

LIGHTFOOT, who first made this known as a British species, saw it only in one place, and there sparingly; "in a moist hanging wood, on the south side, near the head of Little Loch Broom, on the western coast of Ross-shire." We know not that any person has since met with it, till Mr. Thomas Bishop, to whom we are obliged for fresh specimens, found it in small quantities, in 1804 and 1805, in Methven wood 6 miles from Perth. It has not been observed in England, Wales or Ireland, though surely to be expected in the boggy alpine woods of the last-mentioned country. It is perennial, and flowers in July.

The root differs greatly from all other British plants of this family, being very much branched and divaricated, whitish, fleshy, somewhat downy. The stem is about a span high, simple, clothed with 2 or 3 alternate, cylindrical, greenish, swelling sheaths, which supply the place of leaves. Spike terminal, of a few flowers, each of which has a minute bractea at the base of its little stalk. Petals lanceolate, acute, white with a green rib; 3 of them erect; 2 spreading and curved downward. Lip ovate, furrowed, as long as the petal, slightly notched on each side, in which last particular the description in *Fl. Brit.* requires correction. The lid of the lip is vertical and moveable.

1547



Jan 2. 1805 Publ. by J. G. Smith London.

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OPHRYS ovata.
Common Twayblade.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Root of clustered fleshy fibres. A pair of elliptical leaves on the stem. *Nectary* linear, two-lobed.

SYN. *Ophrys ovata*. *Linn. Sp. Pl.* 1340. *Sm. Fl. Brit.* 932. *Huds.* 388. *With.* 34. *Hull.* 196. *Relh.* 347. *Sibth.* 12. *Abbot.* 195. *Curt. Lond. fasc. 3. t. 60.*

Epipactis ovata. *Swartz. Act. Holm. ann.* 1800. 232.
Bifolium majus, seu *Ophris major quibusdam*. *Raii Syn.* 385.

IN groves and pastures not unfrequent, flowering in June. Our specimen, gathered on the bushy hills above Matlock Bath, is rather smaller than the usual size of the plant in more moist situations.

The root is perennial, consisting of numerous simple fibres. Whole plant of a greenish cast. Stem a foot or 18 inches high, bearing about its middle a pair (rarely more) of sheathing, elliptical, ribbed, smooth leaves. Below these leaves the stem is angular and smooth, above them round and downy, terminating in a long, dense, upright spike of numerous green flowers, each on a partial stalk, with an acute bractea. Petals with a red or brown tinge, all concave, and directed rather upward. Lip long, pendent, yellowish green, linear, concave at the base, with a rib on the upper side, and ending in 2 rather spreading equal lobes. Column 2-lipped, the upper lip bearing the antheræ, which are brown, parallel, often falling out (as in our magnified figure), discharging two masses of yellow pollen which stick to the lower lip of the column, under which, on its other side, is the stigma. Very often these masses of pollen are scattered over other parts of the plant, as Dr. Scott and others have noticed in *Orchis bifolia*.



Jan. 2. 1865. Published by J. S. Sowerby, London.

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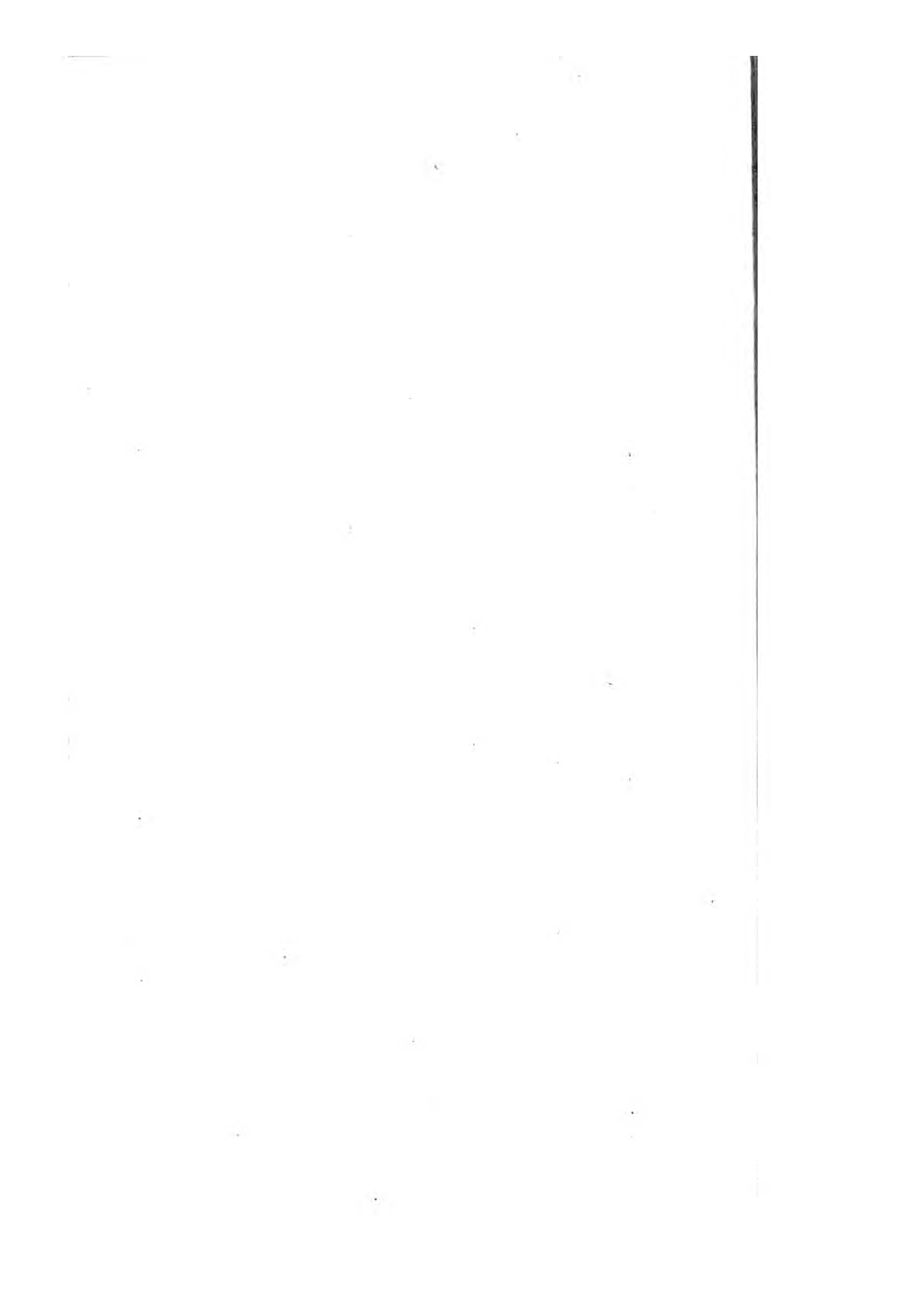
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OPHRYS cordata.

Heart-leaved Mountain Ophrys.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

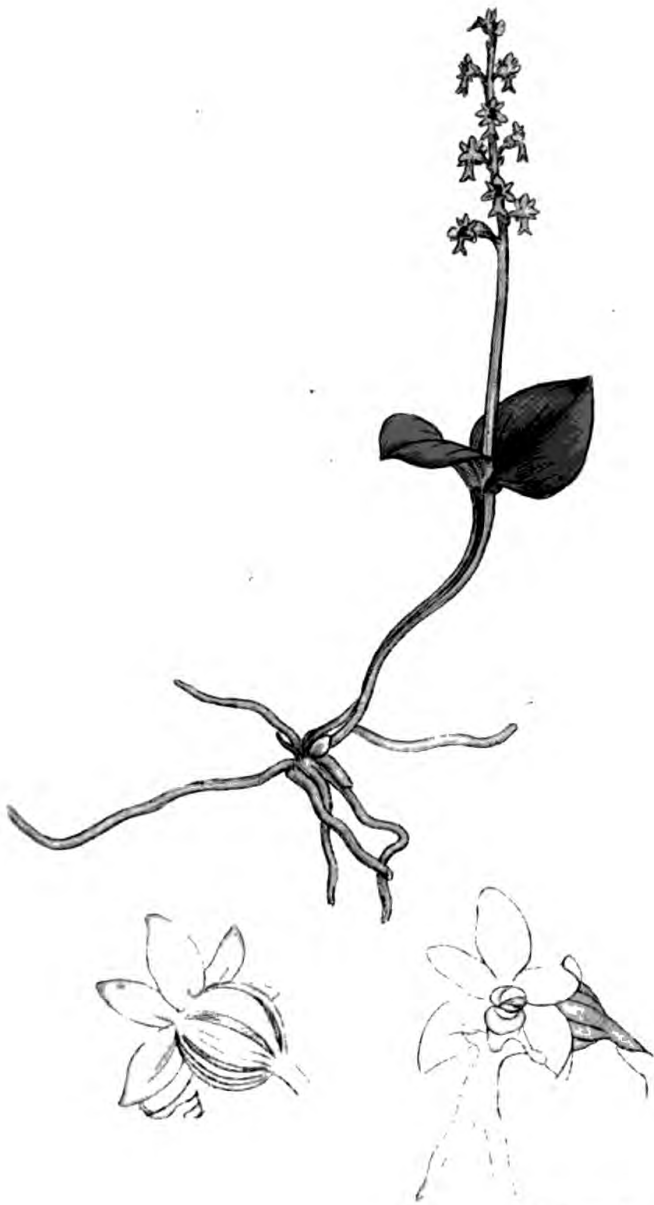
SPEC. CHAR. Root of clustered fleshy fibres. A pair of heart-shaped leaves on the stem. *Nectary* with four lobes.

SYN. *Ophrys cordata*. *Linn. Sp. Pl.* 1340. *Huds. Fl. An.* 388. *With. Bot. Arr.* 988.

Bifolium minimum. *Raii Syn.* 385.

FOR this rare alpine plant we are obliged to Mr. Salt of Sheffield, a most assiduous investigator of the vegetable creation, who gathered it on the high turfy moors to the southwest of that town, as indicated by Dr. Smith in *Withering's Bot. Arr.* It grows in moist, shady spots, flowering in June or July.

The root is not much unlike those of *Ophioglossum vulgatum* and *Osmunda lunaria*; we suspect it to be, like those, truly perennial, and not forming a cluster of fibres one year which are totally obliterated (while a new cluster is forming) the next. Stem solitary, angular, 4 or 5 inches high, simple, erect, bearing about its middle a pair of opposite, heart-shaped, pointed, smooth, veiny leaves. Spike terminal, upright, composed of numerous green inconspicuous flowers, whose petals are spreading, equal in length, the 2 innermost only being narrower than the rest, and all often tinged with brown. Lip of the nectary long, dependent, yellowish, having 2 extended linear lobes at the base, and being cloven half way into two longer ones of the same figure. By these first-mentioned lobes this species is essentially distinguished from the common *Ophrys ovata* (not to mention size, or the form of the leaves), which has only very slight prominences in that part of its nectary. The capsule is globose, purplish, crowned with the permanent withering corolla, and bursting by lateral clefts.



Andropogon furcatus (L.) Sw.

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OPHRYS spiralis.

Spiral Ophrys, or Ladies' Traces.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs clustered, oblong. Stem somewhat leafy. Flowers leaning spirally to one side. Lip undivided, crenate.

SYN. *Ophrys spiralis*. *Linn. Sp. Pl.* 1340. *Huds.* 389. *With.* 33. *Relb.* 337. *Sibth.* 12. *Curt. Lond. fasc.* 4. t. 59. *Dickf. H. Sicc. fasc.* 10. 17.

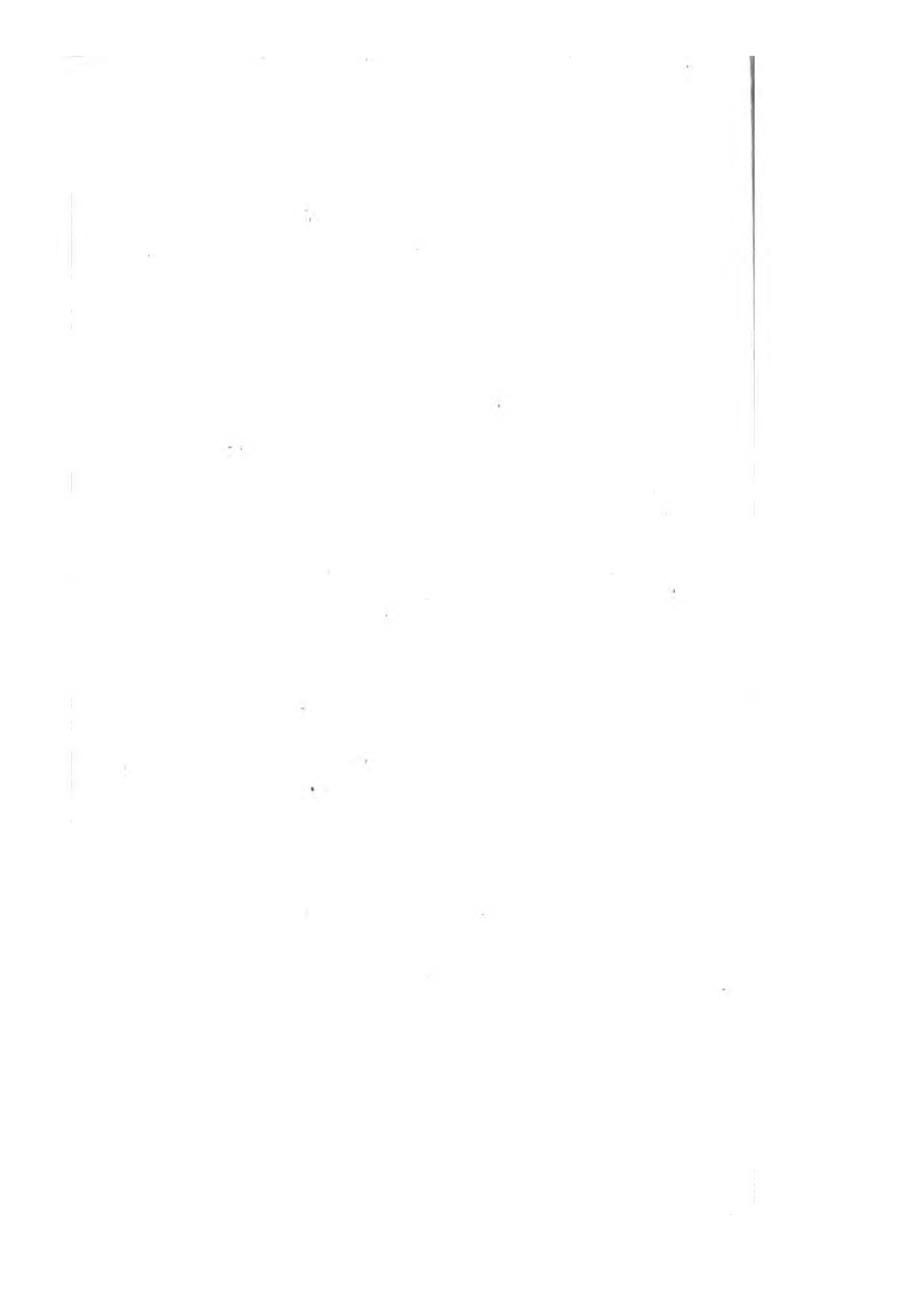
Orchis spiralis alba odorata. *Raii Syn.* 378.

MISS Lyfons, to whom we were obliged for a wild specimen of the *Adonis* t. 308, favoured us with this *Ophrys*, which may justly be reckoned among the rarer British plants; for although it grows in many parts of the kingdom occasionally, either on dry gravelly or chalky hills or in meadows, and often in great plenty; it will seldom be found flowering two years together on the same spot, nor perhaps till 8 or 10 years after it has been first observed, notwithstanding the root is perennial. Nor do the leaves constantly appear; or if they do, in some years they speedily wither away. Its flowering season is August or September.

The root consists of several oblong downy bulbs, each appearing to be formed 2 or 3 years before it produces the flowering plant, as in *Satyrium albidum*, t. 505; only in the present case those bulbs seem to be produced solitarily, not in pairs. Stem single, 5 or 6 inches high, invested with a few small sheathing leaves. The radical leaves are ovate, spreading, glaucous, smooth, sometimes finely pubescent about the edge. Spike terminal, erect, of many small, greenish-white, sessile, sweet-scented flowers, leaning to one side, but arranged in a spiral line either to the right or left, and each overshadowed by a concave pointed bractea. The whole spike, with its stalk, is downy and viscid. Three upper petals adhering together. Lip oblong, crenate, with an obsolete lobe at the base. What appears to be the stigma is a very peculiar roundish hairy protuberance, with a cloven point, hanging as it were beneath the antheræ. See Dr. Stokes's full description in *Withering*.







OPHRYS Loefelii.

*Dwarf Ophrys.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulb oval. Stalk naked, triangular. Lip roundish, concave, undivided. Petals linear. Leaves ovato-lanceolate.

SYN. *Ophrys Loefelii*. *Linn. Sp. Pl.* 1341. *Witb. Bot. Arr.* 988.

O. lilifolia. *Relb. Cant.* 337. *Huds. Fl. An.* 390. β . *Pseudo-Orchis bifolia palustris*. *Raii Syn.* 382.

RAY has mentioned this plant as the production of some moors in the neighbourhood of Cambridge: but those moors were long searched for it in vain by succeeding botanists, till the Rev. Mr. Relhan discovered it a very few years ago, growing, not very sparingly, where Ray has reported. This gentleman attributes its remaining so long latent, to its usual situation close to the stems of rushes. To him we are obliged for the plant we have figured. Mr. Pitchford many years ago found, in a meadow at St. Faith's, near Norwich, one single specimen, which he afterwards presented to the Rev. Mr. Lightfoot.

A confusion, which originated with Linnæus, has long existed between this plant and his *Ophrys lilifolia*. We can assure the public, on the authority of his herbarium, that the latter is only found in America, and that the European synonyms, which he has in several parts of his works applied to that species, really belong to ours. See several very good observations on this subject in the Botanical Arrangement, from Mr. Woodward and Dr. Stokes.



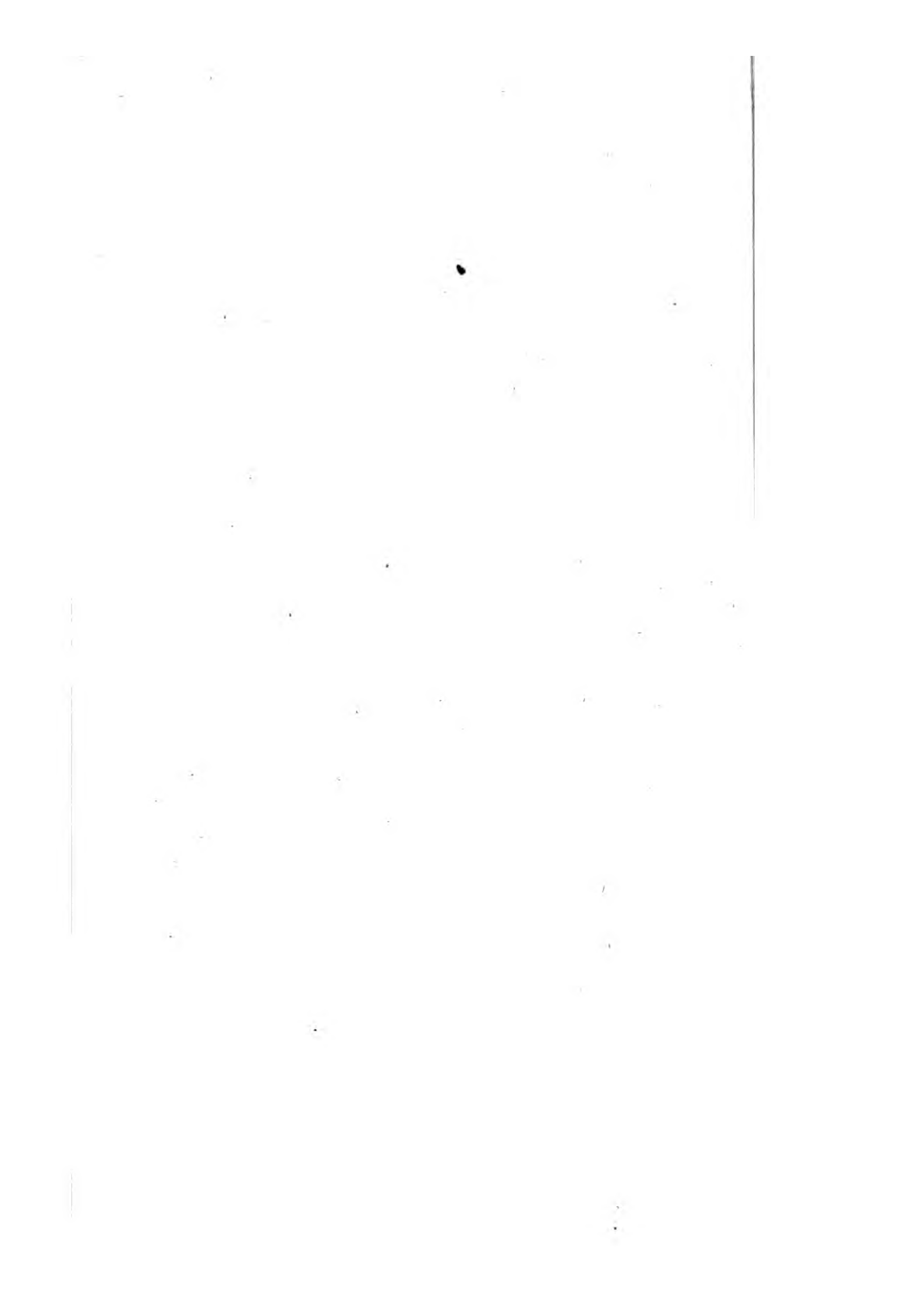
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OPHRYS monorchis.

*Musk Orchis.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulb globose. Stalk naked. Lip of the nectary three-cleft, as well as the inner petals.

SYN. *Ophrys Monorchis.* *Linn. Sp. Pl.* 1342. *Hudl. Fl. An.* 390. *With. Bot. Arr.* 990. *Relb. Cant.* 338.

Orchis odorata moschata five Monorchis. *Raii Syn.* 378.

GROWS in dry chalky pastures. We have received it from Kent by favour of Mr. Jacob Rayer, and from the neighbourhood of Bury gathered by W. Matthew, Esq. The last-mentioned gentleman suspects the radical leaves do not appear till within fifteen or twenty days of its flowering, which happens early in July.

This species is remarkable for having apparently but one bulb, whence the name *monorchis*. The bulb for the following year being formed at the end of one of the radical fibres, and making but small progress till the flowering of its parent root is over, has generally escaped notice.

The flowers have a musky honey-like smell. It is one of the least specious of its tribe, and may easily be overlooked.

In this plant the nectary is a little gibbous at the back part, so as somewhat to approach the character of *Satyrium*; nor is its habit far remote from *Satyrium albidum* and *repens*.



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OPHRYS anthropophora.

*Green Man Orchis.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip linear, in three divisions, the middlemost elongated and cloven.

SYN. *Ophrys anthropophora*. *Linn. Sp. Pl.* 1343. *Huds. Fl. An.* 390. *Witb. Bot. Arr.* 991. *Relb. Cantab.* 338.

Orchis anthropophora oreades. *Raii Syn.* 379. *Columnn. Ecphr.* 1. 320. *f.* 1. good.

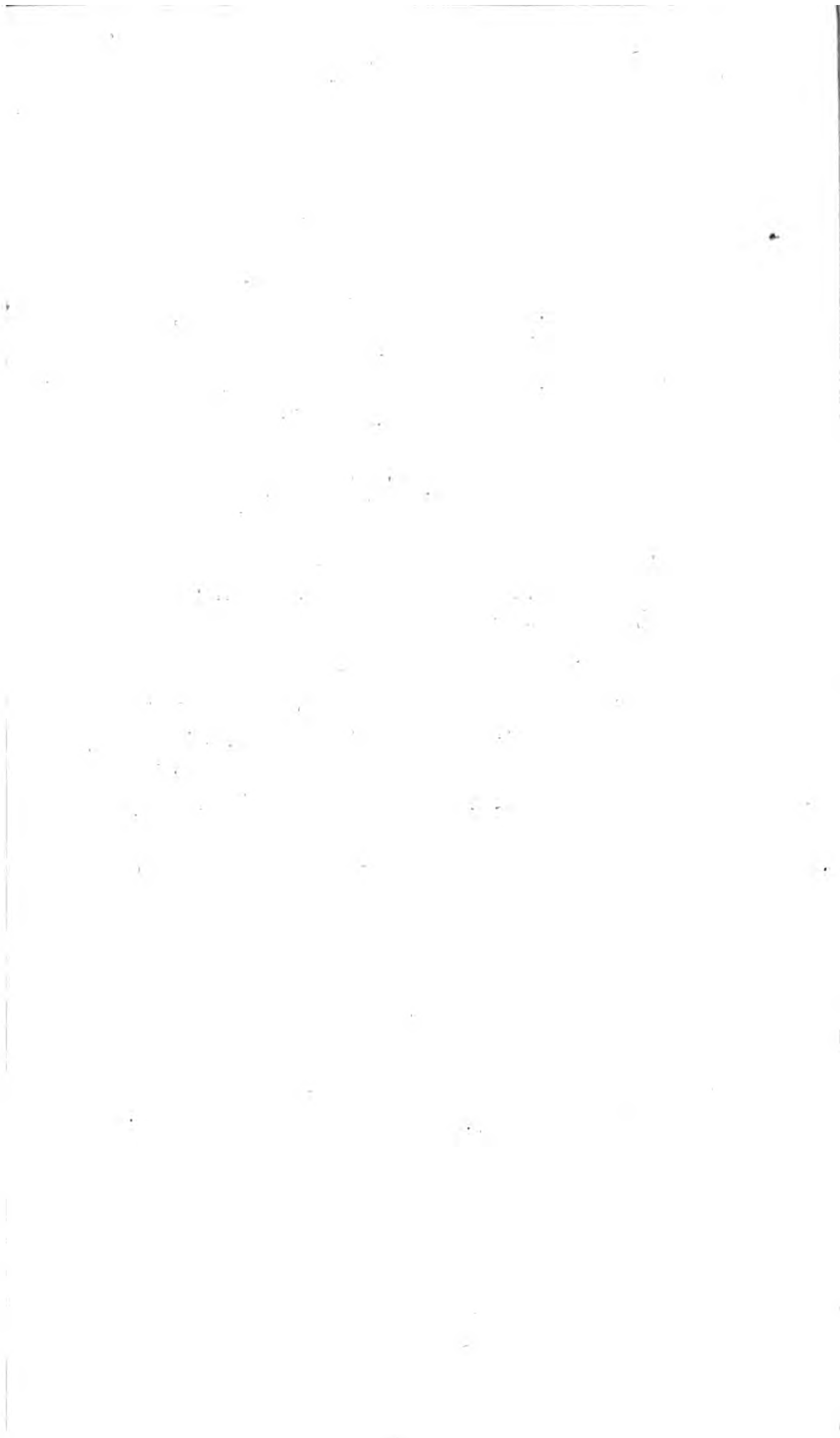
FOUND in chalk pits, hedges, and by road sides in a chalky soil, in various parts of England, very frequently in Kent; flowering in June. It is rather singular than strikingly beautiful in appearance, and chiefly remarkable for the figure of a naked man represented by the lip of its flower; the petals (which are often brownish) forming a kind of cap or helmet to the figure, as in the Military Orchis, *fig.* 16. The middle segment of the lip, however, is merely bifid, without any small intermediate tooth.

Columnna has given a very good figure and description of this *Ophrys* in his *Ecphrasis* above quoted, and claims the honour of being the first who has mentioned it. It has ever since been much celebrated, and is one of those species which Linnæus tells us every body who was curious in plants, when he was at Paris, went from thence to Fontainebleau to see in flower, the neighbourhood of that place abounding with this tribe of plants.



S. Schrank del. Sept 7 1791

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OPHRYS muscifera.

Fly Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip somewhat convex, downy above, in four straight divisions.

SYN. *Ophrys muscifera*. *Huds. Fl. An.* 391. *Relb. Cant.* 339.

O. myodes. *With. Bot. Arr.* 992.

O. infectifera α (*myodes*). *Linn. Sp. Pl.* 1343.

O. myodes major. *Raii Syn.* 379.

FOUND in meadows and pastures on a chalky soil, but not very common. It is most plentiful in Kent and Cambridgeshire, and has also been gathered near Tacolnestone church in Norfolk, and about Bungay in Suffolk; flowering in May and June.

No wonder the fly, the bee, and the spider orchis should have engaged the attention of all who were curious about plants. Their singularity and beauty are almost unrivalled. Linnæus, misled by the variations to which some of this tribe are really subject, has perhaps too rashly esteemed all those which resemble insects, as forming only one species. Yet surely nothing can be more distinct than the kind here figured, nor is any one more constant, not only in form, but even in colour.

Dr. Stokes is certainly right in his judgment concerning the trivial name of this plant (*Bot. Arr.* 992); but in unimportant matters strict propriety is sometimes obliged to give way to common custom.



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O P H R Y S *apifera*.*Bee Orchis.*GYNANDRIA *Diandria*.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip roundish, convex, downy above, in five inflexed divisions, the terminal one acute and recurved.

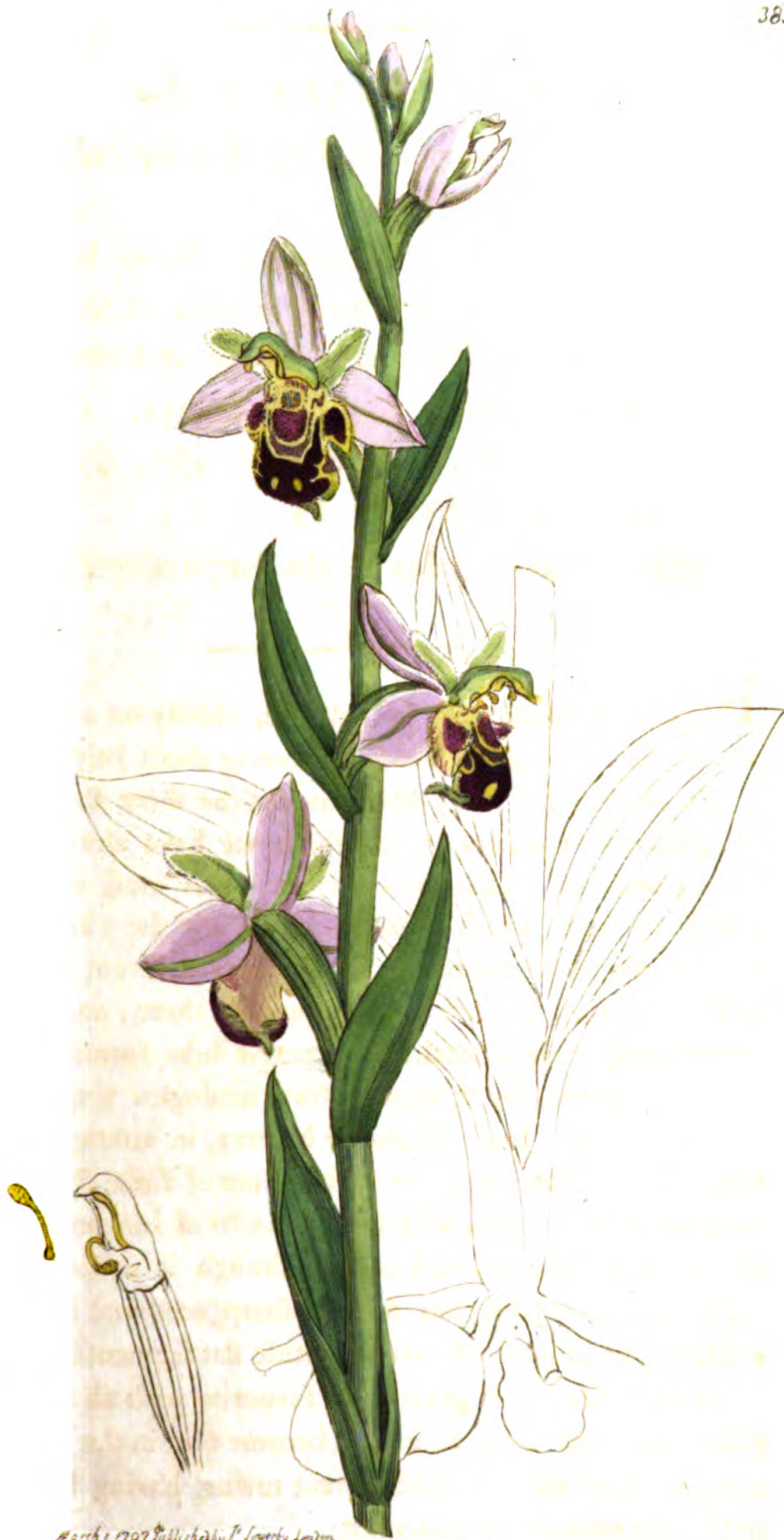
SYN. *Ophrys apifera*. *Huds. Fl. An.* 391. *Curt. Lond. fasc.* 1. t. 66. *Witb. Bot. Arr.* 993. *Relb. Cant.* 339. *Sibth. Ox.* 13.

Orchis fuciflora galea & alis purpurascensibus. Raii Syn. 379.

FOUND occasionally in pastures, chiefly on a chalky soil, and sometimes in great plenty, flowering about July.

Mr. Hudson has justly discriminated the three British species of insect-like Orchises, 2 of which we have already figured *tab.* 64 and 65. That now before us is most allied to the *aranifera*, from which it differs in having the 3 larger petals reddish, but more especially in the very different form of the nectary, which has five lobes instead of three; and instead of terminating with a notch, the central lobe forms a recurved point, compared, by those who draw analogies very closely, to the sting of the bee. Professor Murray, in attempting to distinguish these species in the 14th edition of *Linn. Syst. Veg.* has confounded the *apifera* with the *arachnites* of Linnæus, which is not an English plant, and which, though it in some respects resembles our *apifera*, has not the sharp recurved lobe of the nectary, but in its stead various obtuse flat segments.

The Bee Orchis is generally a favourite with all admirers of plants, and has by that means become rare in the neighbourhood of London and other great towns, having been rooted out by the rapacity of cultivators.



March 1707 Pallasch's Fourth Edition.

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O P H R Y S aranifera.

Spider Orchis.

G Y N A N D R I A *Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip roundish, convex, hairy above, in three divisions, turned in at the margin, and notched at the tip.

SYN. *Ophrys aranifera.* *Huds. Fl. An.* 392. *Witb. Bot. Arr.* 994. *Relb. Cant.* 340.

Orchis five Testiculus sphegodes hirsuto flore. *Raii Syn.* 380.

THIS, with us the most uncommon of the insect-bearing Orchises, was gathered near Bury by Sir T. G. Cullum, Bart. as well as by W. Matthew, Esq. and we are obliged to both these gentlemen for fine specimens of it, flowering in April. Mr. Jacob Rayer, of Bolt-court, Fleet-street, to whom we have likewise been indebted for a specimen of *Lathræa Squamaria* found near London, brought us the Spider *Ophrys* from Kent. It is also found in Cambridgehire, always on a chalky soil, and varying much as to the number of flowers. This more nearly approaches the Bee Orchis than the Fly, but essentially differs from it in having the great middle lobe of the nectary simply notched, and not ending in three recurved points; besides its flowering two or three months earlier, and having the column of the fructification thicker, shorter, and of a different figure, when accurately compared with the other species. The *Ophrys arachnites* of *Linnaeus* appears, from his herbarium, to be a different plant from ours, having a lip more like that of the *apifera*.





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M A L A X I S paludosa.

Marsh Tway-blade.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* of one hollow, heart-shaped, erect leaf, embracing the organs of fructification. *Corolla* reversed.

SPEC. CHAR. Stalk pentagonal. Leaves several, spatulate, rough at the tip.

SYN. *Malaxis paludosa*. Swartz, *Stockholm Transf. for* 1789, p. 127. t. 6. f. 2.

Ophrys paludosa. Linn. *Sp. Pl.* 1341. *Huds. Fl. An.* 389. *With. Bot. Arr.* 989. *Relb. Cant.* 337. *Rose's Elem. (App.)* 450. t. 2. f. 3.

Orchis minima bulbosa. *Ray Syn.* 378.

A NATIVE of turfy bogs on the north side of Norwich, and in some other parts of England; communicated from the neighbourhood of Potton, Bedfordshire, by the Rev. Mr. Charles Abbot of Bedford. It flowers in July, and is the smallest British plant of this tribe.

However averse to unnecessary innovation, it is impossible to refuse our assent to the establishment of this genus as characterised by Dr. Swartz; happy would it be if every genus in Orchidæ were as clear. Yet it appears that able botanist has not paid due attention to the corolla being reversed (*resupinata*); the odd petal (of the three external ones) being the lowermost (1), which is what has hitherto been erroneously called the lip. The most striking character of *Malaxis* consists therefore in the two erect petals at the top (2) instead of the solitary one of all other Orchidæ, at least the European ones. The nectary (3) moreover points upward, and embraces the stamina and style. No. 4 represents the stamina and their cover separated, and much more magnified than the other parts.

To this genus certainly belongs *Ophrys monophyllos* Linn. but surely Dr. Swartz is mistaken in referring to it also *O. lilifolia* and *Loeselii* (see our tab. 47), which resemble it in habit only.

The disputed synonym in Ray's *Synopsis* 385. No. 3, and Pluk. *Phyt.* t. 247. f. 2. *Ophrys palustris* of Hudson's first edition, has certainly nothing to do with our plant. May it not be *O. Loeselii*? See *Bot. Arr.* 989, 990.



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S E R A P I A S latifolia.

Broad-leaved Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Roots creeping. Leaves ovate, embracing the stem. Flowers drooping. Lip entire, pointed, shorter than the petals.

SYN. *Serapias latifolia.* *Linn. Syst. Vcg. ed. 14.* 814.
Hudf. Fl. An. 393. *Witb. Bot. Arr.* 997. *Lightf. Scot.* 526. *Relb. Cant.* 340. *Sibth. Oxon.* 13.S. *Helleborine* α . *Linn. Sp. Pl.* 1344.*Helleborine latifolia montana.* *Raii Syn.* 383.

NOT uncommon in shady woods, especially in the mountainous parts of this kingdom; we are obliged to the Countess of Aylsford for this specimen. It flowers in July or August.

Root perennial, creeping horizontally, throwing out many long fibres, fleshy, but by no means bulbous, thriving in the moist black vegetable mould of damp woods. Stem simple, erect, near two feet high, clothed with several alternate, ovate or lanceolate leaves, the lower ones sheathing, the upper sessile, all strongly nerved, thin, rather rigid, not fleshy. Spike erect, many-flowered. Bractæ lanceolate, the lower ones longest. Flowers more or less drooping, on short flower-stalks, of a brownish green, and sometimes dark purple (which is Mr. Hudson's β); petals ovate, pointed, concave. Nectary shorter than the petals, concave, with a projecting margin; lip heart-shaped, entire, with a small recurved point, purplish, but not streaked. The colour of the flowers is very variable; they have generally a faint, aromatic, orchis-like smell. The germen and stem are more or less downy.



Asplenium platyneuron (L.) Sw. *Asplenium platyneuron* (L.) Sw. *Asplenium platyneuron* (L.) Sw.

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SERAPIAS palustris.

Marsh Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Roots creeping. Leaves lanceolate, embracing the stem. Flowers drooping. Lip crenate, obtuse, equal to the petals.

SYN. *Serapias palustris*. *Lightf. Fl. Scot.* 527.*S. latifolia* γ, *palustris*. *Huds. Fl. An.* 393.*S. longifolia*. *Linn. Syst. Veg. ed. 14.* 815. *With.**Bot. Arr.* 998. *Relb. Cant.* 341. *Sibth. Oxon.* 14.*Helleborine palustris nostras*. *Raii Syn.* 384.

IN swampy meadows and on watery commons in various parts of England, not very unfrequent; we doubt its being to be met with in any other kind of situation. The flowers are in perfection about July or August.

Root creeping, fleshy, perennial. Stem erect, simple, 12 or 18 inches high, lower leaves ovate, often purple at the back; upper ones lanceolate, erect; all embracing the stem, and ribbed. Spike erect. Bractæ lanceolate, about equal to the germen. Flowers fewer and much larger than in the preceding species, drooping, with downy, purple flower-stalks and germen. Petals rather obtuse, the three outermost green, two innermost white, all streaked and stained with purple. Nectary about as long as the petals, white streaked with purple, and a yellow central line; lip heart-shaped, blunt, with a dilated waving crenated margin, and a notched protuberance above the base.

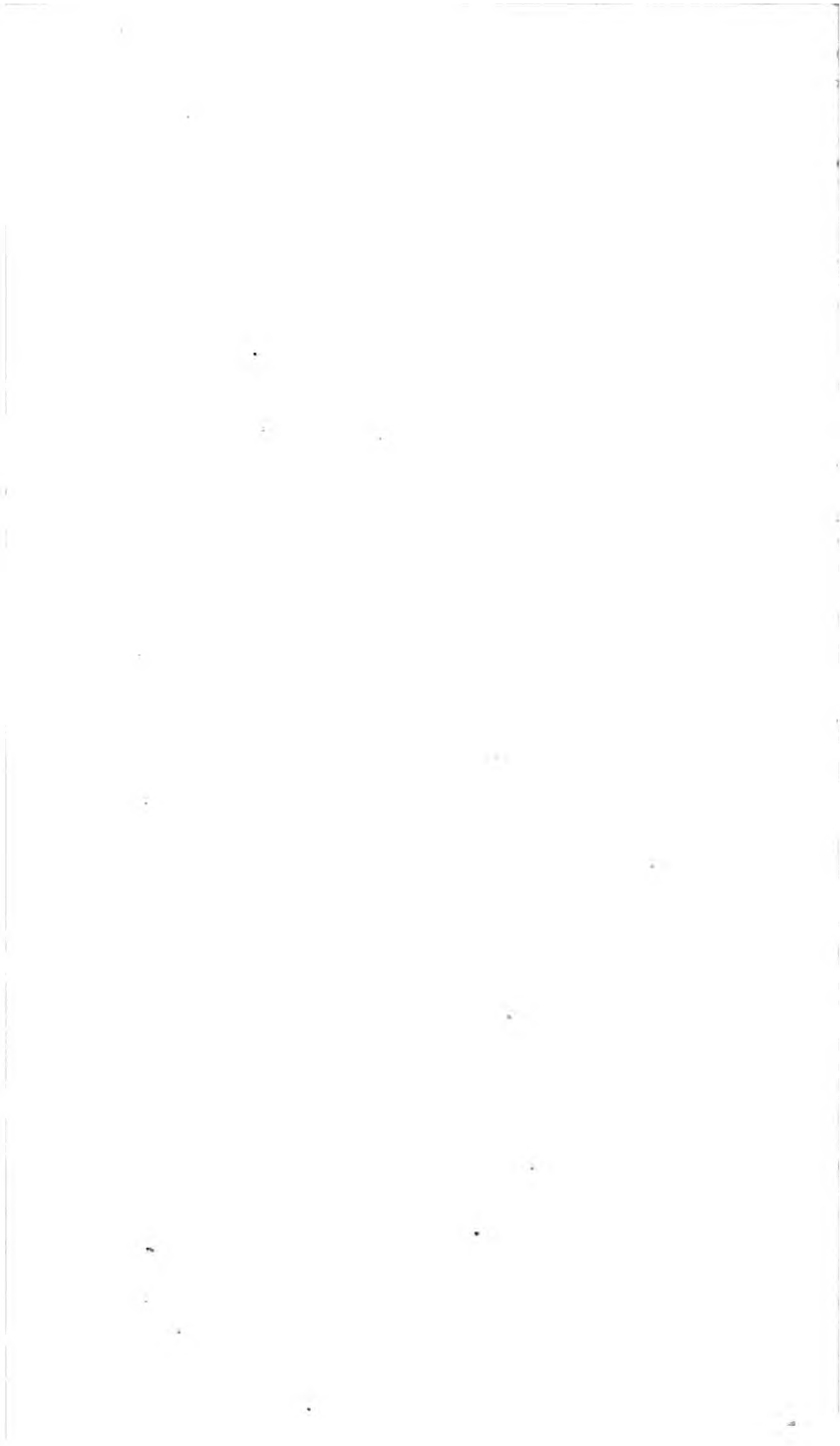
There is no doubt of this being a very distinct species from that in the last plate, and the characters above described sufficiently distinguish them; there must therefore be a very great error in Mr. Hudson's assertion, that this, if planted in a garden or dry soil, will the second year become *S. latifolia*. We have known such mistakes sometimes happen. We prefer Lightfoot's and Scopoli's name *palustris* to *longifolia*, because the latter is more applicable to many other species, and the former, being extremely apt, is most generally adopted.



Clay 1795 Published by J. Smully London.

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SERAPIAS grandiflora.

White Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Root creeping. Leaves elliptico-lanceolate. Bractææ longer than the germen. Flowers erect. Lip obtuse, rather shorter than the petals.

SYN. *Serapias grandiflora.* *Lightf. Fl. Scot.* 528. *With. Bot. Arr.* 1000. *Relb. Cant.* 341. *Sibth. Oxon.* 14.S. longifolia. *Hudf. Fl. An.* 393.Helleborine flore albo. *Raii Syn.* 383.

COMMUNICATED by the Rev. Mr. Baker, F. L. S. from Gloucestershire. It occurs in woods and thickets, chiefly in the midland counties, very rarely in Scotland, flowering in June.

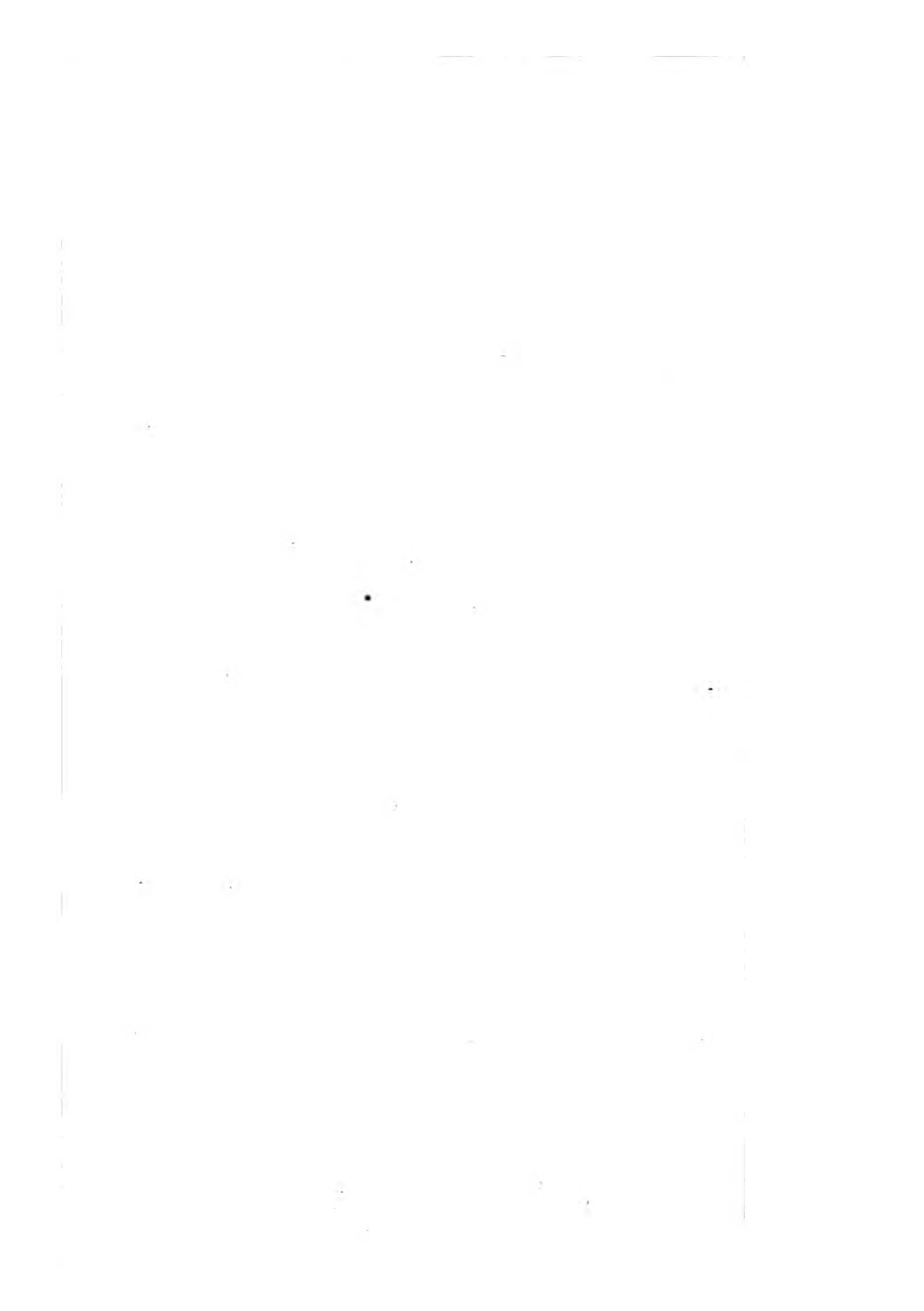
Root long and creeping, perennial. Stem about a foot high. Leaves ribbed, various in breadth, but generally rather elliptical than lanceolate, their base half embracing the stem. Spike erect, of from three to eight large white, nearly upright flowers. Lower bractææ like the leaves in form and size; the others gradually less, but none shorter than the germen, which is slender, and deeply furrowed. Petals but little expanded, and enclosing the lip of the nectary, which is heart-shaped, obtuse, entire, with three elevated longitudinal yellow ribs on the upper side.

Much confusion reigns among the British species of *Serapias*, which has chiefly originated with Linnæus, as is evident from the different editions of his works; nor are these plants settled as it could be desired in the *Supplementum*, nor in Murray's editions of *Syst. Veg.* The species before us is by the last-mentioned author very unaptly named *lanceifolia*, and appears not to have been distinguished by him from *ensifolia*. Lightfoot, from his quotation of *Flo. Dan. t.* 506, seems to have fallen into the same error; as Hudson has likewise. The true *ensifolia* (see Withering) is Hudson's var. γ , and has long narrow leaves, very small bractææ, and a lip much shorter than the petals. We hope one day to obtain it from Westmoreland or the north of Yorkshire.



Fig. 2. 17. 18. Peltandra by J. Sowerby London

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S E R A P I A S *ensifolia*.*Narrow-leaved Helleborine.*

*GYNANDRIA Diandria.*GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Root fibrous. Leaves sword-shaped. Bractæ much shorter than the germen. Flowers erect. Lip obtuse, half as long as the petals.

SYN. *Serapias ensifolia*. *Linn. Syst. Veg. ed. 14.* 815, (synonyms confused). *With.* 42. *Fl. Dan. t.* 506.*S. Xiphophyllum*. *Linn. Suppl.* 404.*S. longifolia* γ . *Huds.* 394.*Helleborine foliis prælongis angustis acutis*. *Raii Syn.* 384.

FOUND on the top of Aberly hill, Worcestershire, and also in Wire forest in the same county, by Walter Michael Mofely, Esq. of Glashampton, to whom we are obliged for wild specimens of this rare plant, which completes our history of the British species of *Serapias*; see *t.* 269, 270, 271, and 437.

This has most affinity with the *grandiflora*, and has often been confounded with that. The root however seems to be not so properly creeping, but consists of a bundle of long fleshy fibres. Leaves long and sword-shaped, standing almost in two ranks; the uppermost nearly linear; the lowest very blunt, and even emarginate. Bractæ extremely small (except the lowermost), scarcely a quarter so long as the germen, by which this species is essentially distinguished. Flowers white, upright. Germen slender, striated. Lip about half as long as the petals, obtuse, with white elevated ribs running longitudinally, and in the front a yellow crescent-like spot.



Epipactis atrorubens

1



S E R A P I A S rubra.

Purple Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Root creeping. Leaves lanceolate.

Bracteæ longer than the germen. Flowers erect.

Lip acute, marked with undulating lines.

SYN. *Serapias rubra.* Linn. *Syst. Veg. ed.* 14. 816.*With.* 42. *Fl. Dan. t.* 345.*S. longifolia* δ. *Huds.* 394.*S. grandiflora* δ. *With. ed.* 2. 1001.*Helleborine montana angustifolia purpurascens.* Raii*Syn.* 384.*Epipactis* N. 1299. *Hall. Hist. v.* 2. 156. *t.* 42.

DILLENIIUS, in his edition of Ray's Synopsis, inserts this as a native of Ireland, on the authority of Plukenet; Hudson says it grows in the north part of Yorkshire; but Dr. Withering, who in his third edition has first rightly explained the species of *Serapias*, mentions the *rubra* as a very doubtful native. We are enabled to decide the question by means of this wild specimen, gathered last June on a steep stony bank, sloping to the south, on Hampton Common, Gloucestershire, by Mrs. Smith of Barnham House in that neighbourhood, who observed about a dozen of the plants within a small space. In the following month we received specimens gathered in another part of the same county by the Rev. Mr. Baker.

This is unquestionably a most distinct species, though confounded by Hudson with *grandiflora* (see our *t.* 271.) and *ensifolia*; nor were these plants ever well understood by Linnæus.

The root creeps horizontally, producing many long simple fibres. Stem perfectly erect, a foot high, leafy, downy; compressed, and with fewer leaves in the upper part. Leaves a little spreading in various directions, lanceolate, pointed, ribbed. Spike of from three to six upright purple flowers. Bracteæ lanceolate; the lowermost sometimes as long as its corresponding flower, the rest but a little longer than the germen, sometimes rather shorter. Germen slender, downy. Petals all directed upwards, ovate, very much pointed. Nectary with a short blunt projection behind, its lip about equal to the petals in length, white tipped with purple, lobed on each side at the base, marked with yellow elevated undulating lines, and terminating in a sharp point; by which marks it is certainly distinguished, as Haller observes, from *S. grandiflora*.



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[1]

CYPRIPEDIUM Calceolus.

*Ladies Slipper.**GYNANDRIA Diandria.*

GENERIC CHARACTER. *Nectarium* large, inflated, and hollow.

SPECIFIC CHAR. Roots fibrous. Leaves ovato-lanceolate, growing on the stem. Flower with four petals.

SYN. *Cypripedium Calceolus.* *Linn. Sp. Pl.* 1346.

Huds. Flo. An. 392. *Withering's Bot. Arr.* 1001.

Calceolus Mariæ. *Raii Syn.* 385.

IF the beauty or scarcity of a plant, or the singularity of its structure, entitle it to our notice, the Ladies Slipper certainly merits the first place in a work on British plants. It may indeed be reckoned the queen of all the European *Orchidæ*. Accordingly it has not only been admired and cherished by the scientific botanist, but it has among gardeners always been sold at the highest price of any British vegetable.

It is confined to some remote and little frequented woods in the North of England. In a garden this plant is cultivated with more ease than many of its tribe. If dried with care it will preserve the colour of its leaves and flowers much better than plants of the *Orchis* kind generally do.

We have no other species of this genus wild in England, nor indeed in Europe, except the rare *Cypripedium bulbosum* of Lapland, which few botanists have ever seen.



Stelis delavayi 1900

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ARISTOLOCHIA Clematitis.

*Common Birthwort.**GYNANDRIA Hexandria.*

GEN. CHAR. *Stigmas 6. Cal. none. Corolla of one tongue-shaped, entire petal. Capsule inferior, of 6 cells.*

SPEC. CHAR. *Leaves heart-shaped. Stem erect. Flowers in axillary clusters.*

SYN. *Aristolochia Clematitis. Linn. Sp. Pl. 1364. Huds. Fl. An. 394. With. Bot. Arr. 1003. ed. 3. 360. Relh. Cant. 342. Sibth. Ox. 112. Dicks. Dr. Pl. 14.*

RAY appears to have considered this plant as too doubtful a native to be admitted into his *Synopsis*, but he could not be uninformed of its being found, apparently in a state of nature, in many parts of England. It is generally observed about the ruins of nunneries, as at Godstow Oxfordshire, and Carrow Abbey near Norwich, from which last place our specimen was sent by the Rev. Mr. Sutton. The several kinds of *Aristolochia* were formerly a principal remedy for some female disorders.

The root of this species is long, slender, creeping, and perennial. Stems many, nearly 2 feet high, erect, round, striated, smooth, a little zigzag. Leaves alternate, on footstalks, without stipulæ, heart-shaped, entire, smooth, broad, with many strong veins, the lateral nerves branching in a pedate manner. Flowers 5 or 6 in a cluster from the bosom of each leaf, on shortish stalks, erect, pale yellow, appearing from July to September, of a very singular form, consisting of one petal globose at the base with 6 furrows, then funnel-shaped and terminating in a tongue-like figure. In the bottom of this petal stand the stamina and styles, forming a globular body all together, but the germen is below the corolla. The very short thick stamina do really grow out of the style (which is likewise short and thick), so that this genus is truly *gynandrous*, and we see no reason for abolishing that class merely because some plants have been erroneously referred to it. The style appears to us simple, with 6 stigmas, so that we have ventured in that respect to alter the Linnæan character. Like other vegetables that increase much by root, it rarely ripens its fruit.



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[1844]

ZANNICHELLIA palustris.

Horned Pondweed.

MONOECIA Monandria.

GEN. CHAR. Male, *Cal.* none. *Cor.* none. *Stam.* Filament solitary, elongated, erect: *anther* ovate, erect. Female, *Cal.* of 1 leaf. *Cor.* none. *Germens* 4 or more. *Seeds* as many, stalked. *Stigmas* peltate.

SPEC. CHAR. Anther of four cells. Stigmas entire.

SYN. *Zannichellia palustris.* *Linn. Sp. Pl.* 1375. *Sm. Fl. Brit.* 955. *Huds.* 397. *With.* 6. *Hull.* 202. *Relh.* 358. *Sibth.* 3.

Aponogeton aquaticum graminifolium, staminibus singularibus. *Raii Syn.* 135.

MICHELI named this genus in honour of a Venetian apothecary, whom he greatly celebrates for his knowledge and zeal with regard to natural history, especially marine plants and animals. He describes two species, one of which only has been met with in Britain.

This is an annual plant, occurring in ponds and ditches, as in Tothill fields and many other places, in the summer season, floating in the water, but rising to the surface when in blossom. Stem threadshaped, slender, repeatedly branched, smooth, leafy. Leaves opposite or somewhat whorled, linear, narrow, acute, entire, grassy. Bractea axillary, tubular, membranous, including a pair of flowers; the male consisting of a long stamen and 4-celled anther, without calyx or corolla; the female of an oblique bell-shaped calyx, on a stalk, with 4 or 5 stalked, oblong, compressed germens, rugged or toothed at their backs. Styles short. Stigmas peltate, dilated, with entire edges.

The other species, found in mountain ponds, is described by Micheli as having toothed stigmas, and, what is much more remarkable, an anther with only two cells. Such a difference would in most cases be sufficient to afford a generic distinction, but here it is evidently only a specific one. See remarks on this subject in *Introduction to Botany*, 362.

1844



Febr. 1844. Publ. by J. S. Sowerby, London.

v



TYPHA latifolia.

Great Cat's-tail or Reed-mace.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* cylindrical, hairy. *Antheræ* about 3 together on each filament.

Female, *Catkin* cylindrical. *Seed* 1, on a feathered stalk.

SPEC. CHAR. Leaves somewhat sword-shaped. Male and female catkins close together.

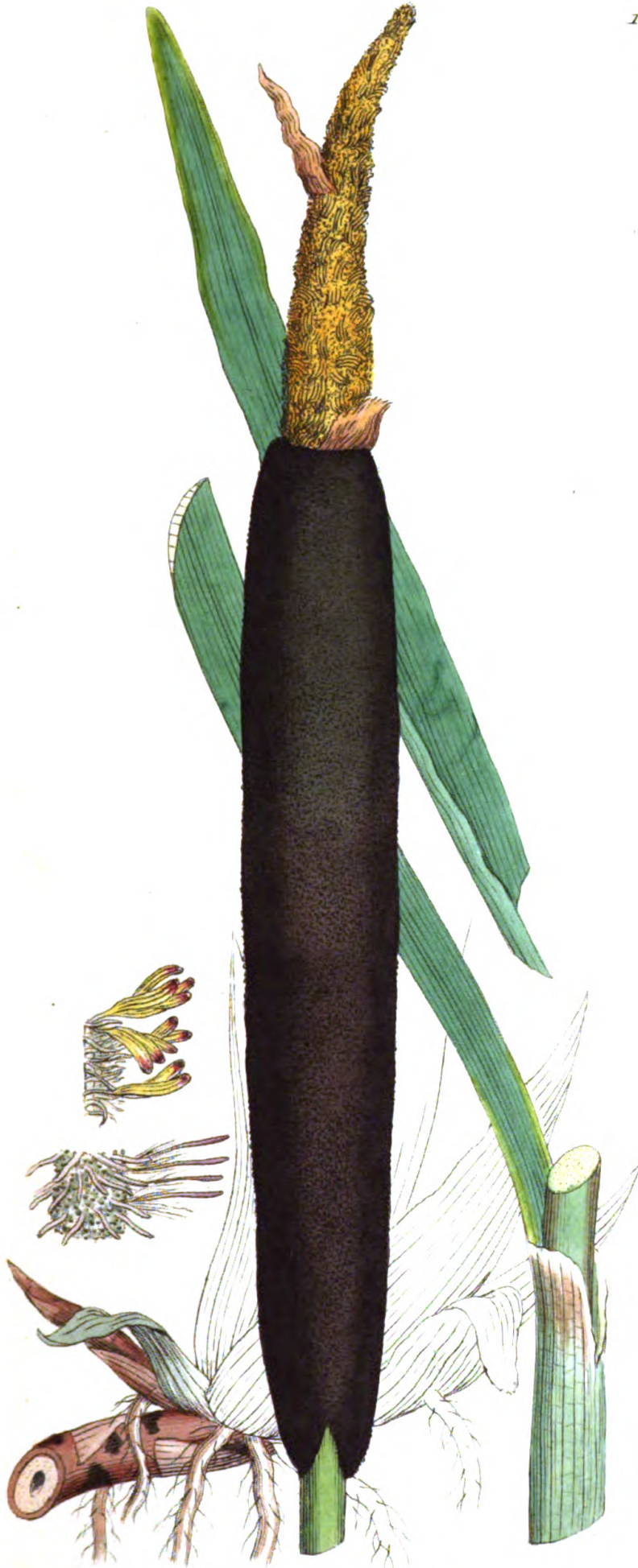
SYN. *Typha latifolia*. *Linn. Sp. Pl.* 1377. *Sm. Fl. Brit.* 959. *Huds.* 400. *With.* 111. *Hull.* 203. *Relh.* 360. *Sibth.* 25. *Abbot.* 199.

T. major. *Curt. Lond. fasc. 3. t.* 61.

Typha. *Raii Syn.* 436.

FREQUENT in pools, ditches and about the margins of slow streams, growing in the water, and familiar to the most casual observer by its tall stems and great mace-like brown spikes, which flower in July. Some persons mistake it for the Bull-rush, *t.* 666.

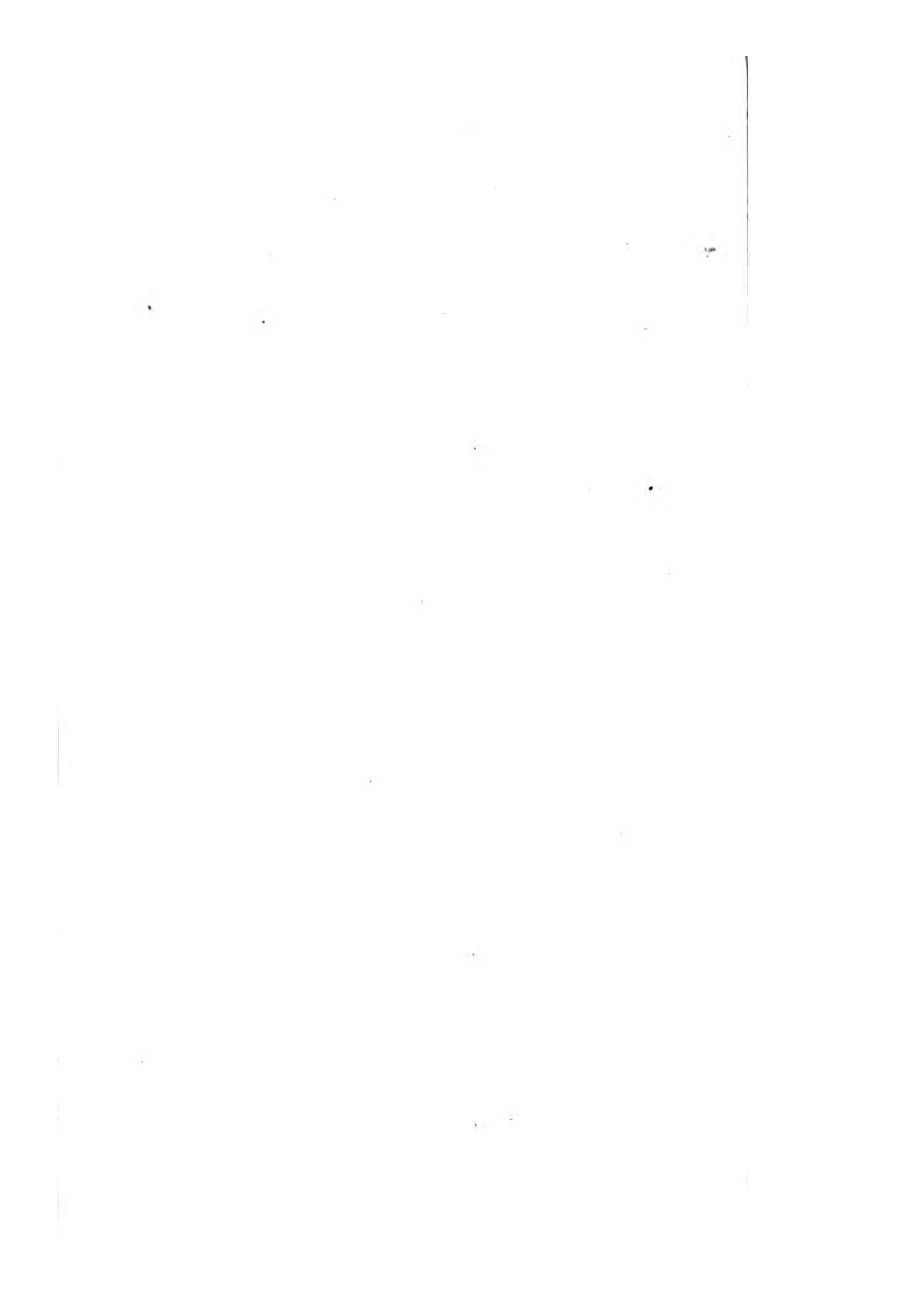
The creeping perennial roots run deep into the mud, and soon fill up the bottom of a pool or clay-pit when undisturbed. Stem about 6 feet or more in height, straight, simple, round, solid, smooth, leafy at the bottom. Leaves erect, linear, sharpish, smooth, flat, or at least very little convex beneath, smooth on both sides, as tall as the stem, and from half an inch to an inch wide. Catkin terminal, erect, continued; the female part dark brown; the male yellowish, with a leaf or two from the base or middle among the stamina. The antheræ grow 2, 3 or 4 on each filament, so that it is not easy to fix their proper number. They soon fall off, and leave a naked stalk crowning the ripening seed-catkin. Each seed stands on a feathery stalk.



May 1 1805. Drawn by J. Sowerby. London.

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TYPHA angustifolia.

Lesser Cat's-tail or Reed-mace.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* cylindrical, hairy. *Antheræ* about 3 together on each filament.

Female, *Catkin* cylindrical. *Seed* 1, on a feathered stalk.

SPEC. CHAR. Leaves flattish, semicylindrical beneath. Catkins a little distant; leafless.

SYN. *Typha angustifolia*. *Linn. Sp. Pl.* 1377. *Sm. Fl. Brit.* 959. *Huds.* 400. *With.* 111. *Hull.* 203. *Relh.* 360. *Abbot.* 199. *Fl. Dan. t.* 815.

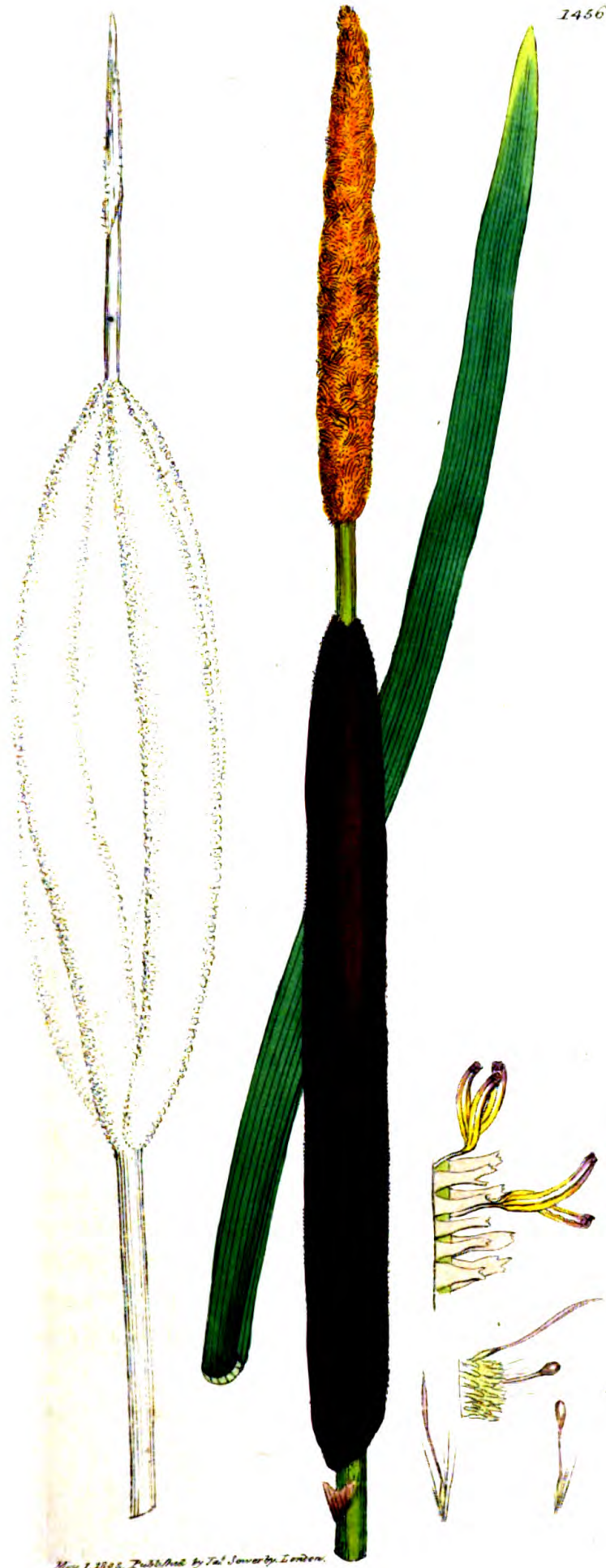
T. minor. *Curt. Lond. fasc.* 3. t. 62.

T. palustris media. *Raii Syn.* 436.

MUCH more rare than the last. Curtis found it in the middle of Woolwich Common. We have observed it in clay-pits in several parts of Norfolk and Suffolk, but scarcely in any other county. It flowers in July.

This is in all its parts much smaller and more slender than the preceding, though nearly equal to it in height. The leaves are more convex on the under side, and not half so broad. Its most essential mark of distinction consists in the bare space always observable between the male and female catkins. The roughness between the stamina, which in the former is formed of slender hairs, in this consists of chaffy scales. The fruit-bearing catkin sometimes splits longitudinally in growing.

We think Linnæus's original names preferable to those of Curtis, for though *major* might suit the first species, *media* more properly belongs to this; the *minor* of old authors being still smaller, and very different.



May 1 1846. Published by T. & A. Newbery, London.

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TYPHA minor.
Dwarf Cat's-tail or Reed-mace.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* cylindrical, hairy. *Antheræ* about 3 together on each filament.

Female, *Catkin* cylindrical. *Seed* 1, on a feathered stalk.

SPEC. CHAR. Leaves linear, convex beneath. Catkins a little distant; the male leafy; female short and turgid.

SYN. *Typha minor*. *Sm. Fl. Brit.* 960. *Bauh. Hist. v. 2.* 540. *Lob. Ic.* 81.

T. angustifolia β . *Linn. Sp. Pl.* 1378. *Huds.* 400.

T. palustris minor. *Dill. in Raii Syn.* 436.

T. palustris minima, duplici clavâ. *Moris. Sect. 8.* t. 13. f. 3.

MR. DANDRIDGE is said by Dillenius to have found this on Hounslow heath; and as the plant was well known and distinguished by botanists of that time, though confounded by Linnæus with *T. angustifolia*, we presume there could be no mistake about it. We have never seen any other than Genevan specimens; but having lately obtained more perfect ones than are described in the *Fl. Brit.* or any other work, those hitherto figured or mentioned having been defective in the proper leaves, we venture to present them to the English botanist.

The root is perennial and creeping, and the whole habit like the two preceding species, but the plant much smaller than even the last, the stem being only 12 or 18 inches high and very slender, sheathed with broad scales about half its length, which have hitherto been described and figured as the leaves. The real leaves however spring from a different parcel of similar scales, and are about as long as the stem, scarcely a line in breadth, slightly convex beneath and concave above. The catkins are each about an inch long, a little distant from each other, slender; the male with a leaf or two at its base, middle or summit; the female often divided and becoming proportionably very thick and swollen as it ripens seed. The receptacle seems to be nearly smooth, and the *antheræ* are seldom more than one to each filament.

2457



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

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SPARGANIUM ramosum.

Branched Bur-reed.

MONOECIA Triandria.

GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* none.
 Female, *Cal.* 3-leaved. *Cor.* none. *Drupa* dry, with
 1 seed.

SPEC. CHAR. Leaves triangular at the base, their sides
 concave. Common flower-stalk branched. Stigma
 linear.

SYN. *Sparganium ramosum.* *Sm. Fl. Brit.* 961. *Huds.*
 401. *With.* 112. *Hull.* 203. *Sibth.* 25. *Curt.*
Lond. fasc. 5. t. 66. *Raii Syn.* 437.

S. erectum. *Linn. Sp. Pl.* 1378. *Relb.* 348.
Abbot. 200.

COMMON in ditches and about the banks of rivers, flower-
 ing in July and August.

The root is perennial and creeping. Stem upright, about
 three feet high, round, leafy, smooth, divided at the top into
 many alternate, slightly zigzag, flowering-branches. Radical
 leaves sword-shaped, erect, smooth, entire; at their base trian-
 gular, with their sides concave or channelled, not flat. The
 stem leaves are merely concave, and sheathing at their base.
 Heads of flowers alternate, sessile, many-flowered; the lower-
 most female; the upper male, more numerous, and closer
 together. Calyx-leaves spatulate, brownish, shorter than the
 stamina. Antheræ yellowish-white. Germen of 2 cells,
 though generally one of them is obliterated and abortive in the
 fruit. Style short. Stigma long, linear, oblique, downy on
 one side, for the most part solitary; sometimes there are two
 stigmas. The fruit ripens into brown prickly heads of dry
 deciduous *drupæ*, by which, as well as its spreading roots, the
 plant increases abundantly.

The parts of fructification vary much in number, as usual in
 monoecious and dioecious plants; one of the many reasons for
 keeping them in distinct classes from the hermaphrodite ones.

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SPARGANIUM *fimplex*.*Unbranched Upright Bur-reed.**MONOECIA Triandria.*GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* none.Female, *Cal.* 3-leaved. *Cor.* none. *Drupa* dry, with 1 seed.

SPEC. CHAR. Leaves triangular at their base, their sides flat. Common flower-stalk simple. Stigma linear.

SYN. *Sparganium fimplex*. *Sm. Fl. Brit.* 962. *Huds.* 401. *With.* 112. *Hull.* 203. *Sibth.* 25. *Abbot.* 200. *Curt. Lond. fasc.* 5. *t.* 67. *Dicks. H. Sicc. fasc.* 6. 7.*S. erectum* β . *Linn. Sp. Pl.* 1378.*S. non ramosum*. *Raii Syn.* 437.

NOT very rare in pools and ditches, particularly where the soil is gravelly, flowering in July and August.

This is smaller than the more common *S. ramosum*, of which it has been considered as a variety, but certainly without reason. Mr. Curtis has well remarked that the sides of the triangular bases of the radical leaves in this are flat or level, not concave. The flowering part of the stem is simple, not branched. The lowermost head of flowers stands generally on a partial stalk. The calyx is generally green, or at least of a paler brown than in the former. The stigma indeed, as in that, is long and linear, not short and ovate as in *S. natans*, to which the present species is in other respects perhaps more allied than to *S. ramosum*. See our *t.* 273, where many particulars relative to the botanical history of these plants are discussed.

The *S. fimplex* sometimes varies with two stigmas, like the *ramosum*.

According to Linnæus's theory of hybrid plants, this should be a mule produced by *S. ramosum* impregnated by *S. natans*; but we would be cautious in selecting facts to support so fanciful an hypothesis.

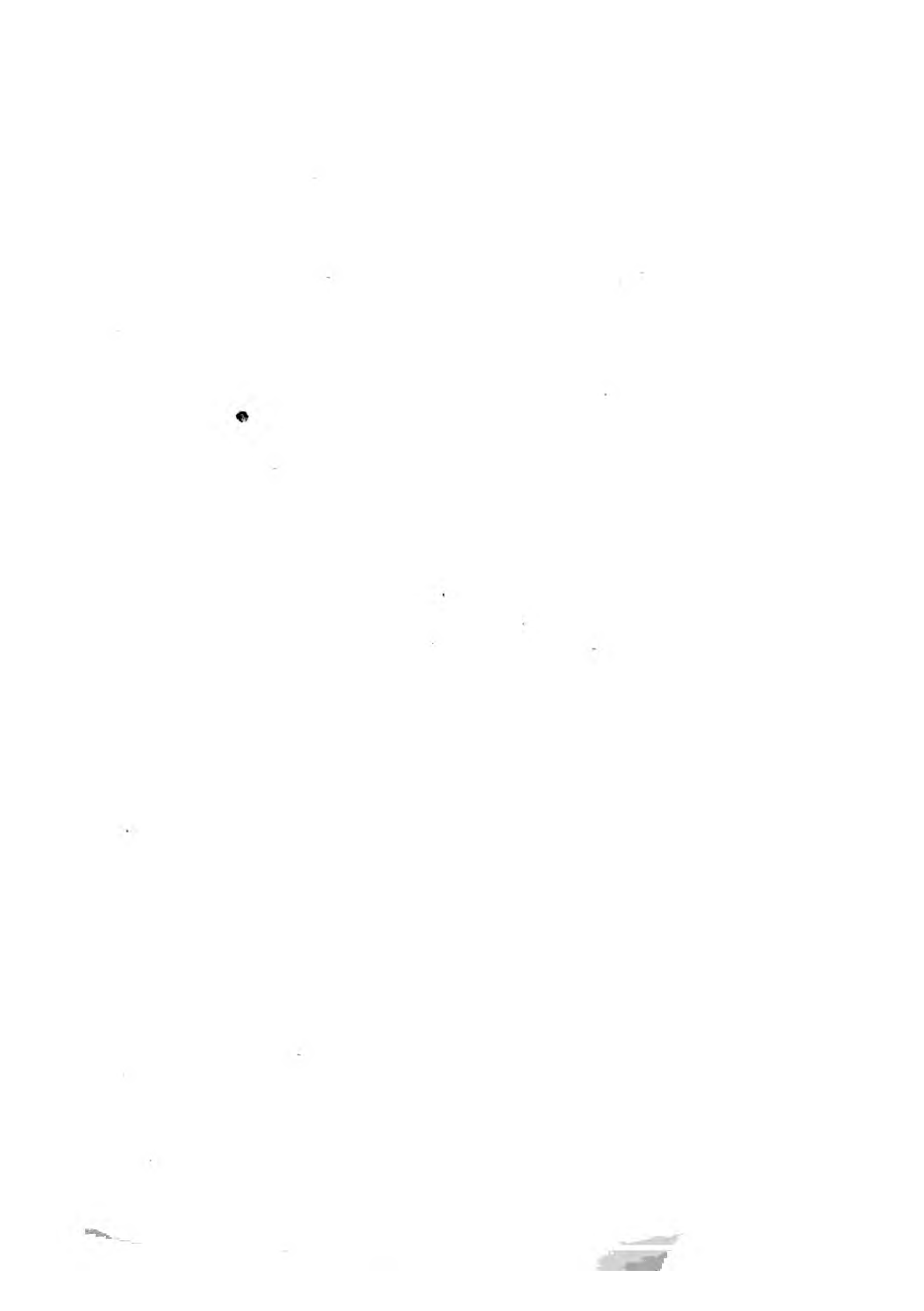
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SPARGANIUM natans.

Floating Bur-reed.

MONECIA Triandria.

GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* none.
Female, *Cal.* 3-leaved. *Cor.* none. *Drupa* dry,
 with 1 seed.

SPEC. CHAR. Leaves drooping, flat. Heads of flowers
 in a simple spike, most of them accompanied by
 leaves. Style not longer than the germen.

SYN. *Sparganium natans.* *Linn. Sp. Pl.* 1378.
With. Bot. Arr. 1025. *Fl. Dan. t.* 260.

S. simplex, β . *Huds. Fl. An.* 401.

S. minimum. *Raii Syn.* 437.

SENT by the Rev. Mr. Hemsted from Burwell fens, Cam-
 bridgeshire. It prefers a muddy or clay soil, flowering in July.

Root perennial, creeping, with long fibres, running deep
 into the muddy bottoms of ditches or slow streams. Stems
 ascending, round, leafy. Leaves linear, narrow, thin and
 almost pellucid, flat; sheathing and a little channelled to-
 wards the base, but without any degree of *carina* or mid-rib;
 the lowermost long and floating, the rest gradually shorter.
 Flowers from the bosoms of the upper leaves, in 3 or 4 solitary
 little round heads: we can by no means comply with Lin-
 næus in calling them *amenta*, with the definition and nature
 of which they do not agree; they are really *capitula*. The
 lowest is on a footstalk. The uppermost only, or part of the
 next, consists of male flowers; the rest are female. Calyx
 (which might perhaps be called corolla) of 3 whitish leaves in
 each flower. Stamina twice as long, capillary. Germen ovate,
 very smooth. Style simple; stigma oblique, with a fissure on
 the upper side. *Drupa* with 1 seed. We find the stigma
 always simple, and very generally so (as Leers observes) in the
 common *S. erectum*. The shortness of that part in the plant
 before us seems the best mark of distinction between it and
S. erectum and *simplex*, which are also very distinct from each
 other. Our plant agrees precisely with Mr. Rose's own spe-
 cimens gathered near Norwich, and with the original Lin-
 næan one intended in both editions of *Sp. Plant.* It seems
 also to be the true plant of Ray and Dillenius. Linnæus's
 Lapland specimen however is certainly not this, but *S. simplex*.
 His confounding them in *Flo. Suecica* led Mr. Hudson into
 the same error. We hope our elucidation of this point will be
 acceptable to the scientific botanist, as it could be settled by
 original specimens only.



Sept. 1705. Published by J. Streater by London.

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CAREX dioica.

Small Carex.

MONŒCIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale.
Cor. none. Female, *Catkin* imbricated. *Cal.* of
 1 scale. *Cor.* inflated, permanent. *Seed* triang-
 ular, invested with the corolla.

SPEC. CHAR. Spikes simple, dioecious. Corolla rib-
 bed, finely ferrated.

SYN. *Carex dioica.* *Linn. Sp. Pl.* 1379. *Huds.* 401.
With. 86. *Relb.* 349. *Sibth.* 26. *Gooden. Tr. of*
Linn. Soc. v. 2. 139.

Gramen cyperoides minimum, Ranunculi capitulo
 rotundo. *Raii Syn.* 425.

β. *G. cyperoides minus*, Ranunculi capitulo lon-
 giore. *Raii Syn.* 425.

FOUND in spongy bogs not unfrequently, though it may
 easily be overlooked. It flowers in May, ripening its seed in
 June or July, when its round heads are more conspicuous than
 the flowers.

Root creeping, slender, perennial. Stems ascending, 5 or 6
 inches high, simple, slender, roundish, channelled, smooth,
 leafy below. Leaves sheathing, triangular, smooth, very nar-
 row. Stipula very short and blunt. Spikes linear, erect, ob-
 tuse, solitary; the male from one root, the female from another.
 Scales brownish or rusty-coloured, with a green rib, smooth;
 those of the female broadest. Stamina slender. Antheræ
 long, sulphur-coloured. Stigmas two. Seeds spreading, by
 which the spike becomes ovate or roundish. The permanent
 corolla is ovate, ribbed on one side, plain on the other, scarcely
 notched at the tip, its margins finely ferrated, especially in the
 upper part, by which it is readily known from *C. capitata*, a
 Swedish species not hitherto found in Britain, as Dr. Good-
 enough in his valuable paper has sufficiently proved; and we
 readily assent to his opinion, that the two synonyms of Ray
 above quoted both belong to *C. dioica*.

543



Plantago lanceolata L. *Plantain* London

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CAREX Davalliana.

Prickly Separate-headed Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes simple, dioecious. Fruit lanceolate, triangular, ribbed, deflexed; its angles rough towards the summit.

SYN. *Carex Davalliana.* *Sm. Tr. of L. Soc. v. 5. 266.* *Fl. Brit. 964.* *Hull. ed. 2. 268.* *Willd. Sp. Pl. v. 4. 208.*

C. dioica β . *Sm. Fl. Brit. 964.*

C. dioica. *Huds. 401.*

Gramen cyperoides minus, ranunculi capitulo longiore. *Raii Syn. 425.*

Cyperoides parvum &c. *Mich. Gen. 56. n. 1. t. 32. f. 1.*

FIRST made known to us, as a British plant, by Professor J. Beatie, who found it in Mearns-shire. Mr. Groult next gathered it on Landsdown near Bath, from whence Mr. E. Forster communicated our specimens, the ripe fruit only being added from one of Mr. Davall's own. Mr. Forster informs us it grows on the slope of a hill on which there is a clump of firs, about a mile and a quarter from Bath. We are also greatly obliged to him for suggesting Ray's and Hudson's synonyms, in consequence of which the long-unascertained *C. capitata* of the latter, certainly not that of Linnæus, turns out the real *dioica*, *t. 543*. Mr. Templeton has found the *Davalliana* near Belfast. It is much the most common of the two in Switzerland. We cannot but wonder that the observing Mr. Wahlenberg still esteems them but varieties of each other.

The root of this, as Willdenow well observes, is tufted, not creeping; stem rough, not smooth. The spikes are much longer than in *dioica*, and the long, reflexed, strongly ribbed seed-covers, roughish only at the angles near the top, not serrated, are abundantly characteristic.

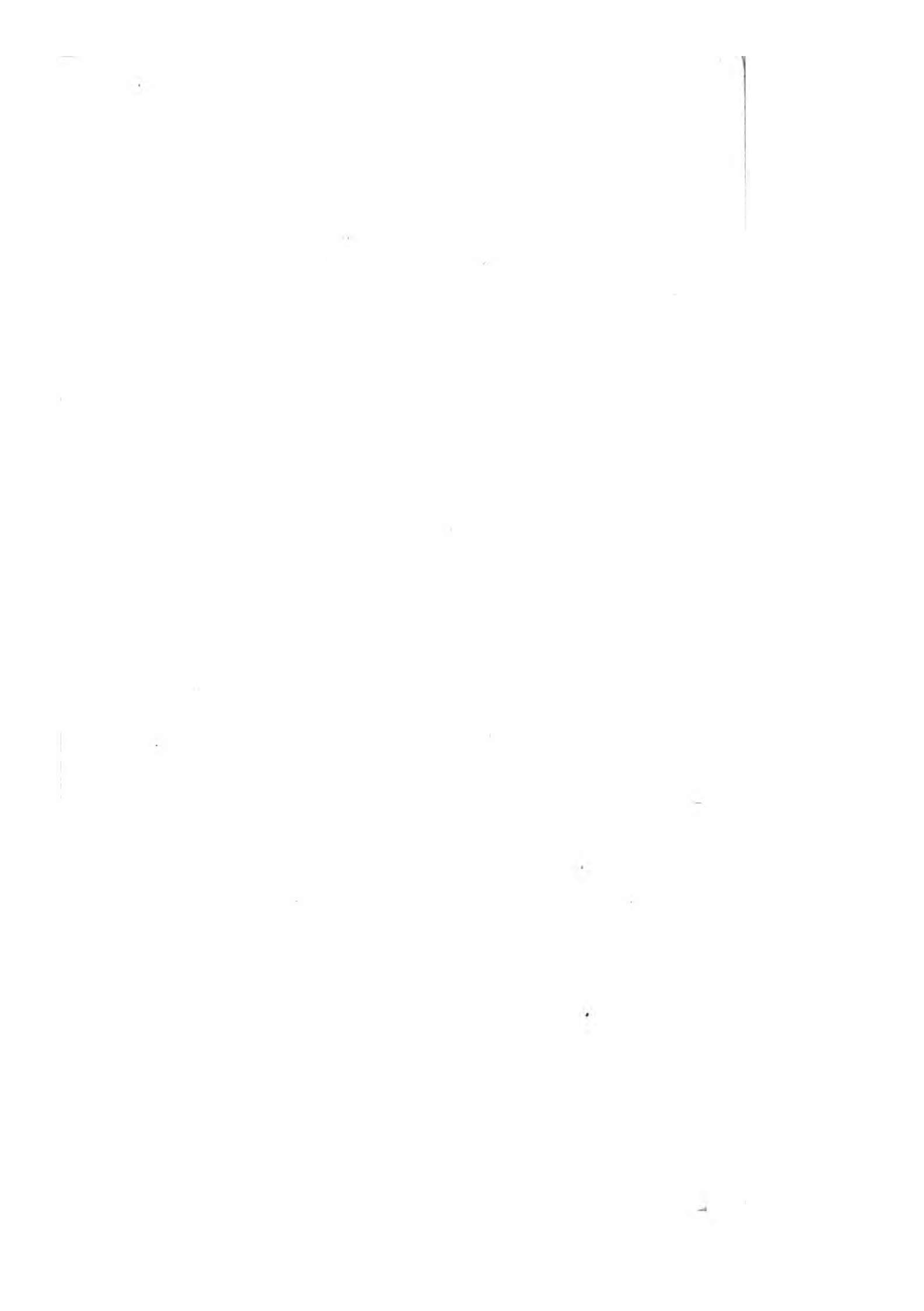
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Nov. 1. 1810 published by J. Sowerby London.

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[1051]

CAREX pulicaris.

Flea Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none.—Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike simple, androgynous; the male flowers uppermost. Fruit spreading and reflexed, tapering at both ends. *Stigmas* two.

SYN. *Carex pulicaris.* *Linn. Sp. Pl.* 1380. *Gooden. Tr. of Linn. Soc.* v. 2. 142. *Sm. Fl. Brit.* 965. *Huds.* 402. *With.* 86. *Hull.* 204. *Relb.* 349. *Sibth.* 26. *Abbot.* 203.

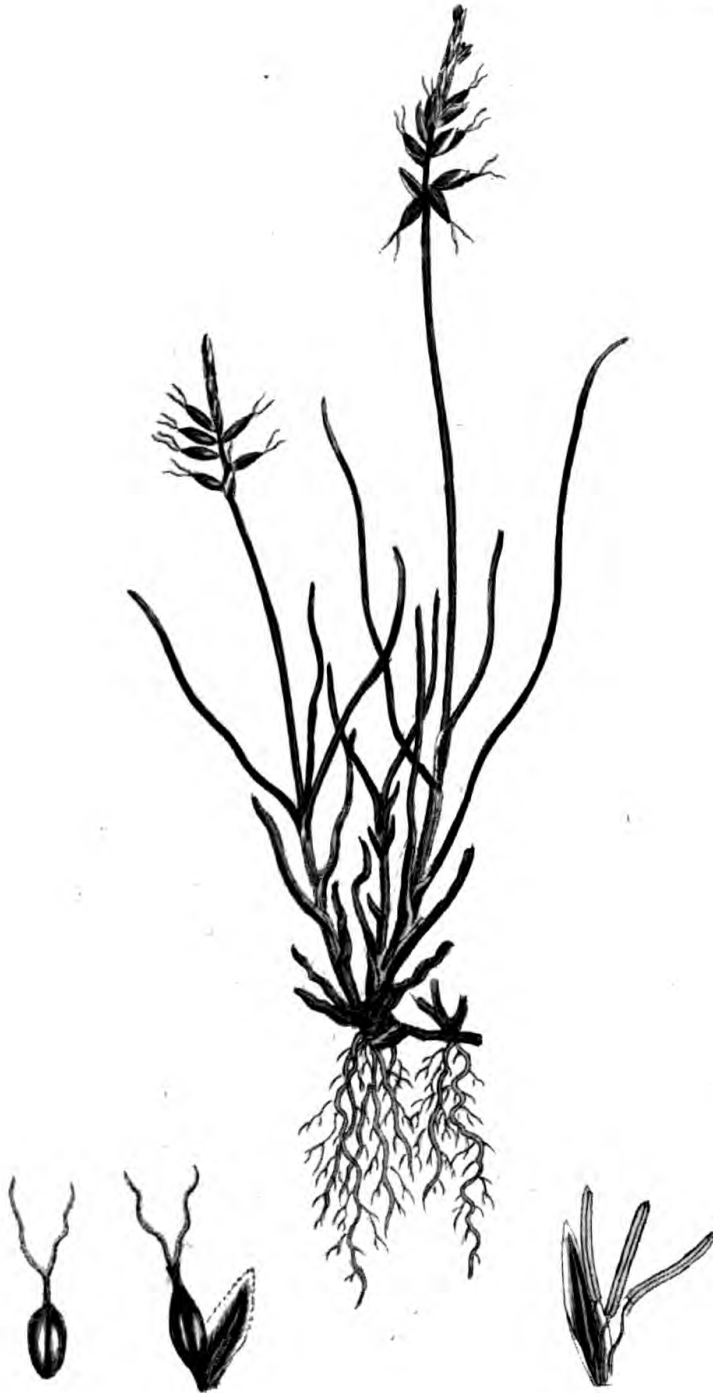
Gramen cyperoides minimum, feminibus deorsum reflexis puliciformibus. *Raii Syn.* 424.

THIS little *Carex* grows in spongy or muddy boggy places, flowering early in June, when it might be overlooked for the male plant of *C. dioica*, and in that state it is figured in *Fl. Dan. t.* 166. When in a week or two the fruit begins to ripen, all the female flowers spread widely, and at length become reflexed, the dark brown highly polished seed-cases giving the plant a singular and characteristic aspect, which has obtained it the name of the Flea *Carex*.

The root is fibrous, perennial. Stems simple, slender, smooth, from 3 to 10 inches high, sheathed at the base with several slender, smooth, spreading leaves. Spike unbranched, slender, upright. Glumes lanceolate. Male flowers uppermost, numerous, with 3 shortish stamina; female rather fewer, with 2 stigmas, their glumes deciduous, being forced off by the bending back of the ripening germen. Fruit elliptic-lanceolate, tapering at each end, slightly cloven at the tip, sharp-edged on each side, destitute of ribs or nerves, of a polished brown. Seed elliptical, brown when ripe.



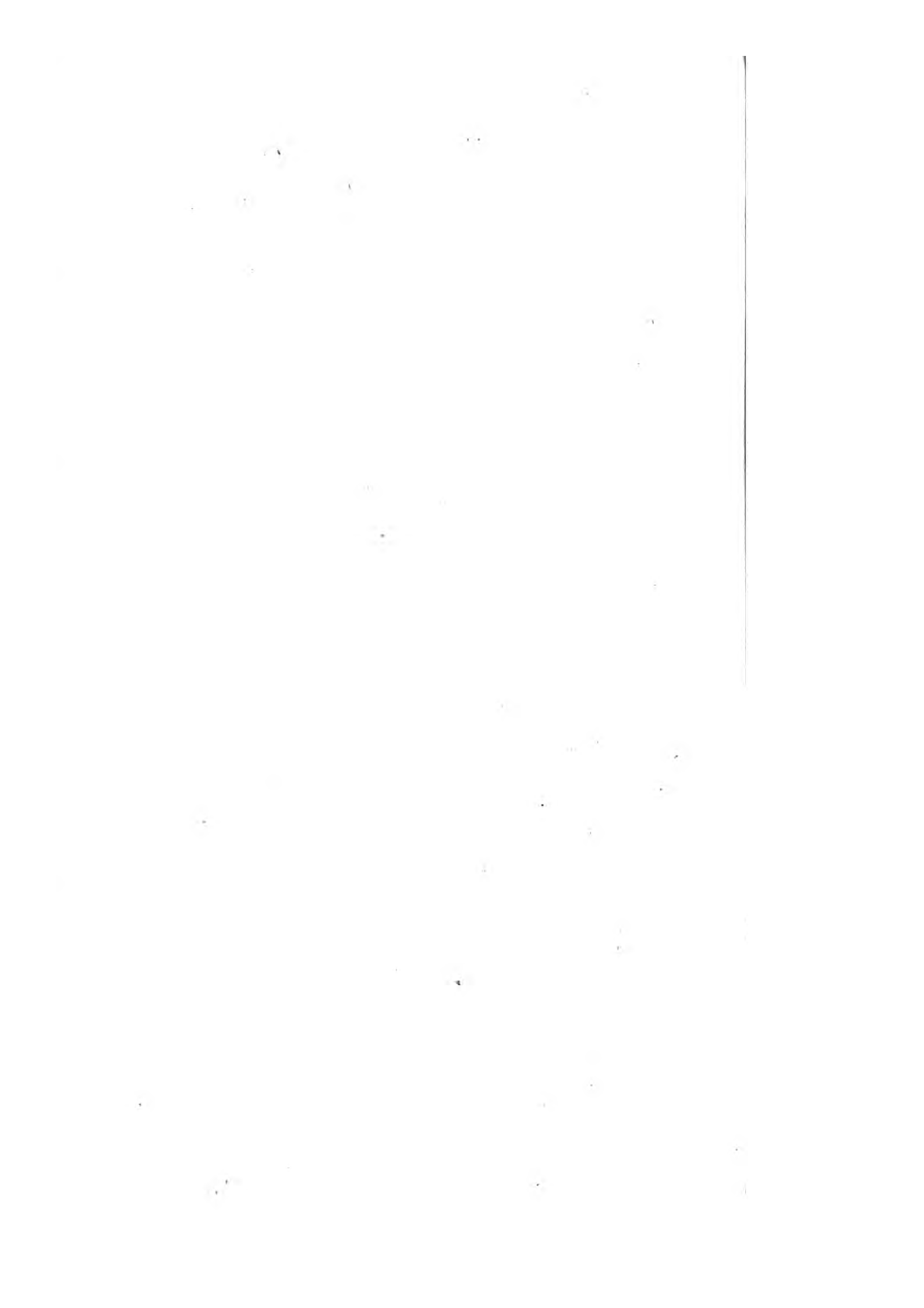
1051



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

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44.

C A R E X pauciflora.
Few-flowered Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike simple, of few flowers, the upper one male. Fruit spreading, awlshaped. Stigmas three.

SYN. *Carex pauciflora.* *Lightf.* 543. *t.* 6. *f.* 2. *Sm. Fl. Brit.* 966. *Gooden. Tr. of L. Soc. v.* 2. 143. *With.* 87. *Hull.* 204. *Dicks. H. Sicc. fasc.* 1. 16. *Winch Guide, v.* 1. 83.

C. patula. *Huds.* 402 and 657.

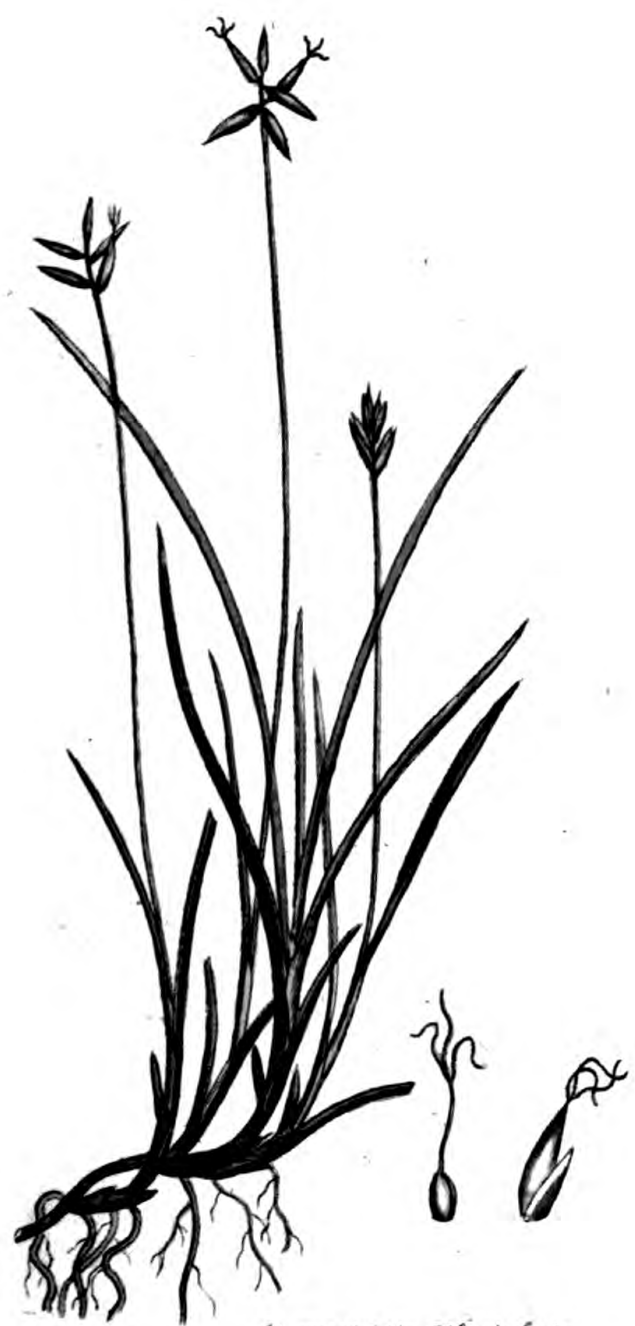
C. Leucoglochis. *Linn. Suppl.* 413. *Ehrh. Phyt. n.* 8.

THIS rare little *Carex* had been found in no other part of Britain than Scotland, till Mr. Winch met with it in June 1803 in Northumberland. It grows on peat bogs, flowering early in that month.

Root creeping, scaly. Stems from 3 to 5 inches high, erect, bowed at the base, smooth, obscurely triangular. Leaves about 2 embracing the base of each stem, channelled, smooth, much shorter than the stems. Spike solitary, erect, of from 4 to 6 flowers, of which the upper one only is a male, and upright; the rest are females, a little spreading, and at length reflexed. Scales lanceolate, of a pale rust-colour. Fruit of the same hue, tapering, somewhat triangular, furrowed. Stigmas three; Lightfoot says they are occasionally but two.

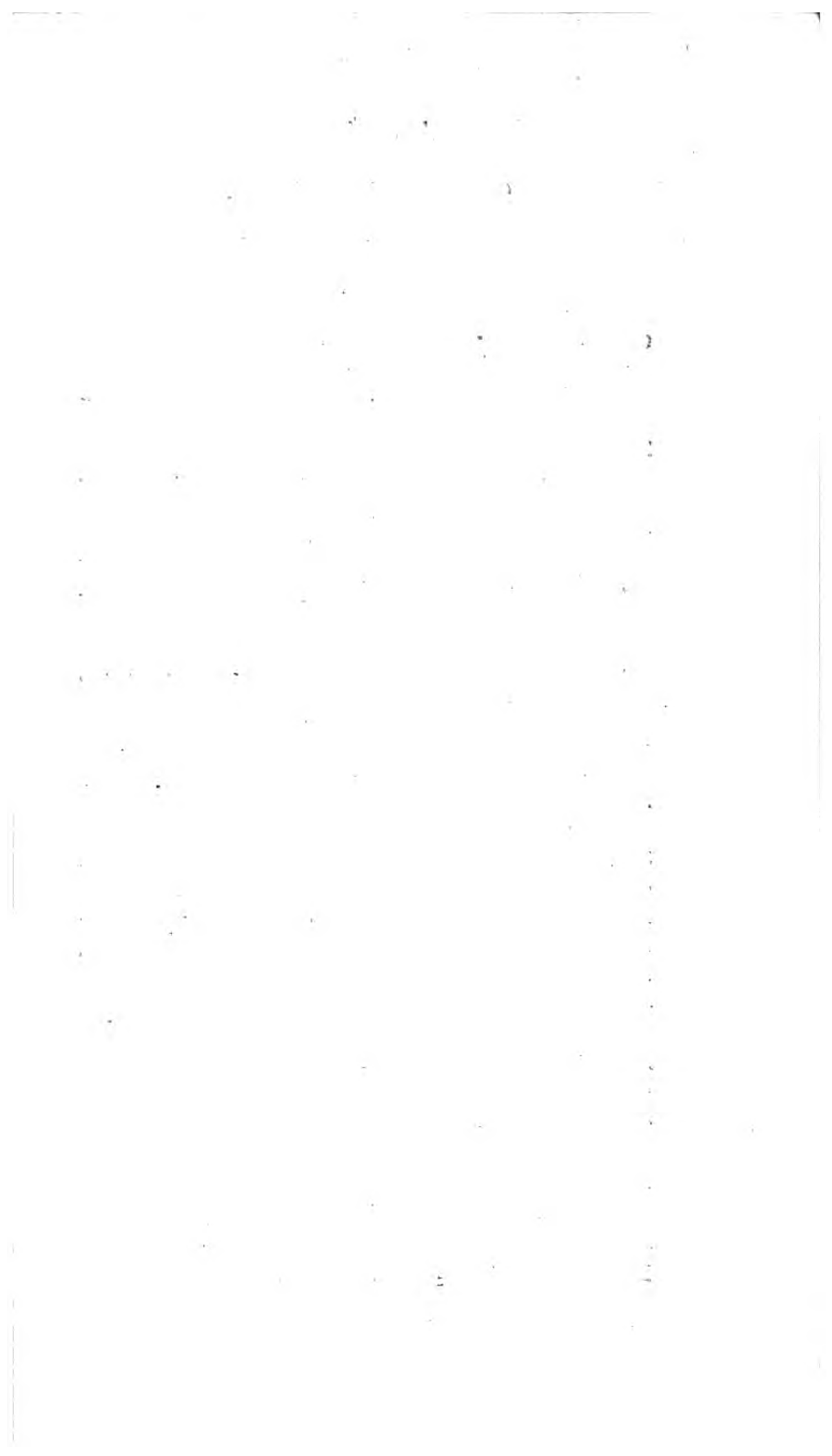
We prefer the original name of Lightfoot, to the hard Greek one, inserted into the *Supplementum Plantarum* by Ehrhart, who intended the press, without Linnæus's knowledge.

2043



July 1889 published by J. K. Knowlton, London.

✓



C A R E X stellulata.

Little Prickly Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets three or four, remote, androgynous. Fruit divaricated, with an elongated undivided beak.

SYN. *Carex stellulata.* *Gooden. Tr. of Linn. Soc.* v. 2. 144. *Sm. Fl. Brit.* 966. *With.* 87. *Hull.* 204.

C. muricata. *Hudf.* 406. *Lightf.* 549. *Relb.* 350. *Abbot.* 202.

C. echinata. *Sibth.* 28.

Gramen cyperoides spicatum minimum, spicâ divulsâ, aculeatâ. *Raii Syn.* 424.

NOT unfrequent in marshy, rather barren, ground, flowering in May and June.

Root fibrous; perennial, as usual with the *Carex* tribe. Stem from 6 to 12 inches high, erect, straight, simple, naked except at the base, triangular, the angles roughish upwards. Leaves flat, keeled, shorter than the full-grown stem, roughish towards their points. Spike compound; the spikelets 3 or 4, alternate, remote, or at least not crowded together, all at nearly equal distances, roundish, their male flowers below the female and less numerous. A leafy bractea generally stands under the lowest spikelet. Glumes ovate, brown, with a white edge, and broad green nerve. Fruit spreading in every direction, ovate, ribbed, brown, terminating in a rough-edged beak, which is notched at the end, but not deeply cloven, nor gaping. Stigmas two.

The Linnæan herbarium proving this not to be the *C. muricata*, for which Hudson, Leers, and others have taken it, Dr. Goodenough first gave it the name we here adopt.



Nov. 1 1800. Published by Jas. Sowerby, London.

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46.

[1386]

CAREX curta.

White Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets about six, elliptical, rather distant, naked. Glumes ovate, membranous, slightly pointed. Tunic undivided.

SYN. *Carex curta.* *Gooden. Tr. of L. Soc. v. 2. 145.* *Sm. Fl. Brit. 967. With. 88. Hull. 204. Relh. 363.* *Schkuhr. Caric. 43. n. 33. t. C. f. 13.*

C. brizoides. *Huds. 406.*

C. canescens. *Lightf. 550.*

Gramen cyperoides palustre elegans, spicâ compositâ asperiore. *Raii Syn. 423.*

G. cyperoides elegans, spicâ compositâ molli. *Dill. in Raii Syn. 423.*

WE have received this *Carex*, generally supposed very rare, from Yorkshire, Cambridgeshire, Suffolk, Sussex and Scotland. It grows in watery places, flowering in June, but is not readily discernible from other kinds till its neat whitish or silvery spikelets are fully formed and begin to ripen.

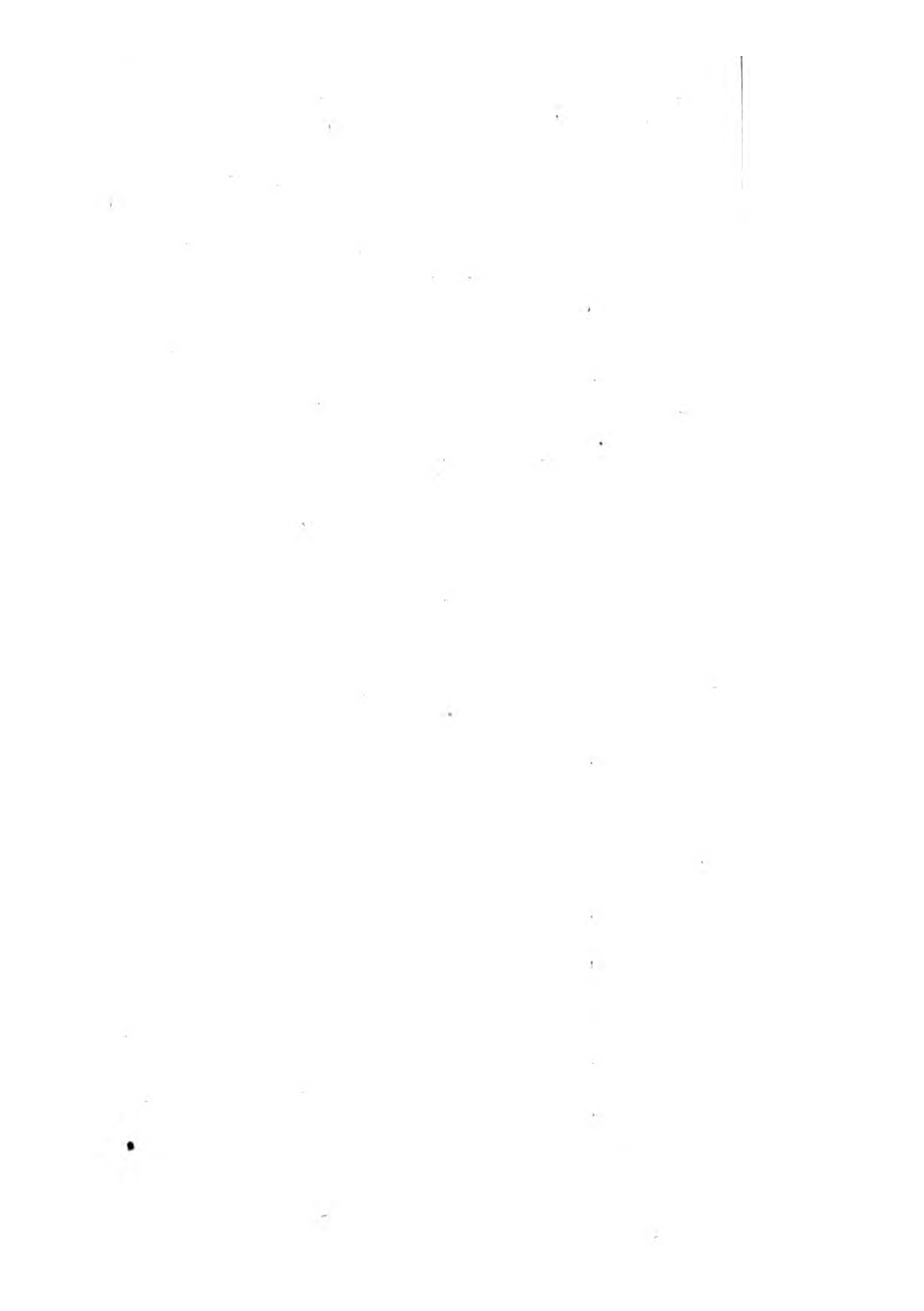
The root is perennial, and in some degree creeping. Stem a foot high, triangular, smooth except in the upper part. Leaves linear, narrow, flattish upwards, pale grass-green or somewhat glaucous, roughish, rising nearly as high as the stem. Spikelets from 4 to 6 or more, alternate, elliptical, obtuse, many-flowered, the lowest only being occasionally furnished with a bractea, for they are generally all naked. Lower flowers male, fewer than the female. Glumes ovate, shining, with a little green rib. Fruit longer than the glumes, ovate, compressed, smooth, acute, undivided. Stigmas 2. Seed elliptical.

The herbarium of Linnæus first taught us to distinguish this from his *C. brizoides*, which is an exotic species.





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[1920]

C A R E X elongata.
Elongated Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets numerous, oblong, rather distant, naked. Glumes ovate. Tunic ovate, pointed, cloven, recurved, many-ribbed, longer than the glumes.

SYN. *Carex elongata.* *Linn. Sp. Pl.* 1383; excluding the synonyms of *Fl. Suec. Bauh.* and *Morison. Schkuhr. Car. n. 39. t. E. f. 25.*

C. multiculmis. *Ehrh. Calam.* 88.

Cyperoides polystachyon, *spicis laxis paniculam veluti componentibus.* *Scheuchz. Agr.* 487. t. 11. f. 4.

AFTER the elaborate dissertation in the Linnæan Society's Transactions, v. 2, by the present Bishop of Carlisle, it is not easy to add any thing new upon British *Carices*. We are therefore the more obliged to Mr. Jonathan Salt, who discovered this addition to our Flora in June 1807, in a marshy place at Aldwark, near the river Don, below Sheffield. It is indeed, though very distinct, and well known to German botanists, a species about which Linnæus was by no means clear, his only correct synonym, which the late Dr. J. Sibthorp verified for us formerly by Scheuchzer's specimen at Oxford, being quoted in the *Sp. Pl.* with a doubt.

Root perennial, tufted. Stems above a foot high, triangular, rough-edged, as are also the leaves. Spikelets from 7 to 14, oblong, alternate, the upper ones crowded. Glumes ovate, acute, glossy, brown with a green rib and pale edge, shorter than the fruit, which is copious, green, ovate or elliptical, pointed, cloven, strongly ribbed, at length somewhat recurved. Stigmas 2. Male flowers inferior, few. This species should follow *C. curta*, t. 1386.



Aug. L. Sch. Publ. by J. & S. Sowerby, London.

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CAREX ovalis.

Oval-spiked, or Naked Carex.

MONŒCIA Triandria.

GEN. CHAR. Male, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Cathin* imbricated. *Cal.* of one scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Spikelets about six, oval, close together, alternate. Scales lanceolate, equal to the capsule.

SYN. *Carex ovalis.* Gooden. *Tr. of Linn. Soc. v. 2.* 148.

C. leporina. Huds. *Fl. An.* 404. *With. Bot. Arr.* 1029. *Relh. Cant. Suppl.* 1. 15. *Sibth. Ox.* 27.

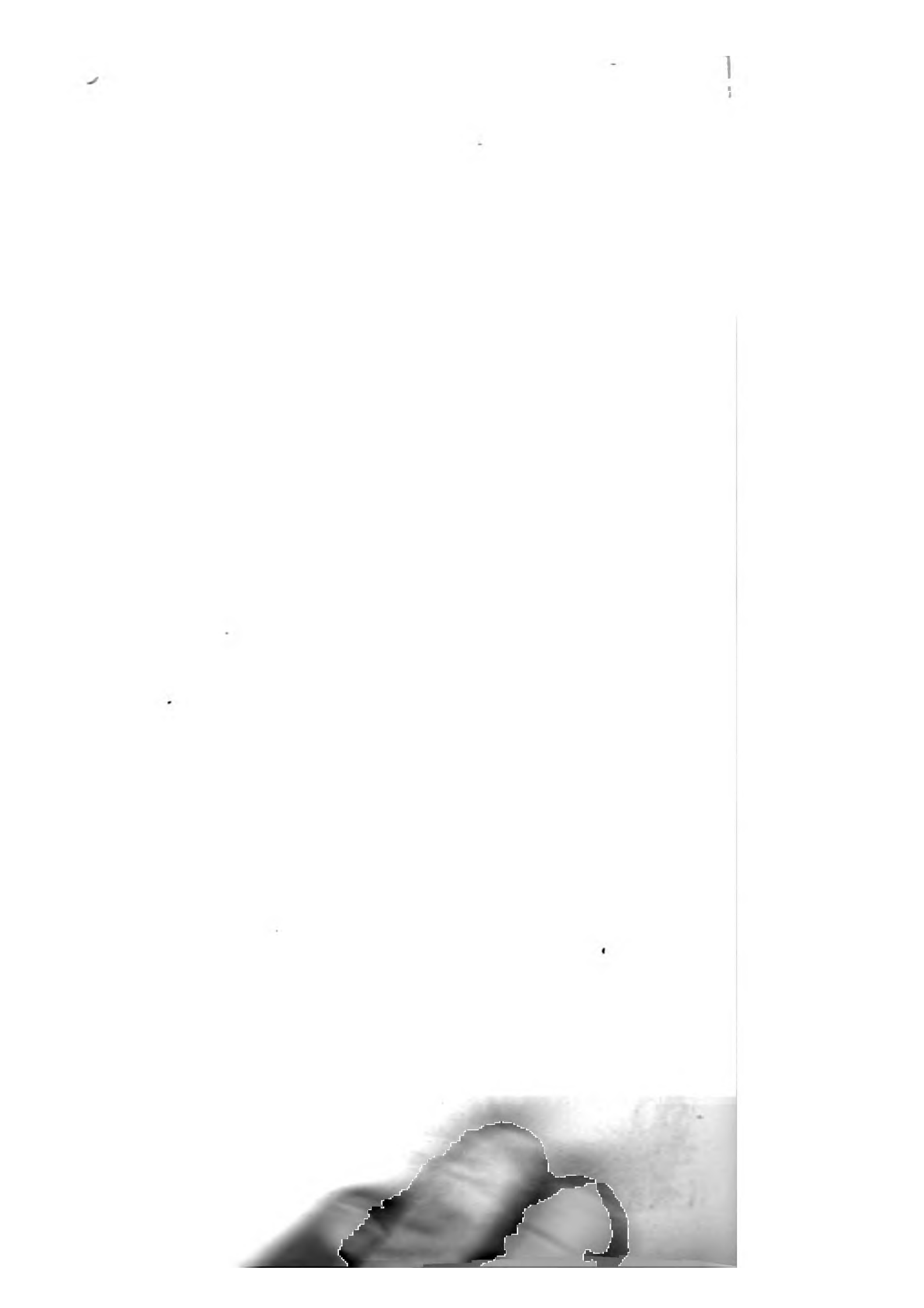
Gramen cyperoides, spica e pluribus spicis mollibus composita. Raii *Syn.* 422.

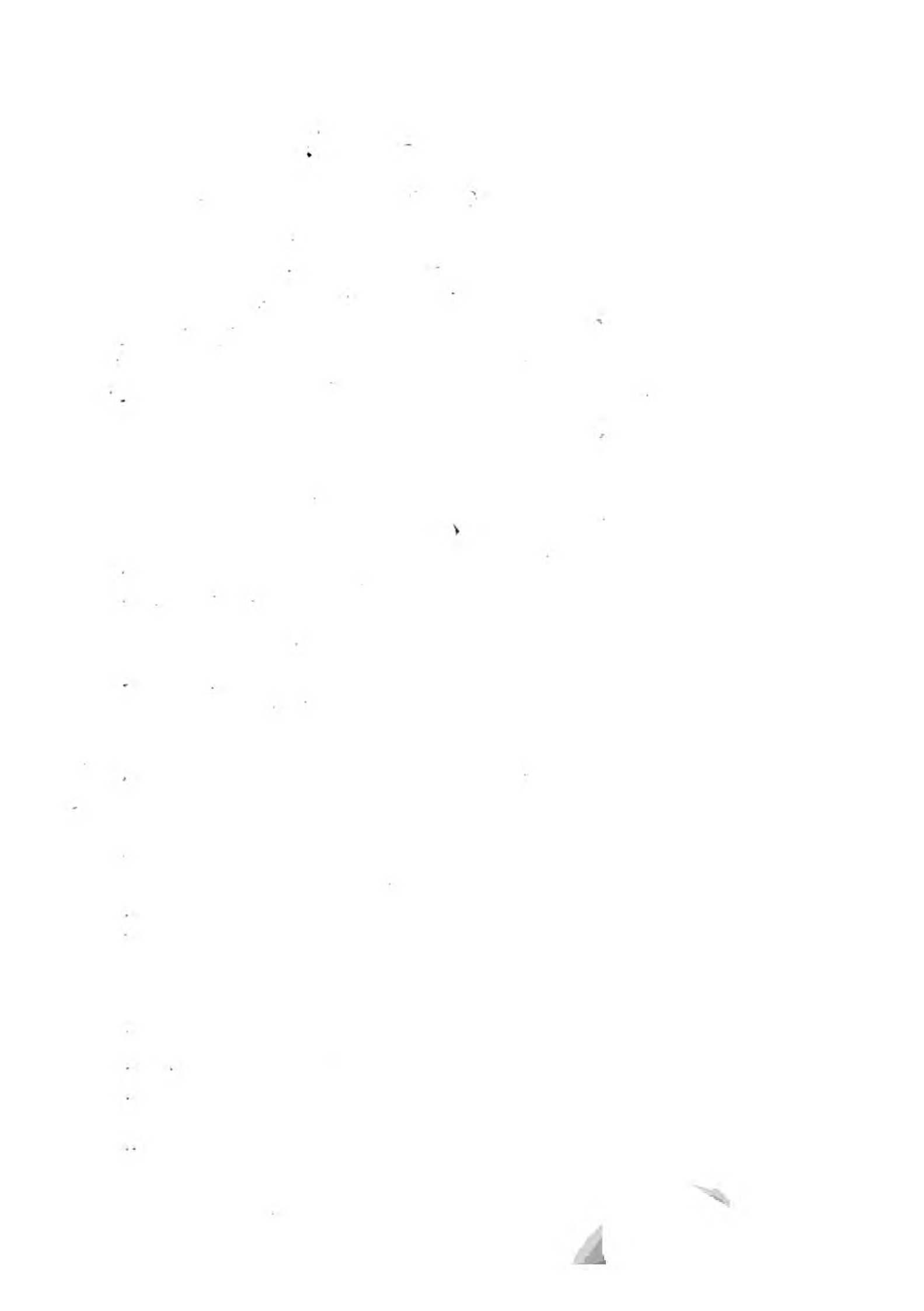
GATHERED in Kensington Gardens, flowering in June. It is very common in wet marshy pastures.

Root perennial, creeping? Stem, erect, hollow, about a foot high, with 3 sharp rough angles. Leaves sheathing the lower part of the stem, and rising about equal to it in height, dark green, narrow, roughish on the edges and nerve, but less so than in most other species. General spike terminal, erect, composed of 5 or 6 upright oval spikelets, the largest of which is terminal. Bractæ solitary, lanceolate, at the base of each spikelet, the lowermost longer than the rest, and ending in a leafy point. In each little spike a few of the lower flowers are male, the rest female. Scales ovato-lanceolate, acute, equal to the corolla. Filaments longer than the scales. Style tumid at the base. Stigmas but two. Permanent corolla slightly notched, convex on one side, margin rough.

We beg leave to correct an inaccuracy in the concluding paragraph of the description of *Carex Pseudo-Cyperus*, t. 242. We have expressed ourselves as if Dr. Goodenough had called the corolla a capsule, in opposition to Linnæus; whereas the truth is, Linnæus carelessly uses *nectarium* and *capsula* indifferently for the same part, and our excellent friend, to whose labours in this genus the British botanist is so much indebted, takes the latter term merely as the least exceptionable. The part in question however is totally distinct from the germen and fruit, merely enveloping the seed, and is really a permanent corolla.







C A R E X remota.

Remote Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets solitary, remote, androgynous, nearly sessile. Bractææ very long, surmounting the stem. Seed-tunic almost entire.

SYN. *Carex remota.* *Linn. Sp. Pl.* 1383. *Sm. Fl. Brit.* 969. *Gooden. Tr. of Linn. Soc.* v. 2. 150. *Huds.* 407. *With.* 88. *Hull.* 205. *Relb.* 351. *Sibth.* 28. *Abbot.* 203.

C. axillaris. *Linn. Sp. Pl.* 1382.

Gramen cyperoides angustifolium, spicis parvis sessilibus in foliorum alis. *Raii Syn.* 424.

A NATIVE of moist groves, and banks of ditches in shady situations, not unfrequent, flowering in May and June.

Root fibrous, [perennial. Plant slender and weak, of a pale whitish green. Stem about a foot high, triangular, and rough upwards, smooth and roundish below, leafy. Leaves long and narrow, rough at their edge. Spikelets alternate, solitary, 6, 8 or more, ovate, androgynous or composed of male and female flowers; 3 or 4 of the lowermost are very distant, and each is accompanied by a very long upright leafy bractæa, taller than the top of the stem; the upper spikelets are more approximated, and have very short bractææ. The male flowers stand below the female in every spikelet. The glumes are ovate, membranous and white at the edge, green at the back, with a keel turning brown as they advance in age. Fruit ovate, pointed, erect, longer than the glumes, roughish at the edge in the upper part, generally entire at the orifice. Seed lentil-shaped. Stigmas two.

C. axillaris of Dr. Goodenough differs in having clustered spikelets and cloven seed-cases. The original *axillaris* of Linnæus is no other than the *remota* adopted from Plukenet, &c.



6087.1500 Published by J. Sauerby.

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CAREX axillaris.

Axillary Clustered Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale.
Cor. none. Female, *Catkin* imbricated. *Cal.* of
 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed
 with a swelling tunic.

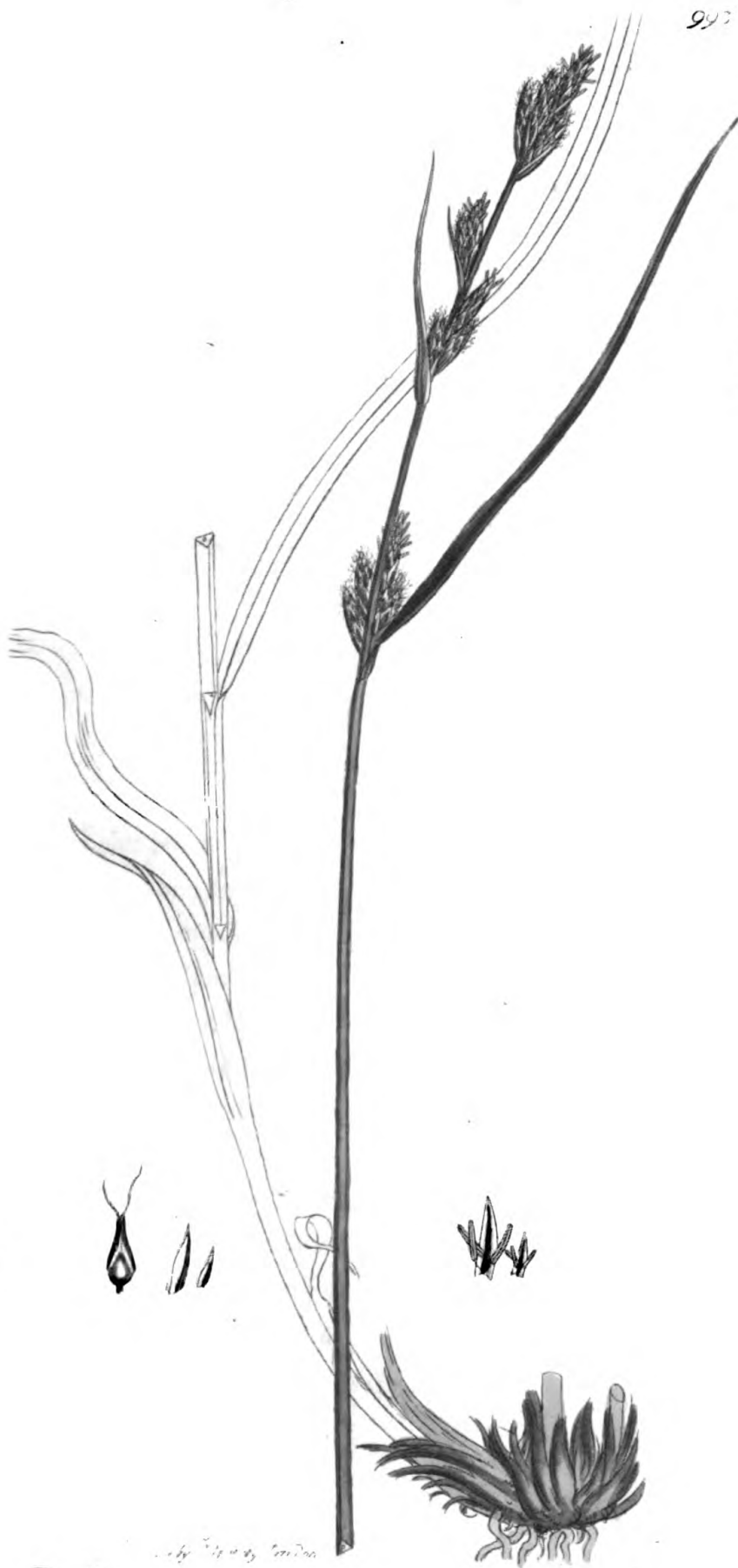
SPEC. CHAR. Spikelets remote, sessile, androgynous;
 the lowermost compound. Bractææ very long.
 Seed-tunic cloven at the point.

SYN. *Carex axillaris.* *Gooden. Tr. of Linn. Soc. v. 2.*
151. t. 19. f. 1. Sm. Fl. Brit. 970. With. 89.
Hull. 205.

MR. CURTIS is said to have first discovered this species of *Carex* near Putney. Mr. Woodward sent our specimen from Earsham, Norfolk, where it is found about wet ditch banks on a soil of strong clay, flowering in the middle of June.

This has probably been often neglected as a luxuriant variety of *C. remota*, t. 832. It differs from that species in being much larger and stouter, with broader leaves and bractææ. The spikelets are also more turgid, and the lowermost of them, sometimes two or three more, are compound, consisting of a principal spikelet with 2, 3, 4 or even 5 smaller ones clustered at the base. The lowest bractæa only rises as high as the top of the stem; the rest are shorter. The seed-cases are much more distinctly and deeply cloven than those of *C. remota*.

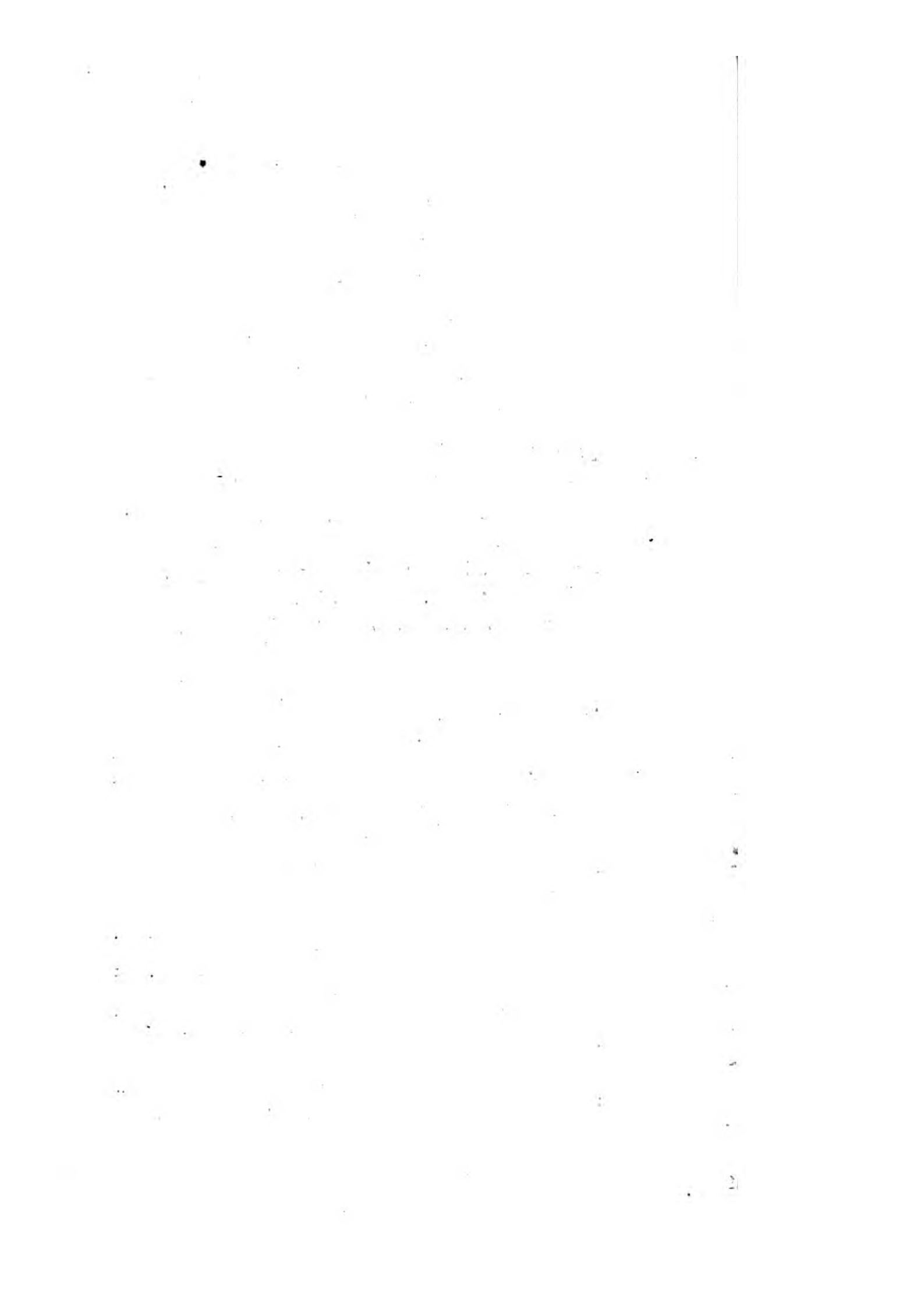
993



Adiantum species

✓





CAREX incurva.

Curved Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets clustered into a head, androgynous; the lower flowers female. Bractææ membranous. Stem roundish, smooth. Leaves channelled.

SYN. *Carex incurva.* *Lightf.* 544. t. 24. f. 1. *Sm.* *Fl. Brit.* 971. *Gooden. Tr. of Linn. Soc.* v. 2. 152. *Hudf.* 650. *With.* 89. *Hull.* 205.

DR. HOPE received specimens of this *Carex* from the "deep loose sand at the mouth of the water (or river) of Naver, and from near Skelherry in Dunrosness, in Shetland," whence it found a place in the *Flora Scotica*. Professor Beattie has favoured us with specimens from near Aberdeen. It flowers in July.

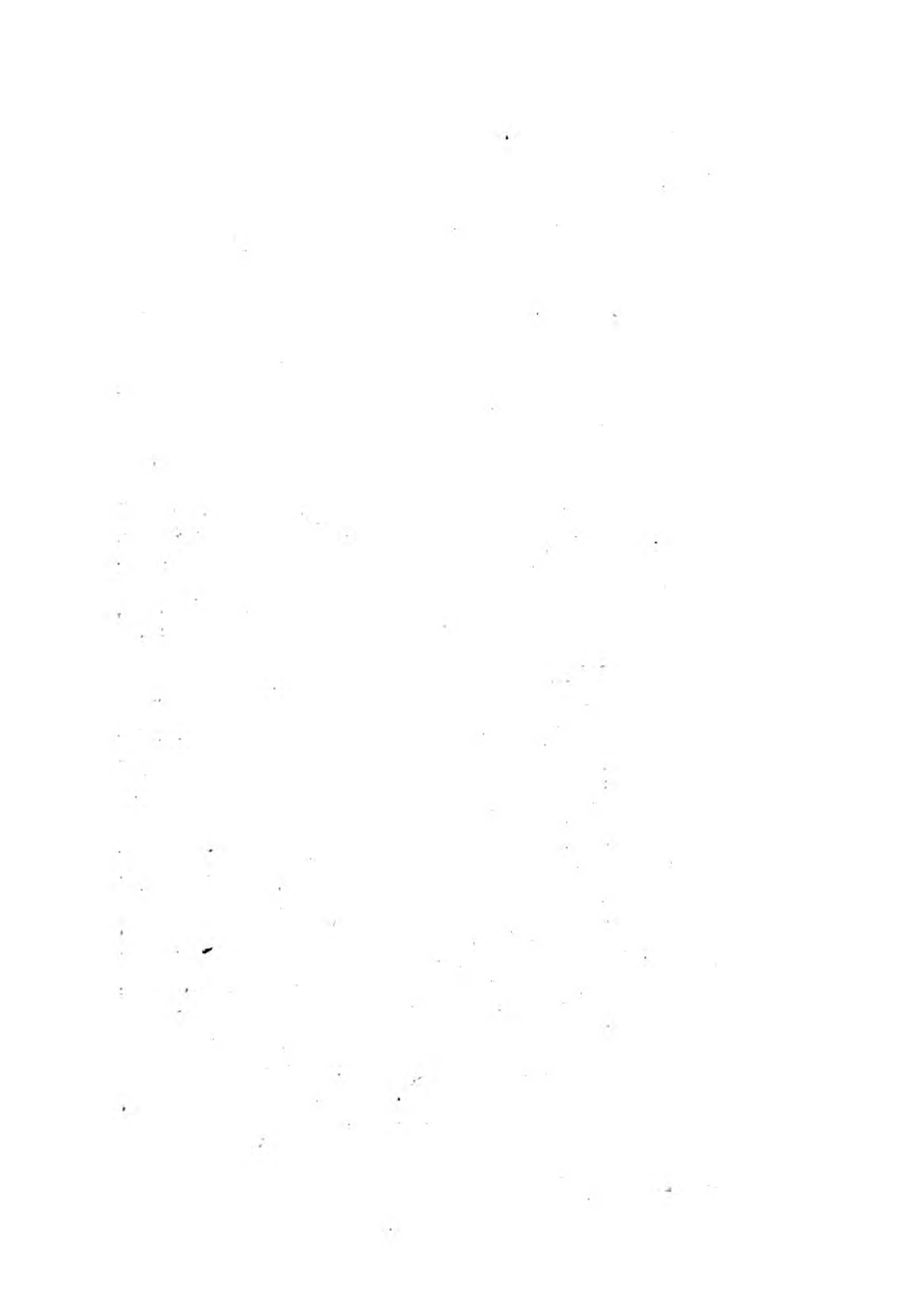
The root creeps. The stems are mostly curved, 3 or 4 inches high, naked, simple, smooth. Leaves all radical, shorter than the stem, linear, channelled, smooth. Spike terminal, capitate, roundish, or rather conical, composed of several roundish sessile spikelets, each of which consists of a few female flowers in the lower part, and rather more numerous male ones above them. Bractææ shorter than the spikelets, elliptical, concave, membranous, brownish with a pale edge, slightly keeled. Glumes like them in form and colour, but rather more acute. Stamina 3, long and slender. Stigmas 2, brownish. Fruit ovate, acute, green tinged with brown, smooth at the edge, and very slightly notched (not cloven) at the point.

The *C. juncifolia* of Allioni is the same with this species; but growing in alpine bogs, not exposed to driving sands or torrents, the stem is less frequently curved.



Sept. 1. 1861. Published by J. & S. Cooper, London.

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CAREX arenaria.

Sea Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets crowded, spiked, almost monoicous. Bractæ membranous; the lower ones leafy. Stem triangular. Leaves flat.

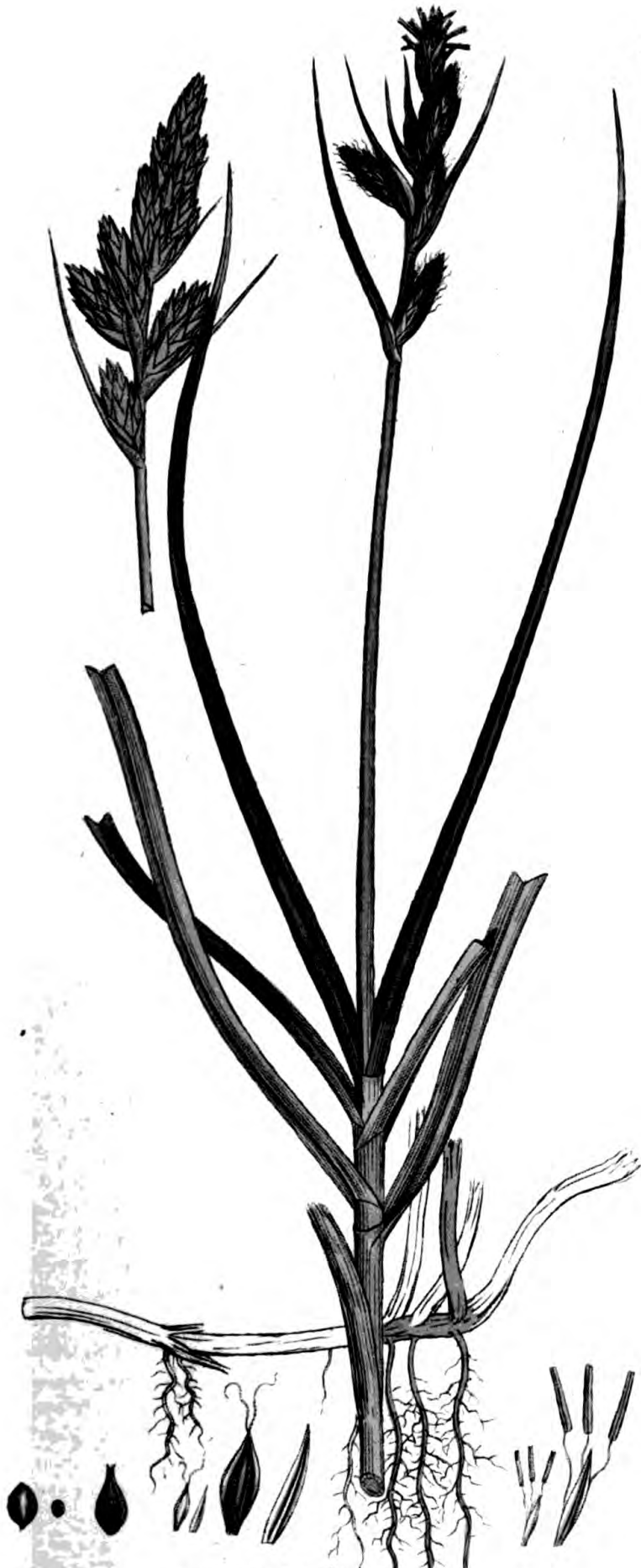
SYN. *Carex arenaria.* *Linn. Sp. Pl.* 1381. *Sm. Fl. Brit.* 971. *Gooden. Tr. of Linn. Soc. v.* 2. 153. *Huds.* 405. *With.* 90. *t.* 20. *Hull.* 205. *Dicks. H. Sicc. fasc.* 5. 14.

Gramini cyperoidi ex monte Ballon simile humilium, in maritimis et arenosis nascens. *Raii Syn.* 423.

VERY common in the loose sand of the sea shore, where it may be found in flower in June and July.

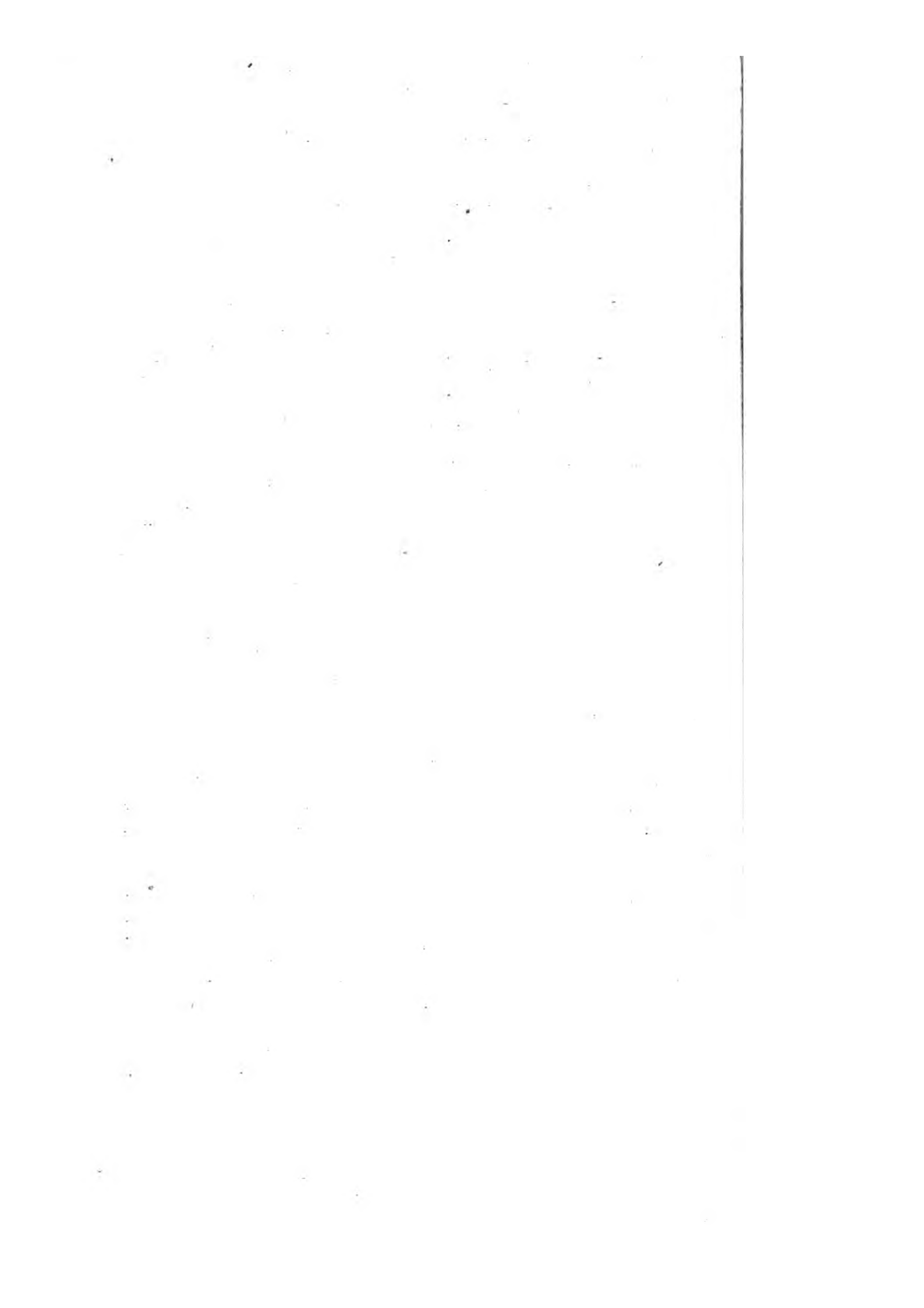
The root creeps horizontally to a great extent, fixing itself by numerous fibres, and throwing up numerous stems, about a foot high, erect, except when they are overborne by the sand, naked, with 3 sharp angles, roughest in the upper part. Leaves several, sheathing the base of the culm, upright, flat, rough on the edge, terminating in a long taper point. Spike ovate, compressed, composed of several, alternate, generally close-set, sessile, brown, ovate, many-flowered spikelets. Bractæ lanceolate, keeled, membranous at the edge, the lower ones lengthened out into a leaf. Lower spikelets almost entirely composed of female flowers; upper of male ones, which in all the spikelets are ranged above the females. Glumes lanceolate, pointed. Stamina 3, capillary. Stigmas 2. Fruit ovate, acute, ribbed, bordered with a membrane on each side in the upper part, rough on the edge, tipped with a cloven point.

This *Carex* cooperates with the *Elymus arenarius*, *Arundo arenaria*, and some other grasses of less note, in fixing the loose barren sands of the sea shore, which its long entangled roots detain, and collect into banks, in time forming powerful ramparts against the ocean. See *v.* 8. *t.* 520.



Desmodium pubescens L. var. *pubescens*

v



C A R E X intermedia.

Soft Brown Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets crowded into a common spike; the lower and upper ones female; the intermediate ones male. Stem acutely triangular, erect.

SYN. *Carex intermedia.* *Gooden. Tr. of Linn. Soc. v. 2. 154.* *Sm. Fl. Brit. 972.* *With. 91.* *Hull. 205.* *Dicks. H. Sicc. fasc. 7. 15.*

C. disticha. *Huds. 403.* *Relh. 364.* *Sibth. 26.* *Abbot. 202.*

Gramini cyperoidi ex monte Ballon simile, spicâ totali e pluribus spicis compositâ. *Raii Syn. 423.*

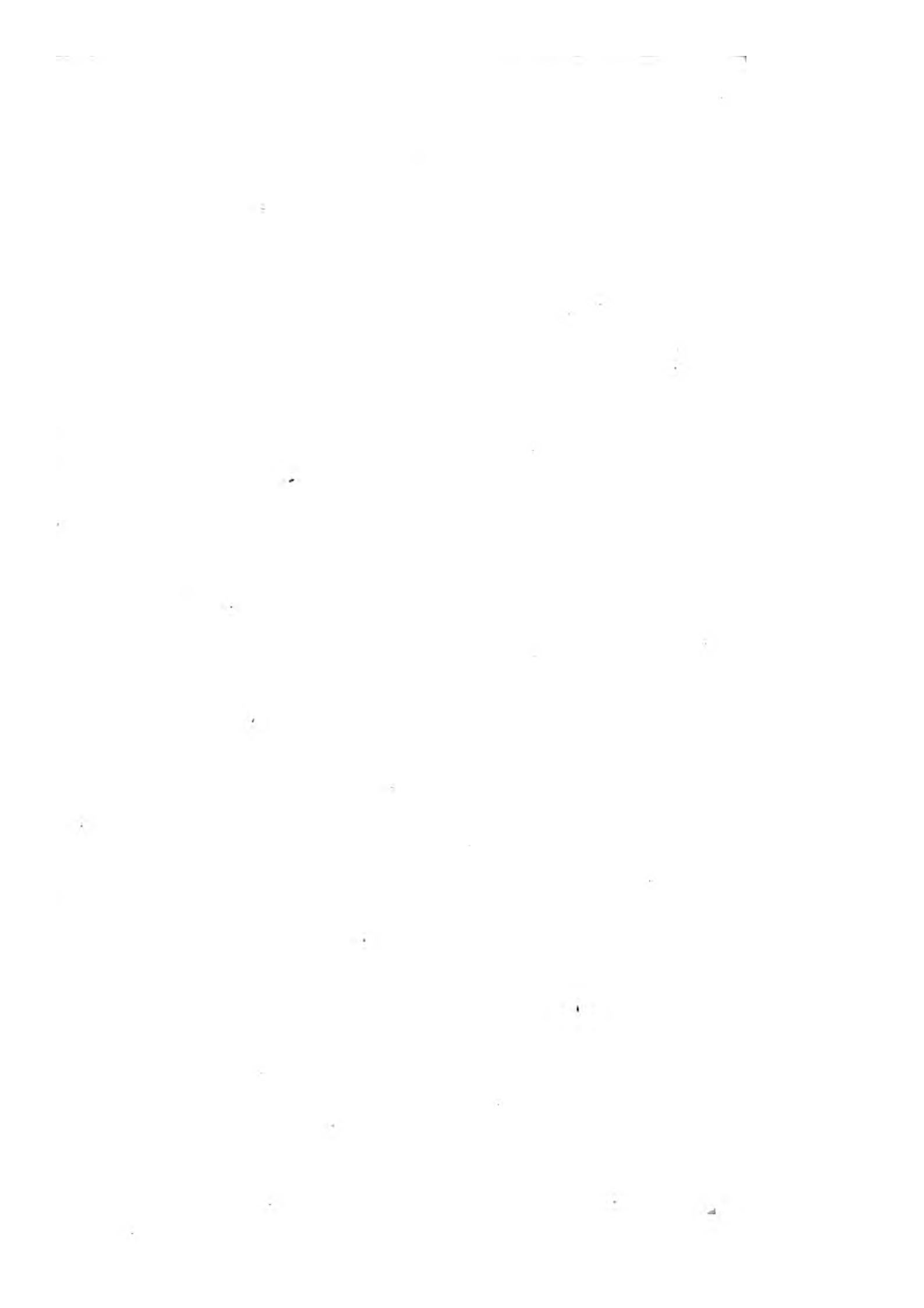
NOT unfrequent in marshy meadows and other watery places, flowering in May and June.

Root creeping, running deep into the ground. Stems upright, straight, 12 or 18 inches high, triangular, with very sharp, more or less unequal, angles, leafy at the bottom only. Leaves few, nearly upright, shorter than the stem, acute, almost flat, a little rough at the edges and keel. Spike oblong, bluntish, of a rusty brown, soft to the touch, but little compressed and by no means two-ranked, composed of numerous, crowded, ascending, ovate spikelets, of which 2 or 3 of the lowermost, and 1 or 2 of the uppermost, are almost entirely female, the rest nearly as completely, but not absolutely, male. In each spikelet the male flowers are always uppermost. Bractees ovato-lanceolate, membranous, brown, white-edged; the lowest ending in a leafy point. Glumes ovate, acute, brown, with a pale nerve and white edge. Fruit ovate, acute, winged, rough-edged, with a cloven point. *Stigmas* 2, sometimes 3.



Juncus hexy published by J. Sowerby London





CAREX *divisa*.
Bracteated Marsh Carex.

MONOECIA *Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike once or twice compounded; spikelets all androgynous. *Braçtea* leafy, erect. Fruit not spreading. Root creeping.

SYN. *Carex divisa.* *Huds.* 405. *Sm. Fl. Brit.* 973. *Gooden. Tr. of Linn. Soc. v. 2.* 157. *t. 19. f. 2.* *With.* 92. *Hull.* 205.

Gramen cyperoides ex monte Ballon, spicâ divulsâ.
Raii Syn. 423.

THIS rare *Carex* was gathered at Kennington by Mr. Groult, a very accurate observer. It grows in marshy places, flowering in May and June, and is most likely to be found not very far from the sea, or at least within the reach of the fresh-water tide.

Root perennial, creeping horizontally to a considerable extent, black, strong and twisted. Stems upright, weak, above a foot high, naked, triangular, roughish in the upper part. Leaves bright green, narrow, erect, various in length. Spike scarcely an inch long, ovate, compound, sometimes subdivided at the base, dense and compressed, of a brown, not reddish, hue. Spikelets several, irregularly clustered, ovate, all androgynous, the female flowers undermost and most numerous. A long narrow leafy triangular acute *bractea* stands under the lowest spikelet, generally rising much above the uppermost. Glumes elliptical, sharp, brown with a pale or greenish keel and a slightly membranous edge. Fruit shorter than the glumes, ovate, with a rough dilated margin, cloven at the point. Stamina three. Stigmas two, brown, very long and slender.

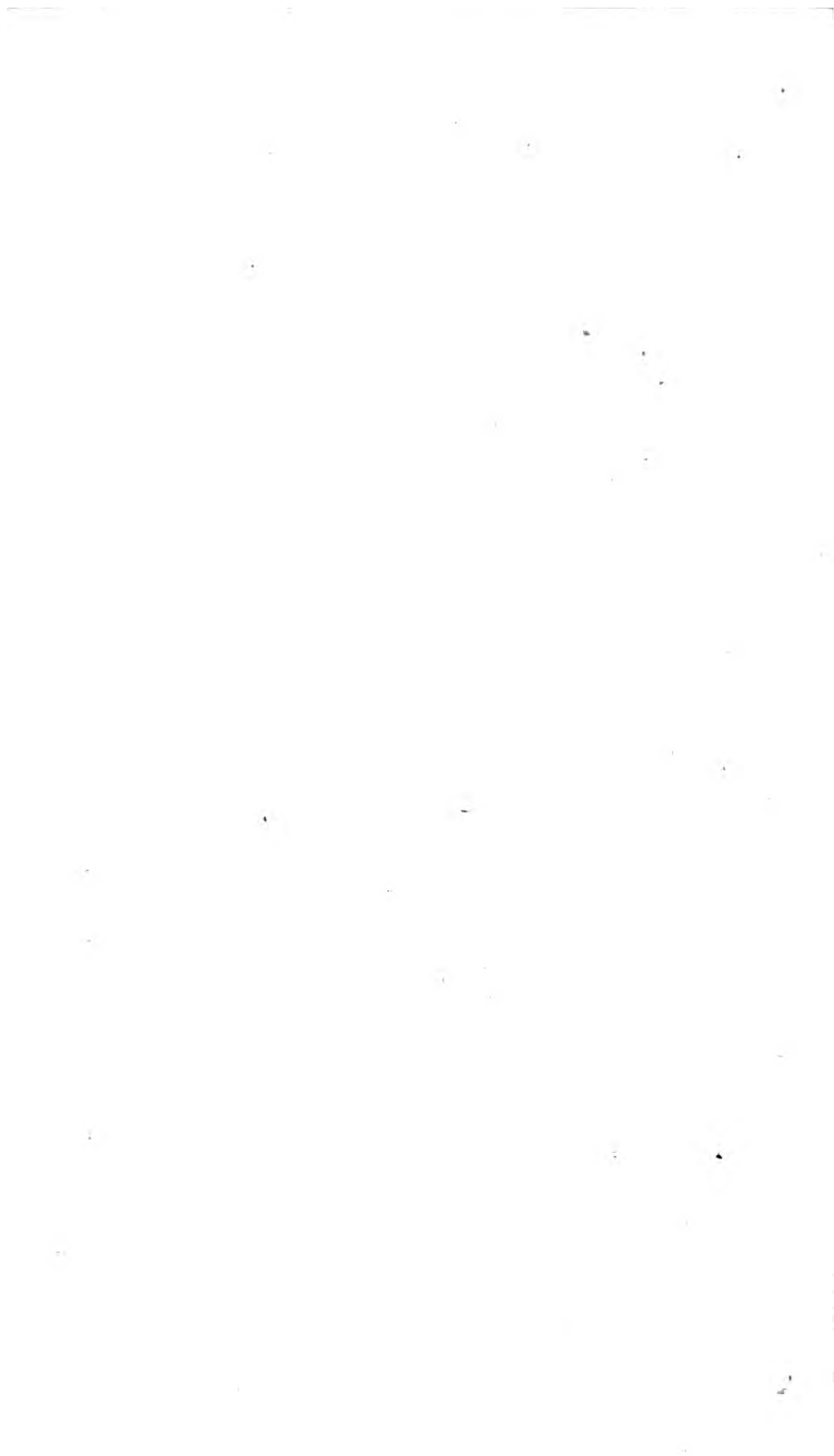
1096



Nov. 7 1802 Published by Ja. Sowerby London.

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[1097]

C A R E X muricata.

*Greater Prickly Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike oblong, once or twice compounded, prickly; spikelets androgynous. Fruit divaricated, pointed, cloven. Root fibrous.

SYN. *Carex muricata.* *Linn. Sp. Pl.* 1382. *Sm. Fl. Brit.* 974. *Gooden. Tr. of Linn. Soc. v. 2.* 158. *Witb.* 92. *Hull.* 205. *Relb.* 364.

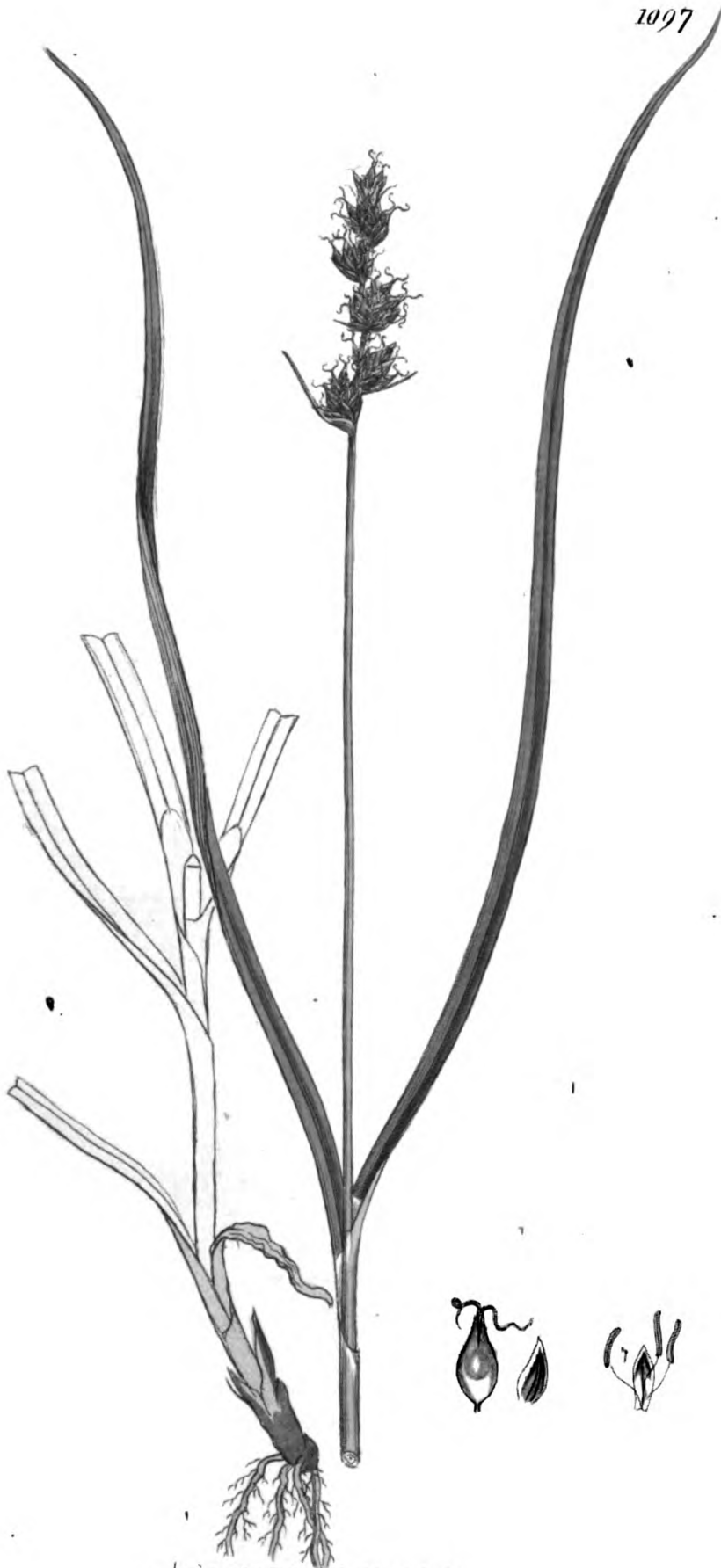
C. spicata. *Huds.* 405. *Sibth.* 27. *Abbot.* 201. *Lightf.* 548.

Gramen cyperoides spicatum minus. *Raii Syn.* 424.

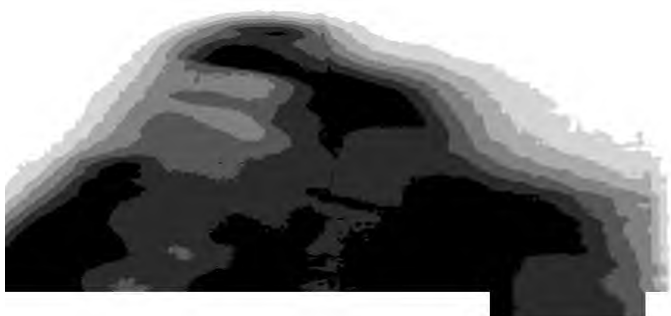
FREQUENT in rather moist pastures and shady places, flowering in May or June.

The root is perennial, fibrous, scarcely creeping. The herbage of a bright green. Stem upright and straight, 12 or 18 inches high, naked except at the base, triangular, the angles rough upwards. Leaves flattish, narrow, taller than the stem, rough on the edges and keel. Spike oblong, an inch or more in length, cylindrical, blunt; a little interrupted and (though rarely) sometimes branched at the base. Spikelets various in number, roundish, rather crowded, the male flowers above the female. Bractææ ovate, membranous, the lowest especially tipped with a narrow rough leafy point. Glumes ovate, brown with a green keel. Fruit spreading every way, ovate, convex on one side, green, at length brown, rough at the margin towards the top, deeply cloven at the point. Stigmas two.

By a comparison with *t.* 806 it will be seen in what particulars this differs from *C. muricata* of Hudson, our *stellulata*.



✓



C A R E X *divulsa*,*Grey Carex.**MONŒCIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Spike twice compounded, elongated, often branching at the base; the lower spikelets remote; the uppermost clustered. Seeds nearly erect.

SYN. *Carex divulsa*. *Gooden. Tr. Linn. Soc. v. 2. 160. With. 93. Hull. 205. Sibth. 28. Abbot. 203.*

C. canescens. *Hudf. 405. Relb. 351.*

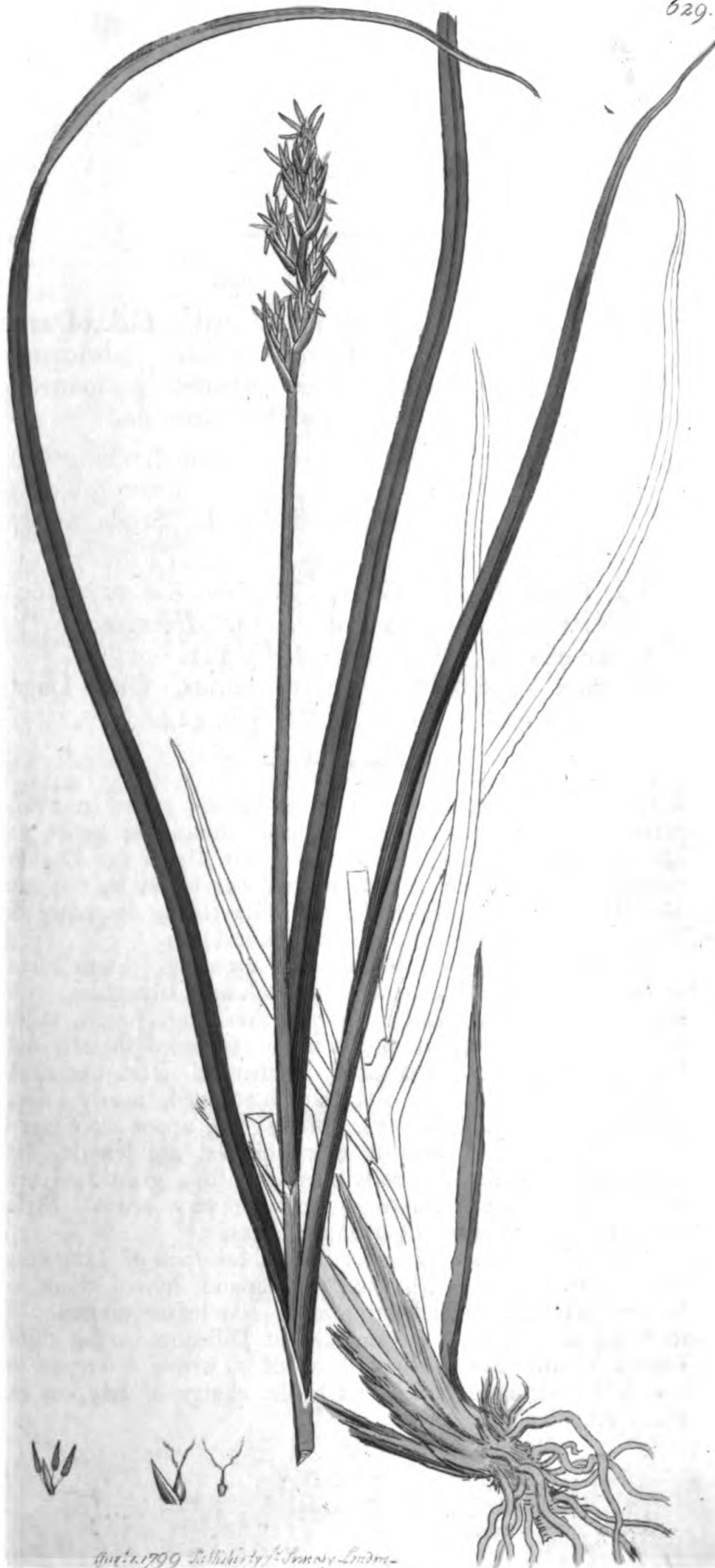
Gramen cyperoides spicatum minus, spica longa divulsa feu interrupta. Raii Syn. 424.

CAREX *divulsa*, like most of its family, grows in moist places, and more particularly in shady situations; hence its pale greyish-green hue, which has given rise to the English name. The specimen here delineated was found by the late Mr. Rayer, between Rochester and Gravesend, flowering in May. It is not one of the most common kinds.

The root is perennial, fibrous, not creeping. Stem a foot or more in height, weak, and partly reclining, triangular, with sharp rough angles. Leaves several, sheathing, rough, taller than the stem, with white membranous lacerated sheaths and stipulæ. Spike erect, elongated, interrupted, often branched at the bottom. Spikelets alternate, bracteated, nearly sessile, upright, ovate; the lower ones remote; the upper close together. The lower flowers in every spikelet are female, the upper male. Scales of a rusty brown, with a green keel and white edge, sharply pointed. Antheræ very acute. Style short, thick, with two long downy stigmas.

This had long been taken for the *C. canescens* of Linnæus, till the arrival of his herbarium in England shewed them to be very different. The description of Ray leaves no doubt of its being his plant above quoted, but Dillenius in the third edition of the *Synopsis* having added a wrong reference to Læfel, his error has been laid to the charge of Ray, as in many other instances.

629.



Quek. 1799. *Solidago* f. *tenax* Lindl.

✓



CAREX vulpina.

*Great Carex.**MONŒCIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Spike thrice compounded, compact, obtuse. Male flowers in each spikelet above the female. Fruit spreading. Angles of the stem very sharp.

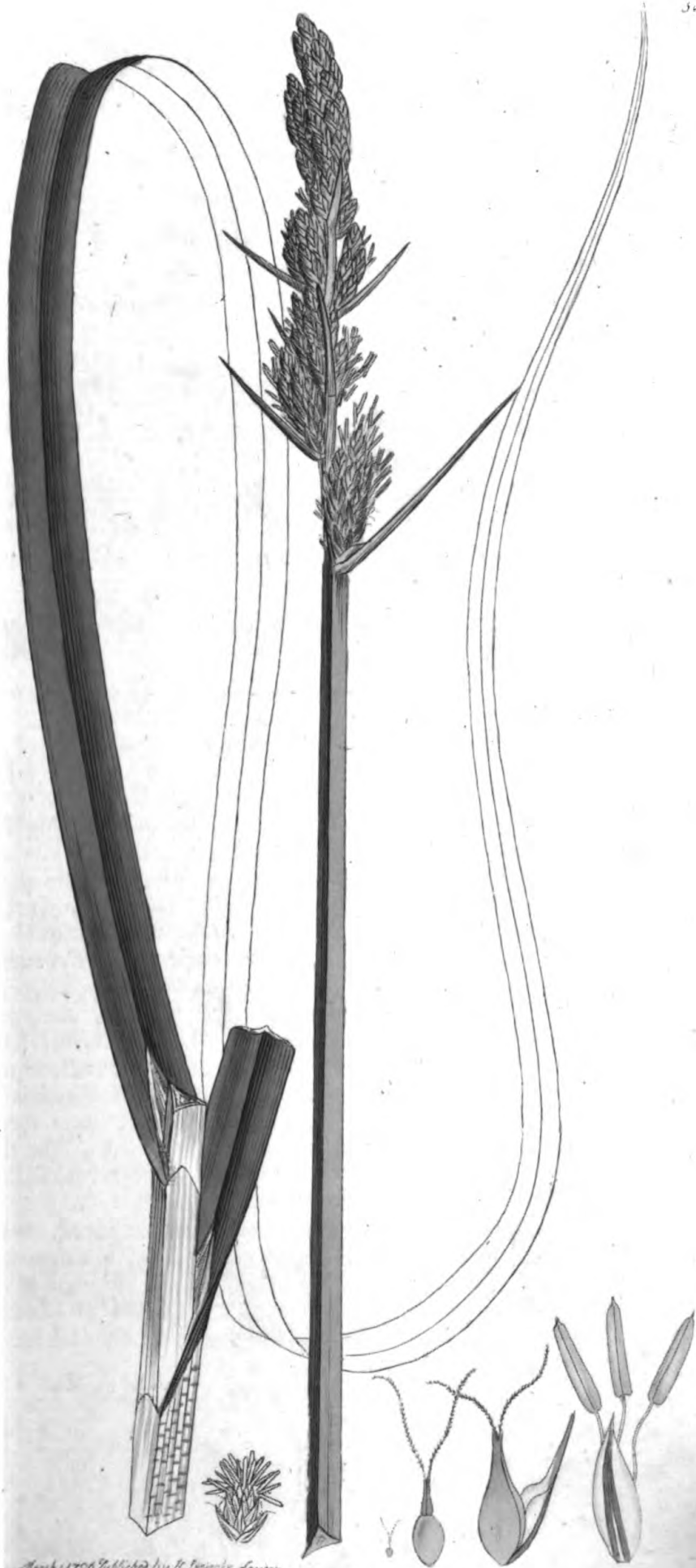
SYN. *Carex vulpina.* *Linn. Sp. Pl.* 1382. *Huds. Fl. An.* 404. *Witb. Bot. Arr.* 1030. *Relb. Cant.* 350. *Sibth. Ox.* 27. *Gooden. Tr. of Linn. Soc. V.* 2. 161. *Leers Herborn.* 196. t. 14. f. 5.

Gramen cyperoides palustre majus, spica compacta.
Raii Syn. 423.

THIS is found, rather less frequently than the last, in marshy places, banks of rivers, &c. and is one of the largest as well as best understood British species. It flowers in the early part of summer, but its brown spikes in a seeding state may be found for some time afterwards.

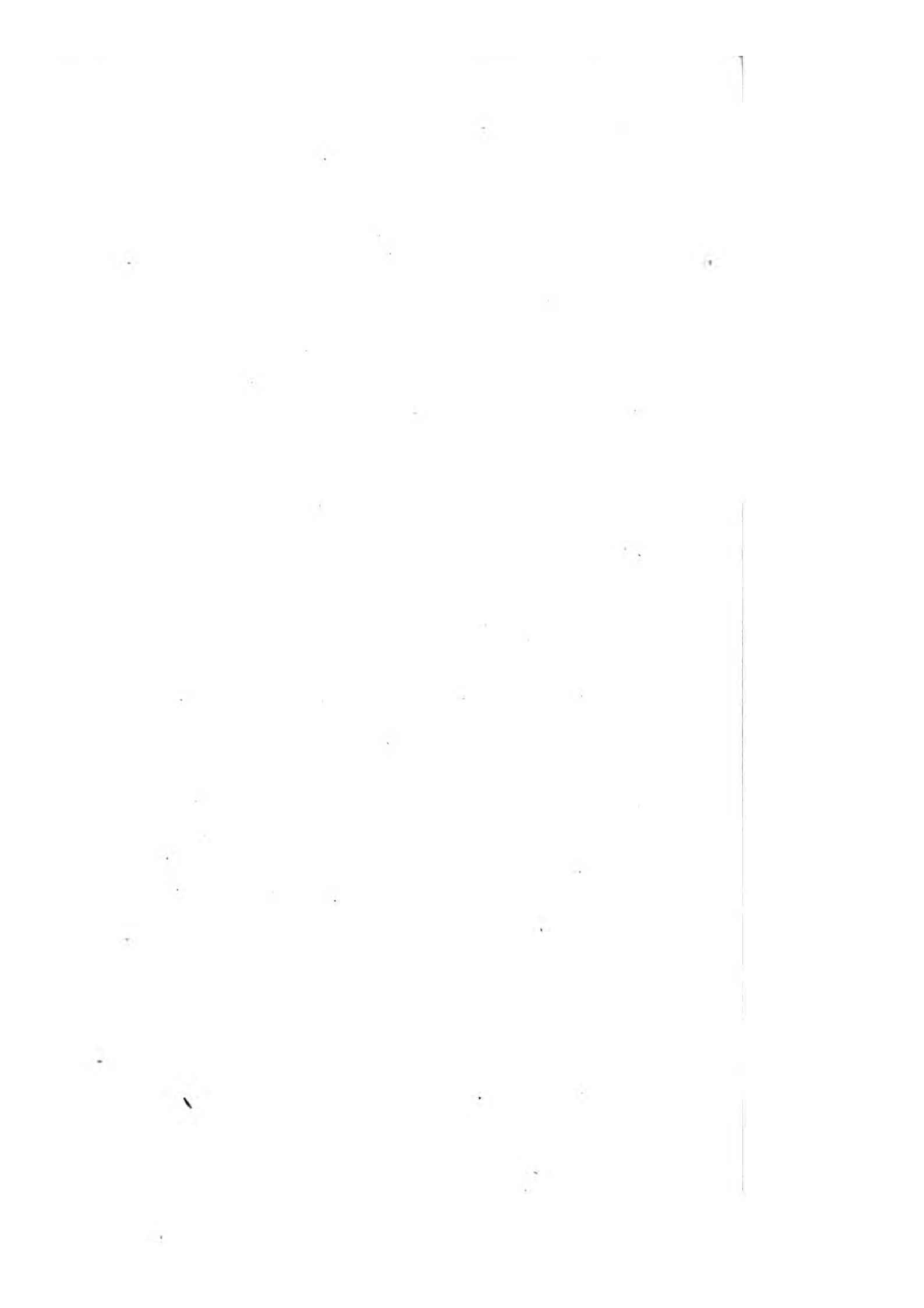
Root perennial, fibrous, forming thick tufts. Stems many, erect, about 2 feet high, stout, very acutely triangular and rough, so as to cut the fingers of those who handle them incautiously. Leaves sheathing the lower part with their whitish membranous base, long, deep green, very rough on the edges and nerve. General spike of several alternate, rather remote, compound spikelets, with a linear bractea to each. Little spikelets small, their male flowers above the female. Scales of the male flowers ovate, acute, membranous; those of the female somewhat abrupt, with a longish rough point. Base of the style tumid. Stigmas two. Permanent corolla slightly notched. The stem above the lowest spikelet, as Dr. Goodenough observes, suddenly diminishes very much in thickness.

Leers's exquisite figures cannot be too much admired, though perhaps he excels less in some of the *Carices* than in other grasses. We mean only to commend his own original plates. Those of the 2d edition are vile copies, in which all accuracy of character is lost, and even many parts totally omitted by the blundering engraver.



v





C A R E X teretiuscula.

Lesser Panicked Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike twice or thrice compound, dense, rather pointed. Spikelets clustered. Fruit spreading, gibbous. Stem roundish.

SYN. *Carex teretiuscula.* *Gooden. Tr. of Linn. Soc.* v. 2. 163. t. 19. f. 3. *Sm. Fl. Brit.* 977. *With.* 95. *Hull.* 206. *Relb. ed.* 2. 365.

RAY appears to have been acquainted with this *Carex*, (see his remark in the *Synopsis* under *C. paniculata*,) though it entirely escaped the notice of modern botanists till Mr. Crowe found it on St. Faith's bogs near Norwich, and at Barton mills. Since Dr. Goodenough published his description and figure, the plant has been detected in Scotland. We have it also from Shropshire by favour of the Rev. Mr. Williams, and from several parts of Yorkshire gathered by Mr. Hailstone and Mr. W. Brunton. It flowers in May, and is perennial.

This differs from the preceding in not being in any of its parts above half so large. The ripe fruit (see t. 1064. f. 2.) is more tumid: the spike less compound, more dense, and not by any means panicked: the spaces between the angles of the stem are convex and prominent, not flat, whence that roundness of stem expressed in the specific name: finally, the plants grow separate, not forming tufts, a circumstance pointed out by Ray as well as by Dr. Goodenough.



Sept. 1. 1802. Published by Jas. Sowerby, London.



CAREX paniculata.
Great Panicked Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1
scale. *Cor.* none. Female, *Catkin* imbricated.
Cal. of 1 scale. *Cor.* none. *Stigmas* 2 or 3.
Seed clothed with a swelling tunic.

SPEC. CHAR. Spike thrice compound, branched,
panicled, pointed, interrupted. Fruit spreading,
beaked. Stem sharply triangular.

SYN. *Carex paniculata.* *Linn. Sp. Pl.* 1383. *Sm.*
Fl. Brit. 978. *Gooden. Tr. of Linn. Soc.* v. 2. 164.
Hudf. 403. *With.* 94. *Hull.* 206. *Relb.* 351.
Sibth. 28. *Abbot.* 203.

Gramen cyperoides palustre elatius, spicâ longiore
laxâ. *Raii Syn.* 422.

NOT rare in spongy bogs and watery shady places, where
its large fibrous perennial roots form huge and firm tufts, raised
high above the original soil, and in time changing a rotten
bog into a grassy, though coarse, meadow. The stems are 2
or 3 feet high, erect, furnished with 3 sharp rough angles,
the spaces between which are flat and many ribbed. Leaves
upright, broadish, rough on the edges and keel. The large,
branched, repeatedly compound panicle is perfected in June,
and readily discriminates the species. Its bractæ are ovate,
short, pale-brown, with a white membranous edge, and
terminate in a bristle, which, like the keel, is rough. The
keels of the inner glumes are smooth. Fruit greenish, ovato-
lanceolate, convex on the outside, ending in a long, cloven,
rough-edged beak. Stigmas 2.

Fig. 1 exhibits the fructification of this plant; fig. 2, the
fruit of *C. teretiuscula* described in the following page.

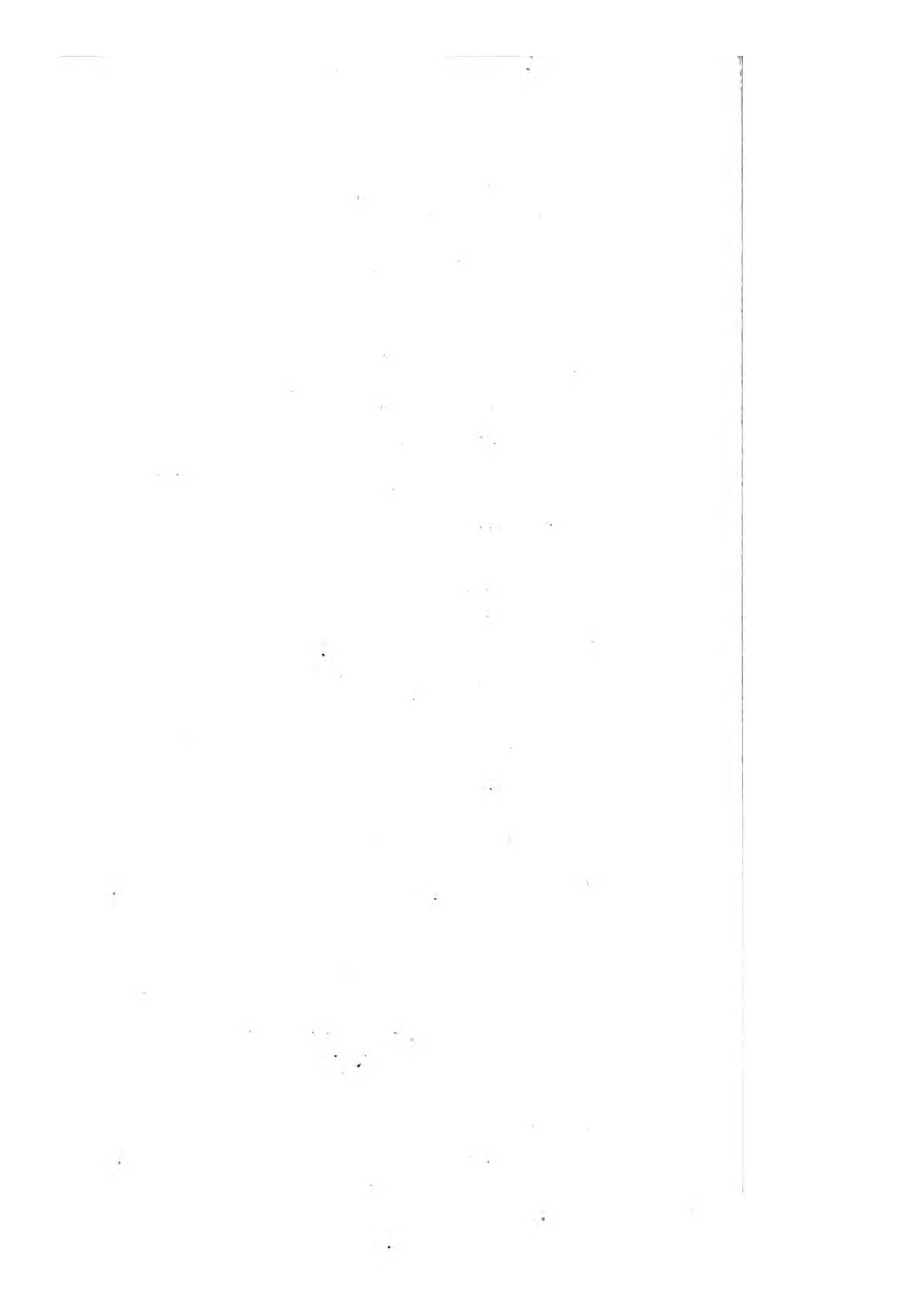
1064.



July, 1802. Pub. by J. Smeeby London.

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C A R E X digitata.

Fingered Carex.

M O N O E C I A Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. *Bractææ* membranous, sheathing, leafless, oblique. Spikes linear, erect: the male shorter and lower. Capsules distant.

SYN. *Carex digitata.* *Lim. Sp. Pl.* 1384. *Huds.* 409. *With.* 95. *Hull.* 206. *Gooden. Transf. of Lin. Soc.* vol. 2. 166. *Leers, t.* 16. f. 4.

IN searching for the *Arabis stricta*, Mr. W. Clayfield first observed this rare *Carex* growing profusely among bushes under St. Vincent's rocks on the south side of the river, flowering in May. It has hitherto been found near Bath only, by Mr. Sole. Fresh specimens of both plants were immediately communicated to Mr. Sowerby, from which these figures were taken.

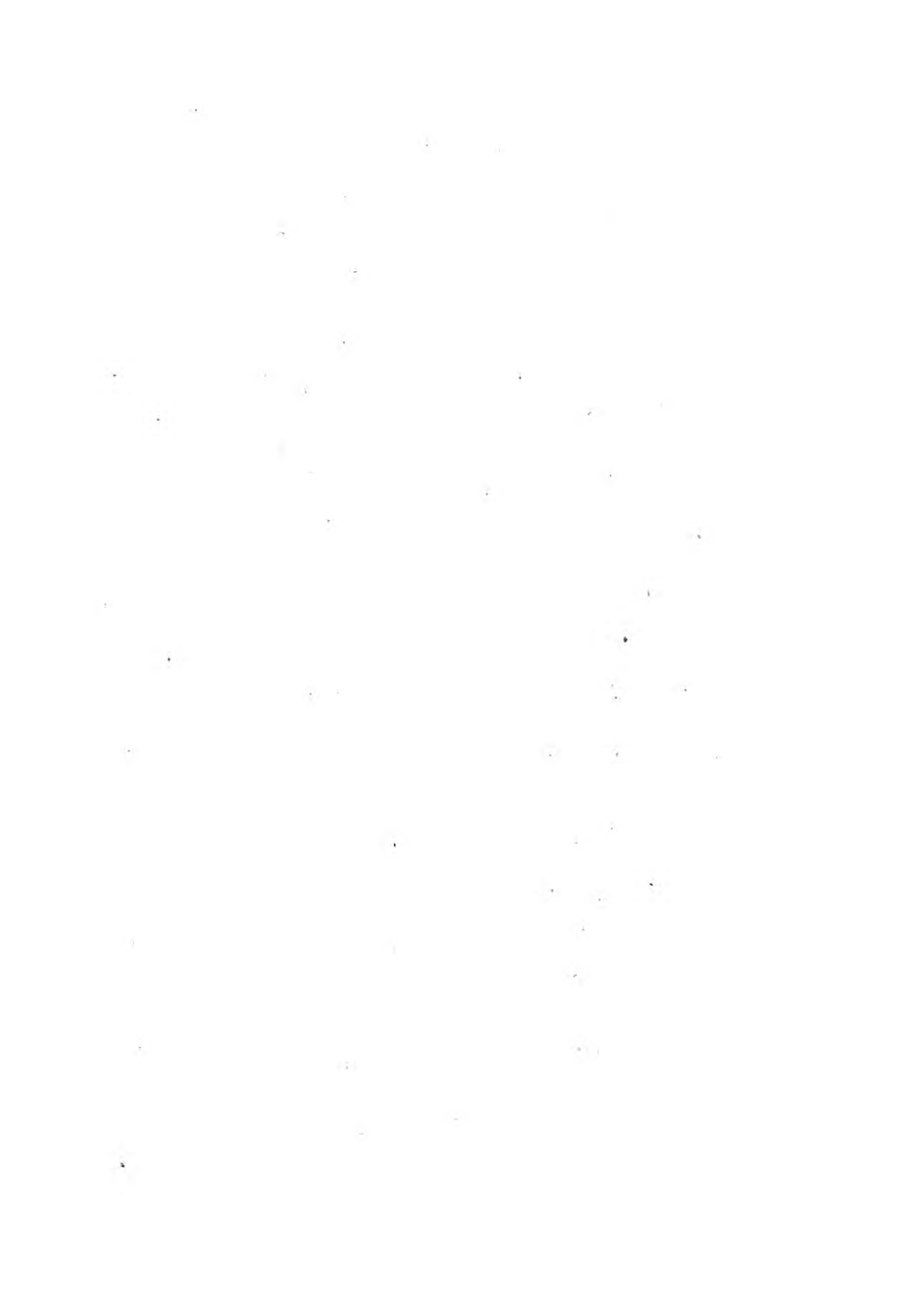
Root perennial, fibrous, blackish, long, and much branched. Stems six or eight inches high, almost naked, straight, obscurely triangular, smooth. Leaves almost all radical, sheathing, keeled, bright green; their sheaths red; their points blunt, rough in the margin with teeth pointing forwards, while the lower part of the leaf, according to Dr. Goodenough's just remark, has the margin rough with similar teeth pointing backwards. Spikes about three, terminal, erect, slender, growing in a finger-like manner, from sheathing bractææ with membranous edges. The male spike is the shortest and most dense. The one or two female ones are composed of rather remote, alternate, blunt, brown scales. The permanent corolla is green, obovate, and ribbed, slightly pubescent. Stigmas, as well as stamina, three.

615.



1779 *Salicaria* *f. Purshii* *Mill.*

2.



C A R E X - clandestina.

*Dwarf Silvery Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Bracteas membranous, sheathing, scarcely leafy. Female spikes remote, of few flowers, inclosed in the sheaths. Leaves channelled.

SYN. *Carex clandestina.* *Gooden. Tr. of L. Soc. v. 2. 167. Sm. Fl. Brit. 980. With. 96. Hull. 206. Willd. Sp. Pl. v. 4. 254. Schkuhr. Car. n. 67. t. K. 43.*

Cyperoides montanum humile angustifolium, culmo veluti folioso spicis obsesso. Scheuchz. Agr. 407. t. 10. f. 1.

GATHERED by Mr. E. Forster in April 1809 by the foot-path leading down from Clifton to Bristol hot-wells, in a very sunny spot. We have often observed it in similar parts of the neighbouring St. Vincent's rocks, where it was first discovered by Mr. Sole, nor do we know of its growing elsewhere in Britain.

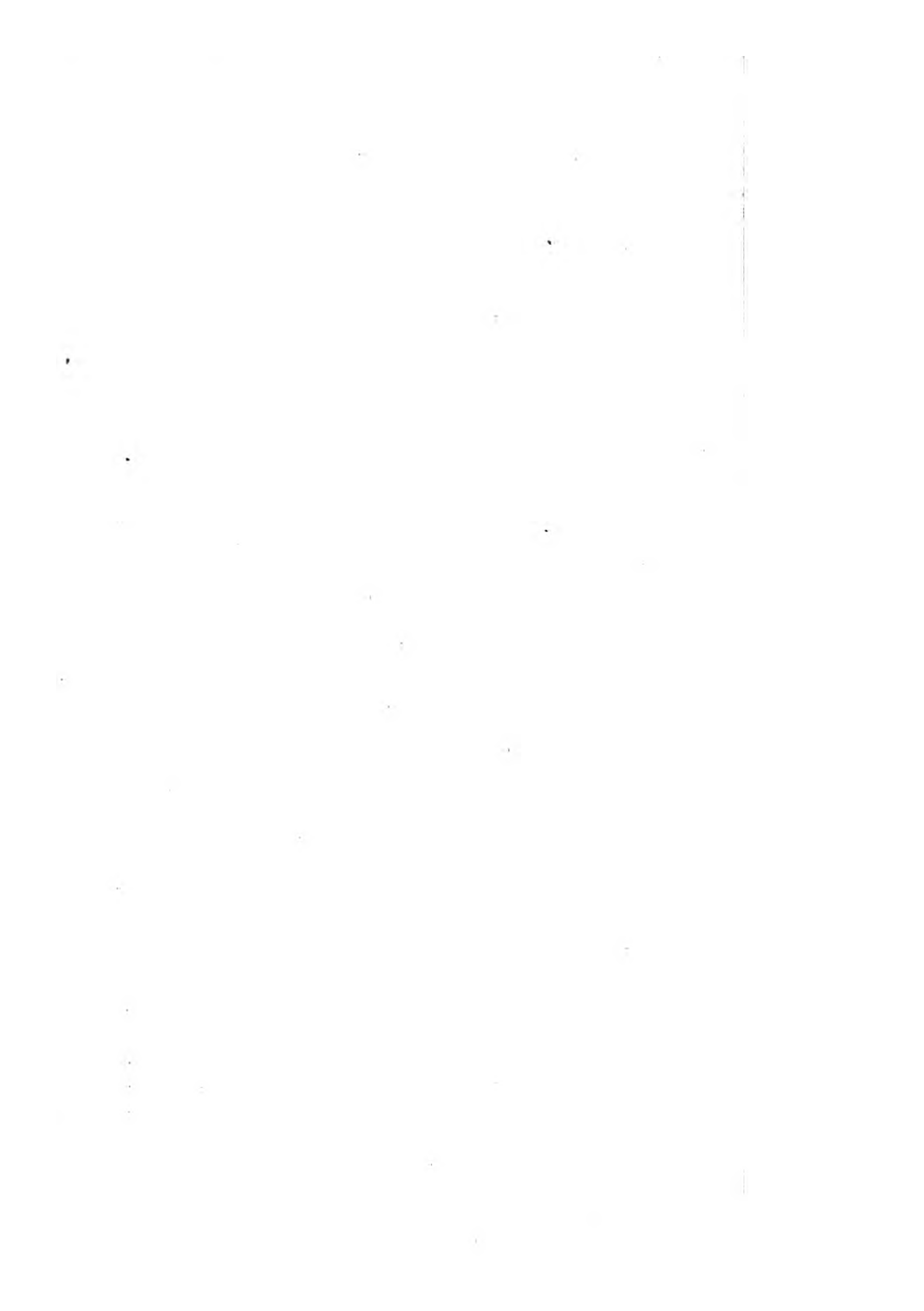
This has very strong deep perennial roots, and flowers early in spring, when its little silvery bracteas are easily seen among the humble stalks and leaves. The whole plant while flowering is only an inch or two high, but the leaves soon grow taller, and are channelled, erect, narrow, very rough-edged. Spikes slender, with reddish silvery-edged glumes. Stigmas 3, very long, separate to the bottom. Fruit obovate, slightly triangular, finely downy when young, entire at the mouth. The male spikes are solitary; female 2 or 3. Sometimes an early female spike throws out a stalk bearing a later male one, as in our specimen. As the fruit ripens, the stem and leaves become greatly lengthened, and the bracteas disappear.



Nov 1 1880 published by P. Rotherby London

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[2315]

CAREX pendula.

*Great Pendulous Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, nearly equal to the flower-stalks. Spikes cylindrical, very long and drooping. Fruit ovate, acute, closely crowded.

SYN. *Carex pendula.* *Huds.* 411. *Sm. Fl. Brit.* 981. *Gooden. Tr. of Linn. Soc.* v. 2. 168. *With.* 96. *Hull. ed.* 2. 271. *Lightf.* 564. *Relh.* 366. *Sibth.* 413. *Abbot.* 206. *Curt. Lond. fasc.* 3. t. 63.

C. Agastachys. *Linn. Suppl.* 414. *Ehrh. Phyt. n.* 19. *Gramen cyperoides, spicâ pendulâ longiore.* *Raii Syn.* 420.

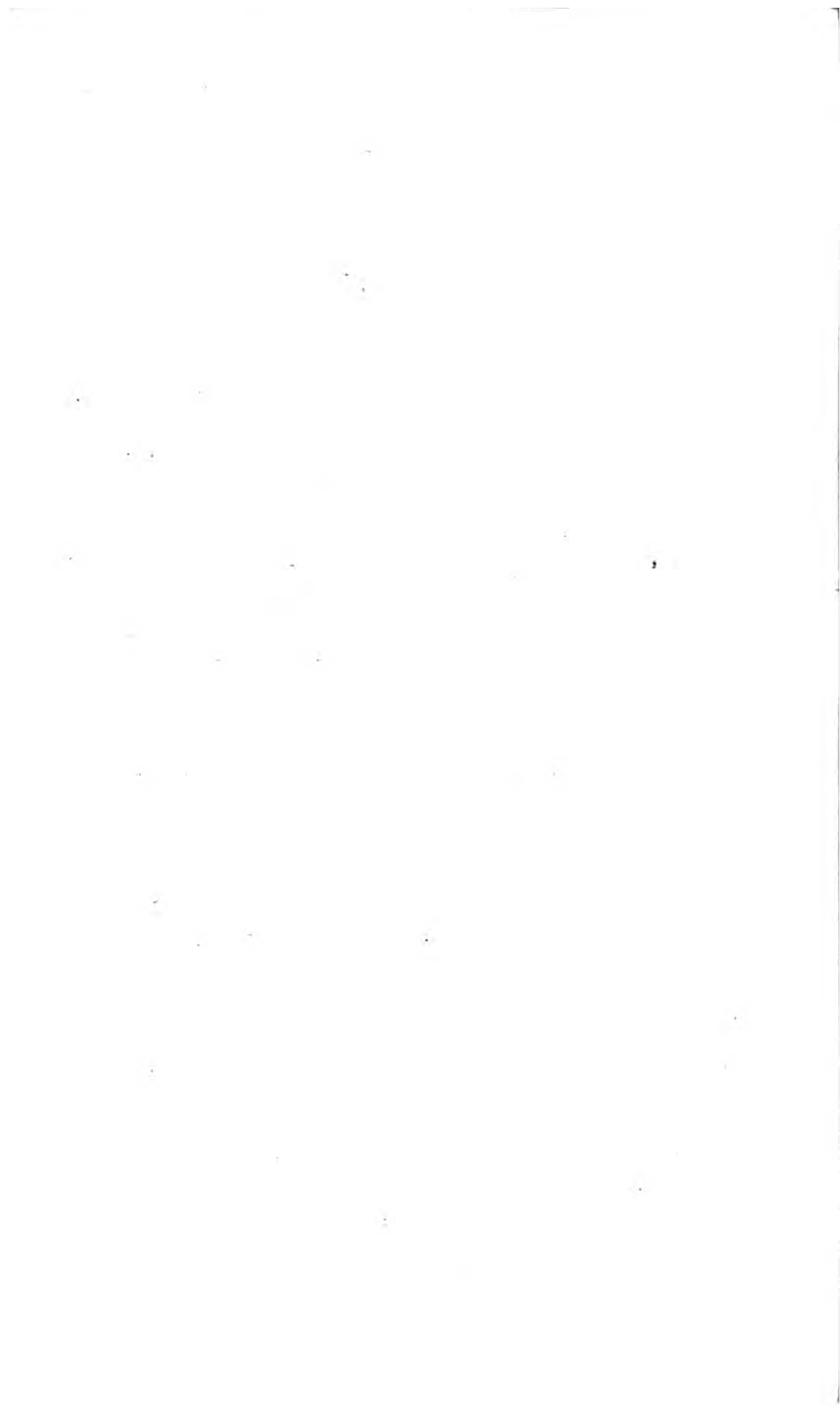
A NATIVE of rather moist woods and hedges, which we have no where observed more frequently than within a mile or two of London to the north and west, flowering early in June. Its great size, and long, dense, curved, dependent spikes, composed of vastly more copious fruit than those of any other British *Carex*, well distinguish this species.

The root is fibrous, perennial. Stem from three to five or six feet high, erect, leafy, triangular, its edges rough near the top only. Leaves long and broad, harsh, rough at the edge and keel, of a full green, rather glaucous underneath. Stipula long, narrow and sheathing. Floral leaves with tubular sheaths, nearly as long as the flower-stalks, at least the lower ones. Spikes on shortish stalks, cylindrical, very long, from five to seven, all nearly entirely female, except the terminal one, which also sometimes bears female flowers at its extremity. The scales are rusty, with a pale keel. Anthers long, rusty. Fruit green, a little inflated, triangular, pointed, smooth. Stigmas three. Seed triangular, brown.



10





CAREX strigosa.

Loose Pendulous Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, nearly equal to the flower-stalk. Spikes slender, loose, a little drooping. Fruit lanceolate, triangular, ribbed.

SYN. *Carex strigosa.* *Huds.* 411. *Gooden. Tr. of Linn. Soc. v. 2. 169. t. 20. f. 4.* *Sm. Fl. Brit.* 982. *With.* 96. *Hull.* 206. *Sibth.* 30. *Abbot.* 205.

Gramen cyperoides polystachyon majusculum latifolium, spicis multis longis strigosis. *Raii Syn.* 419.

FEW botanists have seen this *Carex* in its native places of growth, yet it is to be found in woods or groves in several parts of England, as Effex, Oxfordshire, and Bedfordshire; also in Hedenham wood, Norfolk, where Mr. Stone first discovered it many years since. We are obliged for our specimen to the Rev. Mr. Hemsted of Bedford. It flowers in April or May.

Root fibrous, perennial as in every known *Carex*. Stem erect, slender, 2 feet high, leafy, triangular, smooth. Leaves light-green, broadish, thin, rough on the edge and midrib. Bractæ like the leaves, shorter than the stem, each with a sheathing base, which is nearly as long as the flowerstalk it embraces, and is crowned by a tubular membrane analogous to the stipulæ. Female spikes 4, 5, or more, on capillary stalks, slender and soon drooping, loose, that is, composed of straggling or distant flowers. Male spike terminal, solitary, erect. Glumes ovato-lanceolate, green, edged with white. Stamina and stigmas 3. Fruit lanceolate, triangular, acute, but not beaked, a little recurved, strongly ribbed, smooth, green. Seed elliptical, triangular.

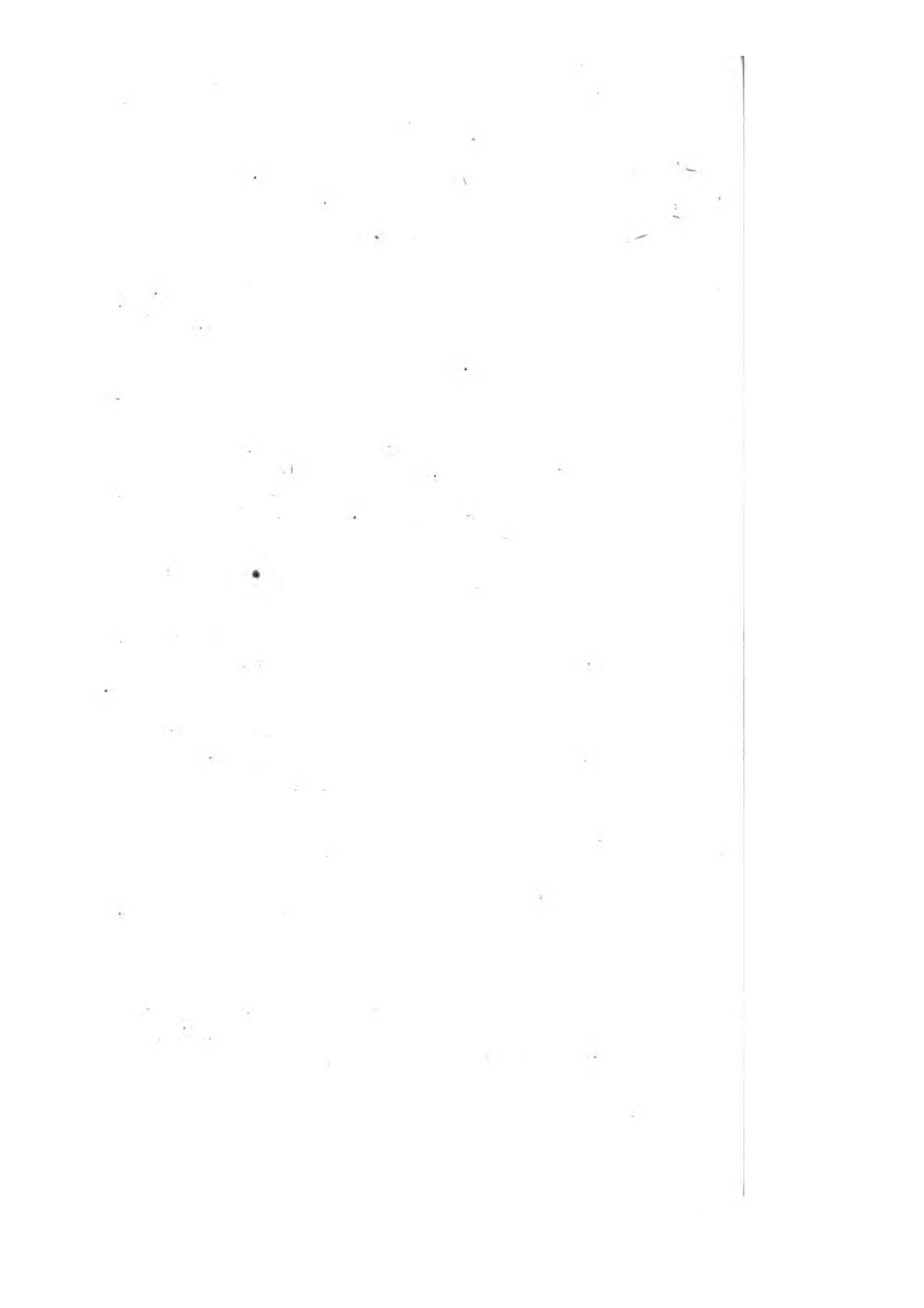


994

Setaria verticillata (L.) Gaertn.

✓





CAREX sylvatica.
Pendulous Wood Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths but half as long as the flower-stalk. Spikes slender, a little loose, drooping. Fruit ovate, triangular, beaked, without ribs.

SYN. *Carex sylvatica.* *Huds.* 411. *Gooden. Tr. of Linn. Soc. v. 2.* 183. *Sm. Fl. Brit.* 983. *With.* 102. *Hull.* 207. *Relb.* 356. *Sibth.* 30. *Abbot.* 205. *Dicks. H. Sicc. fasc.* 9. 13.

Gramen cyperoides sylvarum, tenuius spicatum. *Raii Syn.* 419.

COMMON throughout Britain in woods or thickets, rather preferring a clay soil, and situations that are wet in winter; flowering in May or June.

This agrees much in habit, stature and foliage with the last, with which therefore most botanists contrast it; but in fact the *C. sylvatica* is naturally allied to *C. vesicaria*, *laevigata*, &c., and has occasionally 2 male spikes. We would not however lay any stress on that circumstance, but rather on the structure of its fruit, which has 3 prominent angles, though no intermediate ribs, and ends in a longish cloven beak; in short, it is totally different from that of *C. strigosa*.—The spikes are rather lax, and, standing on long capillary stalks, are pendulous even from the beginning. The stamina and stigmas are three. The seed-cases being quite destitute of ribs serve clearly to distinguish it from *C. vesicaria* and *laevigata* as well as from *strigosa*. Linnæus made it a variety of the former, and has celebrated its utility to the Laplanders, who use it carded and dressed as a wadding to protect them from cold.





510

Hordeum jubatum L. *Sp. Pl.* 1: 224. 1753.

✓



[1098]

C A R E X depauperata.

*Starved Wood Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths much shorter than the flower-stalk. Female spikes distant, erect, of but few flowers. Fruit inflated, beaked.

SYN. *Carex depauperata.* Gooden. *Tr. of Linn. Soc.* v. 2. 181. *Sm. Fl. Brit.* 984. *With.* 102. *Hull.* 207.

C. ventricosa. *Curt. Lond. fasc.* 6. t. 68.

C. triflora. *Wilden. Phyt. fasc.* 1. 2. t. 1. f. 2.

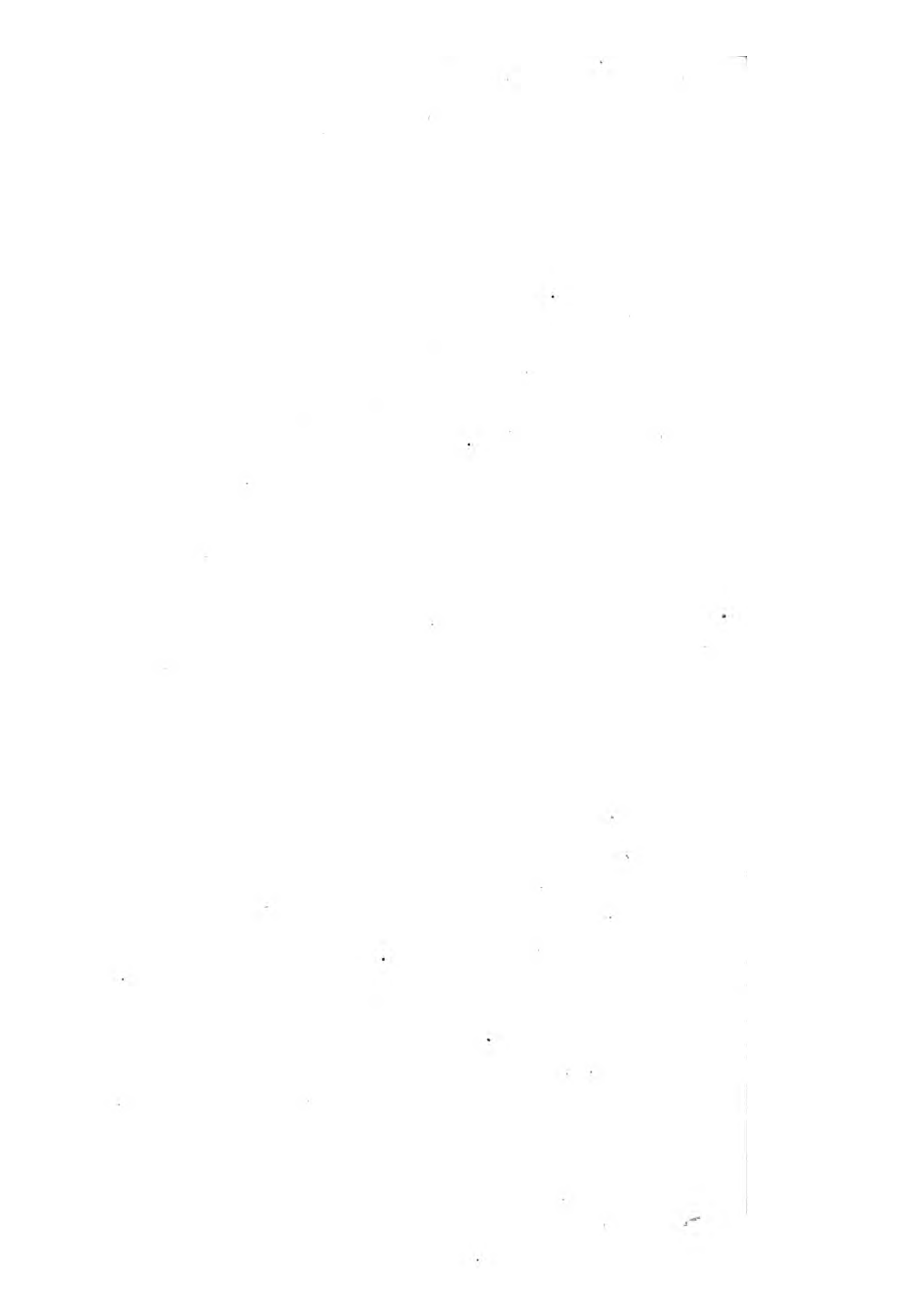
Cyperoides vesicarium humile, locustis rarioribus. *Tourn. Inst.* 530.

THE name of *depauperata*, first given to this *Carex*, and retained by Dr. Goodenough, is so much more apt than *ventricosa*, that we are astonished Mr. Curtis should have changed it for the latter, which is equally suitable to many others of the genus. See *Fl. Lond.*

C. depauperata, though known to Tournefort, as appears by his herbarium, and figured in Micheli, t. 32. f. 5, was neglected by recent botanists till Dr. Goodenough found it in Charlton wood, from whence our specimen was taken in the middle of last July. The root is perennial and fibrous. Stem a foot and half high, slender, smooth, bluntly triangular, bearing a few long-sheathed distant leaves, the 3 or 4 uppermost of which become bractæ, and their sheaths closely enfold the slender upright stalks of the female spikes, sometimes for a third part of their length, sometimes for more than half. Each of these spikes consists of about 3 (rarely more or less) florets, with ovate or obovate smooth glumes. The male spike is solitary, terminal and erect. Fruit inflated, ribbed, smooth, with a long, slightly notched beak. Stigmas 3. Seed triangular, obtuse, of a shining brown. This species comes next to *C. sylvatica*, v. 14, t. 995, in character and habit.



✓



C A R E X Mielichoferi.

Loose-spiked Rock Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths not half the length of the flower-stalk. Female spikes three, distant, erect, lax and slender. Fruit ovate, triangular, bluntly cloven, twice the length of the obtuse scale.

SYN. *Carex Mielichoferi.* "*Schkuhr Caric. fig. 198.*"
Willd. Sp. Pl. v. 4. 276.

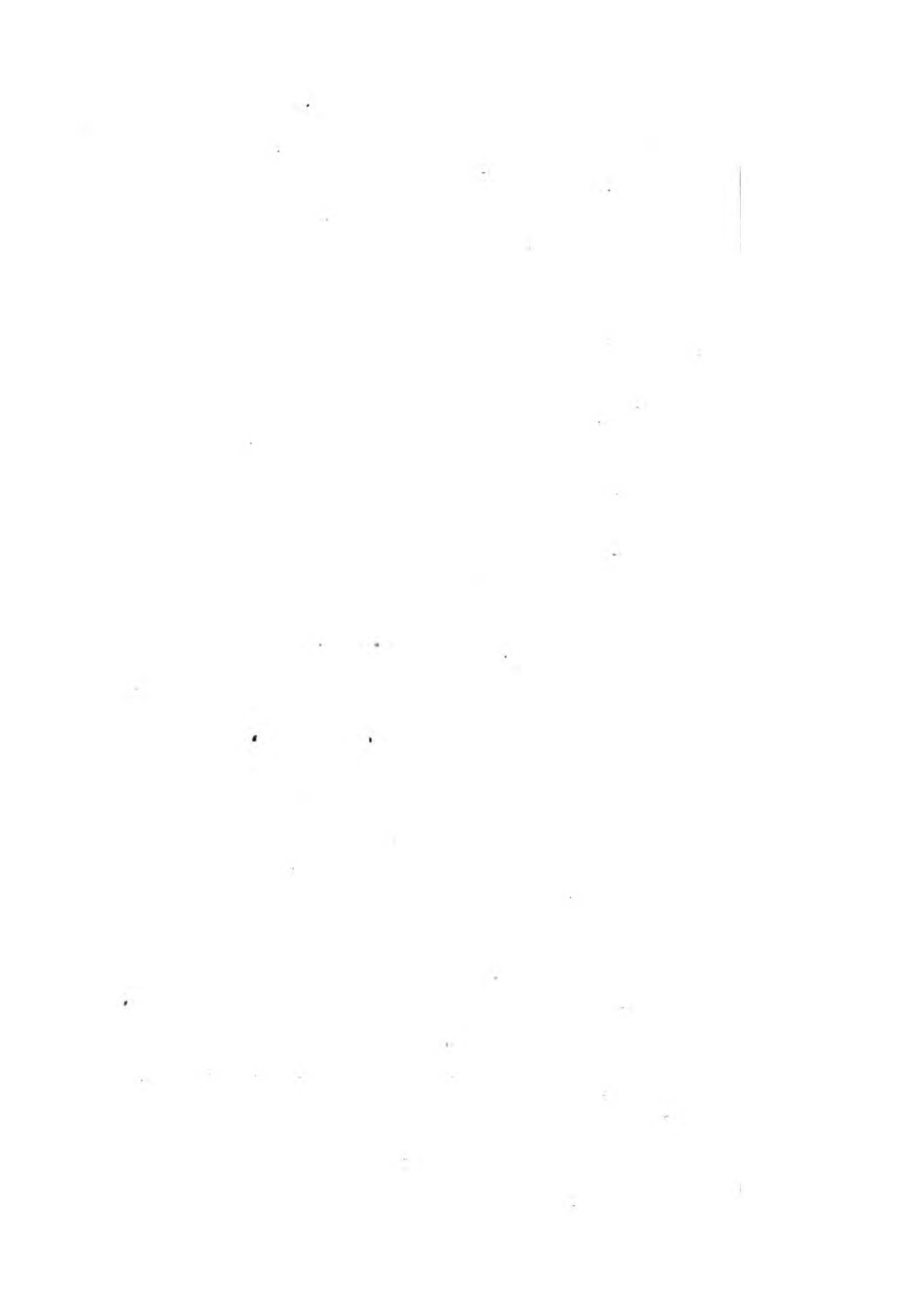
FOUND by Mr. W. Borrer, in August 1810, on the rocky ledges of Craig Challoch, in Breadalbane. We rely, for Schkuhr's synonym, upon Willdenow, who says moreover this is *C. alpina* of Hoppe. It is entirely new to British botanists, and of all our *Carices* is most akin to *depauperata*, t. 1098, though abundantly distinct from that and every other in our Flora.

The root appears to be creeping or stoloniferous. Stems about a foot high, smooth, roundish. Leaves chiefly radical, flat, smooth, with acute stipulas. Bractees nearly the length of the slender flowerstalks, erect, acute; their sheathing part about one third of the whole. Female spikes three, upright, lax, the lowermost consisting of about a dozen flowers, the uppermost of half as many; their glumes broad, rounded and bluntish, red-brown, with a broad yellowish rib. Stigmas three. Fruit green, ovate, slender, incurved, triangular, roughish-edged, its orifice rounded and cloven. Male spike solitary, terminal, erect, oblong, bluntish, of numerous, obovate, red-brown scales, much longer than those of the females. Stamens three, whitish.



James republished by J. K. L. L. L.

✓



CAREX capillaris.
Capillary Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Common sheath but half the length of the flower-stalks. Female spikes ovate, rather loose, drooping. Fruit sharp-pointed.

SYN. *Carex capillaris*. *Linm. Sp. Pl.* 1386. *Sm. Fl. Brit.* 985. *Gooden. Tr. of L. Soc.* v. 2. 180. *Lightf.* 557. *Huds.* 651. *Willd.* 101. *Hull.* 207. *Dicks. H. Sicc. fasc.* 9. 14. *Winch. Guide.* v. 1. 84.

Cyperoides alpinum, *spicis seminiferis pendulis, binis in summo caule.* *Seguier. Veron.* v. 3. 83. t. 3. f. 1.

THE Rev. Dr. Stuart found this rare *Carex* on some of the Highland mountains of Breadalbane, and communicated it to Mr. Lightfoot, through whom it first became known as a Scottish plant. It has since been sent to Mr. Sowerby from the county of Durham, by the Rev. Mr. Harriman. It usually grows in bushy rather moist places, flowering in July or August.

Root perennial, fibrous. Stem erect, 3 or 4 inches high, round so, striated, smooth, naked, or nearly so. Leaves scarcely 2 inches long, mostly radical, narrow, acute, dark-green, slightly keeled, rough-edged towards the top only. Principal bractea like the leaves but smaller, terminating the stem, erect, sheathing at the base, embracing a few smaller inner ones, along with all the flower-stalks, which are about twice its own length. 3 or 4 in number, capillary, triangular, rough, sometimes separated from each other by an accidental elongation of the stem. Male spike erect, linear, pale, of about 10 flowers: female 2 or 3, drooping or pendulous, ovate, lax, not half an inch long. Glumes ovate, brown, pale-edged. Stigmas 3. Fruit dark-brown, ovate, triangular, smooth, with a sharp beak. Seed elliptical, with 3 sharp angles.



Printed and published by J. L. Smith, London





CAREX rariflora.

Loose-flowered Alpine Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths extremely short. Female spikes nearly linear, pendulous; their scales loosely imbricated. Fruit obovate, with three blunt angles and depressed sides. Root creeping.

SYN. *Carex limosa* γ , *rariflora*. *Wahlenb. in Stock. Trans. for 1803, 162. Willd. Sp. Pl. v. 4. 294.*

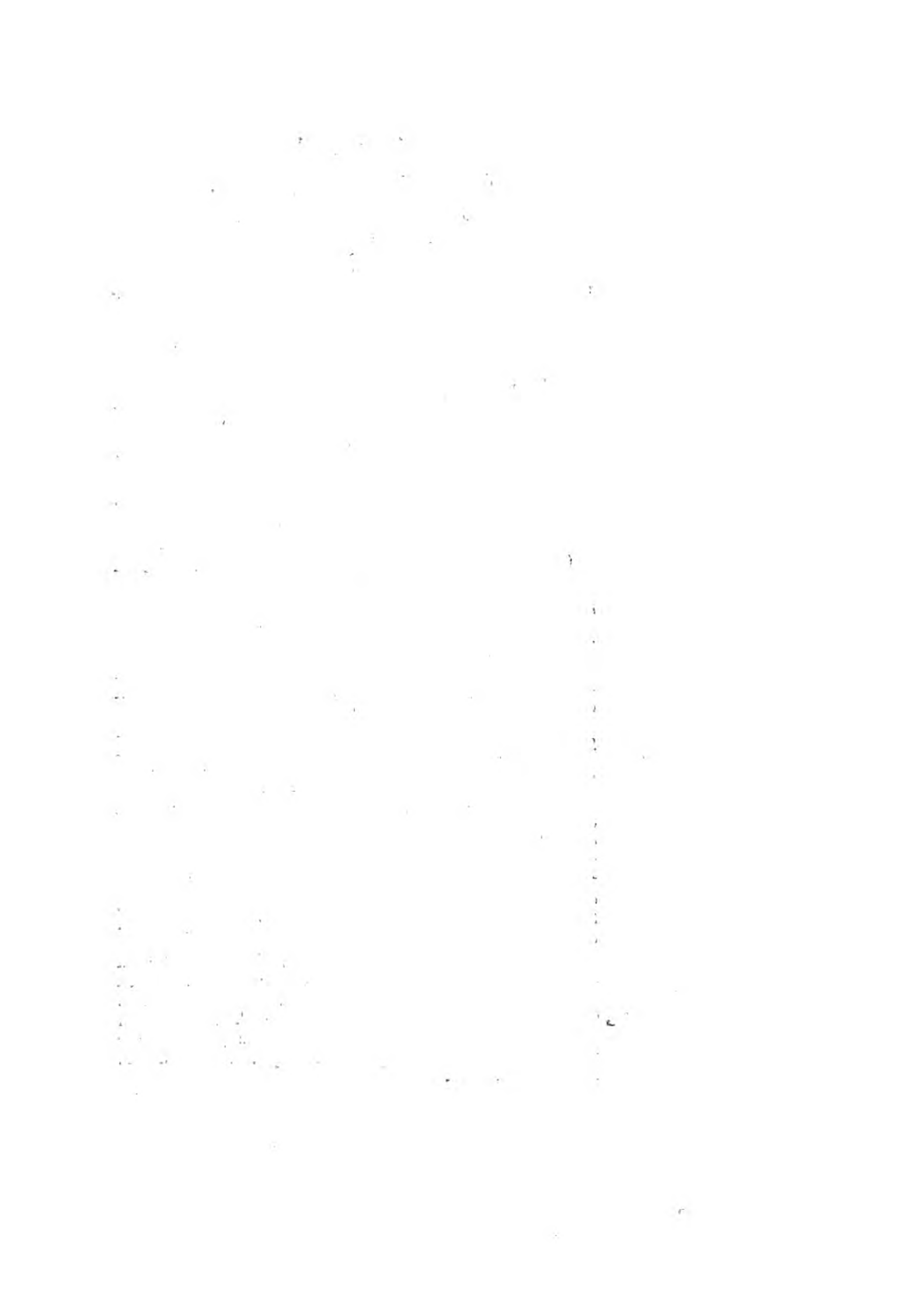
DISCOVERED in 1807, by Mr. G. Don, on a mountain at the head of a glen called the Dell, among the mountains of Clova, Angusshire, near the limits of perpetual snow. Its acute discoverer wished therefore to have named the species *C. nivalis*; but we think it incumbent on us to retain the appellation by which this plant is marked, very unaccountably indeed, as a variety of *C. limosa*, t. 2043, in the above works. We have authentic specimens from Mr. Wahlenberg, precisely like Mr. Don's.

Surely few *Carexes* can be more distinct than this and *limosa*. They agree indeed in the creeping root, short sheaths of the bracteas, and drooping female spikes; but the present is in every part much smaller, and the shape of the female spikes, composed of a few remarkably lax, or distant, scales, blacker than in *limosa*, marks a sufficient difference. The fruit is obovate, not broad and compressed.



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CAREX Pseudo-Cyperus.

*Bastard-Cyperus Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one leaf. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one leaf. *Nectary?* inflated, cloven. *Stigmas* 3. *Seed* triangular, invested with the nectary.

SPEC. CHAR. Leaves scarcely sheathing. Female catkins cylindrical, on flower-stalks, pendulous. Fruit somewhat divaricated. Nectary tapering to a beak.

SYN. *Carex Pseudo-Cyperus.* *Linn. Sp. Pl.* 1387. *Huds. Fl. An.* 410. *With. Bot. Arr.* 1045. *Rehb. Cant.* 354. *Goodenough Tr. of Linn. Soc.* v. 2. 188. *Gramen cyperoides spica pendula brevior.* *Raii Syn.* 419.

THIS is not very uncommon in wet shady places, flowering in June, and may easily be distinguished from all the rest of its genus, by the large thick pendulous pedunculated female spikes or catkins, of a yellowish green, sometimes two together, but often solitary.

Root perennial, as (we believe) in every species of *Carex*. Stem with 3 acute rough cutting angles, above a foot high. Leaves embracing the stem, but with scarcely any *vagina*, long, broadish, harsh, with rough edges and nerve. Male catkin solitary, erect, with a bractea about half its length. Female catkins about four, on footstalks nearly their own length, at first erect, but very soon pendulous. Scales in both sexes awl-shaped, rough, dilated and concave at the base. Stamina short. Supposed nectary striated, compressed, with rough edges, cloven at the tip, enclosing the germen, which is small. Style simple, as long as the nectary, its 3 stigmas (white in decay) protruding beyond the orifice.

See Dr. Goodenough's excellent paper above quoted for a more ample description of this species, as well as for remarks upon the generic character of *Carex*. We only beg leave to observe, that the part we for the present, with Linnæus, call *nectary*, can on no account be denominated a capsule, being perfectly independent of the germen and style. We would wish to call it the *corolla*.



✓



CAREX limosa.

Green and gold Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths extremely short, scarcely any. Female spikes ovate, pendulous. Fruit elliptical, compressed. Root creeping.

SYN. *Carex limosa.* *Linn. Sp. Pl.* 1386. *Sm. Fl. Brit.* 986. *Gooden. Tr. of Linn. Soc. v. 2.* 187. *Huds.* 409. *With.* 103. *Hull.* 208. *Lightf.* 556.

Cyperoides spicâ pendulâ brevior, squamis e spadiceo vel fusco rutilante viridibus. *Scheuchz. Agr.* 443. *t. 10. f. 13.*

THIS, one of our most elegant species of *Carex*, especially from the bronze hue of its spikes, is found only in deep black rotten bogs, chiefly in Scotland and the north of England. Mr. G. Don sent it from near Forfar. The late Rev. Mr. Bryant and Mr. Woodward have found it a few miles north of Norwich, in a tract of country once rich in botanical treasures, but now more useful to the farmer. It flowers in June, but rarely, at least in Norfolk.

The long creeping perennial roots, sheathed with black scales, send very long woolly fibres down deep into the mud. The herbage is rather glaucous. Stems ascending, triangular, a span high, rough, leafy at the base. Leaves narrow, acute, keeled, rough-edged, shorter than the stems. Bractea like the leaves but much smaller, with a brown, abrupt, white-edged, very short sheath. Male spike terminal, erect, lanceolate, with many elliptical acute glumes, of a brown and golden hue. Female spikes 1 or 2, on longish, smooth, drooping stalks, ovate, of many broadly elliptical acute scales, variegated with green, brown and gold. Fruit elliptical, broad, compressed, glaucous, ribbed, smooth, with scarcely any beak. Stigmas 3. Germen and seed triangular, scarcely compressed.



July 1809 published by J. Sowerby London.

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[2404]

CAREX ustulata.

*Scorched alpine Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Stigmas 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths very short. Female spikes ovate, pendulous. Fruit elliptical, compressed, beaked, with sharp and roughish edges. Root fibrous.

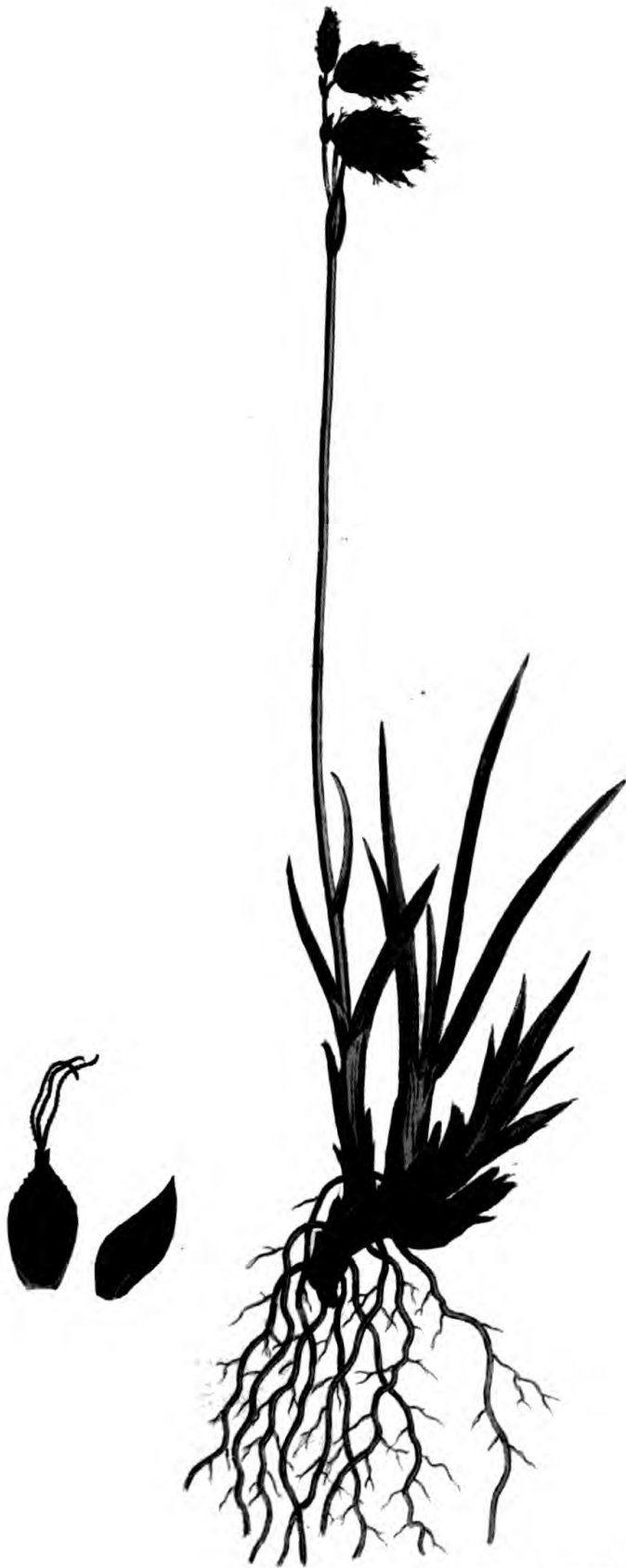
SYN. *Carex ustulata*. Willd. *Sp. Pl.* v. 4. 293. *Wahlenb. in Sims & Kon. Ann. of Bot.* v. 2. 130.

C. atro-fusca. Schkuhr. *Car.* 106. t. Y. n. 82.

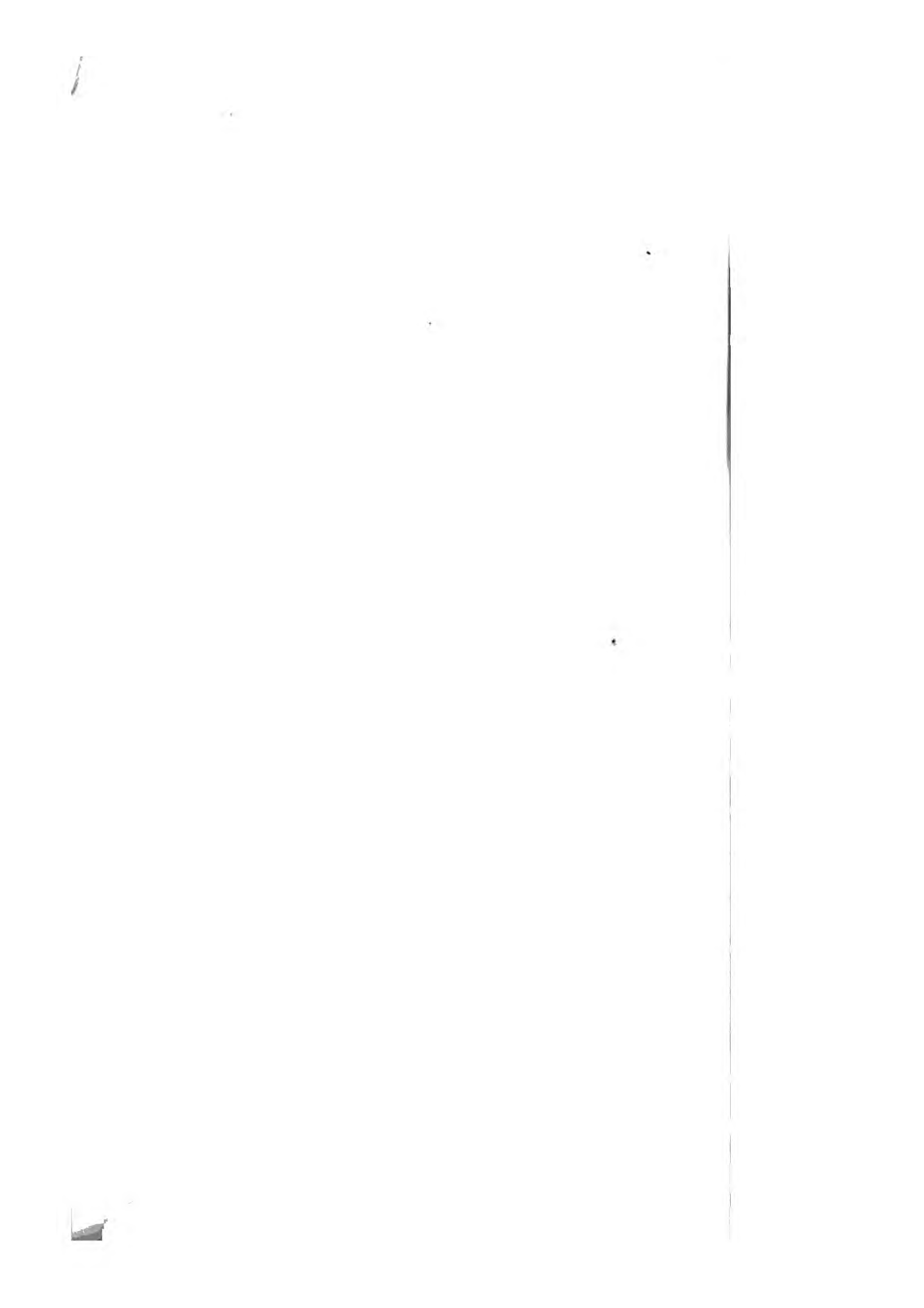
GATHERED in watery places in a micaceous soil on the mountain of Ben Lawers, by Mr. Geo. Don, the only person who, to our knowledge, has met with this species in Britain. We presume there can be no doubt respecting its synonyms.

The root is perennial, strong and tufted, scarcely creeping, with very long and numerous yellowish fibres. Stem almost naked, triangular, smooth, hardly a span high. Leaves short, erect, striated, smooth, except at the edges near the point, where there is a slight roughness. Spikes dark-coloured, looking as if scorched or burnt, all of a short, tumid figure; the lower bractea only slightly sheathing. The two female spikes are pendulous, the male one erect. We find the edges of the fruit roughish upwards, the beak is short and cloven. Stigmas three, long, dark-coloured. This species ranges near *limosa*, t. 2043, and *atrata*, t. 2044.

2404



Sp. Linn. collect. by J. S. Burckhardt



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[2044]

C A R E X atrata.
Black Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Stamens two or three. Sheaths scarcely any. Spikes ovate, stalked, pendulous; the terminal one male in the lower part. Fruit compressed. Root fibrous.

SYN. *Carex atrata.* *Linn. Sp. Pl.* 1386. *Sm. Fl. Brit.* 987. *Goodey. Tr. of Linn. Soc. v.* 2. 189. *Huds.* 409. *With.* 105. *Hull.* 208. *Lightf.* 555. *Dicks. Dr. Pl.* 87. *Fl. Dan. t.* 158.

Cyperoides alpinum pulchrum, foliis caryophyllæis, spicis atris et tumentibus. *Scheuchz. Agr.* 481. t. 11. f. 1, 2.

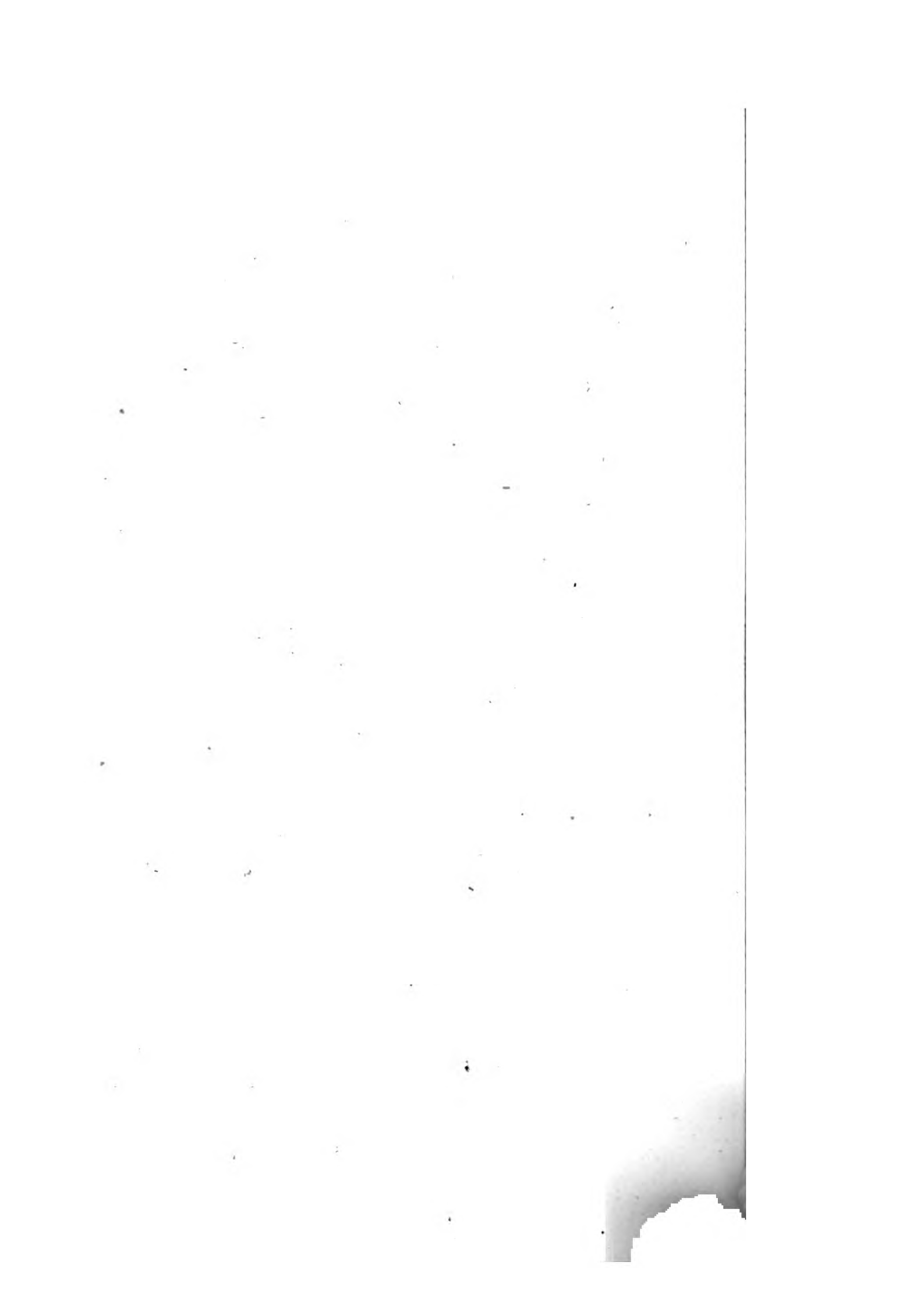
GATHERED by Mr. G. Don on rocks in Breadalbane. Mr. Lightfoot says it is frequent on the Highland mountains, and Mr. Hudson on the Welch ones; but we have reason to think they did not then distinguish all the species, so well explained in the present Bishop of Carlisle's excellent paper, especially his Lordship's *rigida* and *pulla*.

C. atrata is, of course, perennial, flowering in June and July. It is one of the larger and more conspicuous alpine species, nor can it be overlooked. The root is fibrous, tufted, hardly creeping. Stem erect, a foot and more in height, triangular, striated, scarcely rough-edged, naked except the bottom. Herbage of a bright grass green. Leaves broad, flat, rough-edged, shorter than the stem. Bractees leafy, with auricles rather than any sheaths. Spikes mostly 4, on smooth stalks, ovate, thick and obtuse, soon pendulous, formed of numerous ovate, acute, very dark scales. The terminal one consists of several male flowers in its lower part, the upper ones, as well as all the flowers of the other spikes, being female, except that stamens are now and then found in the same flower with a pistil. The stamens are usually thought to be 2, but Mr. Sowerby often finds 3. Stigmas always 3. Fruit elliptical, broad, compressed, yellowish, smooth, ribless, with a very short notched beak. Seed triangular, short, brown.



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[2045]

C A R E X pulla.

*Russet Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Stigmas* two. *Sheaths* none. *Spikes* ovate; the lower one stalked. *Fruit* elliptical, inflated, with a short notched beak.

SYN. *Carex pulla.* *Gooden. Tr. of Linn. Soc. v. 3. 78. t. 14. Sm. Fl. Brit. 988. Hull. 208.*

COMMUNICATED wild from the mountain of Ben Lawers by our lamented friend Mr. J. Mackay, at different times, several years ago. It flowers in July, and is perennial.

Root creeping, with thick fibres. Stem ascending or erect, about a span high, triangular, striated, the angles rough in the upper part. Leaves nearly erect, flat, rough-edged. Bractea leafy, rough-edged, embracing the stem, but not forming a sheath. Male spike terminal, upright, lanceolate, of numerous triandrous flowers. Female spikes mostly two, remote, ovate, erect, the lowermost on a rough slender stalk which varies in length; the upper one almost sessile, shortened as it were, and often wanting. Glumes all elliptic-lanceolate, obtuse, dark-brown, with a thin narrow pale edge and an obsolete nerve. Fruit rather spreading, longer than the corresponding glume, elliptical, inflated, smooth, without ribs, pale at the base, of a dark shining brown at the summit when ripe, and terminating in a short cloven beak. *Stigmas* two, acute. *Seed* triangular.

2145.



Cluj' 11209 published by J. S. Suventy London.

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CAREX pallescens.
Pale Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths very short. Spikes cylindrical, stalked; when in fruit pendulous. Fruit elliptical, inflated, obtuse.

SYN. *Carex pallescens.* *Linn. Sp. Pl.* 1336. *Sm. Fl. Brit.* 989. *Gooden. Tr. of Linn. Soc. v. 2.* 186. *Huds.* 410. *With.* 103. *Hull.* 208. *Lightf.* 558. *Relh.* 369. *Sibth.* 29. *Abbot.* 204. *Dicks. H. Sicc. fasc. 4.* 16. *Schkuhr. n. 92. t. Kk. f.* 99.

Gramen cyperoides polystachyon flavicans, spicis brevibus prope summitatem caulis. *Raii Syn.* 419.

COMMON in moist groves and pastures, flowering in May and June. It is known by its palish green colour when in fruit.

Root fibrous, perennial. Stem erect, 12 or 18 inches high, triangular, striated, the angles more acute and rough in the upper part; leafy at the base only. Leaves shortish, flat, pale, somewhat hairy, their edges roughish. Bractees leafy, upright, rising above the stem, very slightly sheathing at their base. Male spike terminal, erect, lanceolate, dense, pale brown: female 2 or 3, on long slender smooth stalks, cylindrical, somewhat ovate, obtuse, soon pendulous. Glumes ovate, with a little point, yellowish brown, with a green keel. Fruit nearly equal to them in length, very obtuse, tumid, smooth, ribless, light green. *Stigmas* 3. Seed obovate, with 3 angles.



As published by J. P. Sowerby, London

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2



[1294]

C A R E X flava.

Yellow Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths short, nearly equal to the flower-stalks. Female spikes roundish. Fruit beaked, curved downwards. Stem nearly smooth.

SYN. *Carex flava.* *Linn. Sp. Pl.* 1384. *Sm. Fl. Brit.* 990. *Gooden. Tr. of Linn. Soc. v. 2.* 173. *Huds.* 407. *With.* 98. *Hull.* 207. *Lightf.* 551. *Relh.* 367. *Sibth.* 29. *Abbot.* 204. *Dicks. H. Sicc. fasc. 3.* 14. *Schkuhr. n.* 60. *t. H. f.* 36. *Gramen palustre echinatum.* *Raii Syn.* 421.

FREQUENT in boggy meadows, where it flowers in May and June, and may readily be discerned at a distance by its yellow hue, especially as it approaches to maturity. It varies much in height and luxuriance, according to the fertility and moisture of the soil; but the spikes preserve nearly their usual size in every variety.

Root perennial, creeping. Stem erect, generally a foot high, triangular, for the most part smooth, except about the top; leafy at the base. Leaves bright-green, erect, taller than the stem (except in some starved varieties), broadish, rough on the edges and keel, and marked also with 2 rough lines on their upper side towards the extremity, as observed by Mr. J. Sowerby. Bractæ leafy, extending far beyond the stem, remarkably spreading, with very short sheaths. Male spike lanceolate, erect, almost always solitary. Female spikes about 3, almost globular, the lowermost only on a shortish stalk. Glumes ovate, tawny, with a green rib. Fruit longer than the glumes, spreading every way, curved downwards, ovate, beaked, triangular, ribbed, quite smooth, cloven at the point. Stigmas 3. Seed small, black, triangular.



April 1 1804. Published by J. G. Smith, London

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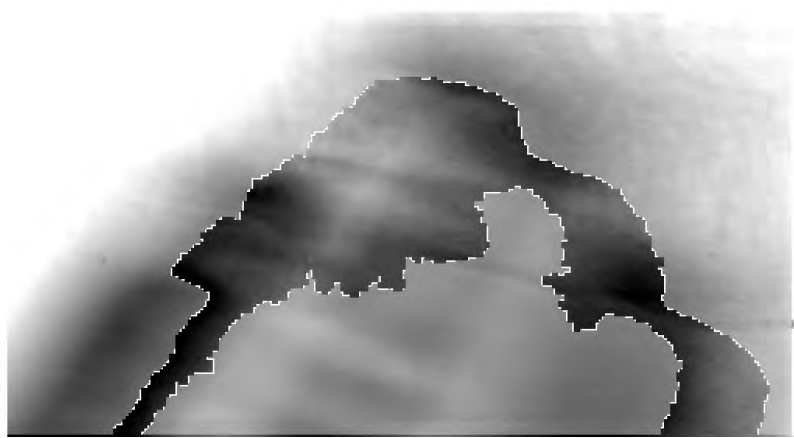
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[1295]

CAREX fulva.

Tawny Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Cathin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Cathin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths long, but shorter than the flower-stalks. Female spikes ovate. Fruit beaked, straight. Stem rough.

SYN. *Carex fulva*. *Gooden. Tr. of Linn. Soc. v. 2. 177. t. 20. f. 6. v. 3. 77. Sm. Fl. Brit. 991.*

THIS new species was first described and figured by Dr. Goodenough, from specimens gathered in Shropshire by the Rev. Mr. Williams. Mr. Gotobed has since found it near Eton, Mr. Winch at Newcastle, and several of our friends have sent it from Scotland. It is perennial, growing in marshes, and flowering in June or July.

Root creeping. Stem erect, slender, about a foot high, triangular, the angles sharp and very rough, at least in all the upper part. Leaves upright, narrow, shorter than the stem, rough at the edges and keel, but not on the upper side. Bractæ with longish brown-tipped sheaths, their points not rising above the stem. Male spike linear. Female ones 2, rarely 3, tawny, ovate, erect, remote, on stalks which are about half as long again as their sheaths. Glumes ovate, never awned, obscurely nerved. Fruit longer than the glumes, brownish, pointing upwards (not recurved), beaked, smooth, except at the edges of the beak, cloven at the tip. Seed yellowish brown, twice as large as in the preceding.

Some erroneous specimens led the accurate Dr. Goodenough to reduce this (*in L. Trans. v. 3.*) to a variety of *C. flava*, but we have traced the cause of this mistake. *C. fulva* is rather more akin to *distans*, *t. 1234*, but smaller, and distinguished by its rough stem, glumes without any awns, and longer-beaked rough-edged fruit.

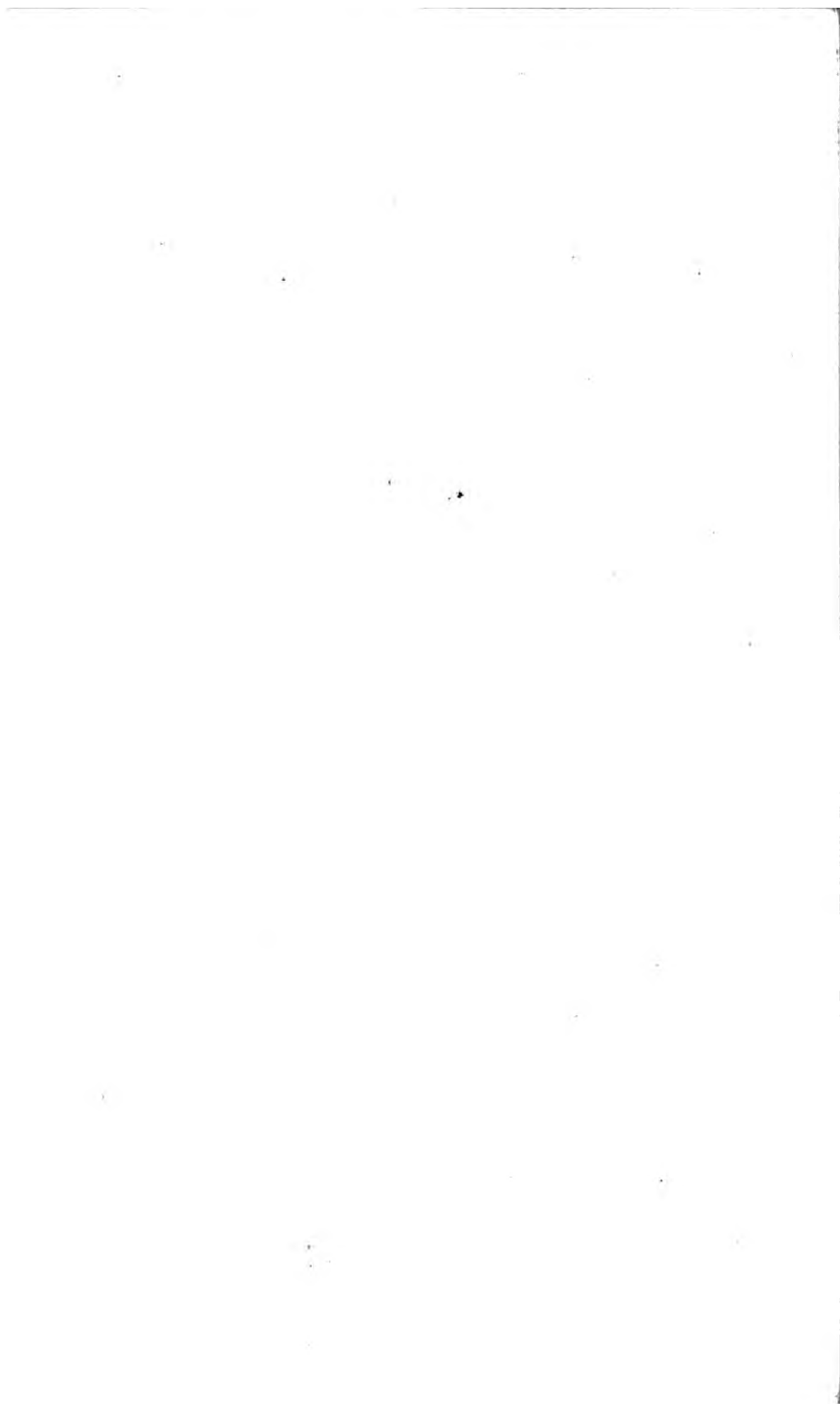
1295



April 1. 1804. Linn. Bot. 10. in. S. S. London.

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[1773]

C A R E X Oederi.

Oederian Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths short, nearly equal to the flower-stalks. Female spikes roundish. Fruit globose with a straight beak, spreading in all directions. Stem smooth.

SYN. *Carex Oederi.* *Ehrh. Calam.* 79. *Schkuhr. n.* 55. *t. F. f.* 26. *Turn. and Dillw. Bot. Guide,* 65. 446. 566. 715.

C. extensa. *Relh.* 367. *Teesd. Tr. of L. Soc. v. 5.* 69.

SENT from Norfolk in July last by Mr. Turner, who mentions it as frequent on all the moist commons about Yarmouth. The synonym of Relhan stands on the authority of this gentleman; that of Teesdale is decided by specimens sent from Beverley by their late worthy finder, which agree exactly with the authentic one among Ehrhart's *Calamariæ*. Yet the original *C. Oederi* of Retzius is asserted by Schkuhr, and agreed by Retzius himself, to be merely *C. pilulifera*; so that Oeder has really nothing to do with the plant before us. The name however may remain, as a warning that such appellations should not be given without absolute certainty.

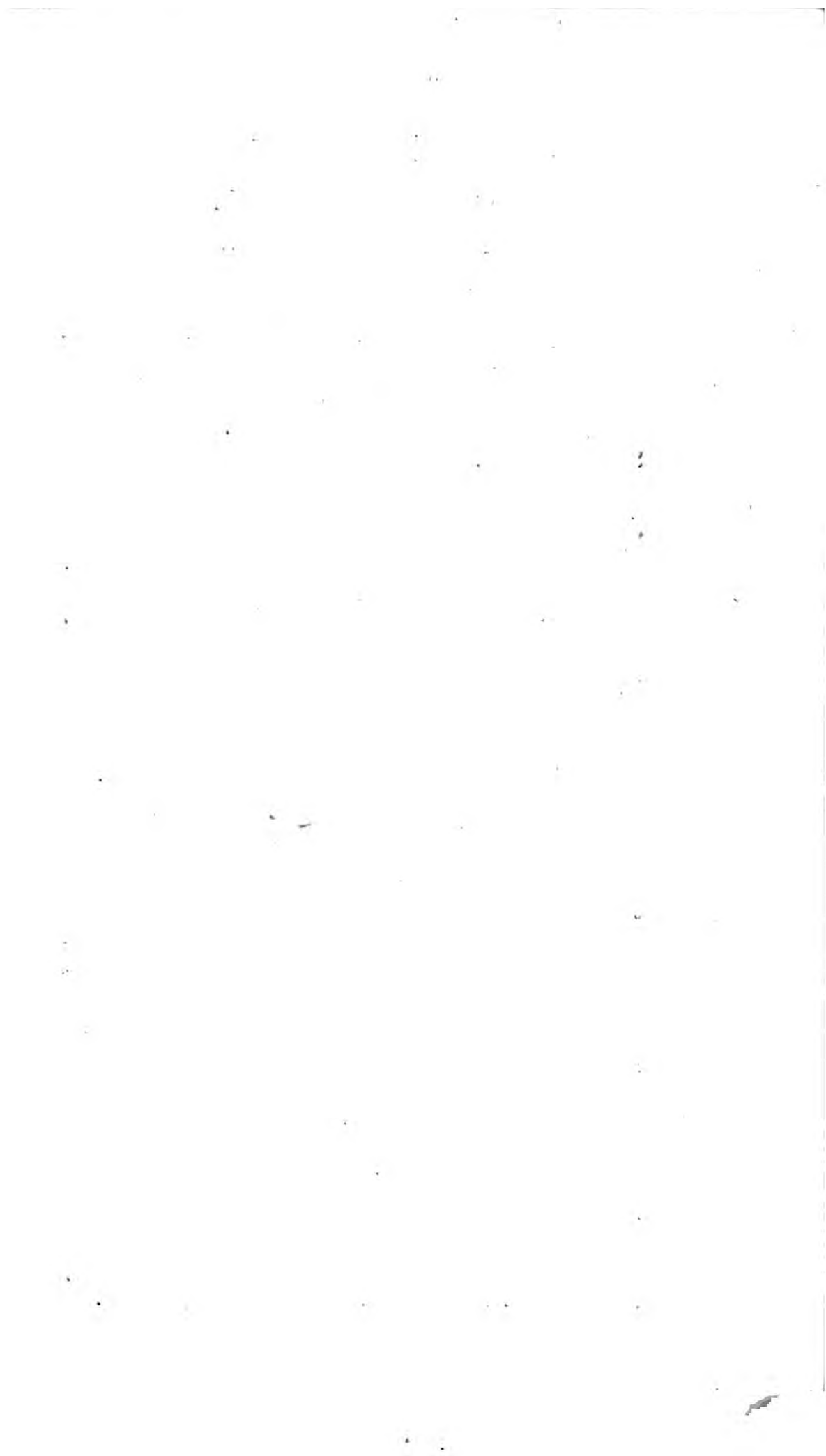
The species seems to be distinct enough, though it looks at first like one of the many varieties of *C. flava*; but it is less yellow than that species when ripe, the fruit smaller, and essentially different in the beaks being all straight at every period of their growth, never bent down in the singular manner of *C. flava*, *t.* 1294. The perfectly smooth stem, and short sheaths as well as flower-stalks, keep it perfectly distinct from *C. fulva*, *t.* 1295. It is also invariably of more humble growth. The root is perennial, and scarcely creeping.

1773



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C A R E X *extensa*.*Long-bracteated Carex.*MONOECIA *Triandria*.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Bractææ* very long, with very short sheaths and flower-stalks. Female-spikes roundish. Fruit ovate. Stem smooth.

SYN. *Carex extensa*. *Gooden. Tr. of Linn. Soc. v. 2. 175. t. 21. f. 7. and v. 3. 77. Sm. Fl. Brit. 99. With 99. Hull. 207.*

Cyperoides echinatum majus. Dill. in Raii Syn. 421.

THIS *Carex*, when first found by the Rev. Mr. Bryant on Cley beach, Norfolk, in 1776, was taken for the *filiformis* of Linnæus. Other specimens were afterwards referred by botanists to the *C. flava*. At length Dr. Goodenough, having examined the plant in a living state in Devonshire and near Harwich, published it by the name of *extensa* as a new species, of the propriety of which there can be no manner of doubt.

The root is fibrous and perennial. Stem upright or curved, various in height, bluntly triangular, perfectly smooth in every part. Leaves narrow, recurved, channelled, rough at the margin towards the point. *Bractææ* remarkably long and spreading, often curved, leafy, with very short sheaths. Male spike generally solitary, but sometimes accompanied by a smaller one, lanceolate, bluntish, with now and then a few female flowers in the lower part. Female spikes 2 or 3, short and ovate or globular, rarely cylindrical and elongated, erect, almost sessile. All the glumes broad and three-nerved. Fruit longer than the glumes, ovate, somewhat triangular, scarcely beaked, brownish-green, ribbed, smooth at the edges, and every where destitute of pubescence. Seed triangular, gibbous.

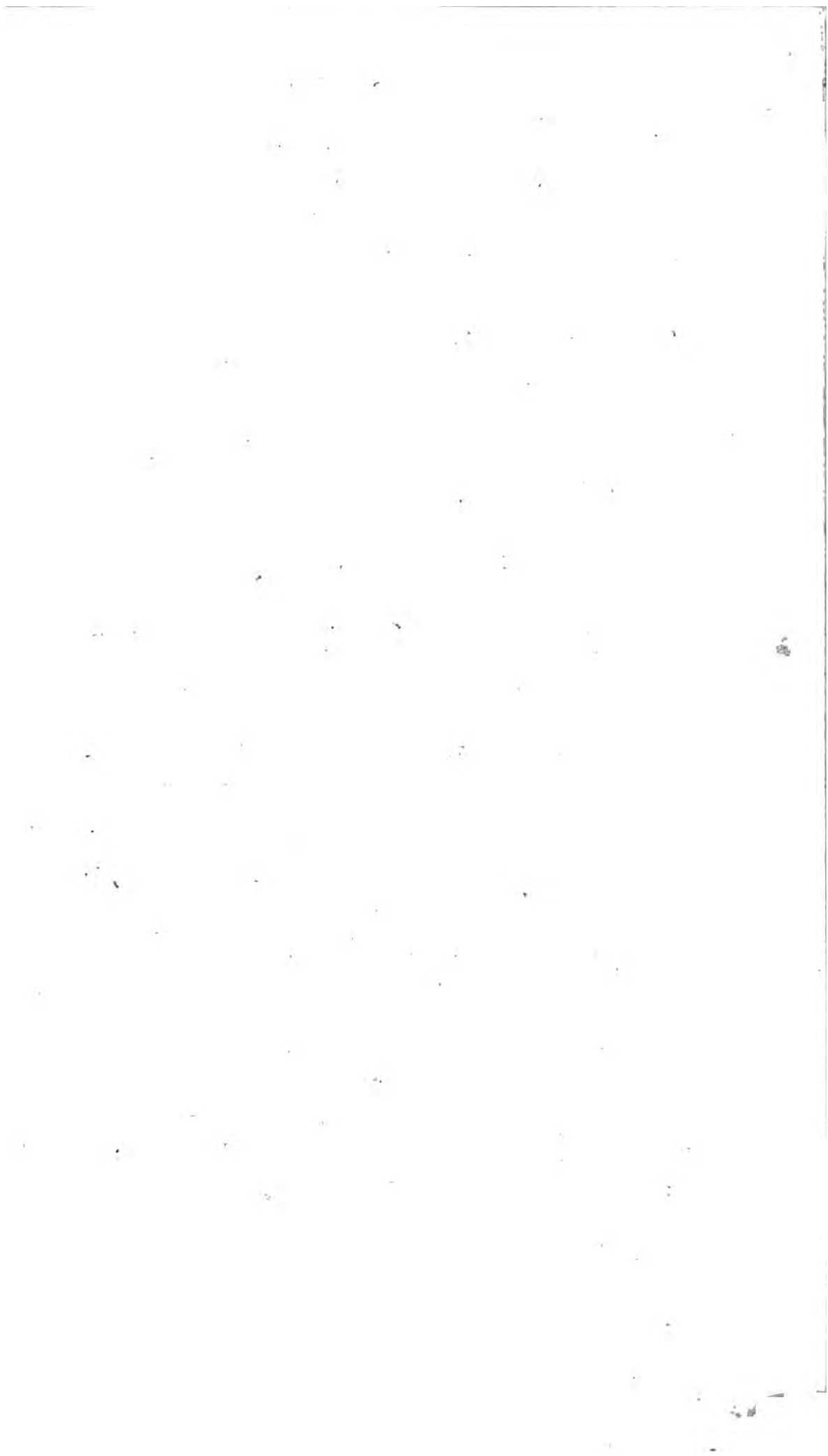


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Jan 1. 1851. *Chilodactylus* by Th. Moore, London.

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CAREX distans.

Loose Carex.

MONOECIA Triandria

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, nearly as long as the flower-stalks. Spikes oblong, very remote. Scales pointed. Stem smooth.

SYN. *Carex distans.* Linn. *Sp. Pl.* 1387. *Sm. Fl. Brit.* 993. *Gooden. Tr. of Linn. Soc. v. 2.* 178. *Huds.* 412. *With.* 100. *Hull.* 207. *Relh.* 368. *Sibth.* 31. *Abbot.* 202. *Schkuhr. n.* 87. *t. T. f.* 68.

Gramen cyperoides spicis parvis longissimè distantibus. *Raii Syn.* 420.

THIS *Carex* most frequently occurs in such marshy places as are not remote from the sea, but it is sometimes found in mountainous countries. Our specimen grew at Yarmouth. It is perennial, and flowers in June.

Root fibrous. Stem 12 to 18 inches high, weak but nearly upright, bluntly triangular, or rather flattened on one side only, smooth, except sometimes near the top. Leaves short and rather broad, flat, with rough edges; the floral ones longer and narrower. Their sheaths of a moderate length, almost entirely concealing the corresponding flower-stalks, which stand very remote from each other, 2 or 3 on each stem. Male spike solitary, lanceolate, with obovate scales: females erect, ovate, short; their scales broad, of a rusty hue, their keel 3-ribbed, tipped with a short point. Fruit ovate, longer than the scales, brown, smooth, with many uniform ribs, and a short cloven beak. *Stigmas* 3. *Seed* appearing granulated under a high magnifier.



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[1235]

CAREX binervis.

Green-ribbed Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, shorter than the flower-stalks. Spikes cylindrical, remote, often compound. Scales pointed. Fruit with two principal ribs.

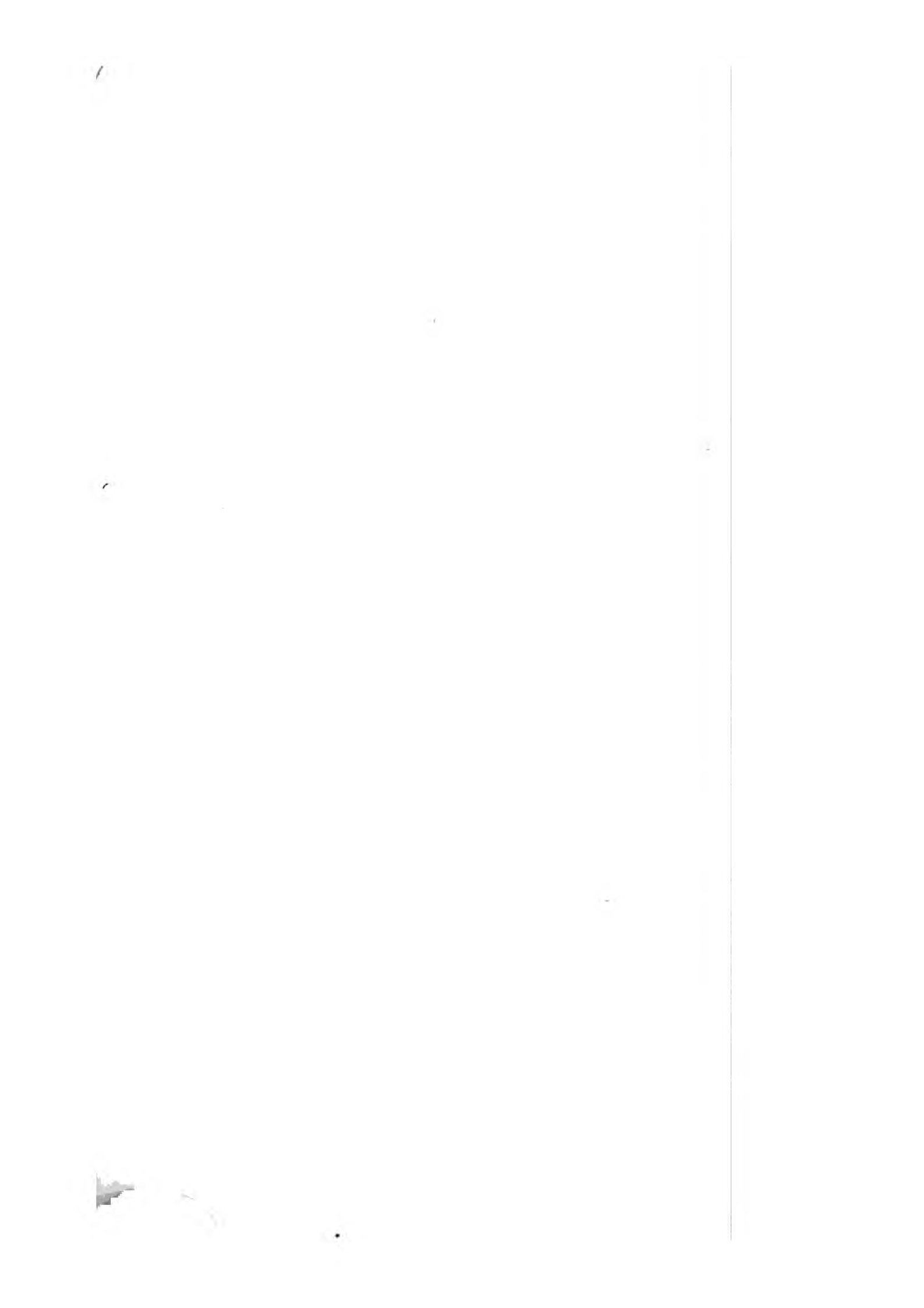
SYN. *Carex binervis.* *Sm. Tr. of Linn. Soc. v. 5.* 268. *Fl. Brit.* 993.

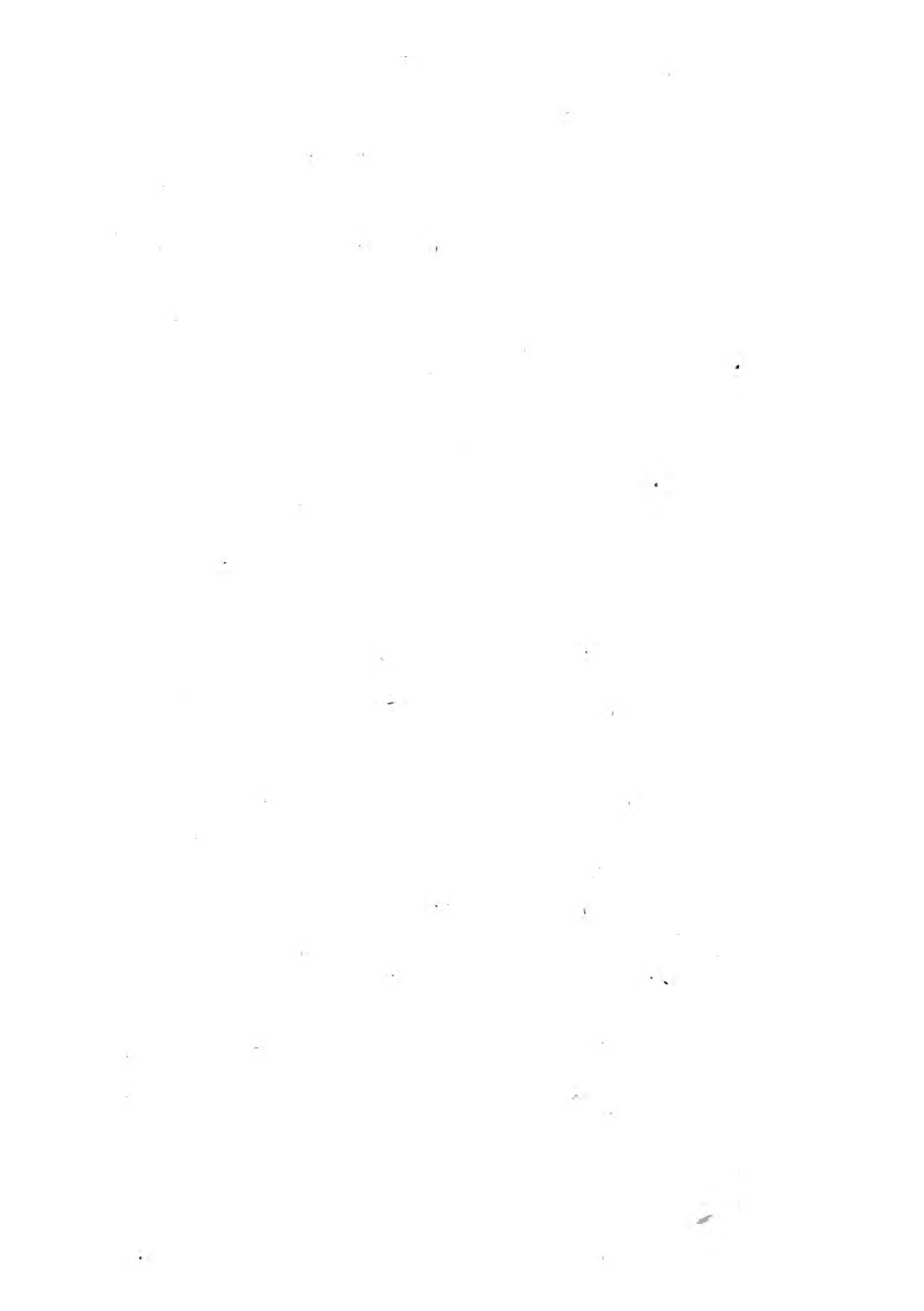
C. distans. *Lightf.* 561.

WE have received this from Mr. Brunton, who gathered it near Rippon, and from various parts of Britain. Prof. Beattie informs us that it is very common on the driest moors or heaths about Aberdeen, flowering in June. From Lightfoot's description it appears to be his *C. distans*, and indeed the best botanists have hitherto confounded it with that species.

It differs from *C. distans* in being larger in all its dimensions, with a firmer stem, and a deeper green colour, with a glaucous tinge. The spikes moreover are of a blackish hue. The lowermost female spikes are generally branched or compound at the base, and their stalk projects considerably beyond the sheath of the bractea. Their scales are almost black, with a 3-ribbed green rough keel and point. But the essential character resides in the fruit, which has 2 principal ribs or nerves (besides several small ones) greener than any other part, running longitudinally at some distance from the margin, on the outer side only. The inner side of the fruit is most stained with purple, and has many uniform ribs. The stigmas are 3.







[1099]

CAREX præcox.

Vernal Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths short, nearly equal to the flower-stalk. Spikes ovate, rather clustered. Glumes tipped with a small point. Fruit roundish, downy.

SYN. *Carex præcox.* *Sm. Fl. Brit.* 994. *Gooden. Tr. of Linn. Soc.* v. 2. 170. *With.* 97. *Hull.* 206. *Relb.* 367. *Sibth.* 29. *Abbot.* 205.

C. saxatilis. *Huds.* 408.

Gramen cyperoides vernal minimum. *Raii Syn.* 421.

DRY pastures, heaths, and exposed situations abound with this *Carex*, which is rendered conspicuous in the spring by its numerous tufted yellow antheræ. It is the earliest of its genus, in this country as well as in Germany. The name of *præcox* was first given, we believe, by the celebrated Professor Schreber, for Linnæus never determined this species, and our British botanists erroneously considered it as either the *saxatilis* or *montana* of the illustrious Swede.

Its perennial root creeps, and branches out into several leafy tufts. The stem ascends obliquely to the height of from 3 to 6 inches, and is firm, triangular, smooth and naked. Leaves radical, short, rigid, acute, recurved, roughish, especially at the edges. Bractæ erect, often wanting; their sheaths short, dilated upwards. Male spike obovate, and rather obtuse, especially when the antheræ are not expanded. Glumes elliptical or ovate, those of the female florets more particularly pointed. Female spikes about two, erect, near together, on shortish stalks. Fruit roundish, or somewhat pear-shaped, downy, green tipped with brown, scarcely so long as the glumes. Stigmas three. Seed whitish, triangular.



Dec 10. 1844. 1000. 1000.





✓





[2046]

C A R E X tomentosa.

Downy-fruited Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths extremely short. Female spikes nearly sessile, cylindrical, obtuse. Glumes elliptical, acute. Fruit downy.

SYN. *Carex tomentosa.* *Linn. Mant.* 123. *Sm. Fl. Brit.* 996. *Tr. of Linn. Soc. v. 5.* 269. *Leers.* 200. *t. 15. f. 7.* *Dicks. Dr. Pl.* 43.

THE late Mr. Robert Teesdale, F.L.S., a most acute and indefatigable British botanist, is the only person, to the best of our knowledge, who ever gathered this species of *Carex* in Britain. He found it, flowering in June, in meadows near Merstone Measey, Wiltshire, in 1799, and thus its name is restored to the list of British plants, from which it had been erased since the learned Bishop of Carlisle discovered the *C. tomentosa* of Lightfoot and Hudson to be the Linnæan *filiformis*.

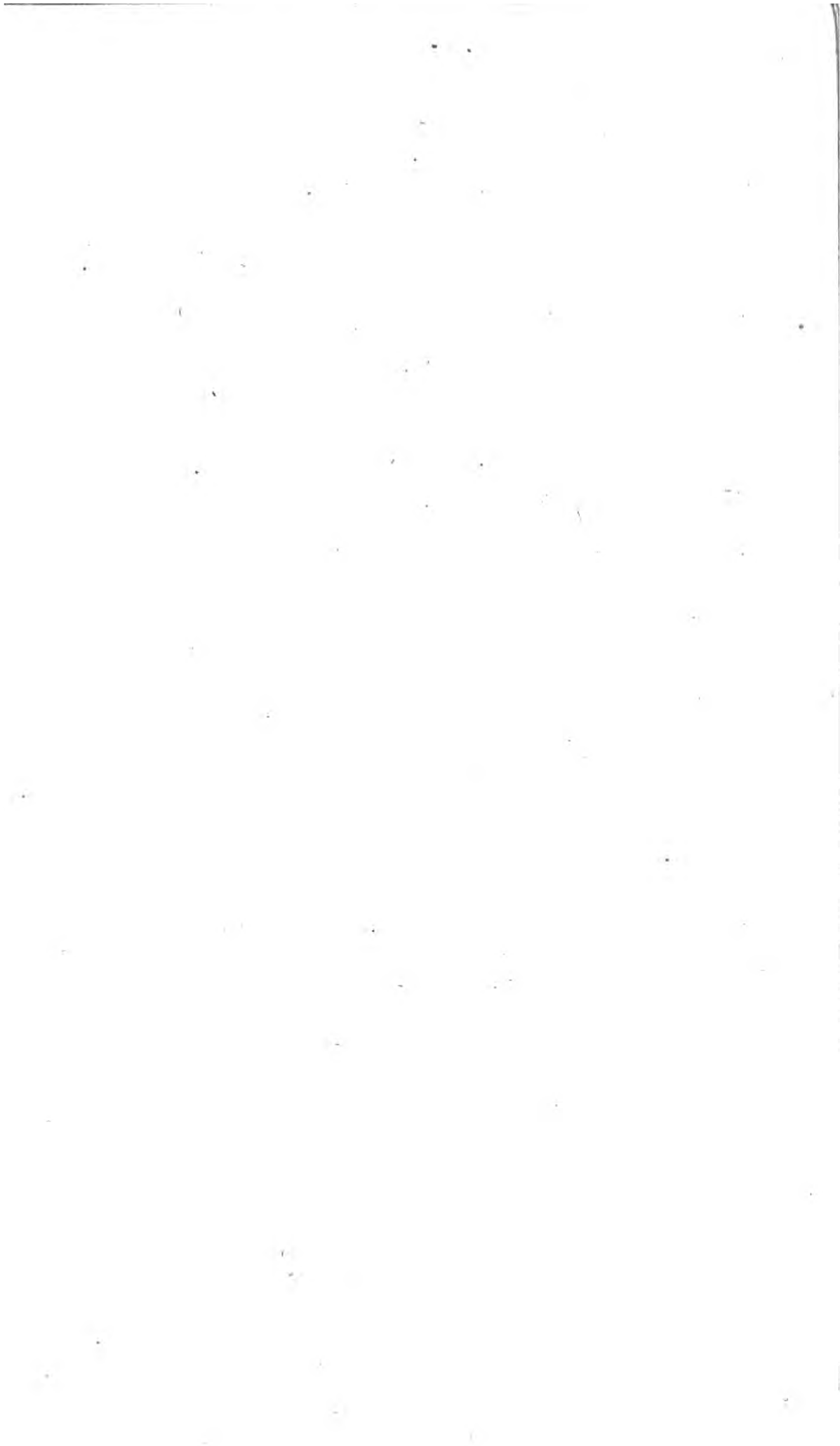
The root creeps, with long and compound fibres. The stems are a foot or more in height, erect, naked, with three sharp angles rough upwards. Leaves shorter than the stem, upright, flat, grass-green, rough on both sides and at the edges. Bractees leafy, rather spreading, the longest rising somewhat above the stem, with scarcely any sheath. Male spike lanceolate, bluntish, with lanceolate, rusty scales having green keels, the upper ones occasionally pointed. Female spikes usually two, not very distant, almost sessile, cylindrical, blunt, various in length, their glumes elliptic-ovate, slightly pointed, rusty with broad green keels. Fruit about as long as the scales, crowded, roundish, scarcely at all compressed and but slightly triangular, green clothed with short dense whitish down, which turns tawny by long keeping. The beak is short and cloven. Seed pale, obscurely triangular.

2046



Chrysopsis villosa (L.) Link & S. P.

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[2047]

CAREX rigida.
Rigid Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Stigmas* two. *Sheaths* none. *Spikes* ovate; the upper ones sessile. *Leaves* rigid and somewhat recurved. *Fruit* rather compressed, entire.

SYN. *Carex rigida*. *Gooden. Tr. of Linn. Soc. v. 2. 193. t. 22. f. 10.* *Sm. Fl. Brit. 997. With. 106. Hull. 208.*

C. saxatilis. Fl. Dan. t. 159.

Cyperoides germanicum, foliis brevibus rigidis acutis, caule rotundo-triquetro, spicis parvis, squamis obtusè mucronatis, capsulis oblongis turbinatis, in angustum et longiusculum apicem attenuatis. Mich. Gen. 61. t. 32. f. 4.

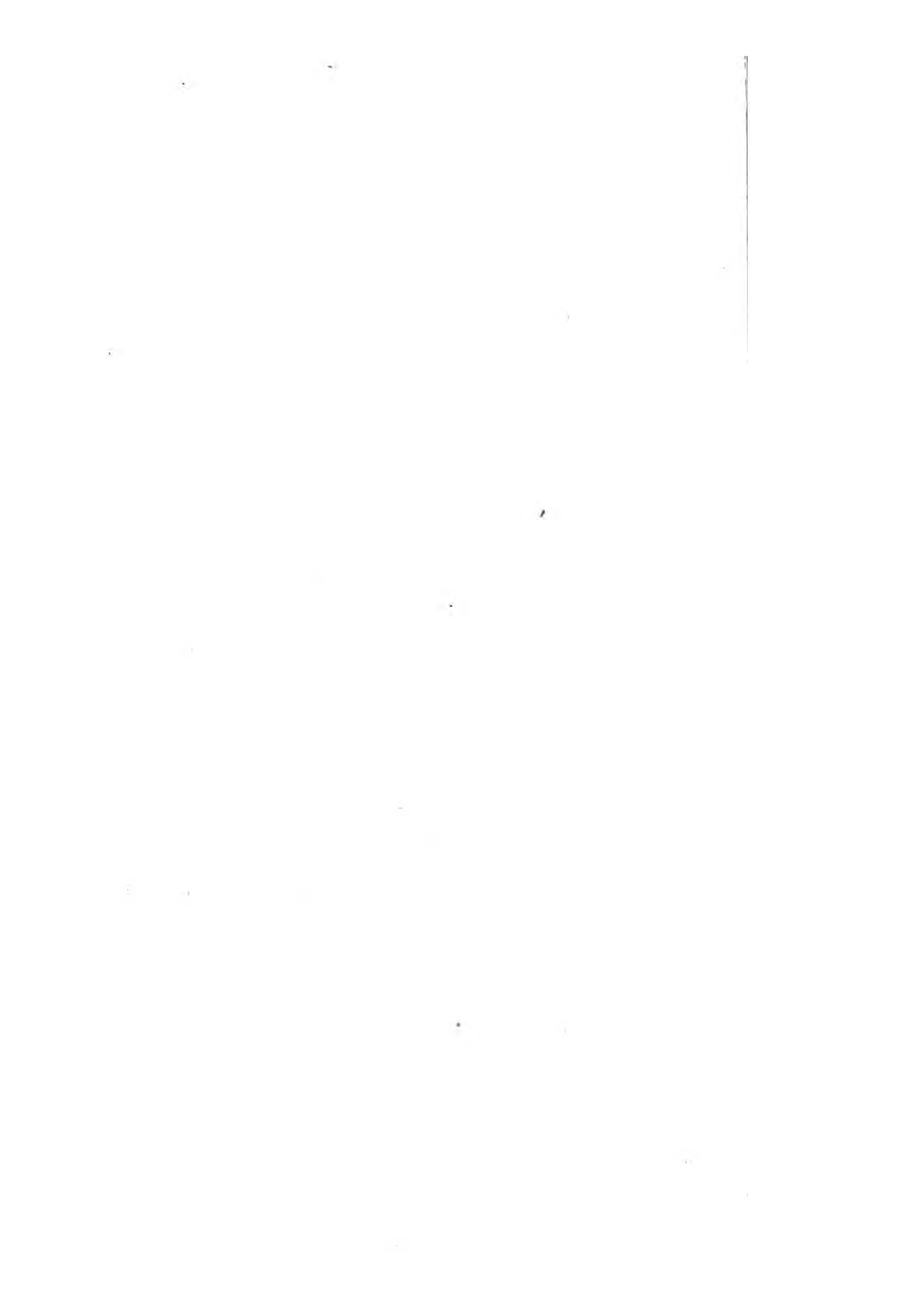
WHEN I showed the late Mr. Hudson my original specimen of this *Carex*, gathered on the top of Ben Lomond in 1782, and called *saxatilis* by the Scottish botanists, he told me he had found the same on Snowdon. It is not however his *saxatilis*, which is *præcox* of *Fl. Brit.* The present Bishop of Carlisle first clearly distinguished and named the plant before us. Mr. Mackay sent our specimen.

It grows on the exposed summits of the loftiest mountains, flowering in June or July, and is known by its rigid firm habit and recurved leaves. The root is creeping, with thick downy fibres. Stem from 3 to 6 inches high, mostly incurved, with three sharp rough angles. Leaves rigid, somewhat glaucous, permanent, with rough edges and keel. Bractea generally shorter than the stem, auricled at the base. Male spike mostly solitary, short, thick, ovate, blunt, with abrupt pointless glumes of a dark brown, with a pale narrow keel. Female spikes generally 3, ovate, the 2 upper ones sessile near the male; the other distant, on a short stalk, erect, with elliptical blunt glumes. Fruit crowded, compressed; smooth, longer than the glumes, brown where exposed, entire, sometimes beaked. *Stigmas* 2.



Engl. 1809 published by J. Sowerby London.

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[1505]

C A R E X panicea.

*Pink-leaved Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, about half the length of the flower-stalks. Female spikes rather loose, distant. Fruit inflated. Stem smooth.

SYN. *Carex panicea.* *Linn. Sp. Pl.* 1387. *Sm. Fl. Brit.* 993. *Gooden. Tr. of L. Soc. v. 2.* 179. *Huds.* 410. *With.* 100. *Hull.* 207. *Relh.* 368. *Sibth.* 30. *Abbot.* 205. *Schkuhr. Car. n.* 93. *t. L, l. f.* 100.

Gramen cyperoides, foliis caryophylleis, spicis e rarioribus et tumidoribus granis compositis. *Raii Syn.* 418. *Pluk. Phyt. t.* 91. *f.* 7.

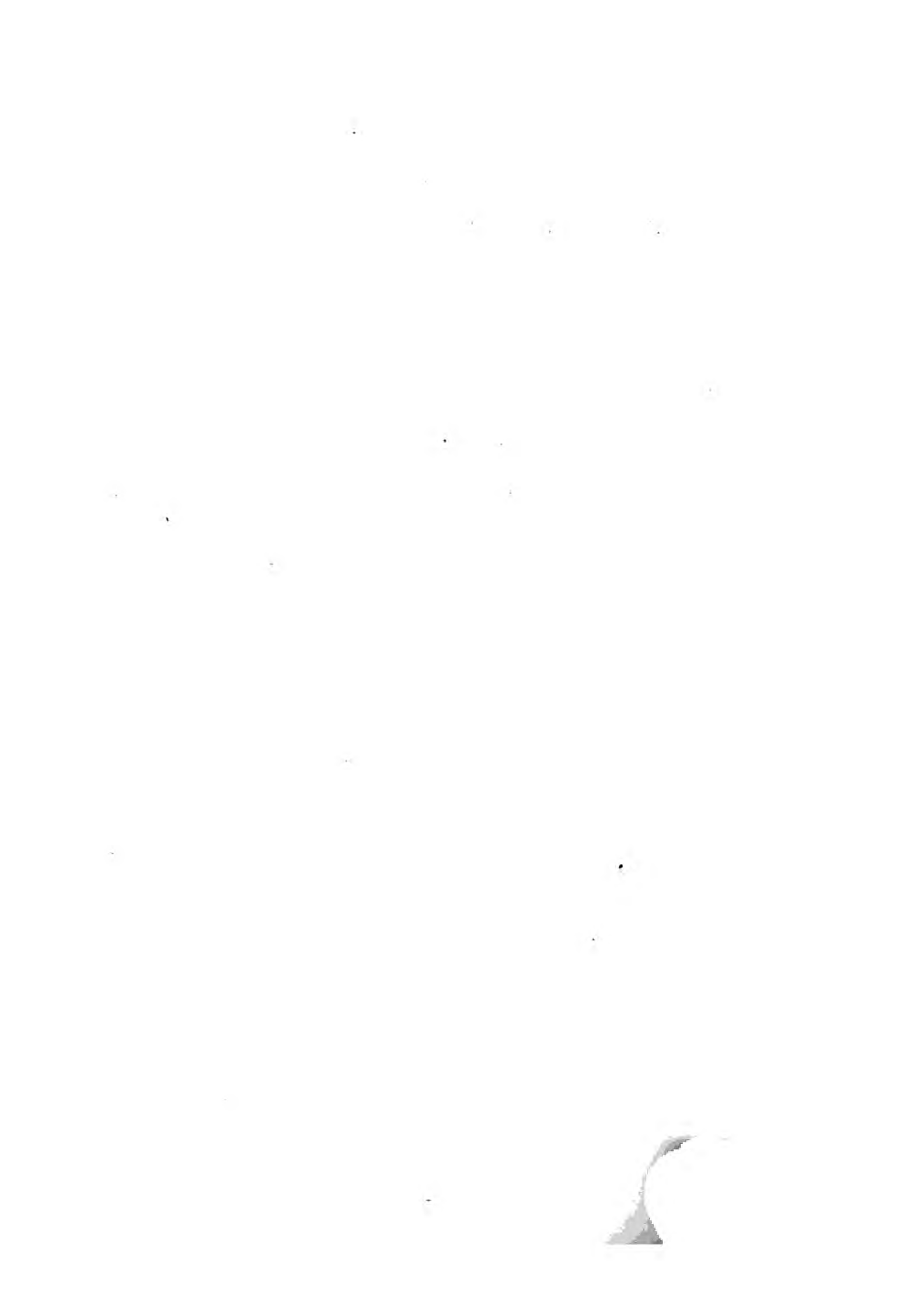
NOT uncommon in moist pastures and meadows, flowering in May and June.

Root creeping, blackish. Stem erect, 10 to 15 inches high, obtusely triangular, smooth. Leaves glaucous, short, roughish at the edges, and top of the keel. Bractæ acute, shorter than the stem, with long, furrowed, pale sheaths. Male spikes 1 or 2, lanceolate, acute, dense, with brownish blunt scales, various in breadth, their keel green. Female spikes about 2, sometimes male at the summits, remote, erect, on slender stalks twice as long as the sheaths; their scales loosely imbricated, ovate, acute, pointless, brown with a white edge and green keel. Stigmas 3. Fruit longer than the scales, ovate, inflated, bluntish, entire, smooth, obscurely ribbed, of a light greenish or yellowish hue. Seed short, triangular, brown, very frequently infested with the disease called smut, by which it is swelled and turned into sooty dust.

1505



✓



CAREX recurva.
Glaucous Heath Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths short. Female spikes cylindrical, pendulous. Fruit elliptical, triangular, roughish. Root creeping.

SYN. *Carex recurva.* *Huds.* 413. *Sm. Fl. Brit.* 999. *Gooden. Tr. of L. Soc. v. 2.* 184. *With.* 102. *Hull.* 208. *Relh.* 369. *Sibth.* 31. *Abbot.* 206. *Fl. Dan. t.* 1051.

Gramen cyperoides, foliis caryophylleis, spicis oblongis e pediculis longioribus pendulis. *Raii Syn.* 418.

VERY common in pastures, groves and the moist parts of open heathy places, where its short glaucous leaves render it very conspicuous both in dry and wet weather. It flowers in May and June. Few *Carices* vary more in size and luxuriance.

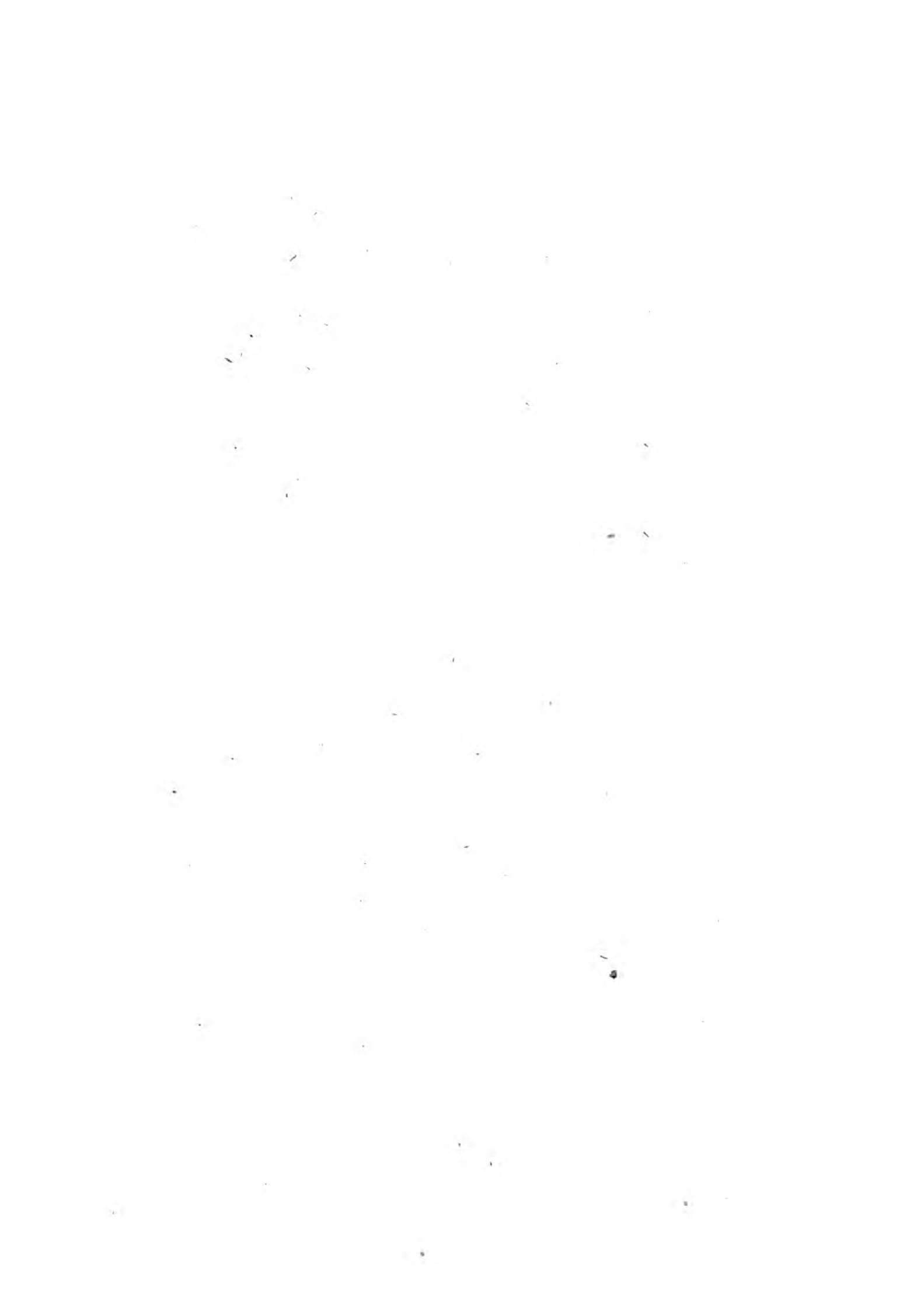
The root is creeping, sheathed with brown scales. Whole herb glaucous. Stem upright, from 8 to 18 inches high, roundish with 3 angles, rough upwards. Leaves erect, broadish, flat, rough-edged, much shorter than the stem. Bractæ erect, about equal to the stem in height, with short sheaths having a small appendage on each side. Male spikes linear-lanceolate, erect, mostly solitary, sometimes numerous or compound; the scales obtuse, brown, with a pale keel. Female spikes about 2, on very long stalks, at first erect, but soon pendulous, cylindrical, very dense; their glumes ovate, somewhat pointed, blackish with a white edge and yellowish nerve. Stigmas 3. Fruit imbricated, elliptical, bluntly triangular, swelling, entire, more or less downy or rough, of a rusty green, soon becoming black. Seed short, triangular.



Sept 2 1805. Published by J. S. Edwards, London.

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CAREX Micheliana.

Blunt-fruited Black Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes upright, cylindrical; the female ones stalked. Glumes all obtuse and pointless. Fruit obovate, very blunt.

SYN. *Carex Micheliana.* *Sm. Tr. of Linn. Soc.* v. 5. 270. *Fl. Brit.* 1004.

C. ambleocarpa. *Willd. Sp. Pl.* v. 4. 307.

Cyperoides foliis caryophylleis, caule exquisitè triangulari, spicis habitioribus, squamis curtis, obtusè mucronatis, capsulis turbinatis brevibus confertis. *Mich. Gen.* 62. t. 32. f. 12.

THE introduction of this, as a distinct species, into the *Flora Britannica* having led botanists into a mistake, we judge it right to lay before them all the sources of our error, by exhibiting a plate of the specimen on which it was founded, and which was received from Professor Beattie of Aberdeen as a variety of *C. recurva*, t. 1506, such as we are now convinced it really is. The names of *Micheliana* and *ambleocarpa* are therefore alike superfluous. The synonym of Micheli, though adopted from his figure and definition alone, we see no cause to reject. It becomes us here further to acknowledge that all British botanists have done wrong in preferring their countryman Hudson's name of *recurva*, to the older, and beyond all comparison better, one of Scopoli, *glauca*, whose claims we incautiously overlooked in *Fl. Brit.*

The plant before us differs from the usual state of *recurva* in having numerous male spikes, and a smooth fruit; circumstances which, however important in most *Carices*, prove in this case to be variable. The turgescence of the fruit is more or less, according to its age and perfection. The compound lower spike in our specimen is, of course, an accident.

2236.



Illustration by J. P. Ravenel, London.

✓





C A R E X cæspitosa.

Tufted Bog Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Stigmas* two. *Bracteæ* auricled, not sheathing. *Spikes* sessile, cylindrical, obtuse. *Fruit* permanent.

SYN. *Carex cæspitosa.* *Linn. Sp. Pl.* 1388. *Sm. Fl. Brit.* 1000. *Gooden. Tr. of L. Soc. v. 2.* 195. *t. 21. f. 8.* *With.* 106. *Hull.* 208. *Relh.* 370. *Sibth.* 31. *Lightf.* 560.

Gramen caryophylleum, angustissimis foliis, spicis sessilibus brevioribus erectis non compactis. *Dill. in Raii Syn.* 418.

COMMUNICATED by Mr. Crowe from near Norwich, where it is not uncommon; nor probably is it rare in marshy spots throughout England. It flowers in May, or early in June.

The root is creeping, but short, and forms dense entangled tufts, yet scarcely in so remarkable a manner as Linnæus describes in *Fl. Suec.* His specimens however agree precisely with ours. The stems are from 9 to 12 inches high, acutely triangular, roughish above. Leaves erect, almost as tall as the stem, narrow, acute, of a bright and not glaucous green, rough at the edges and keel. *Bracteæ* like the leaves but much smaller, without any sheath, accompanied at the base by a pair of round black auricles, which are largest in the smaller *bracteæ*. Male spike almost always solitary, lanceolate, erect, with brown, obtuse, narrowish, green-ribbed scales. Female spikes 2 or 3, crowded, sessile, erect, cylindrical, shortish, obtuse, very dense, with elliptical, obtuse, close, black, green-ribbed scales. *Fruit* elliptical, broad, compressed, ribbed, green, smooth, permanent after it is ripe. *Stigmas* but 2. *Seed* compressed.



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CAREX stricta.

Glaucous straight-leaved Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Stigmas* two. *Bractææ* not sheathing, slightly auricled. *Spikes* nearly sessile, cylindrical, elongated, acute. *Fruit* deciduous.

SYN. *Carex stricta.* *Gooden. Tr. of Linn. Soc. v. 2. 196. t. 21. f. 9. Sm. Fl. Brit. 1000. With. 107. Hull. 208.*

C. cæspitosa. *Huds. 412. Lightf. 561, β.*

Gramen cyperoides foliis caryophylleis, spicis erectis sessilibus, e feminibus confertis compositis. Raii Syn. 418.

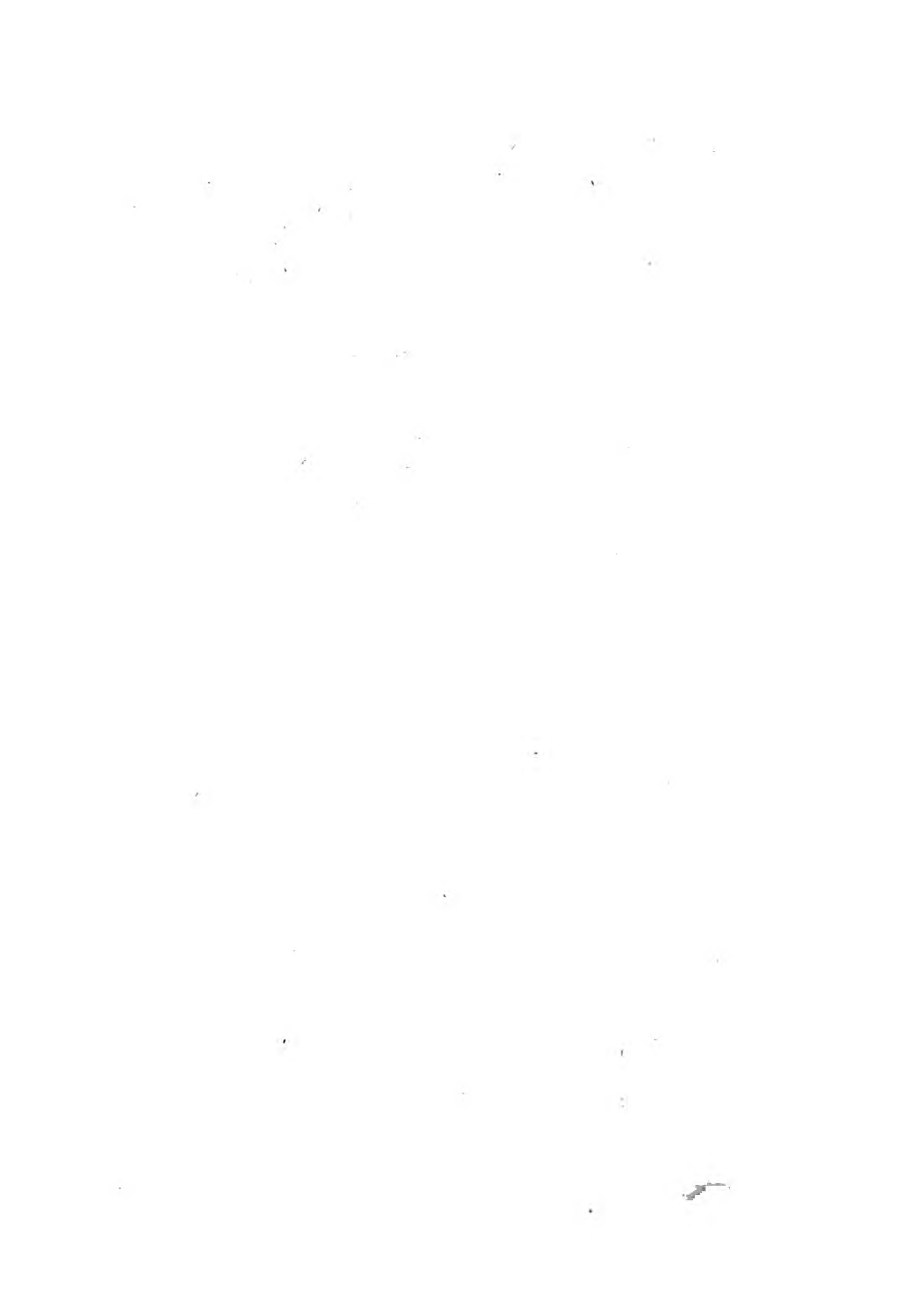
THIS *Carex*, though known to Ray, has not been generally distinguished by modern botanists from the *cæspitosa*, till Dr. Goodenough clearly discriminated them in his excellent paper. They agree in having only 2 stigmas, no sheaths to their bractææ, and spikes nearly sessile; but the *stricta* is twice as large as the *cæspitosa*, its leaves more glaucous (or pink-like, as Ray expresses it), capsules deciduous, more constantly in 8 rows, and it flowers in April, a month before the *cæspitosa*. The root is creeping. Stem about 2 feet high, sharply triangular, rough upwards. Leaves erect and straight, as are also the spikes. It often produces 2 male spikes, and should then be placed in the same section with *C. acuta*, which has also but 2 stigmas, but which is distinguished by its drooping spikes, 2 or 3 of which are male.

C. stricta grows in marshy places not unfrequently. Mr. Pitchford found it near Norwich. We have received it from Cambridge by favour of the Rev. Mr. Holme.



Illustration published by J. Burby...

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C A R E X acuta.

Slender-spiked Carex.

MONŒCIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Stigmas two. Spikes cylindrical, slender; the female ones drooping when in flower, erect in fruit. Corolla pointed, entire.

SYN. *Carex acuta*: *Gooden. Tr. of Linn. Soc. v. 2. 203. With. 109. Linn. Sp. Pl. 1388, α. Fl. Suec. 334, β. Hudf. 413, β.*

C. gracilis. Curt. Lond. fasc. 4. t. 62. Relb. 357. Sibth. 32.

Gramen cyperoides majus angustifolium. Raii Syn. 417.

EQUALLY common with the last in similar situations, flowering in May, being according to Mr. Curtis's observations a week or two later than that. This is certainly what Linnæus intended for *C. acuta* in both editions of his *Species Plantarum*, whatever he might at different periods erroneously refer to it besides; we therefore agree with Dr. Goodenough in retaining that name for it, without intending any disapprobation of Mr. Curtis's denomination, for there is no end of changing authentic printed names for the better.

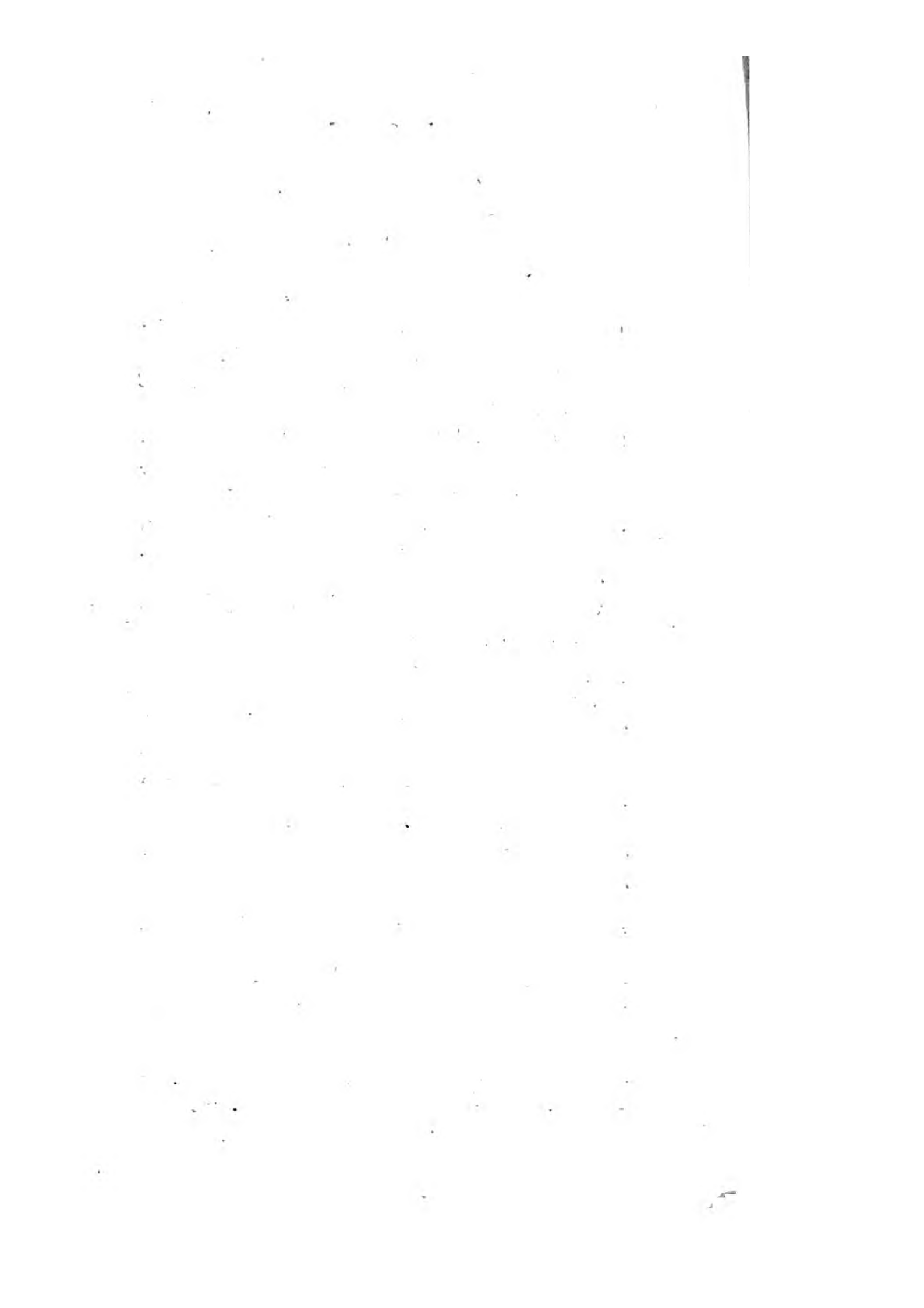
The root creeps very far. The stem in watery places is as tall as *C. riparia*, but much shorter in meadows, and in every case much more slender (as well as the leaves), very sharply triangular, rough on the edges; its summit droops in a flowering state, but soon becomes erect. The leaves are of a fine green. Spikes cylindrical, slender; the male 2 or 3, with lanceolate bluntish brown scales marked with a green rib. The upper female spikes are often terminated by male flowers. Scales of the female flowers linear, sharpish. Stigmas only two, white. Permanent corolla entire and closed at the summit.

580.



44





CAREX paludosa.

Lesser Common Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes cylindrical, bluntish, erect; the female with awn-pointed scales; the male with blunt ones. Fruit elliptical, notched.

SYN. *Carex paludosa.* *Gooden. Tr. of Linn. Soc. v. 2. 202. Sm. Fl. Brit. 1002. With. 108. Hull. 209.*

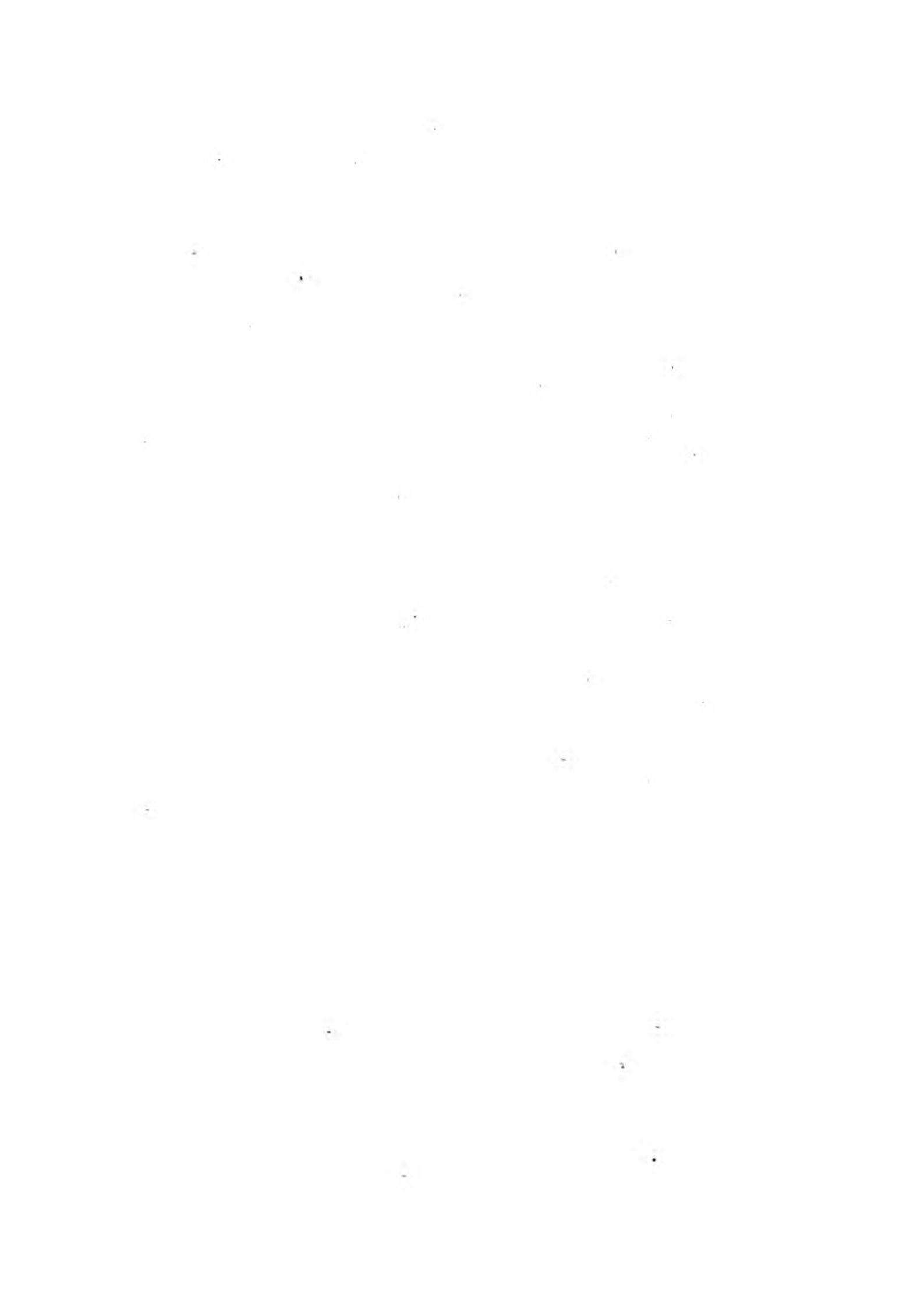
C. acuta. *Curt. Lond. fasc. 4. t. 61. Hudf. 413, 7.*

Gramen cyperoides minus, angustifolium. *Dill. in Raii Syn. 418.*

WE have already alluded to this *Carex* in describing the *riparia* and the *acuta* in our 9th volume, *t.* 579 and 580. It is found in watery places, like them, and is full as common as the latter at least, flowering in May. The root is perennial, creeping to a great extent.

Mr. Curtis, with well-founded exultation, expatiates on the circumstances which led him to distinguish these three species, previously huddled together by the generality of botanists as varieties, and we have found his remarks perfectly just. The less slender and more erect form, but especially the 3 stigmas, clearly distinguish this plant from the *acuta*. From the *riparia* it is known by its blunt, more triangular, and brighter-coloured male spikes, with obtuse and not pointed glumes. It is by mistake we have described the male spikes and their glumes in *riparia*, *p.* 579, to be sometimes blunt. The glumes of the female spikes of *paludosa* taper to a point. Its fruit is elliptic-lanceolate, smaller and less inflated than that of *riparia*.





C A R E X riparia.
Great Carex.

MONŒCIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Spikes oblong, acute; the male with lanceolate scales; the female with awn-pointed ones. Corolla ovato-lanceolate, forked at the tip.

SYN. *Carex riparia.* *Curt. Lond. fasc. 4. t. 60.*
Gooden. Tr. of Linn. Soc. v. 2. 200. With. 108.
Relb. 356. Sibth. 31. Abbot. 206.

C. acuta. *α. Hudf. 413.*

Gramen cyperoides cum paniculis nigris. Raii Syn.
417.

ONE of our most common species of *Carex* at the banks of ditches and rivers, and in most watery places, flowering about April or May, and distinguished from all others by its greater size. There are indeed two more species, which had generally in England been confounded with this, till Mr. Curtis clearly determined their differences in the 4th fasciculus of his *Flora*, the *paludosa* and *acuta* of Dr. Goodenough. Linnæus confounded all three together under his *acuta*.

C. riparia has a strong, widely creeping, perennial root. Stem two or three feet high, leafy, with three sharp rough angles, which, like the edges of the leaves, cut like a fine saw. Leaves broad, sharp, erect, deep-green, a little glaucous beneath; those on the stem having a sheathing reticulated base. Spikes alternate, one of them terminal, about 3 of each sex, but the upper female ones generally terminate in several male flowers. The scales of the males are lanceolate, generally pointed, often blunt; those of the females, especially the lower ones, blunt, tipped with a sharp rough awn, one great mark of the species. The stigmas are three. The permanent corolla cloven at the tip, and ribbed. The male spikes are triangular, generally acute, but sometimes blunt.



April 1. 1899. *Bellefleur* 10. *P. J. Ravenel* L.



[1387]

CAREX lævigata.

*Smooth-stalked Beaked Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes cylindrical: the female ones on stalks. Sheaths very long. Glumes pointed. Fruit triangular, with a cloven beak.

SYN. *Carex lævigata.* *Sm. Tr. of Linn. Soc. v. 5. 272. Fl. Brit. 1005.*

C. æthiopica. *Schkuhr. Caric. 107. n. 91. t. Z. f. 83.*

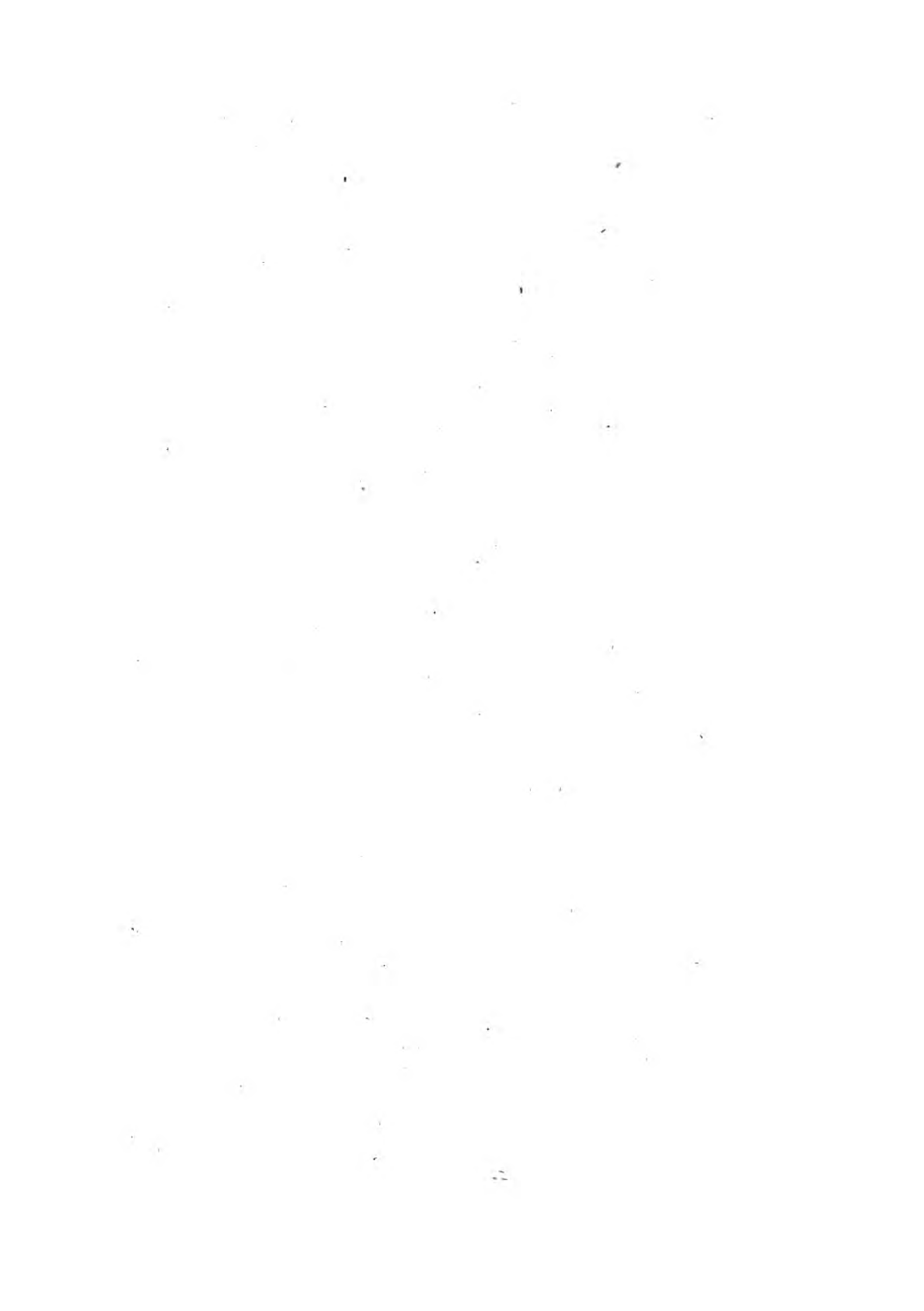
OUR specimens were gathered July 3d by Mr. E. Forster in a boggy thicket near Warley Common, Essex. The same gentleman has found this species in Cornwall and Sussex. It was first observed in Scotland; see *Fl. Brit.*; but has been overlooked by most botanists. Schkuhr had it from the isle de Bourbon, and therefore named it, not happily, *æthiopica*; but the figure in his excellent work cannot be mistaken.

This may have been considered as *Carex vesicaria* not fully grown. It is distinguishable by the long stalks of its female spikes, (which spikes also are longer and more slender than in *vesicaria*,) and especially by the tunic of the seed not becoming inflated at any period of its growth. The remarkable smoothness of its whole stem and principal leaves, the upper floral leaves only being rough at the edges, and the lower ones merely at the tip, is a ready and permanent difference between this plant and all with which it can be confounded. The spikes become rusty, not black, by age. Their glumes have rough points. The males are 1 or 2; females 2, 3 or 4. Sometimes a starved spike of hermaphrodite flowers has been observed by Mr. J. Sowerby.



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CAREX vesicaria.

Short-Spiked Bladder Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Female spikes cylindrical, shortish, nearly sessile. Sheaths none. Fruit inflated, beaked, cloven.

SYN. *Carex vesicaria.* *Linn. Sp. Pl.* 1388, α and γ . *Sm. Fl. Brit.* 1005. *Gooden. Tr. of Linn. Soc.* v. 2. 205. *With.* 110. *Hull.* 209. *Sibth.* 32. *Dicks. H. Sicc. fasc.* 14. 18.

C. inflata. *Huds.* 412. *Lightf.* 567.

Gramen cyperoides majus præcox, spicis turgidis teretibus flavescentibus. *Dill. in Raii Syn.* 420.

LIKE other large species of *Carex*, the *vesicaria* is found in wet meadows and marshy places, though not very frequently. It seems to be most common in the northern or mountainous counties, but may also be met with near the water-works at Pimlico, and elsewhere about the Thames. It flowers in May.

Root perennial and creeping. Stem upright, 2 feet high, with very sharp rough angles. Leaves erect, bright-green, ending in a taper point, rough on the edges. The bractæ have moreover a rough keel, and little or no length of sheath at their base. Male spikes from 1 to 3, slender, acute, with linear-lanceolate, sharpish, brown, green-keeled scales; female about 3, generally almost sessile, thick and short (compared with other neighbouring species), with sharp scales. Stigmas 3. Fruit thickly ranged in several rows, spreading, longer than the scales, ovate, pointed, ribbed, inflated, smooth, yellowish and shining when ripe, cloven at the tip. The seed contained within it is small, sessile, short, triangular, crowned with the long permanent style shorn of its stigmas.

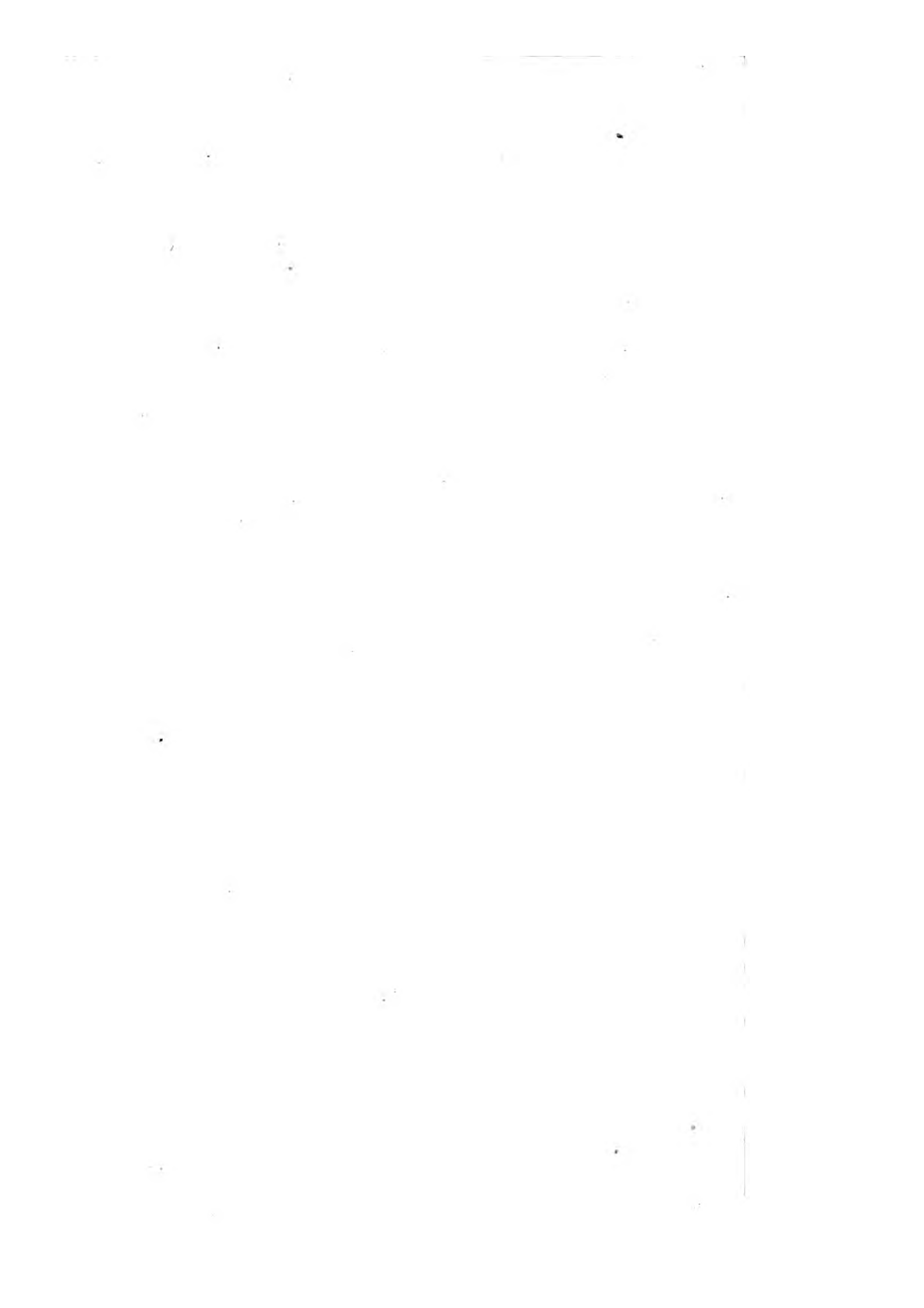
The short thick pale spikes, with their bladdery shining fruits, readily distinguish this species. The two varieties of Linnæus above quoted are only different stages of the fructification.



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J





CAREX ampullacea.

Slender-beaked Bladder Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Stigmas 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Female spikes cylindrical, elongated, nearly sessile. Sheaths none. Fruit inflated, with a linear forked beak.

SYN. *Carex ampullacea.* *Gooden. Tr. of Linn. Soc.* v. 2 207. *Sm. Fl. Brit.* 1006. *With.* 110. *Hull.* 209.

C. vesicaria. *Huds.* 413. *Lightf.* 566.

C. rostrata. *Sibth.* 32. *Abbot.* 206.

Gramen cyperoides polystachyon majus, spicis teretibus erectis. *Raii Syn.* 419.

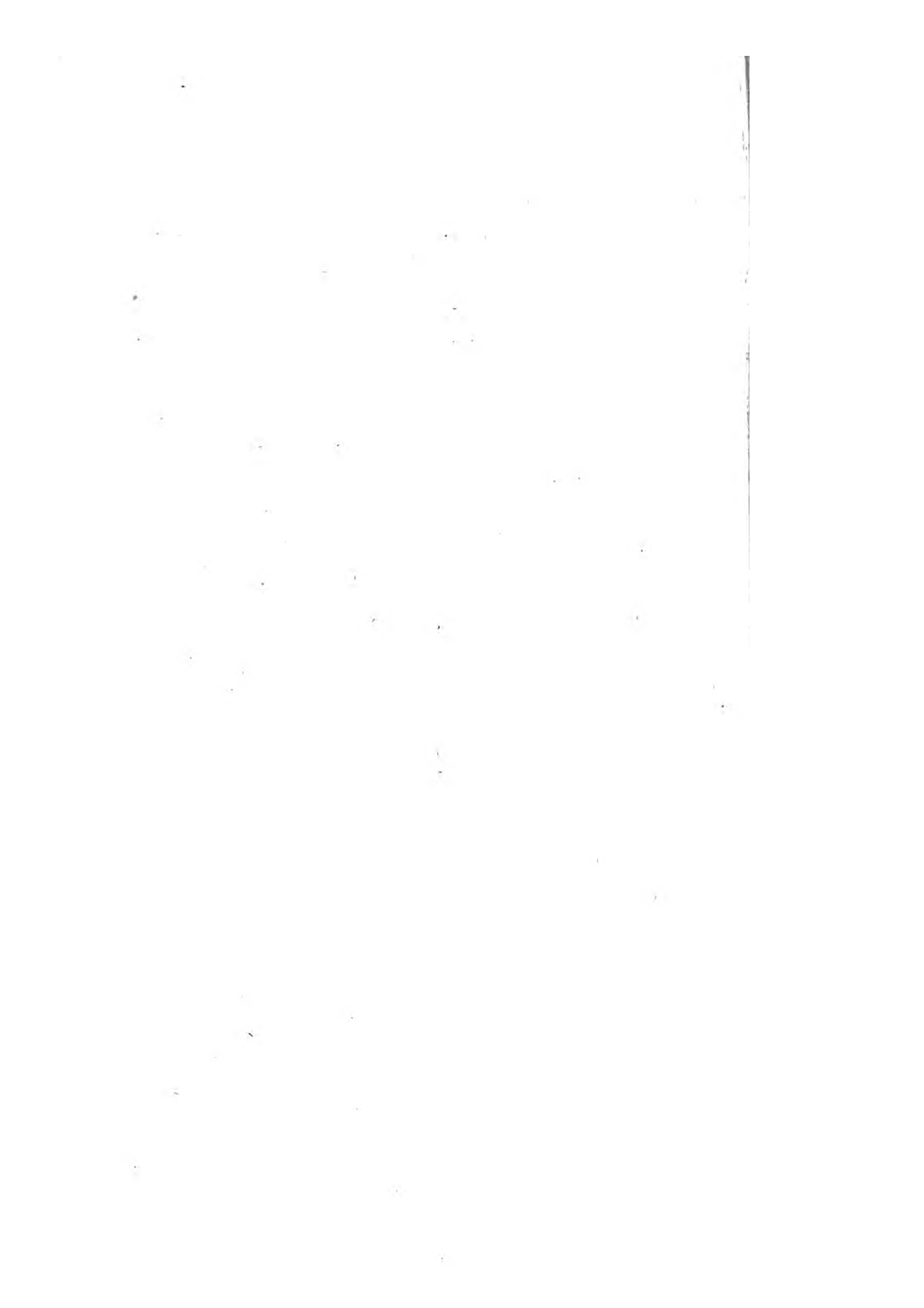
THIS *Carex* is also most common in Scotland and the northern counties; in the south it more rarely occurs. It is plentiful at Seething in Norfolk. We received our specimen by favour of Mr. J. Holme of Peter-house, Cambridge, from a watery gravel-pit near that town, where the plant was first remarked by the Rev. Mr. Newton, F. L. S. It is not a Linnæan species, and has been much mistaken by different botanists. Hudson quotes a synonym of Ray which belongs to our *vesicaria*, subjoining its proper denomination as a variety. Dr. Stokes first well illustrated it by the name of *rostrata*, in Dr. Withering's 2d edition. It flowers in May.

Root creeping, perennial. Stem with 3 blunt angles, which below the lowest bractea are smooth. Leaves narrow, rather glaucous. Male spikes 2 or 3, very slender, with bluntish scales; female 2 or 3, with generally sharper ones. These female spikes are longer and more slender than those of *C. vesicaria*, consisting of numerous spreading yellowish inflated roundish fruits, each terminating in a linear beak, nearly of its own length, which is cloyen at the point. Seed small, crowned with the long style.



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CAREX hirta.

Hairy Carex.

MONŒCIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* hollow, permanent, investing the *seed*.

SPEC. CHAR. Hairy. Spikes short, cylindrical, remote. Sheaths nearly equal in length to the flower-stalks. Scales awned. Fruit hairy.

SYN. *Carex hirta*. *Linn. Sp. Pl.* 1389. *Gooden. Tr. of Linn. Soc.* v. 2. 208. *Huds.* 414. *With.* 111. *Hull.* 209. *Relb.* 357. *Sibth.* 33. *Abbot.* 207. *Dickf. H. Sicc. fasc.* 11. 16.

Gramen cyperoides polytachyon lanuginosum. *Rau Syn.* 418.

THIS species of *Carex* belongs to that division of the genus in which the male spikes are more than one. It is not uncommon in moist meadows and other watery places, flowering in May or June.

Root creeping very far, with downy fibres. Stem erect, about 2 feet high, leafy, triangular, the angles sharp and rough. Leaves scarcely so tall as the stem, erect, flat, pointed, most hairy beneath, rough at the edge; their sheaths long, very hairy upwards, though sometimes, according to Dr. Goodenough's remark, in watery places they become smooth. Bractææ like the leaves, with sheaths that include nearly the whole flower-stalk. Male-spikes 2, a little remote, lanceolate, with ovate, brown, rather pointed scales, externally hairy; female-spikes 3, remote, on stalks, erect, cylindrical, short, their scales smooth, ovate, with long rough awns. Fruit loosely imbricated, ovate, acute, nervous, hairy, somewhat beaked, deeply cloven at the point. Seed three-cornered, crowned with the style.

The separate spike only in *Fl. Dan. t.* 379 seems to belong to this plant. The rest of the figure is surely *C. filiformis*, a species most nearly allied to this, though truly distinct, and which having also 2 male spikes, ought to be placed next to it.



685.

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C A R E X filiformis.
Slender-leaved Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale.
Cor. none.

Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none.
Stigmas 2 or 3. *Seed* clothed with a swelling
tunic.

SPEC. CHAR. Spikes ovate; males generally two.
Sheaths nearly as long as the flower-stalks. Scales
pointed. Fruit downy. Leaves channelled, smooth.

SYN. *Carex filiformis.* *Linn. Sp. Pl.* 1385. *Gooden.*
Tr. of Linn. Soc. v. 2. 172. t. 20. f. 5. *Sm. Fl.*
Brit. 1008. *With.* 97. *Hull.* 207.

C. tomentosa. *Lightf.* 553. *Huds.* 650.

C. hirta. *Fl. Dan.* t. 379, except the separate spike.

THE late Dr. Hope having received specimens of this *Carex* from some meadows near Ayr, made it known to Mr. Lightfoot, who took it for the *tomentosa* of Linnæus. (See *Tr. of L. Soc.*) It has since been gathered by Mr. Mackay in several other parts of Scotland. The Rev. Mr. Williams has found it in Shropshire, and we can now boast it as a Norfolk plant, on the authority of the Rev. Mr. Forby, who discovered it wild near Stoke.

The root is creeping and perennial. The flowers are out in June. The stem rises erect to the height of 2 feet, straight, slender, round, smooth and rusty, except towards the top, where it often assumes three rough angles. Leaves upright, straight, narrow, channelled, but without any sharp keel, pointed, rough at the edge only. The bractæ are like them, with short sheaths surmounted by small auricles. Male spikes generally 2, and female about as many. Glumes blackish, with yellow or greenish ribs. Stigmas 3. Fruit ovate, with a short bifid beak, ribbed, blackish, clothed with short tawny down.

904



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ERIOCAULON septangulare.

Jointed Pipewort.

MONOECIA Triandria.

GEN. CHAR. *Common Calyx* of many leaves, many-flowered: *partial* of 2 or 3 leaves. *Cor.* in 2 or 3 segments.

Male fl. in the middle of the disk. Female in the border. *Stigmas* 2 or 3. *Caps.* 2- or 3-lobed. *Seeds* solitary.

SPEC. CHAR. Stem with 7 angles. Leaves pointed, formed of a network of cells. Male florets of 1 petal with 4 stamina.

SYN. *Eriocaulon septangulare.* *Sm. Fl. Brit.* 1010. *Witb.* 184. *Sym. Syn.* 41.

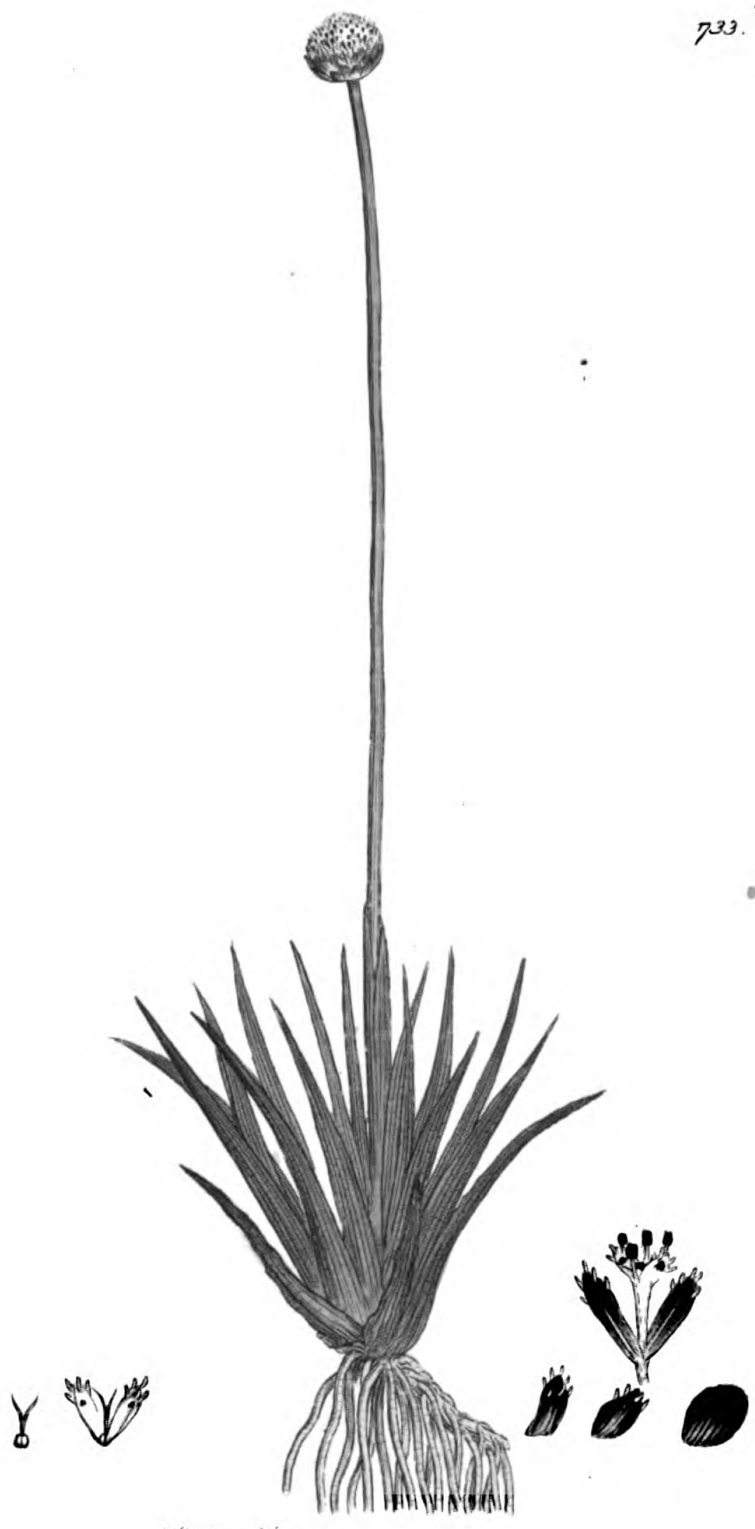
E. decangulare. *Hull.* 29. *Lightf.* 569.

Nasmythia articulata. *Huds.* 415.

A LESS general inhabitant of alpine lakes than even the *Subularia*, t. 732; for we know not that it has been found in any other part of the world than the isle of Skye, from whence we received it by favour of J. Brodie, Esq. and Mr. J. Mackay, and where, as Lightfoot mentions, it abounds in several fresh-water lakes, flowering in September. The Rt. Hon. Sir Joseph Banks has lately been so fortunate as to receive plenty of the roots, which are perennial, in a growing state.

The whole herb seems composed of tubes intercepted by numerous transverse partitions. Stem naked, simple, solitary, twisted, having 7 angles, scarcely ever more or less, and bearing a dense head of many male flowers surrounded by female ones. Leaves all radical, swordshaped, pointed. The blackish calyx and white corolla are clothed with silky close-pressed hairs, and tufted with snow-white club-shaped pubescence. Stamina in this species 4, in most others 3. The male flowers have abortive blunt black stigmas; the females differ in having acute ones, no stamina, and the corolla divided to the base.

733.



Handwritten text, possibly a name or reference number.





LITTORELLA lacustris.

Plantain Shore-weed.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* 4-leaved. *Cor.* of one petal, 4-cleft. *Stamina* very long.
 Female, *Cal.* none. *Cor.* of one petal, unequally 3-cleft. *Style* thread-like, very long. *Nut* of one cell.

SPEC. CHAR. - - - -

SYN. *Littorella lacustris.* *Linn. Mant.* 295. *Huds.* 415.
Wib. 194. *Rehb.* 358.

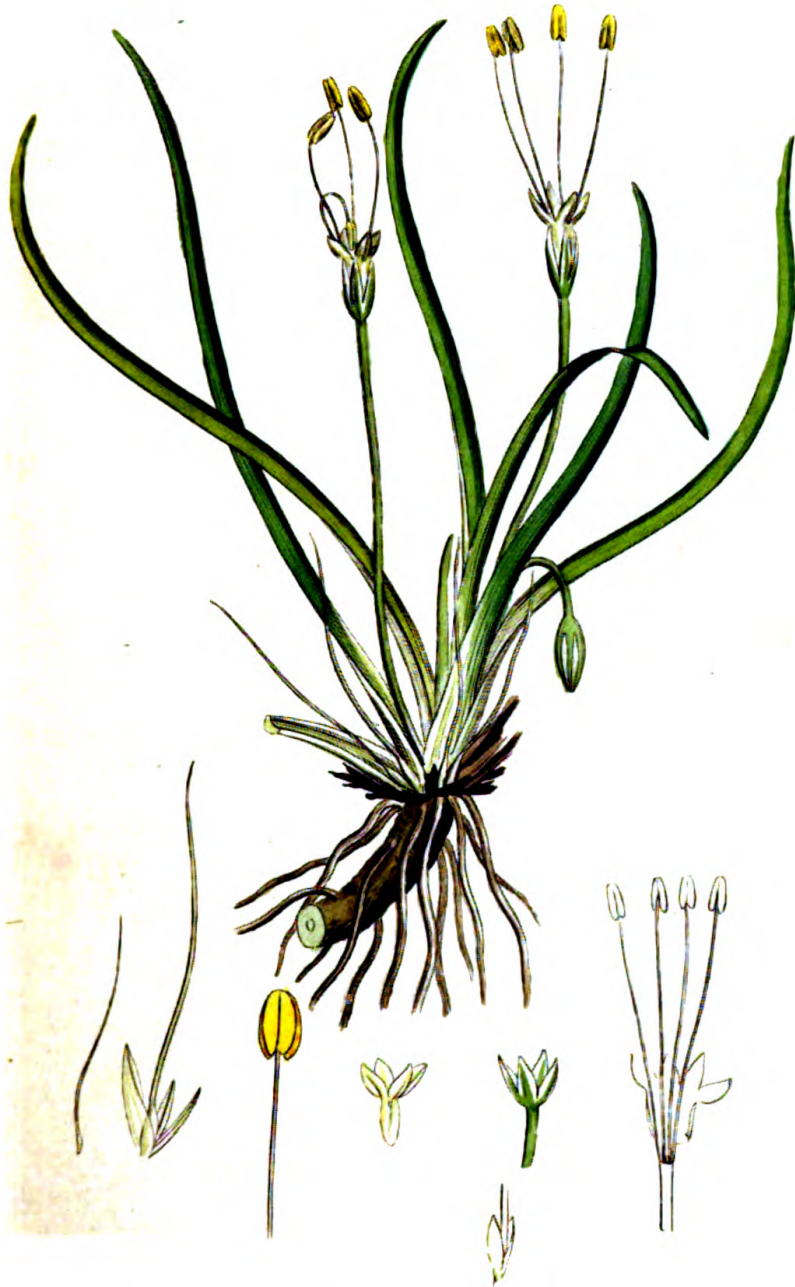
Plantago uniflora. *Linn. Sp. Pl.* 167.

P. palustris gramineo folio monanthos, *Parisiensis.*
Raii Syn. 316.

A NATIVE of marshy sandy spots in various parts of Great Britain, though not very common. Sir T. G. Cullum, Bart. shewed it to Mr. Sowerby at Cavenham, Suffolk, flowering in June last.

The whole habit is that of a plantain. Root perennial, long, spindle-shaped, throwing out numerous simple fibres. Stem none. Leaves linear, entire, smooth; convex beneath, flat, or a little channelled above; dilated at the base; very much resembling those of *Plantago maritima*. Male flowers several, solitary, on long simple naked stalks scarcely so high as the leaves, erect. Calyx of 4 equal leaves. Corolla with an inflated tube; the limb in 4 equal concave divisions, exactly as in *Plantago*. Stamina equal, erect, very long and slender. Antheræ heart-shaped, vertical. Female flowers on the same plant, sessile at the root, in the bosoms of the leaves, often in pairs. Calyx none. Corolla quite different from that of the male, being a sort of elliptical sheath, divided unequally, and more or less deeply, into 3 (Dr. Withering says mostly 4) segments, investing the germen, which is very small, crowned by a long taper acute style, and becomes a single seed or nut, by which this plant is essentially different from *Plantago*. Bergius first distinguished them. Linnæus had some suspicion that this supposed nut might be no true seed, but a bulb, or rather bud; but its having a regular style, and there being no other style or germen to be found, proves this suspicion to be erroneous; nor would it be confirmed even though the germen were proved to be occasionally transformed into a bulb, as happens in certain viviparous plants, *Polygonum*, *Festuca*, &c.





Aug. 1848. Published by J. Swainson

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BETULA alba.

Common Birch.

MONOECIA Tetrandria.

GEN. CHAR. Male, Cal. scale of a catkin, of 1 leaf, 3-flowered. Cor. none. Stam. 10—12. Female, Cal. scale obscurely 3-cleft, 3-flowered. Cor. none. Styles 2. Seeds compressed, winged.

SPEC. CHAR. Leaves ovate, acute, somewhat deltoid, unequally serrated, smoothish.

SYN. Betula alba. Linn. Sp. Pl. 1393. Sm. Fl. Brit. 1012. Willd. Sp. Pl. v. 4. 462. Huds. 416. With. 206. Hall. 210. ed. 2. 281. Relh. 374. Sibth. 64. Arbot. 207.

Betula. Rar. Syn. 443. Ger. em. 1478.

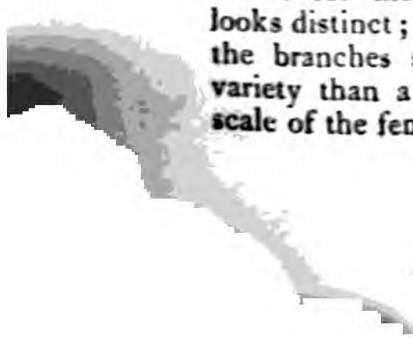
♂ B. pendula. Roth. Germ. v. 1. 405. v. 2. p. 2. 476.

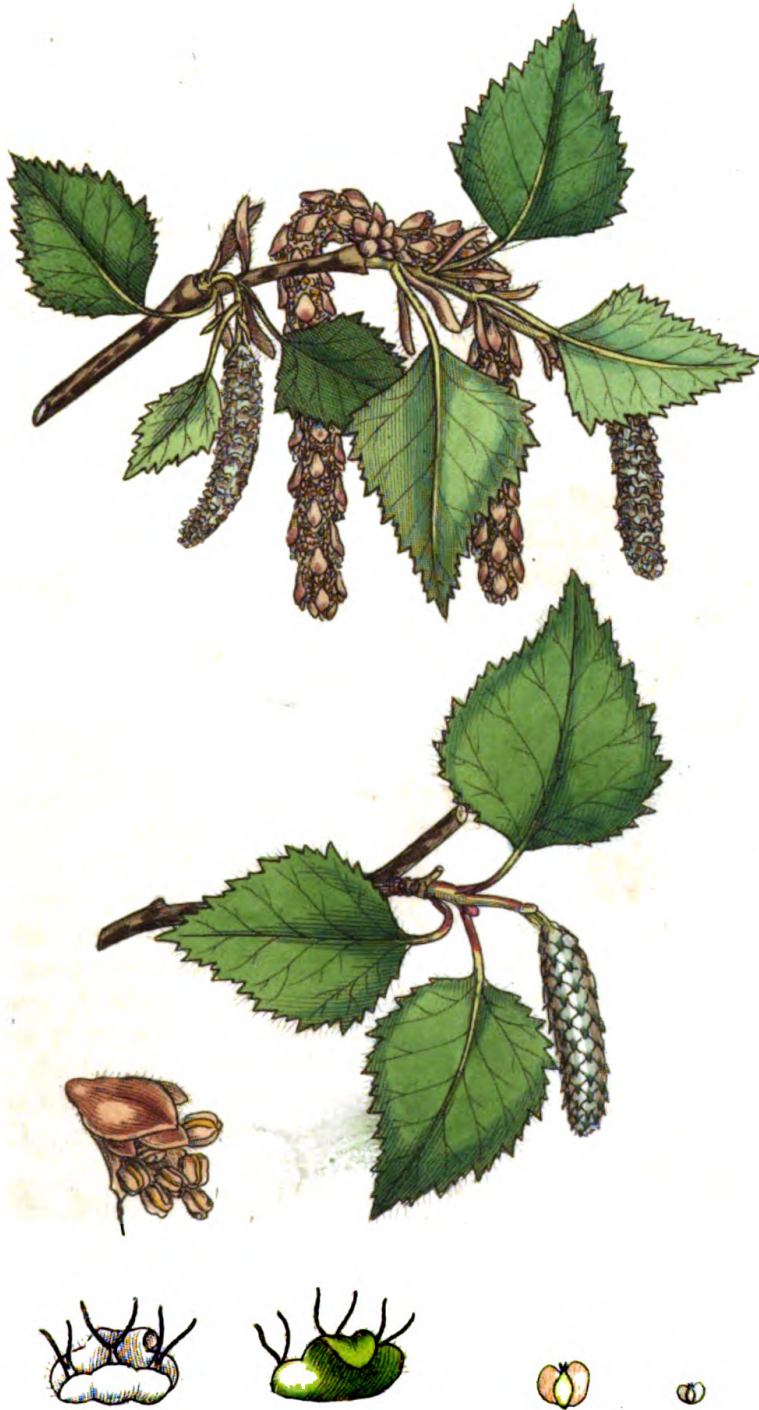
B. verrucosa. Ehrh. Arb. 96.

ABUNDANT in mountainous woods, and one of the most hardy of trees, thriving even in the driest sandy soil, and never hurt by any cold of this climate. It flowers in April and May, and rises to the height of a moderate tree. The wood is hard, tough and white. Trunk clothed with a snow-white bark or cuticle, of many paper-like layers, very conspicuous amongst other trees; cracked, rugged and dark when old. Branches elongated and elegantly drooping; in the variety ♂ longer and warty. Leaves alternate, stalked, triangular inclining to ovate, pointed, variously and unequally serrated, smooth, except a slight downiness at the back, which is variable. The young branches are also often downy. In autumn the foliage at length assumes a full yellow colour. Catkins drooping, the scales of the female ones deciduous.

We are convinced of the propriety of separating *Alnus* as a genus. Its characters are properly given at t. 1508, and we here reform those of *Betula*.

We have often studied the Birch and its varieties in the Welch woods, wishing if possible to find constant specific marks for the weeping kind, which by Ehrhart's specimens looks distinct; but the wartiness, as well as the downiness, of the branches seemed variable, and each rather to indicate a variety than a species. Mr. Sowerby finds 3 flowers to each scale of the female catkin; the *Alnus* has but two.





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[2526]

BETULA nana.

Dwarf Birch.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* scale of a *catkin*, of 1 leaf, 3-flowered. *Cor.* none. *Stam.* 10—12. Female, *Cal.* scale obscurely 3-cleft, 3-flowered. *Cor.* none. *Styles* 2. *Seeds* compressed, winged.

SPEC. CHAR. Leaves orbicular, crenate.

SYN. *Betula nana*. *Linn. Sp. Pl.* 1394. *Fl. Lapp. ed.* 2. 274. *t.* 6. *f.* 4. *Sm. Fl. Brit.* 1012. *Huds.* 416. *With.* 207. *Hull. ed.* 2. 281. *Lightf.* 575. *t.* 25. *Pallas. Ross. τ.* 1. *p.* 1. 63. *t.* 40. *f.* D—G. *Dicks. H. Sicc. fasc.* 18. 16.

A CONSIDERABLE degree of celebrity is attached to this shrub, from its frequent mention in the *Flora Lapponica*, and *Tour to Lapland* recently published, of Linnæus, as well as from its being the subject of his first dissertation in the *Amœnitates Academicæ*. It is by no means rare in Scotland, from whence our wild specimen came, yet it was not known to British botanists till Sir James Nasmyth made the discovery about 40 years ago.

The shrubby, rigid, much branched stem is about a yard high, with a blackish bark, slightly downy on the young twigs. Leaves alternate, on short stalks, of a circular form, sometimes abrupt and kidney-shaped, strongly and unequally crenate, rigid, smooth, reticulated with veins, deciduous. Buds with concave fringed scales. The male catkins grow from lateral leafless buds, and are sessile, cylindrical, dark brown, one third of an inch in length, appearing in May when the young leaves are beginning to expand. The female ones terminate little short shoots, with two leaves at the base, and are ovate, shorter, and green, with red styles. However valuable in the domestic œconomy of the poor Laplander, this shrub is scarcely known out of the most northern parts of Europe.



Det. supplied by J. L. Harvey, London.



BETULA Alnus.

*Common Alder.**MONOECIA Tetrandria.*

GEN. CHAR. Male, *Cal.* scale of a *catkin*, of 1 leaf, 3-cleft, 3-flowered. *Cor.* 4-cleft.

Female, *Cal.* scale obscurely 3-cleft, 2-flowered. *Stylis* 2. *Seeds* compressed.

SPEC. CHAR. Flower-stalks branched. Leaves roundish, somewhat wedge-shaped, waved, serrated, glutinous; downy at the branching of the veins beneath.

SYN. *Betula Alnus*. *Linn. Sp. Pl.* 1394, α . *Sm. Fl. Brit.* 1013. *Huds.* 416. *With.* 206. *Hull.* 210. *Reih.* 374. *Sibth.* 64. *Abbot.* 207.

Alnus. Raii Syn. 442. *Ger. em.* 1477.

A VERY general tree in boggy grounds about lakes or rivulets, throwing its broad arms and umbrageous foliage with much picturesque effect over the still reedy pool, and supplying the want of the oak in such parts of a landscape. It blossoms in March, or early in April, but the leaves are not fully displayed till the end of May, or some time in June.

The trunk is of a middling height and thickness, rugged, crooked, and of slow growth. The wood is reddish, firm, but brittle, used by turners, and especially to make clogs or pattens. The bark dyes linen of a dull red, and with iron brown or black. The branches are crooked, spreading, smooth; angular and glutinous when young. Leaves alternate, on foot-stalks, roundish, obtuse, often lopped at the end, waved, serrated, plaited, glutinous, of a deep shining green, with many parallel veins, which are downy at their base beneath. *Stipulæ* roundish, entire. Flower-stalks terminal, branched. Male catkins long, pendulous, cylindrical, of numerous brown scales, within each of which are 3 sessile greenish flowers. *Stamina* 4, short. Female catkins small, oval, ascending, reddish-brown, with entire scales. *Stigmas* red, linear, prominent. Cone oval, rigid, permanent. *Seeds* angular, 2 to each scale.



Oct. 20. 18. Published by J. G. Sowerby, London

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[1341]

BUXUS sempervirens.

*Box-tree.**MONOECIA Tetrandria.*

GEN. CHAR. Male, *Cal.* of 3 leaves. *Petals* 2. Rudiment of a *germen*. Female, *Cal.* of 4 leaves. *Petals* 3. *Caps.* with 3 beaks, 3 cells, and 2 seeds in each cell.

SPEC. CHAR.

SYN. *Buxus sempervirens.* *Linn. Sp. Pl.* 1394. *Sm. Fl. Brit.* 1013. *Huds.* 417. *With.* 210. *Hull.* 210.

Buxus. *Raii Syn.* 445.

β. B. angustifolia. *Dill. in Raii Syn.* 445.

THE Box grows on dry chalky hills, but not universally. Ray mentions Box hill in Surrey; Boxwell, Gloucestershire; and Boxley, Kent; three places evidently named from their producing this plant, of which the first-mentioned is the most famous. It is a conical hill, naturally clothed with these trees, which grow 10 or 12 feet high, and in autumn particularly, when their older leaves assume the colour of vermilion, present a rich and beautiful spectacle. Mr. Woodward has observed the chalk hills near Dunstable to produce plenty of Box. It is not, however, mentioned in any of our three provincial Floras.

It flowers in April, and is the most tardy in growth of all our trees; consequently its wood is hard, heavy, and of a fine close grain, valuable for making mathematical instruments, combs, and the finer kinds of turners' ware. A dwarf variety is universally cultivated for the borders of flower-gardens.

The whole plant is smooth. Branches square. Leaves opposite, elliptical, entire, convex, notched at the end, shining, evergreen, various in breadth. Flowers in sessile axillary clusters, pale yellow. Capsule globose, crowned with the 3 permanent thick styles. It is not always easy to draw the line of distinction between the calyx and petals, which moreover vary occasionally in number.



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U R T I C A pilulifera.

*Roman Nettle.**MONŒCIA Tetrandria.*

GEN. CHAR. Male. *Cal.* 4-leaved. *Cor.* none. *Nectary* in the centre, cup-shaped. Female. *Cal.* 2-leaved. *Cor.* none. *Seed* one, polished.

SPEC. CHAR. Leaves opposite, ovate, serrated. Catkins of fruit globose.

SYN. *Urtica pilulifera.* *Linn. Sp. Pl.* 1395. *Hudf. Fl. An.* 417. *Witb. Bot. Arr.* 1070.

U. pilulifera, folio profundius *Urticæ majoris* in modum serrato, semine magno lini. *Raii Syn.* 140.

SENT by Dawson Turner Esq. in July last from Yarmouth, where, as in various parts of the Norfolk and Suffolk coast, this kind of nettle is found growing abundantly among rubbish and stones. Its sting is more painful than either of our common species whose structure is so well illustrated by Mr. Curtis in his *Flora Londinensis*.

This is an annual of very luxuriant growth, about 2 feet high, stem obtusely angular, often purple. Leaves on longish footstalks, ovate, sometimes heart-shaped, pointed, very strongly serrated, paler beneath. Flower-stalks axillary, in pairs, those of the male flowers panicled. Their calyx is of four equal leaves. Stamina spreading. Supposed nectary an obsolete concave tubercle in the centre. Female flowers in a round head. Calyx of two hemispherical valves closely embracing the germen, and holding the seed till quite ripe. Seed oval, dark brown, highly polished.

Our specimens seem intermediate between those of *U. pilulifera* and *U. balearica* in the Linnæan herbarium, and notwithstanding the opinion of Professor Murray (see *Witbering*) we believe these species not to be distinct. *U. Dodartii* appears different enough from both.



J. Sauerb. del. Dec. 1705.

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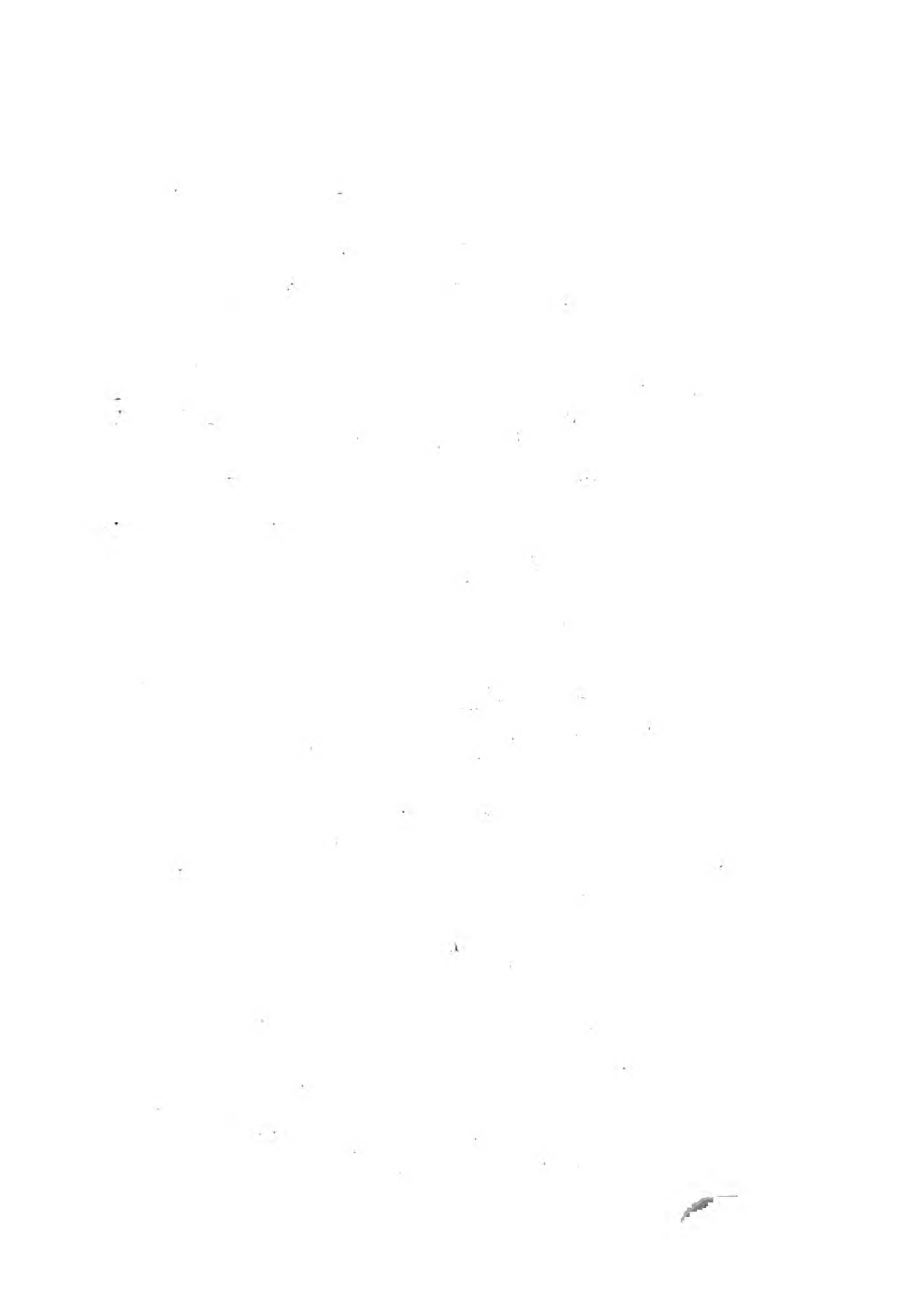
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[1236]

URTICA urens.

Small Nettle.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* 4-leaved. *Cor.* none. Rudiment of a *germen* cup-shaped. Female, *Cal.* 2-leaved. *Cor.* none. *Seed* 1, superior, polished.

SPEC. CHAR. Leaves opposite, elliptical, about five-ribbed. Clusters nearly simple.

SYN. *Urtica urens.* *Linn. Sp. Pl.* 1396. *Sm. Fl. Brit.* 1015. *Huds.* 417. *With.* 202. *Hull.* 210. *Relh.* 374. *Sibth.* 62. *Abbot.* 208. *Curt. Lond. fasc.* 6. *t.* 70.

U. minor. *Raii Syn.* 140.

THIS troublesome and prolific weed is sufficiently well known to cultivators of every description. It is an annual of quick growth, thriving most on a light soil, and often forming two crops in the course of the year.

Its humbler size, annual fibrous root, brighter green colour, and elliptical leaves, clearly distinguish it from the equally common *Urtica dioica*. The Roman nettle, figured in our 3d vol. *t.* 148, is known from both by its globular heads of seeds.

Mr. Curtis has most accurately investigated the stinging property for which these 3 species are remarkable. They are covered, as every body knows, with small projecting prickles, which when slightly touched inflict a highly venomous wound. Each prickle is tubular, standing on a bag of poison, and perforated at the point, so that when gently pressed vertically, the pressure at once forces the poison to ascend the tube, and enables the point to lodge it in the skin of the hand that touches it. It may be useful to know that the juice of Dock (*Rumex*), *Plantago lanceolata*, *v.* 8. *t.* 507, or even of the Nettle itself, are speedy remedies for the sting.



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



[1750]

URTICA dioica.

*Great Nettle.**MONOECIA Tetrandria.*

GEN. CHAR. Male, *Cal.* 4-leaved. *Cor.* none. Rudiment of a *germen* cup-shaped. Female, *Cal.* 2-leaved. *Cor.* none. *Seed* 1, superior, polished.

SPEC. CHAR. Leaves opposite, heart-shaped. Clusters much branched, in pairs, mostly dioecious.

SYN. *Urtica dioica.* *Linn. Sp. Pl.* 1396. *Sm. Fl. Brit.* 1016. *Huds.* 417. *With.* 201. *Hull.* 210. *Relh.* 375. *Sibth.* 62. *Abbot.* 208. *Curt. Lond. fasc. 6. t. 69.*

U. racemifera major perennis. *Raii Syn.* 139.

EVERY body is acquainted with the common perennial Nettle, so abundant in waste places, whether open or shady, blossoming throughout the latter part of summer; but few have perhaps had courage or curiosity enough to investigate parts so strictly guarded, and to perceive that the barren flowers are commonly all from one root, the fertile from another, or, which is still more curious, that both occasionally meet on the same plant, for the more certain preservation of the species.

The roots are perennial and creeping. Stems erect, 3 feet high, leafy, simple, bluntly quadrangular, clothed, like almost every other part of the plant, with stinging bristles. Leaves on stalks, opposite, heart-shaped, pointed, veiny, coarsely serrated. *Stipulæ* ovate, erect, membranous, smooth. Clusters axillary, in pairs, spreading, much branched; their stalks flat. Calyx of the seed often with 2 additional leaves, or bracteas, which are not always present.

The fibres of the stem may be manufactured like hemp, a plant nearly allied to this in botanical affinity.



1



XANTHIUM strumarium.

Burweed, or Small Burdock.

MONOECIA Pentandria.

GEN. CHAR. Male, *Common Calyx* imbricated. *Florets* of one petal, funnel-shaped, five-cleft. *Receptacle* chaffy.

Female, *Calyx* two-leaved, two-flowered. *Cor.* none. *Drupa* dry, muricated, cloven. *Nut* of 2 cells.

SPEC. CHAR. Stem without thorns. Leaves heart-shaped; three-ribbed at the base.

SYN. *Xanthium strumarium*. *Linn. Sp. Pl.* 1400. *Sm. Fl. Brit.* 1017. *Huds.* 418. *With.* 283. *Hull ed. 2.* 278. *Fl. Dan. t.* 970.

X. seu *Lappa minor*. *Raii Syn.* 140.

Bardana minor. *Ger. em.* 809.

THIS plant, though it has been found in several places to the south of London, is so rare that we have been forced to content ourselves with garden specimens. It requires a rich, moist, or dunghill, soil, where it produces its inelegant blossoms in August and September, and is chiefly remarkable for the seed-vessels, which appear afterwards in numerous axillary tufts, covered with hooked spines. These attach themselves to the coats of animals, like the heads of the real Burdock, *Arctium*, see *t.* 1228, 2478; which circumstance, added to the broad roughish leaves, three-ribbed at their base, are enough to excuse the application of the same English name to two plants so different in important characters. Yet the *Xanthium* is one of those ambiguous genera, whose male flowers are compound, though not syngenesious, and whose female ones are of so different a structure, as abundantly to justify, and indeed to render indispensable, the preservation of the Linnæan classes *Monoecia* and *Dioecia*.

2544.



May 1852 published by J. P. Leach & Co.



[2212]

AMARANTHUS Blitum.

*Wild Amaranth.**MONOECIA Pentandria.*

GEN. CHAR. Male, *Cal.* of 3 or 5 leaves. *Cor.* none. *Stam.* 3 or 5. Female, *Cal.* of 3 or 5 leaves. *Cor.* none. *Styles* 3. *Capsule* of 1 cell, splitting all round. *Seed* 1.

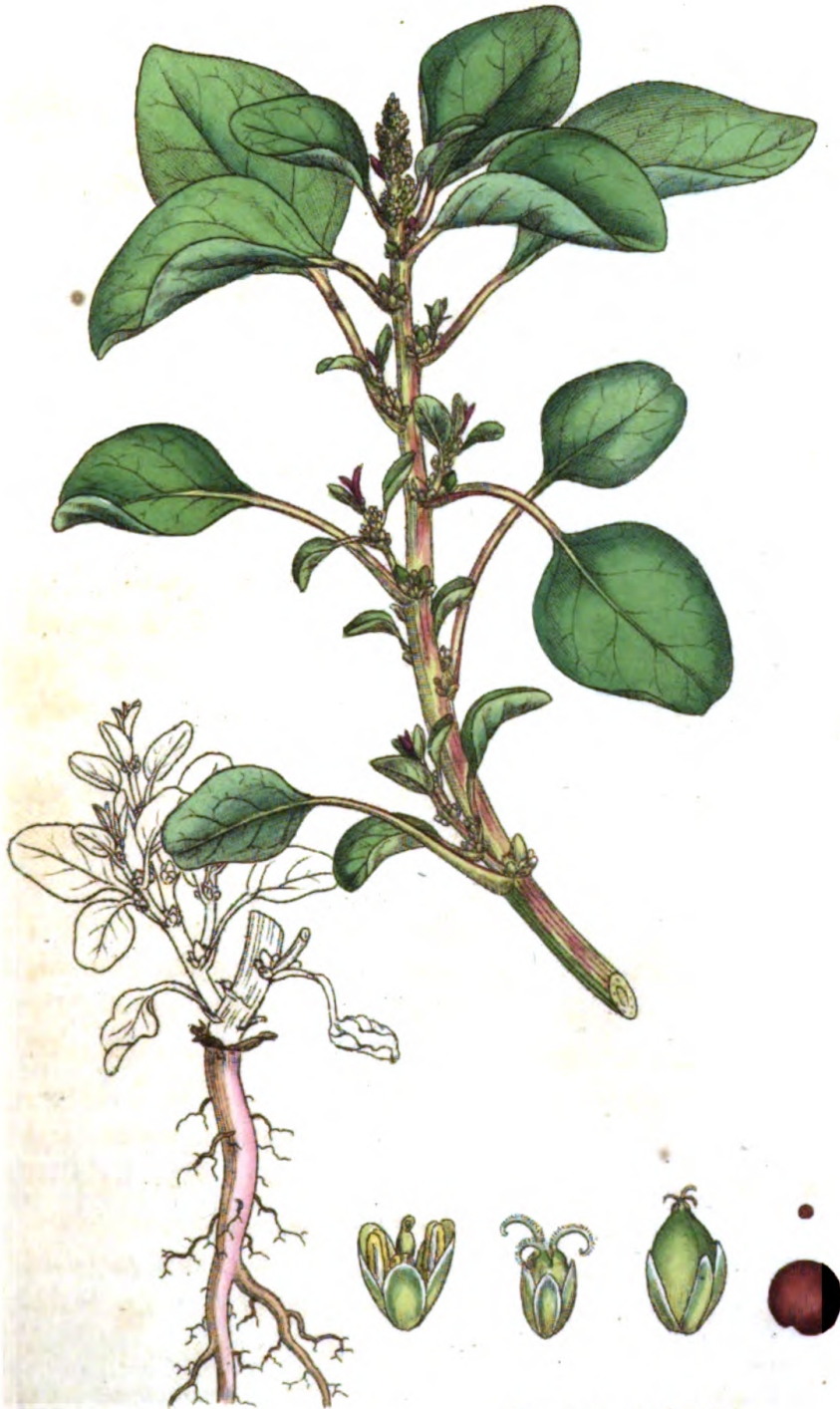
SPEC. CHAR. Flowers three-cleft and triandrous, in small lateral tufts. Leaves ovate. Stem diffuse.

SYN. *Amaranthus Blitum.* *Linn. Sp. Pl.* 1405. *Sm. Fl. Brit.* 1018. *Huds.* 418. *With.* 174. *Hull. ed. 2.* 279. *Relh.* 375.

Blitum rubrum minus. *Dill. in Raii Syn.* 157.

THIS dunghill plant is more frequent about London than elsewhere. Mr. Dickson, to whom we are obliged for our specimen, gathered it in the rich soil of Battersea fields. It is annual, bearing its little inconspicuous blossoms in August, and seeding plentifully in that month and the following.

The habit is rather that of an *Atriplex* than of such of its more specious congeners as decorate our gardens. The stems however, which spread widely and almost horizontally, sometimes assume a purple tinge. The leaves are alternate, on long stalks, ovate, entire, smooth, generally more or less pointed, sometimes abrupt and emarginate, their edges only slightly rough. Clusters axillary, leafy, each bearing a few small tufts of sessile axillary green flowers, whose calyx is of but 3 leaves, with a corresponding number of stamens in the males, and often an abortive pistil. The female flowers have no signs of stamens, but an ovate germen, with 3 recurved downy styles. Capsule membranous, elliptical, crowned with the withered styles, and when ripe bursting all round like that of the Plantain, but containing only 1 lenticular shining seed, which becomes black when arrived at maturity.—Perhaps what are here termed styles, after Linnæus, are rather almost sessile stigmas.



Nicotiana glauca (L.) Jacq. var. *glauca* (L.) Jacq.

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BRYONIA dioica.

*Red-berried Bryony.*MONÆCIA *Syngenesia.*

GEN. CHAR. Male, *Cal.* 5-toothed. *Cor.* 5-cleft. *Filaments* 3. *Antheræ* 5.

Female, *Cal.* 5-toothed. *Cor.* 5-cleft. *Style* 3-cleft. *Berry* inferior, roundish, with many seeds.

SPEC. CHAR. Leaves palmate; rough on both sides with callous points. Male and female flowers on separate plants.

SYN. *Bryonia dioica.* *Witb.* 67. *Sibtb.* 81. *Jacq. Austr.* v. 2. t. 199.

B. alba. *Huds.* 437. *Rehb.* 375. *Raii Syn.* 261.

B. ruderalis. *Salisb. Prodr.* 158.

COMMON every where in hedges and thickets, flowering from May to September.

Root perennial, growing to a very large size, white, acrid, and purgative (see Withering). Stems annual, climbing by means of simple tendrils, angular, rough, not much branched, very long. Leaves alternate, on rough foot-stalks, palmate, with five angular lobes, veiny, rough on both sides with small callous points. Stipulæ none. Flowers in axillary bunches, the males larger, on longer stalks, and on a separate root from the female, contrary to the other species of this genus, which therefore stands in the class *Monæcia* of the Linnæan system. Calyx bell-shaped, with five sharp teeth. Corolla longer, in five elliptical obtuse segments, whitish, veined with green. Stamina consisting of three short filaments hairy in their lower part, two of which bear each of them two antheræ, and the third a solitary one, though Mr. Sowerby has observed all of them to bear double antheræ occasionally. The antheræ are all more or less firmly connected at their base, and bear the pollen on their outer edge. The female flowers are a little elevated on a short stalk above the smooth globular germen, and have no rudiments of stamina. The style is divided into three branches, with cloven downy stigmas. Berry red, of one cell, full of foetid juice, enveloping six elliptical spotted seeds.

Most writers have confounded this with the *Bryonia alba* of Linnæus, called *alba* from the white root, though the berries of that are black. Dillenius, on the authority of Plukenet, mentions it as not rare about Cambridge; but Professor Martyn assures us no one else has found it. *B. dioica* is the Swedish plant, see *Flora Suecica*.



No. 797 Published by J. Van der Linde

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CERATOPHYLLUM demersum.

Common Hornwort.

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* in many divisions. *Cor.* none.
Stam. 16 to 20.

Female. *Cal.* in many divisions. *Cor.* none. *Stigma*
nearly sessile. *Seed* solitary, coated.

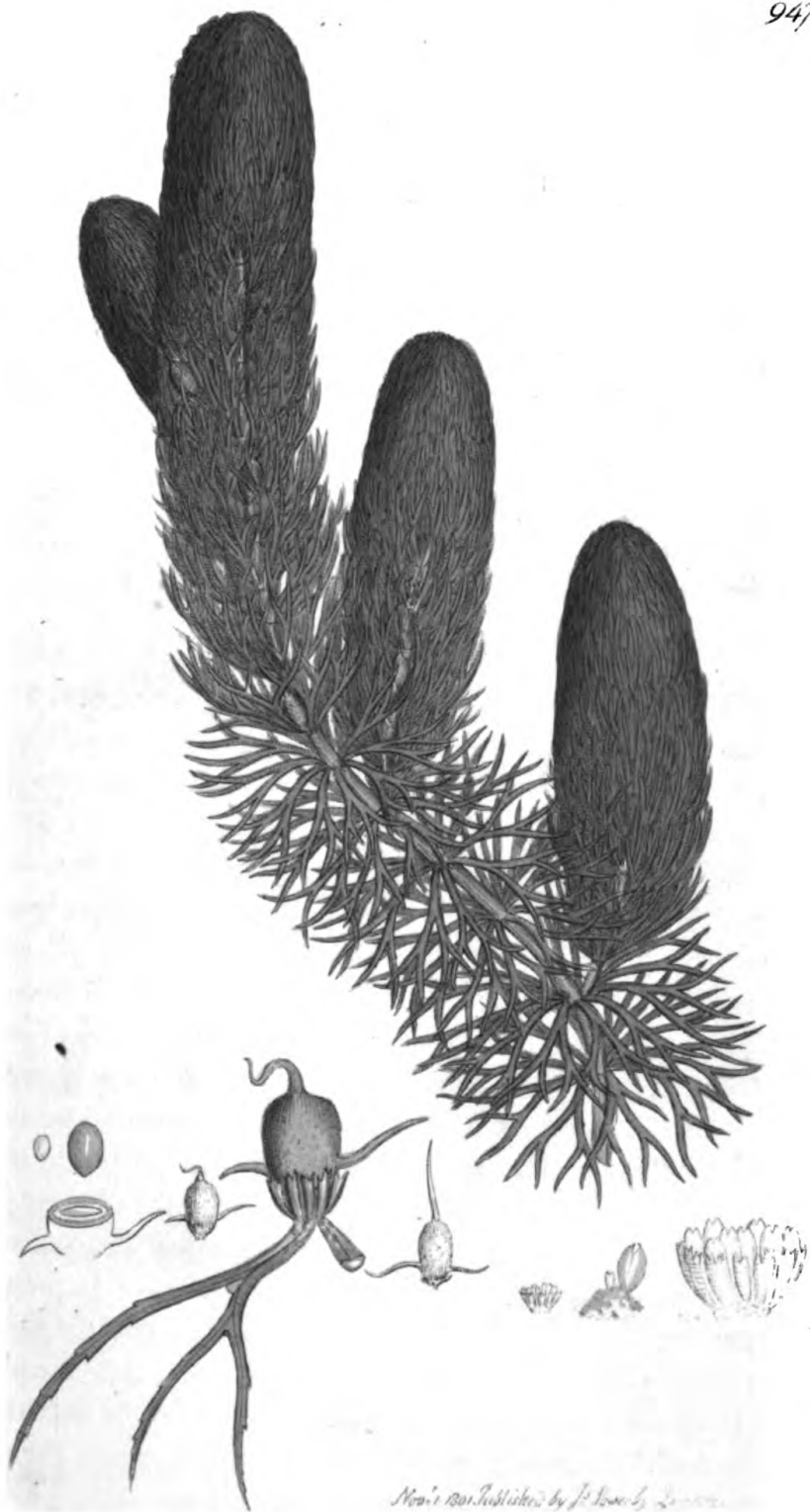
SPEC. CHAR. Fruit armed with three spines.

SYN. *Ceratophyllum demersum.* *Linn. Sp. Pl.* 1409.
Huds. 419, α . *Witb.* 440. *Hull.* 211. *Retz.* 361.
Sibtb. 168.

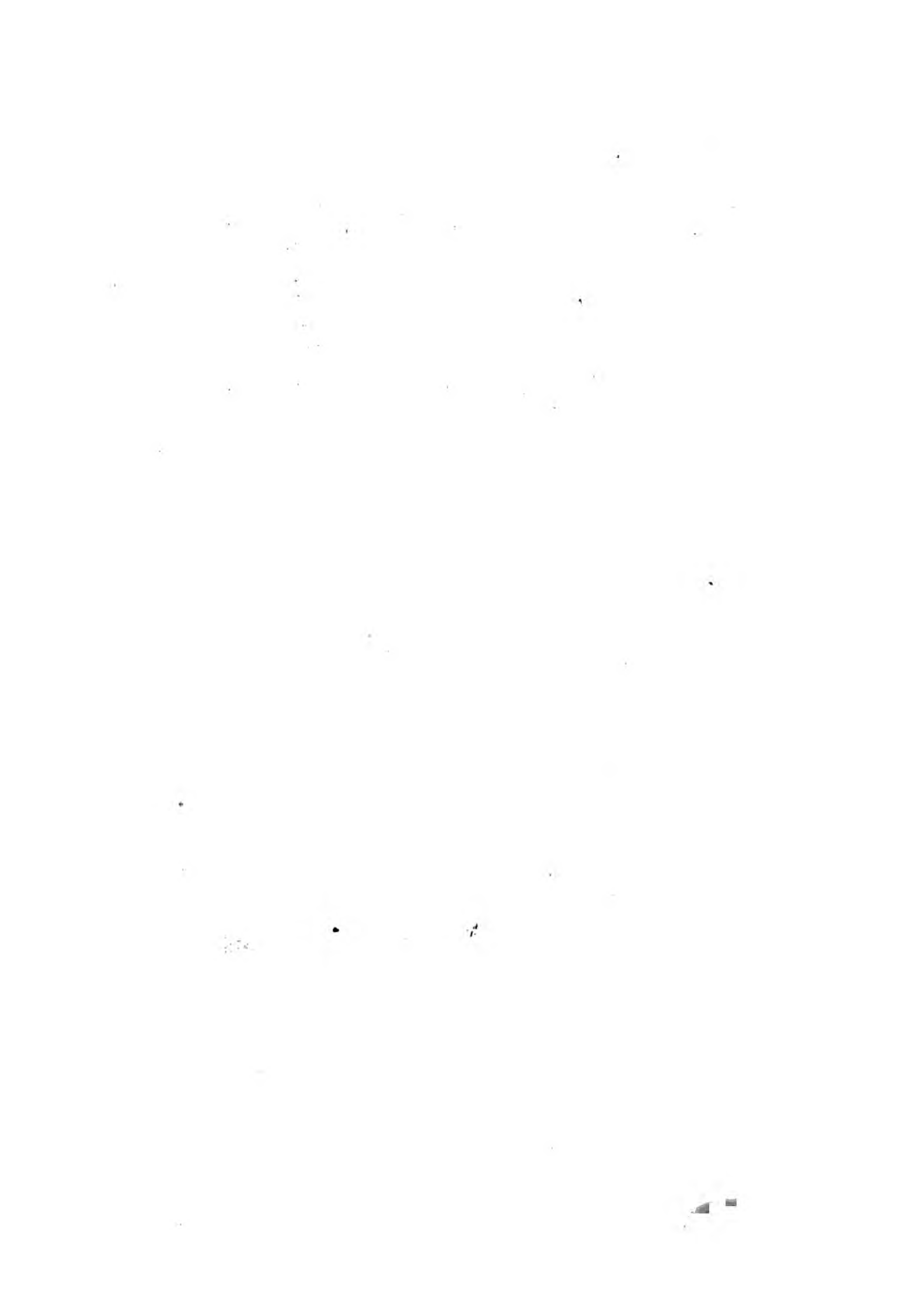
Hydroceratophyllum folio aspero, quatuor cornibus
armato. *Vaill. Mem. de l'Acad. des Sciences (Ger-*
man edition) 299. t. 15. f. 1. *Raii Syn.* 135.

THE diligence of our obliging correspondents the Rev. Mr. Holme and Mr. Pitchford, has this season supplied us with the fructification of *Ceratophyllum demersum*, which enables us now to complete the history of that genus: see v. 10. t. 679.

This species is very common in stagnant waters, ditches and fish-ponds, flowering in September. The root is perennial, Herb floating under water, and agreeing in habit with *C. submersum*, except that the leaves appear to be more distinctly toothed, or rougher, as Vaillant observes, and he mentions their segments as less numerous, which we can scarcely confirm. The flowers are sessile, whorled, each placed in the bosom of a leaf. The true specific character resides in the fruit, which is armed with one long terminal spine, formed of the lengthened style, and two, generally shorter, divaricating lateral ones. To this may be added that we have in every instance found the segments of the calyx toothed at their summits, whereas they are entire in *C. submersum*. This if constant is an excellent distinction. It cannot be denied that the specific names of these plants do not serve to distinguish them, and that *armatum* and *muticum* would be better.



✓



CERATOPHYLLUM submersum.

Unarmed Hornwort.

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* in many divisions. *Cor.* none. *Stam.* 16 to 20.

Female. *Cal.* in many divisions. *Cor.* none. *Stigma* nearly sessile. *Seed* solitary, coated.

SPEC. CHAR. Fruit destitute of spines.

SYN. *Ceratophyllum submersum.* *Linn. Sp. Pl.* 1409. *Witb.* 441. *Hull.* 211. *Fl. Dan. t.* 510.

C. demersum β. *Huds.* 419.

Hydroceratophyllum folio lævi, octo cornibus armato. *Vaill. Mem. de l'Acad. des Sciences (German edition)* 299. t. 15. f. 2. *Dill. in Raii Syn.* 135.

DILLENIIUS mentions his finding this plant, with Mr. Manningham, in ditches by the road from Chichester to Selfey island. Our specimen was gathered near Yarmouth by Mr. D. Turner, flowering in September.

Root perennial. Whole plant floating under water, much branched, slender. Leaves about 8 in a whorl, forked twice or thrice, their segments linear, acute, spreading, sometimes toothed. Flowers axillary, sessile, solitary, male and female on the same plant. Calyx green, in many deep segments. Antheræ large, roundish, gibbous, nearly sessile, toothed at the top, speckled with red. Germen in a separate flower, with a calyx like that of the male, ovate, acute, smooth, beaked, with a sessile simple stigma. Fruit without spines, containing one large, oval, compressed seed.

This species is certainly to be distinguished from the more common *C. demersum* by its fruit being unarmed, not furnished with 3 long divaricating thorns. The leaves being twice or thrice divided, toothed or entire, on which Vaillant founded his distinctions, are variable circumstances, as Haller discovered by specimens sent him from Paris. Linnæus appears to have not well understood the two species. We intended to have published both at the same time, but having sought in vain this season for the fructification of the common one, we would not keep back so little known a plant as that here exhibited.



Ranunculus acris L. - *R. repens* L.

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MYRIOPHYLLUM spicatum.

Spiked Water-Millfoil.

M O N O E C I A Polyandria.

GEN. CHAR. Male. *Cal.* four-leaved. *Petals* four. *Stamina* eight. Female. *Cal.* four-leaved. *Petals* four. *Pistilla* four. *Style* none. *Seeds* four, naked.

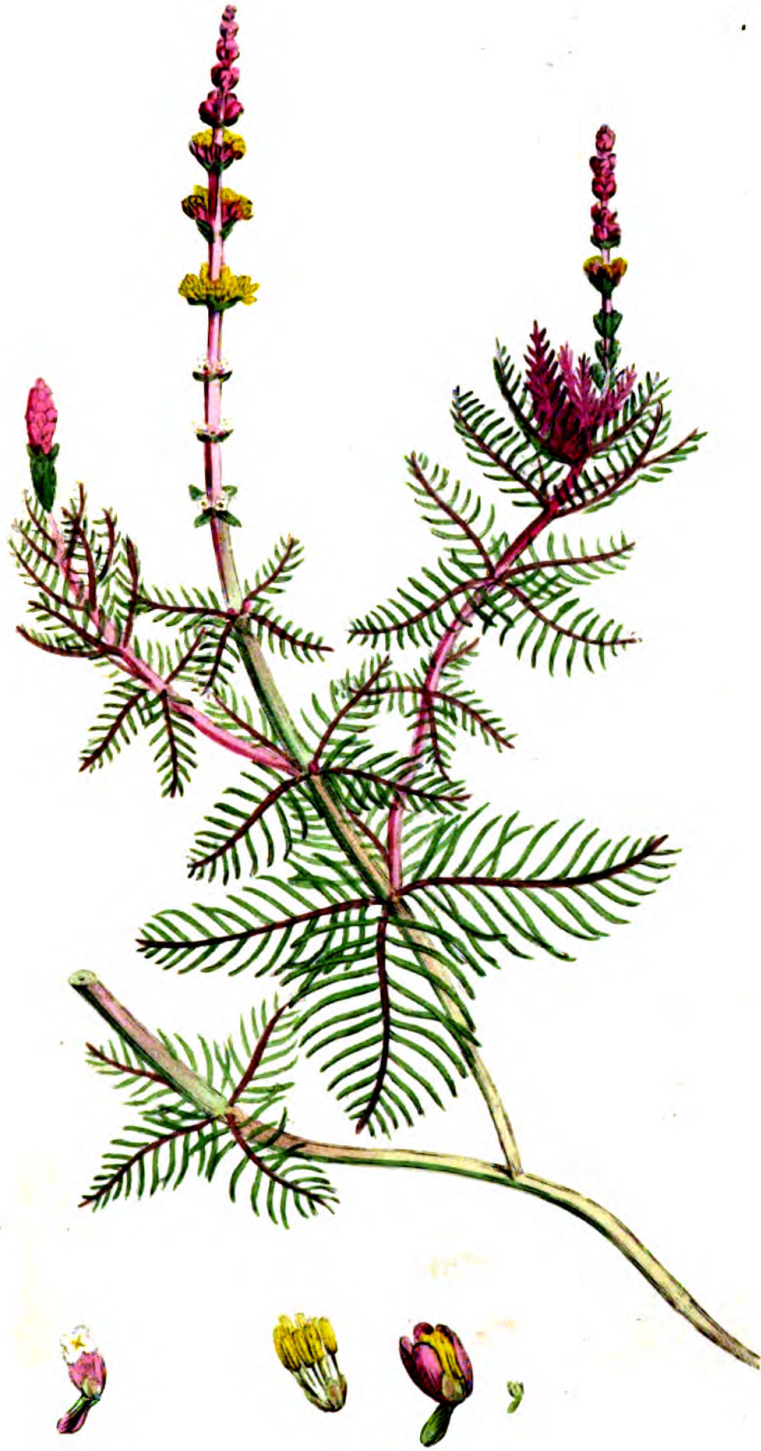
SPEC. CHAR. Male flowers in interrupted naked spikes.

SYN. *Myriophyllum spicatum.* *Linn. Sp. Pl.* 1409. *Huds. Fl. An.* 419. *With. Bot. Arr.* 1077. *Relb. Cant.* 361.

Potamogeton foliis pennatis. *Raii Syn.* 150.

NOT uncommon in ditches and stagnant pools, flowering in July and August, when its numerous red spikes, standing erect above the surface, render it very conspicuous. This specimen came from the peninsula called the Isle of Dogs, facing Greenwich Hospital.

The roots are said to be perennial; they are long and slender. The stems are also very slender in their lower part, round and much branched upwards. Leaves in fours, spreading, very finely pectinated, always immersed in the water. The flowers only rise above the water, that their pollen may not be destroyed by it. Notwithstanding Vaillant, in the year 1719, described this genus as having a corolla, Linnæus always persisted in denying its existence; and our own writers have copied him without any alteration. Yet it is certain we have found four very evident red petals, equal to the stamina and pistillum, and more than twice as long as the calyx. It is no less true that even the specimens of *M. verticillatum*, though not those of *M. spicatum*, in the Linnæan Herbarium, have petals, at least in the male flowers. To account for this contrariety of description, we must suppose that the corolla of these plants is either very caducous, or frequently wanting, an accident well known to happen in many other vegetables. In our plant the calyx is acute and finely ciliated; the petals obtuse, concave and entire.



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MYRIOPHYLLUM verticillatum,
Verticillate Water-Milfoil.

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* 4-leaved. *Pet.* 4. *Stam.* 8.
Female. *Cal.* 4-leaved. *Pet.* 4. *Pist.* 4. *Style* none.
Seeds 4, naked.

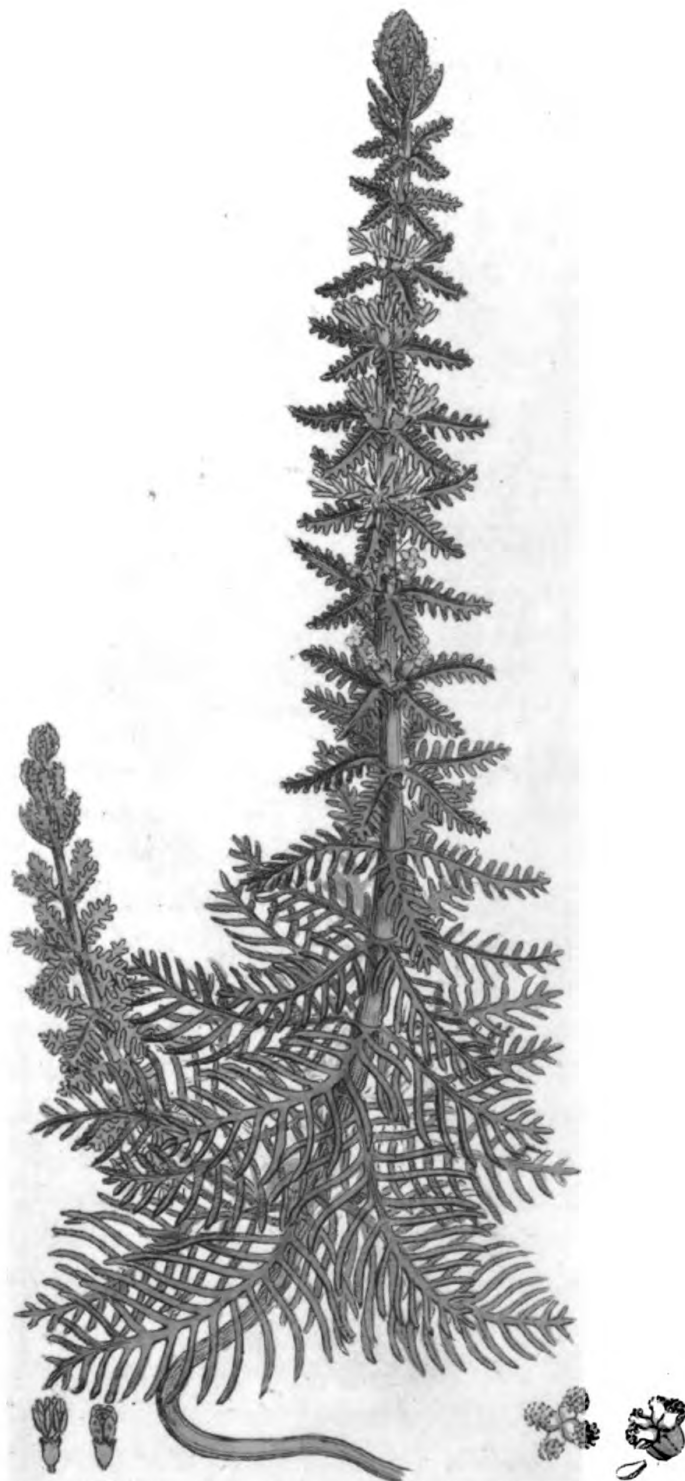
SPEC. CHAR. All the flowers in axillary whorls.

SYN. *Myriophyllum verticillatum.* *Linn. Sp. Pl.*
1410. *Hudf. Fl. An.* 420. *Witb. Bot. Arr.* 1078.
Relb. Cant. 361. *Sibth. Oxon.* 132.

*Pentapterophyllum aquaticum flosculis ad foliorum
nodos.* *Raii Syn.* 316.

WE have given the most common Water Milfoil in *tab.* 83 of this work. That now before us is much more rare. It has been sent from several of the eastern parts of the kingdom. Mr. Crowe discovered it in his ponds at Lakenham, near Norwich, last summer.

The root and lower part of the stem much resemble those of *M. spicatum*, as do such of the leaves as are under water, except that all the leaves grow in fives. The upper part of the stem is however materially different from that species, being raised several inches above the surface, and clothed to the top with leaves, shorter and less finely cut indeed than those which are under water, but verticillated in the same manner. From their axillæ the flowers appear in July, of a pale green, sometimes hermaphrodite, but generally female in the lower whorls, male in the upper. The petals are oval, concave, green, soon falling off, and possibly the female flowers may often want them, though they were evident in our specimen. The 4 stigmata are short, spreading, and finely tufted.



17. *Pteris aquilina* L.

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SAGITTARIA sagittifolia.

Common Arrow-head.

MONOE CIA Polyandria.

GEN. CHAR. Male. *Cal.* three-leaved. *Petals* three. *Stamina* nearly twenty-four. Female. *Cal.* three-leaved. *Petals* three. *Pistilla* many. *Seeds* many, naked.

SPEC. CHAR. Leaves arrow-shaped, acute.

SYN. *Sagittaria sagittifolia.* *Linn. Sp. Pl.* 1410. *Hudf. Fl. An.* 420. *With. Bot. Arr.* 1079. *Relb. Cant.* 362. *Sagitta. Raii Syn.* 258.

ONE of the most beautiful ornaments of our rivers, pools, and ditches throughout England is the Arrow-head. Its flowers are short lived, the petals soon falling off; but there is a succession of them through the months of July and August.

The root is perennial, consisting of a solid bulb or rather *tuber*, deeply fixed in the mud. Stems and footstalks triangular, very spongy, by which they are supported in the water in consequence of the air generated within them; they discharge a white milky juice, an uncommon circumstance in aquatic plants. The female flowers are few in number, and compose one or two of the lowermost whorls on the flowering branch, the rest being male. We have indeed observed three or four pistilla in some of these male flowers; but whether they ever ripen is uncertain.

Those leaves which grow under water are linear, and the plant varies much in size; hence many varieties, and pretended species of old authors. See Dr. Stokes's accurate description in the *Bot. Arr.* above quoted.



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ARUM maculatum.

Cuckow-pint, or Wake Robin.

MONOECIA Polyandria.

GEN. CHAR. *Sheath* of one leaf, rolled together at the bottom. *Spadix* cylindrical, naked above, bearing *stamens* below the middle, and *germens* at the base. *Berries* of 1 cell.

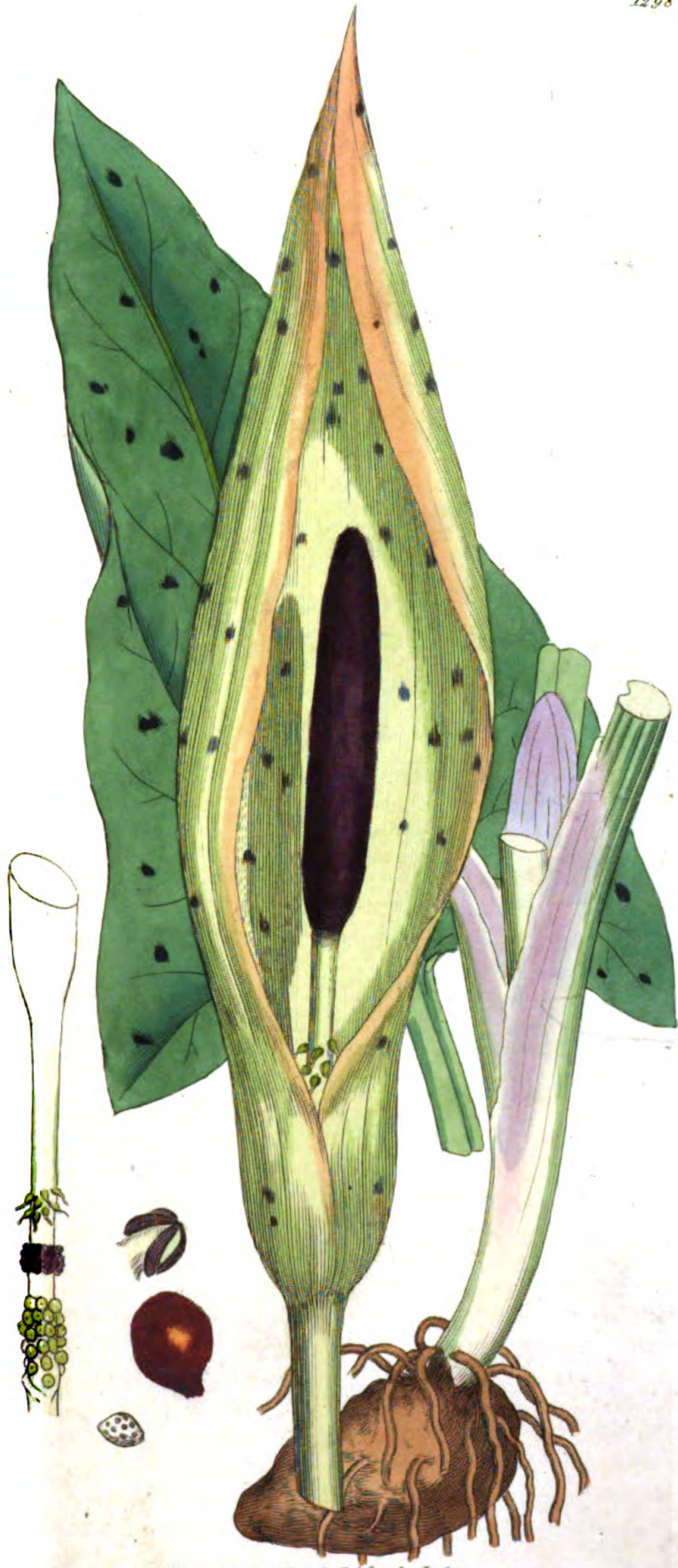
SPEC. CHAR. Stem none. Leaves halberd-shaped, entire. *Spadix* club-shaped, obtuse.

SYN. *Arum maculatum*. *Linn. Sp. Pl.* 1370. *Sm. Fl. Brit.* 1024. *Huds.* 395. *With.* 497. *Hull.* 198. *Relh.* 353. *Sibth.* 177. *Abbot.* 197. *Curt. Lond. fasc. 2. t. 63.* *Woodv. Med. Bot. t. 25.*

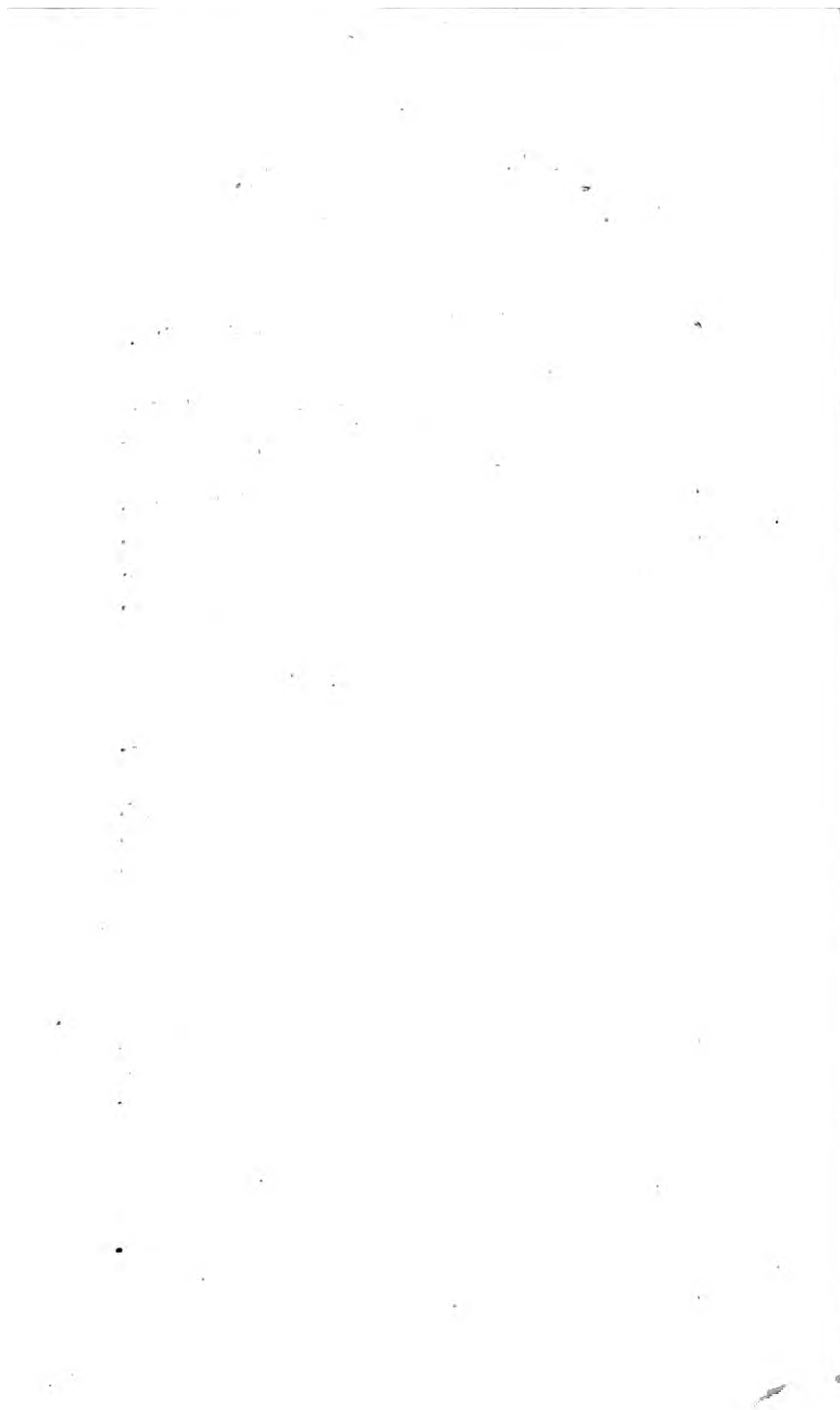
Arum. Raii Syn. 266.

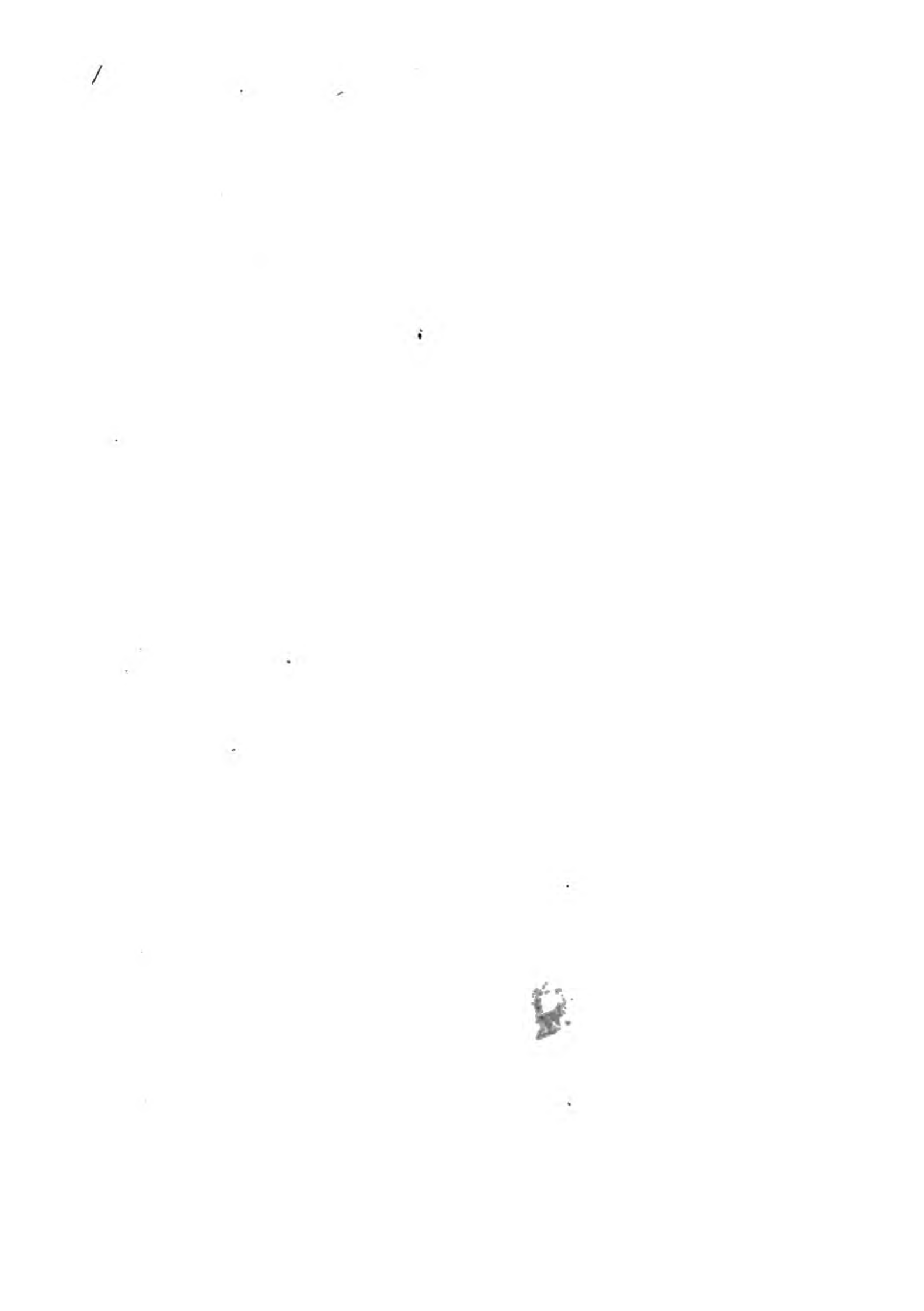
AT the first approach of spring the verdant shining leaves of the *Arum* are seen shooting up abundantly wherever any brush-wood protects them from the tread of men or of cattle. In May the very extraordinary flowers appear. In autumn, after both flowers and leaves have vanished, a spike of scarlet berries, on a simple stalk, are all that remains, and few persons, as Mr. Curtis observes, are aware of the plant to which they owe their origin.

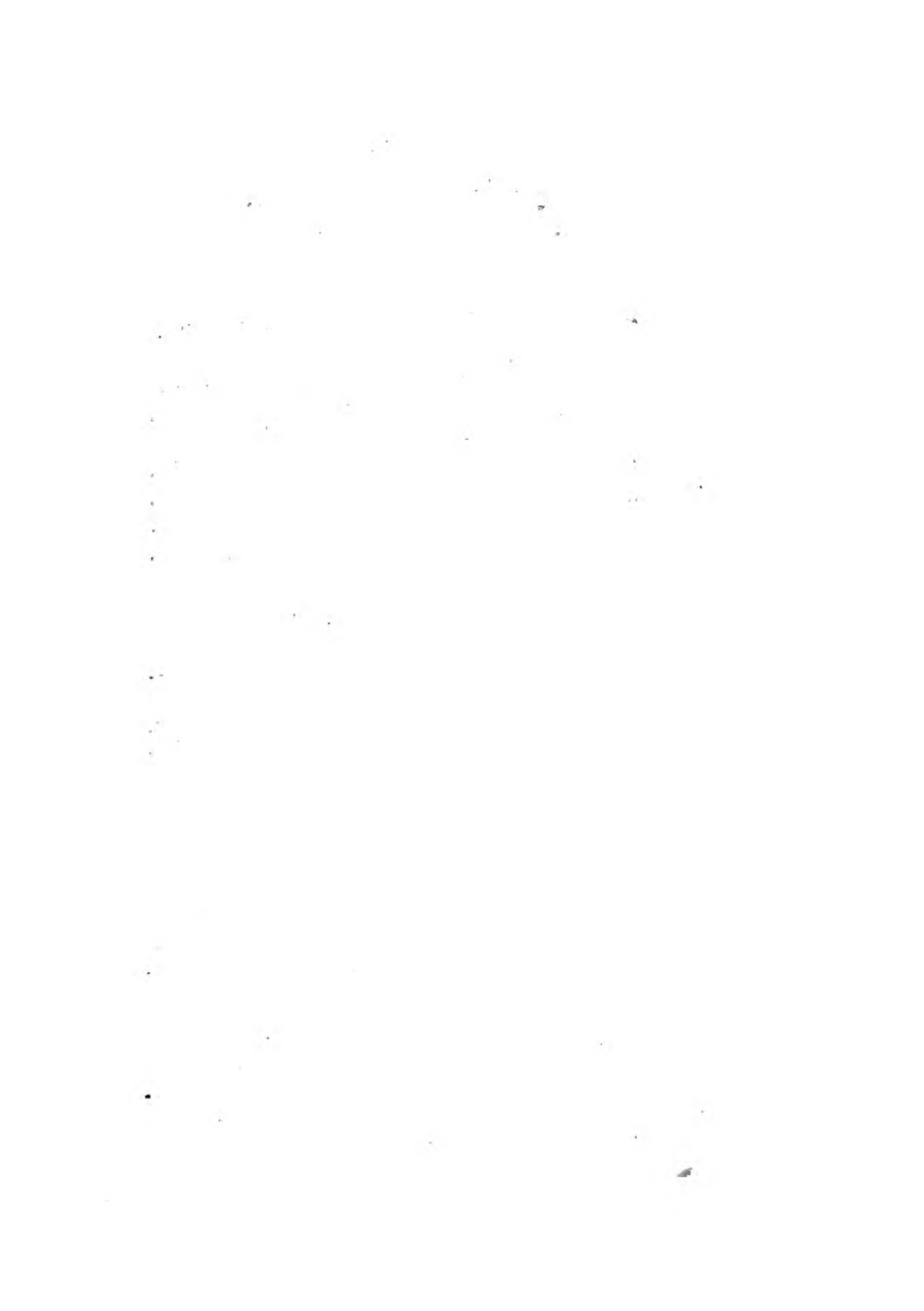
The root is perennial, tuberous, abounding with a mucilage which affords starch, and with a peculiar hot acrimony, lost in drying; so that the powder of *Arum* kept in the shops can only be of use in consequence of what is compounded with it. Leaves radical, erect, halberd-shaped, entire, mostly spotted with black. Stalk radical, simple. Sheath erect, large, acute, hollow, pale green, sometimes spotted, enfolding the *spadix* or pillar of fructification, whose summit is cylindrical, obtuse, purplish, spongy within, supposed to perform the functions of a *corolla*, or something analogous to respiration: below this, after a naked contracted space, are several rows of glands tipped with filaments; then a dense band of purple sessile *antheræ*, below which stand numerous *germens*. This position of the flowers, exactly analogous to that of the most genuine monoecious plants, has induced us to remove this genus to *Monoecia*. No principle can reconcile it to the *Gynandria*.



April 1. 1864. Published by J. Sowerby, London.







POTERIUM Sanguiforba.

Common Burnet.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* 4-cleft. *Stam.* 30 to 40.

Female, *Cal.* 3-leaved. *Cor.* 4-cleft. *Pist.* 1 or 2. *Nut* of 2 cells, clothed with the hardened tube of the corolla.

SPEC. CHAR. Thorns none. Stem somewhat angular.

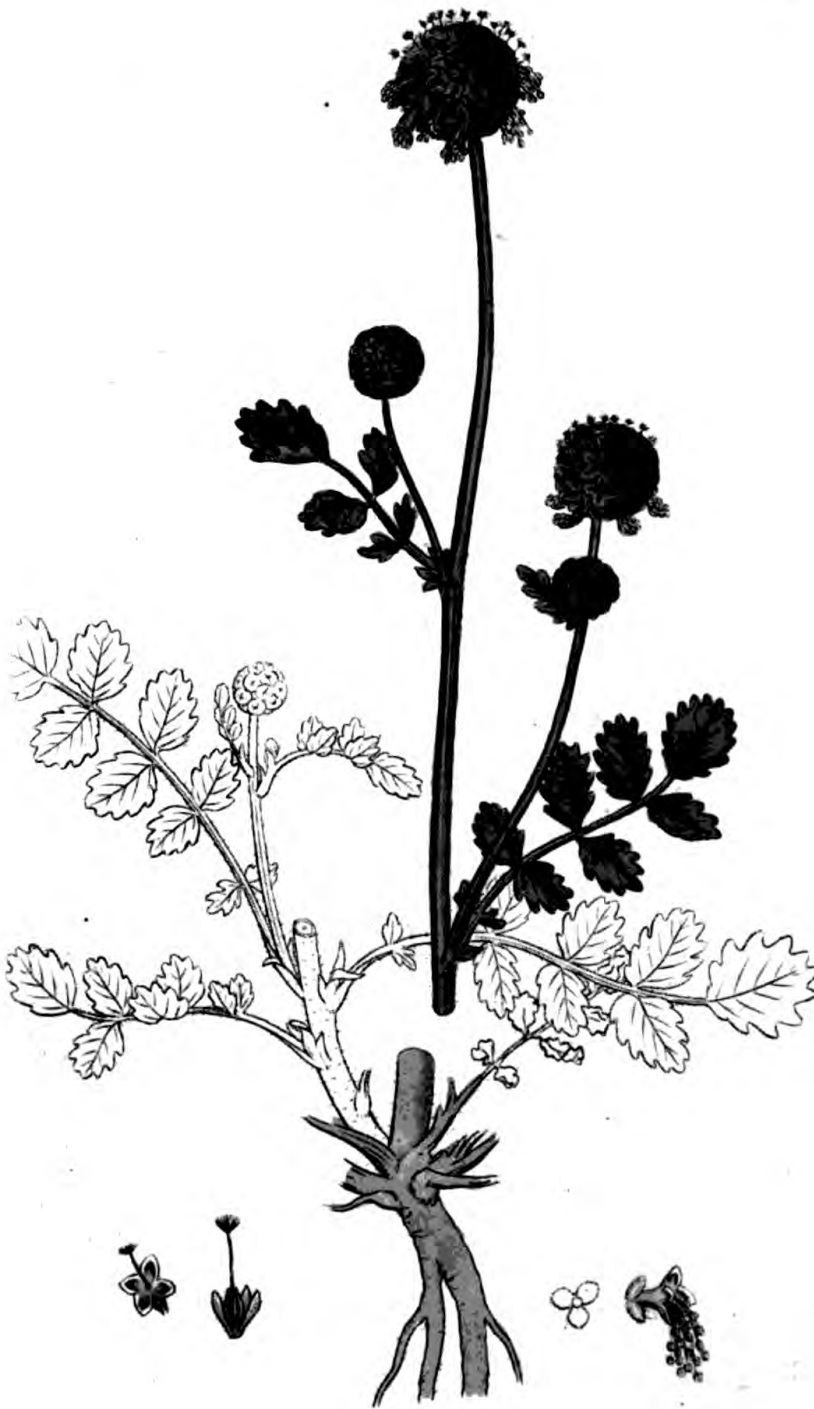
SYN. *Poterium Sanguiforba.* *Linn. Sp. Pl.* 1411. *Huds.* 421. *With.* 493. *Hull.* 212. *Relb.* 362. *Sibth.* 168. *Abbot.* 209. *Curt. Lond. fasc.* 2. t. 64. *Mart. Fl. Rust.* t. 69.

Sanguiforba minor. *Raii Syn.* 203.

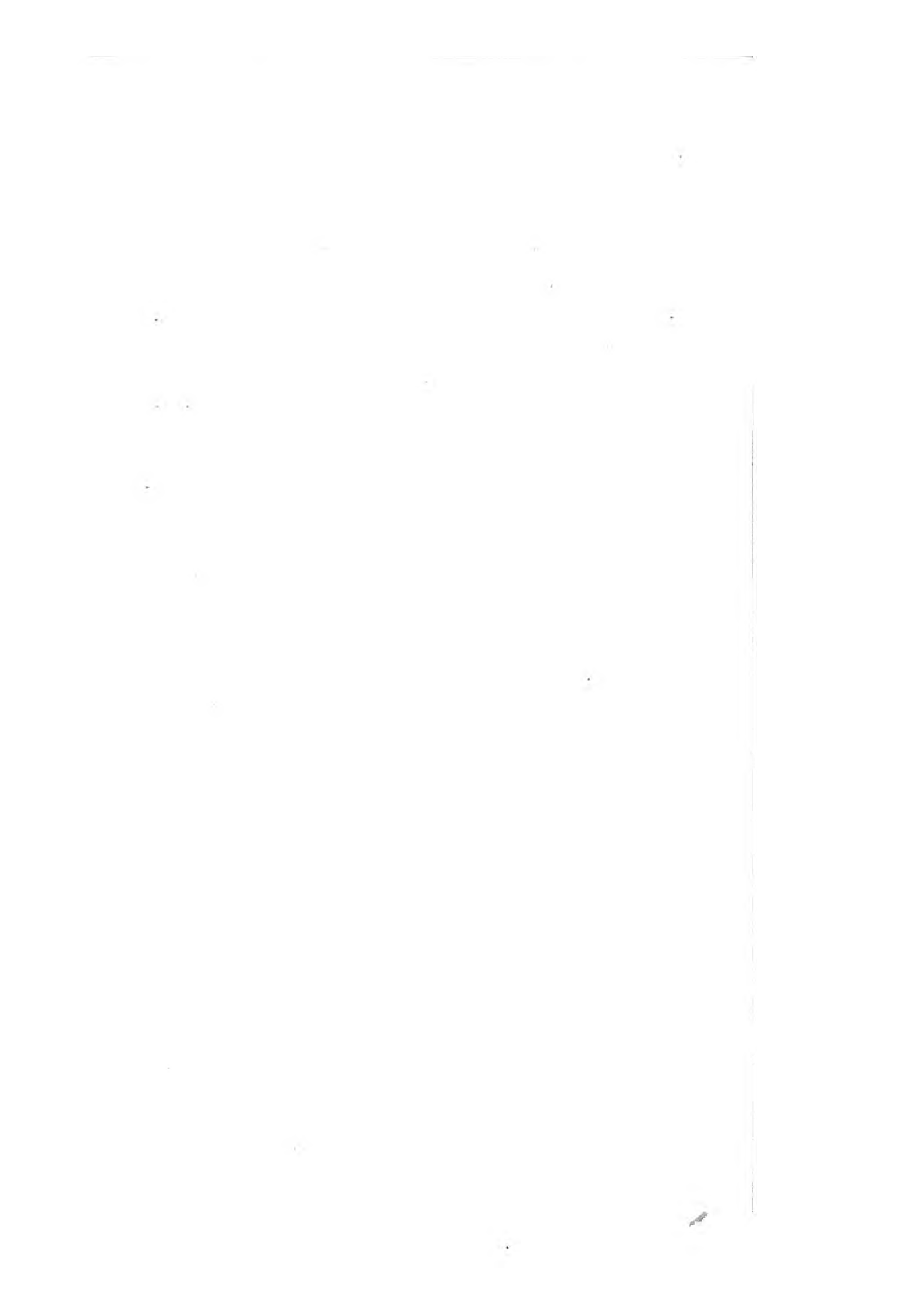
A NATIVE of dry chalk or limestone hills, where it generally grows in great plenty, and flowers in July.

The root is strong, woody and perennial. Stems upright, branched, various in height, more or less angular, leafy, smooth. Leaves pinnated, with round neatly-ferrated leaflets, veiny, smooth but not shining, having a glaucous hue. Flowers in round heads on long upright terminal stalks, the males in the lower part, the females above, which is unusual. Sometimes a few barren hermaphrodite blossoms stand among them. Calyx of 3 (not 4) leaves. Corolla green, tubular, 4-cleft, esteemed by Jussieu and Gærtner as the real calyx, perhaps not improperly, considering the analogy of the Icosandrous plants. Stamina numerous, hanging elegantly like a tassel of purple silk out of the flower, and tipped with yellow antheræ. Germens in the superior flowers, 1 or 2, each of 2 cells, and crowned by a long style with a beautifully-radiated purple stigma. Fruit an angular rugged nut, invested with the tube of the corolla, and containing 2 seeds.

The leaves taste and smell like cucumber, and are used to give that flavour to fallads.



Speltisaccharifera L. var. *indica*



[1342]

Q U E R C U S Robur.

*Common British Oak.**MONOECIA Polyandria.*

GEN. CHAR. Male, *Cal.* bell-shaped, lobed. *Cor.* none. *Stam.* 5—10. Female, *Cal.* bell-shaped, entire, rough. *Cor.* none. *Style* 1. *Stigmas* 3. *Nut* superior, leathery, with 1 seed.

SPEC. CHAR. Leaves deciduous, oblong, wider towards the extremity: their sinuses rather acute: their angles obtuse. Fruit-stalks elongated.

SYN. *Quercus Robur.* *Linn. Sp. Pl.* 1414. *Sm. Fl. Brit.* 1026. *Huds.* 421, α . *Relh.* 378. *Sibth.* 133. *Woodv. Med. Bot. t.* 126. *Mart. Rust. t.* 10.

Q. femina. *With.* 387.

Q. pedunculata. *Hull.* 212. *Abbot.* 210.

Q. latifolia. *Raii Syn.* 440.

IF in the foregoing page we have exhibited the most valuable British wood, with respect to the refinements of art, we here present a plant of infinitely greater importance, the support of our unconquered navy, and the most useful wood we have for all the valuable purposes of civil life.

We have two certain species of Oak in Britain (see *Fl. Brit.*), but this is by far the most common, growing every where in woods and hedges, and its timber is also the best. Those who wish for more particulars on this subject than we have room for, will find ample satisfaction in Martyn's *Flora Rustica*.

Quercus Robur is no less ornamental than useful, growing to a large size, rich and picturesque in its form and foliage. It flowers early in April. The leaves are deciduous, alternate, nearly sessile, somewhat obovate, but deeply sinuated, with obtuse lobes; smooth and shining above; a little glaucous beneath. Male flowers in slender pendulous stalked yellow clusters; female 3 or 4 on a long stalk. The calyx of the latter is entire, scaly, and becomes the well-known cup of the nut or acorn. Few plants nourish more insects.





[1845]

QUERCUS sessiliflora.
Sessile-fruited Oak.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* bell-shaped, lobed. *Cor.* none. *Stam.* 5—10. Female, *Cal.* bell-shaped, entire, rough. *Cor.* none. *Style* 1. *Stigmas* 3. *Nut* superior, leathery, with 1 seed.

SPEC. CHAR. Leaves on footstalks, deciduous, oblong: their sinuses opposite and rather acute. Fruit sessile.

SYN. *Quercus sessiliflora.* *Salisb. Prod.* 392. *Sm. Fl. Brit.* 1026. *Galp.* 80.

Q. Robur. *With.* 387. *Hull.* 212. *Abbot.* 210. *Huds.* 421, β . *Mart. Rust. t.* 11, 12.

Q. latifolia mas, quæ brevi pediculo est. *Raii Syn.* 440.

THE Sessile-fruited Oak, fortunately much less common than the true British Oak, *t.* 1342, as its timber is far less strong and durable, is however found in most parts of England. It is known by its leaves being more regularly and oppositely sinuated, which gives the tree a neater and more chesnut-like aspect, with generally longer footstalks; but especially by the female flowers, and consequently the acorns, being sessile. It is said to be somewhat later in flowering, and the leaves are commonly more permanent. Sometimes they are downy beneath, as in our specimens sent by Mr. W. Borrer and Mr. Lyell from Sussex, which variety is called the Durmast Oak. This abounds in the New Forest, and about Goodwood near Chichester; but however desirable as a variety in home plantations, it is to be rejected from all plantations for valuable purposes, and the true *Q. Robur* should be carefully preferred. Professor Martyn, whose *Flora Rustica* contains a full account of these trees, has only erred in considering the common smooth-leaved state of *Q. sessiliflora* as belonging to the *Robur*, misled, as it seems, by the occasional footstalks of the leaves.



Tab. 1. No. 8. Pub. 1845 by J. Sowerby, London.

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FAGUS Castanea.

*Chestnut-tree.**MONOECIA Polyandria.*

GEN. CHAR. Male, *Cal.* bell-shaped, 5-cleft. *Cor.* none. *Stam.* 5 to 12.

Female, *Cal.* 4-cleft. *Cor.* none. *Styles* 2 or 3, three-cleft. *Seeds* 2 or 3, invested with the leathery prickly calyx.

SPEC. CHAR. Leaves lanceolate, sharply serrated, smooth beneath. Prickles of the fruit compound and entangled.

SYN. *Fagus Castanea.* *Linn. Sp. Pl.* 1416. *Huds.* 422. *With.* 443. *Hull.* 213. *Abbot.* 211.

Castanea. *Raii Syn.* 440.

THE Chestnut is the most stately of all our native trees, for it is certainly a native of the south and western parts of this island; it appears to be also the most long-lived; for a chestnut, known to have been a boundary tree in the time of King John, still continues to bear fruit at Tortworth, Gloucestershire, and we have been favoured with its blossoms by Lady Viscountess Cremorne. Its trunk is 15 feet in diameter. Noble specimens of the chestnut may also be seen in Ipswich park, and even in Kensington gardens.

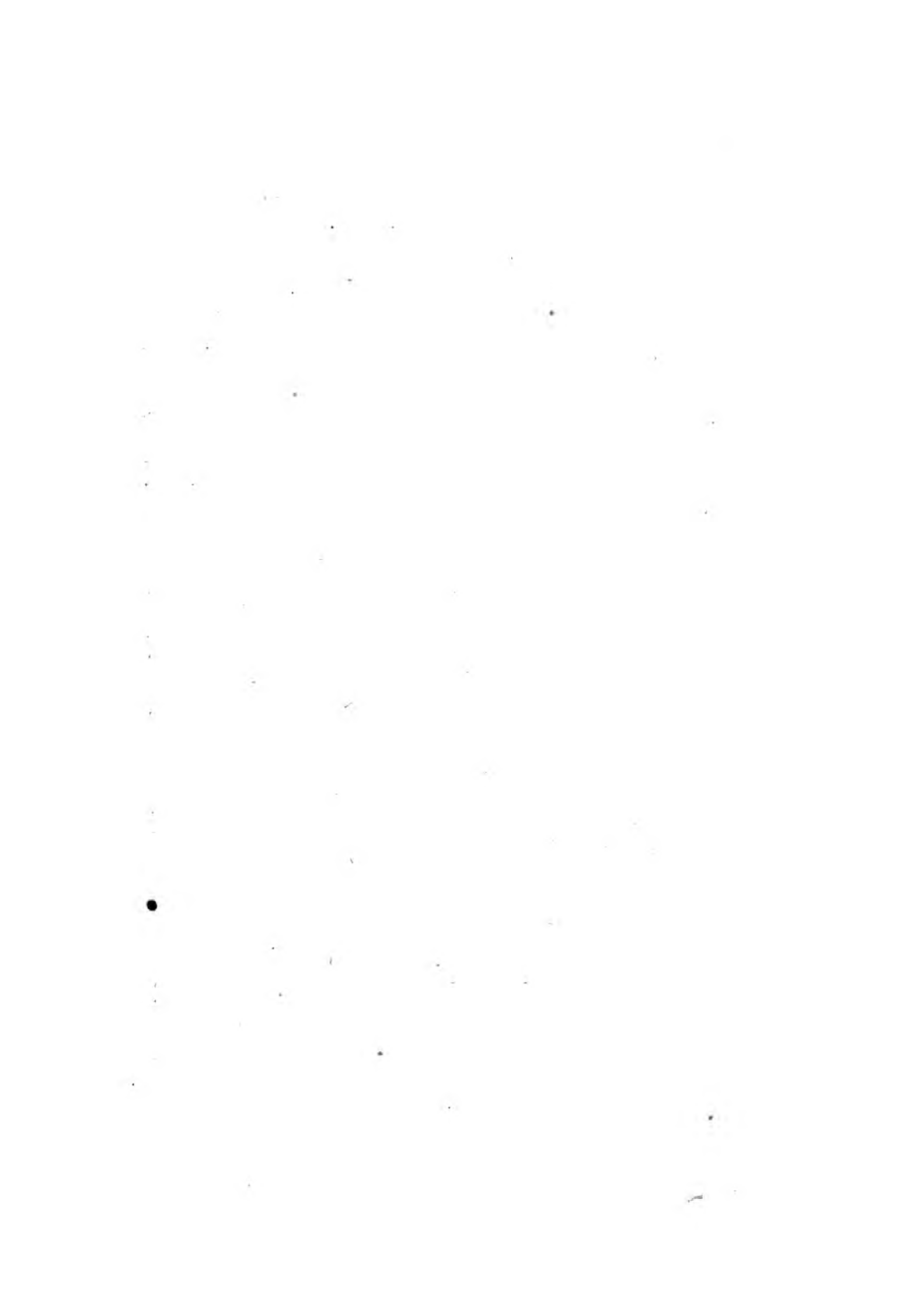
The trunk is known by the deep wide clefts in its bark. The branches spread to a great extent. The foliage, less rich and tufted than that of the oak, is distinguished by a lucid brilliancy, and a peculiar sharpness owing to the long, veiny, and acutely serrated form of the leaves. The flowers appear in May in long pendulous downy spikes, being gathered together in sessile tufts upon a common simple stalk. Stamina capillary, about 12 or more to each calyx, without pistilla, which grow on a different spike, 2 or 3 to each flower. Stigmas 3, awl-shaped, rigid, permanent. Seeds generally 2, invested with the calyx greatly enlarged, and defended with complicated prickles. They ripen in September, and afford a grateful food to several animals as well as to mankind. In Italy and Spain they are much used.



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

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[1846]

F A G U S sylvatica.

Beech-tree.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* bell-shaped, 5-cleft. *Cor.* none. *Stam.* 5—12. Female, *Cal.* 4-cleft. *Cor.* none. *Styles* 2 or 3, 3-cleft. *Nuts* 2 or 3, invested with the leathery prickly calyx.

SPEC. CHAR. Leaves ovate, obsolete serrated. Prickles of the fruit simple.

SYN. *Fagus sylvatica.* *Linn. Sp. Pl.* 1416. *Sm. Fl. Brit.* 1028. *Huds.* 422. *With.* 444. *Hull.* 213. *Sibth.* 152. *Abbot.* 210.

Fagus. Raii Syn. 439.

THIS handsome tree prefers a rich calcareous soil, forming in many parts of England very fine luxuriant woods, peculiarly dry and pleasant to walk in, and usually affording the botanist several interesting plants under their shade, as the *Monotropa*, *Pyrolæ*, and some rare *Orchideæ*. Grasses do not thrive beneath this tree. The wood is hard, but neither tough, nor lasting in the open air. The Beech makes excellent cut hedges for shelter, as the old leaves remain, though faded, through winter. It blossoms in April or May. The nuts, called Beech Mast, are eaten by hogs. Hill the poet had a project for extracting oil from them, which did not answer.

The bark is peculiarly smooth and beautiful. Leaves shining, waved, scarcely serrated, finely fringed. Flowers in little round hairy heads on long stalks, the female ones, not the male, terminal, both abounding with lanceolate bracteas. Stamens from 5 to 12. Calyx of the male with from 5 to 7 lobes, and a barren pistil. Calyx of the fruit ovate, silky, muricated with simple pliant prickles. Germens 2, triangular, crowned with a few scales, and consisting of 3 cells, with rudiments of 2 seeds in each. Only one of these 6 becomes a ripe seed, the rest being abortive and their cells obliterated, as happens in the nuts of *Quercus*, *Cornus* and *Olea*. Gærtner names the scales of the germen a calyx, in which we think him mistaken, but it is a point of some difficulty. His making the Chesnut, *t.* 886, a distinct genus, is one of those glaring errors of a great man, which should teach all naturalists caution, and more especially candour.

1846



Tab. 1. 1846. Published by J. S. Sowerby, London.

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[2032]

CARPINUS Betulus.

*Horn-beam.**MONOECIA Polyandria.*

GEN. CHAR. Male, *Cal.* the scale of a catkin, roundish.
Stam. 8—20. Female, *Cal.* toothed. *Styles* 2.
Nut of 1 cell, closely invested with the angular
 calyx.

SPEC. CHAR. Bracteas of the fruit oblong, serrated,
 flat, with two lateral lobes.

SYN. *Carpinus Betulus.* *Linn. Sp. Pl.* 1416. *Sm. Fl.*
Brit. 1029. *Huds.* 422. *With.* 442. *Hull.* 213.
Relh. 378.

Ostrya ulmo similis, fructu in umbilicis foliaceis. Raii
Syn. 451.

THE Hornbeam thrives on a rather meagre clayey damp soil, such as Epping forest and Finchley common, where it abounds, flowering in April. Linnæus justly observes that the wood is white, very tough, and harder than hawthorn. The tree is of a humble size, densely branched, and bears cutting, qualities which render it fit for garden hedges in the north of Europe. The inner bark dyes yellow.

The surface of the bark is smooth, and pale grey. Leaves alternate, stalked, ovate or somewhat heart-shaped, pointed, doubly serrated, thin, smooth, with very straight parallel veins hairy at their origin. Male catkins from short lateral shoots, pendulous, tawny, composed of large, roundish or ovate, acute, entire, fringed scales, accompanied by several internal, smaller ones. Stamens about 8, 10 or 12; Linnæus says, sometimes 16. Female flowers in a terminal, loose, pendulous, bracted cluster rather than a catkin, each bractea accompanied by several narrow internal deciduous ones. The flowers are in 2 parcels, (2 or 3 in each,) at every bractea. Calyx minute. Styles 2, capillary. As the fruit ripens, the evident nature of the cluster or *racemus* appears. Each flower has its separate stalk. Each bractea is enlarged, 3-cleft, serrated, leafy, veiny and permanent, with a sessile ovate nut at its base, which is tipped with the permanent base of the styles, and closely enveloped with the enlarged angular calyx, whose teeth crown its summit.



Specimens published by J. Sowerby, Lond. n.

✓



CORYLUS Avellana,

Hafel-nut.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* the scale of a catkin, three-cleft. *Cor.* none. *Stam.* 8.

Female, *Cal.* cloven, torn. *Cor.* none. *Styles* 2, *Nut* ovate, smooth, of 1 cell, clothed with the swelling coriaceous calyx.

SPEC. CHAR. *Stipulæ* ovate, obtuse. Leaves roundish, heart-shaped, pointed. Young branches hairy.

SYN. *Corylus Avellana.* *Lim. Sp. Pl.* 1417. *Huds.* 423. *Witb.* 378. *Hull.* 213. *Relb.* 364. *Sibtb.* 127. *Abbot.* 211.

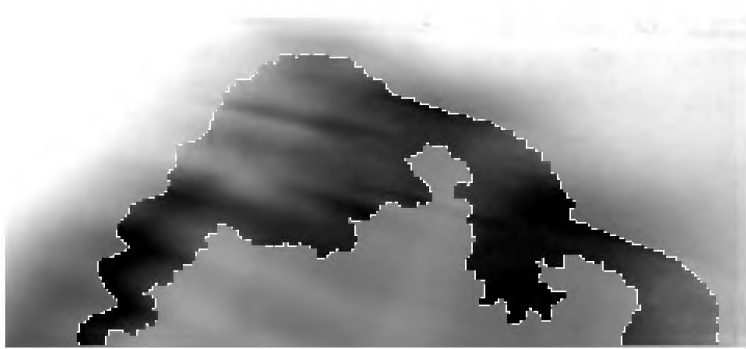
C. sylvestris. *Raii Syn.* 439.

THE common Hafel-nut, so frequent in hedges and copses, is one of the earliest of our spring blossoms. Its male catkins, which had budded in the preceding summer, arrive at full perfection about the middle of March, or rather later. In an April morning they are often seen spangled with dew-drops, and quivering to every breeze, till at length the sun disperses the moisture, shrinks the scales, bursts the antheræ, and the pollen is plentifully scattered. At the same time the beautiful crimson styles may be observed, 12 or 14 in number, peeping from their own proper buds in a neighbouring part of the branches. About September the nuts are ripe. They are distinguished from the garden Filberd, which may possibly be a distinct species, by the calyx being much shorter than the ripe nut.

The young branches are clothed with reddish hairs. Leaves produced after the flowers, downy, heart-shaped at the base, doubly serrated, veiny. The catkins fall off entire. The stamina are about 8 to every scale.



Urtica dioica L.



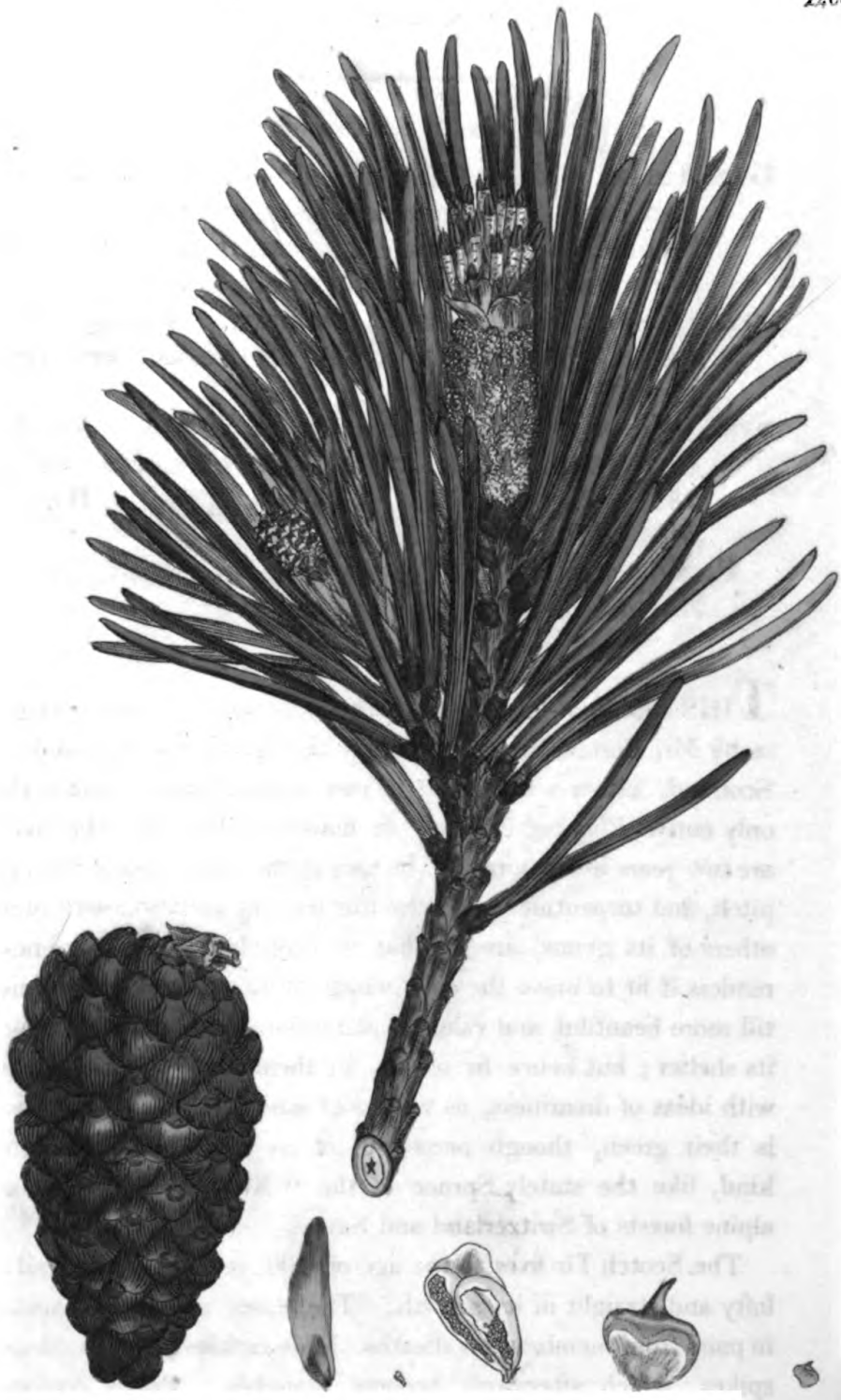
PINUS sylvestris.

*Scotch Fir.**MONOECIA Monadelphia.*

- GEN. CHAR. Male, *Cal.* the scale of a catkin, peltate.
Cor. none. *Anthers* sessile upon the scale.
 Female, *Cal.* the scale of a catkin, two-flowered.
Cor. none. *Nut* winged, of one cell.
- SPEC. CHAR. Leaves rigid, in pairs. Young cones stalked, recurved. Crest of the anthers very small.
- SYN. *Pinus sylvestris.* *Linn. Sp. Pl.* 1418. *Sm. Fl. Brit.* 1031. *Huds.* 423, *With.* 615. *Hull. ed.* 2. 282. *Lightf.* 587. *Ger. em.* 1356. *Woodv. Med. Bot. t.* 207. *Lamb. Pin. 1. t.* 1.
- P. sylvestris,* foliis brevibus glaucis, conis parvis albescentibus. *Raii Syn.* 442.

THIS well-known tree, of which a wild specimen was brought us by Mr. Borrer, grows plentifully throughout the highlands of Scotland, either scattered or in vast natural forests, and is the only native *Pinus* of Britain. It flowers in May, but the cones are two years in ripening. The uses of the wood, and of the tar, pitch, and turpentine yielded by this tree, in common with most others of its genus, are familiar to every body. Its hardiness renders it fit to brave the cold winds of many bleak situations, till more beautiful and valuable plantations can spring up under its shelter; but hence fir woods, in themselves, are associated with ideas of dreariness, as well as of sandy sterility of soil; nor is their green, though perpetual, of an agreeable or cheerful kind, like the stately Spruce of the "Norwegian hills," and alpine forests of Switzerland and Savoy.

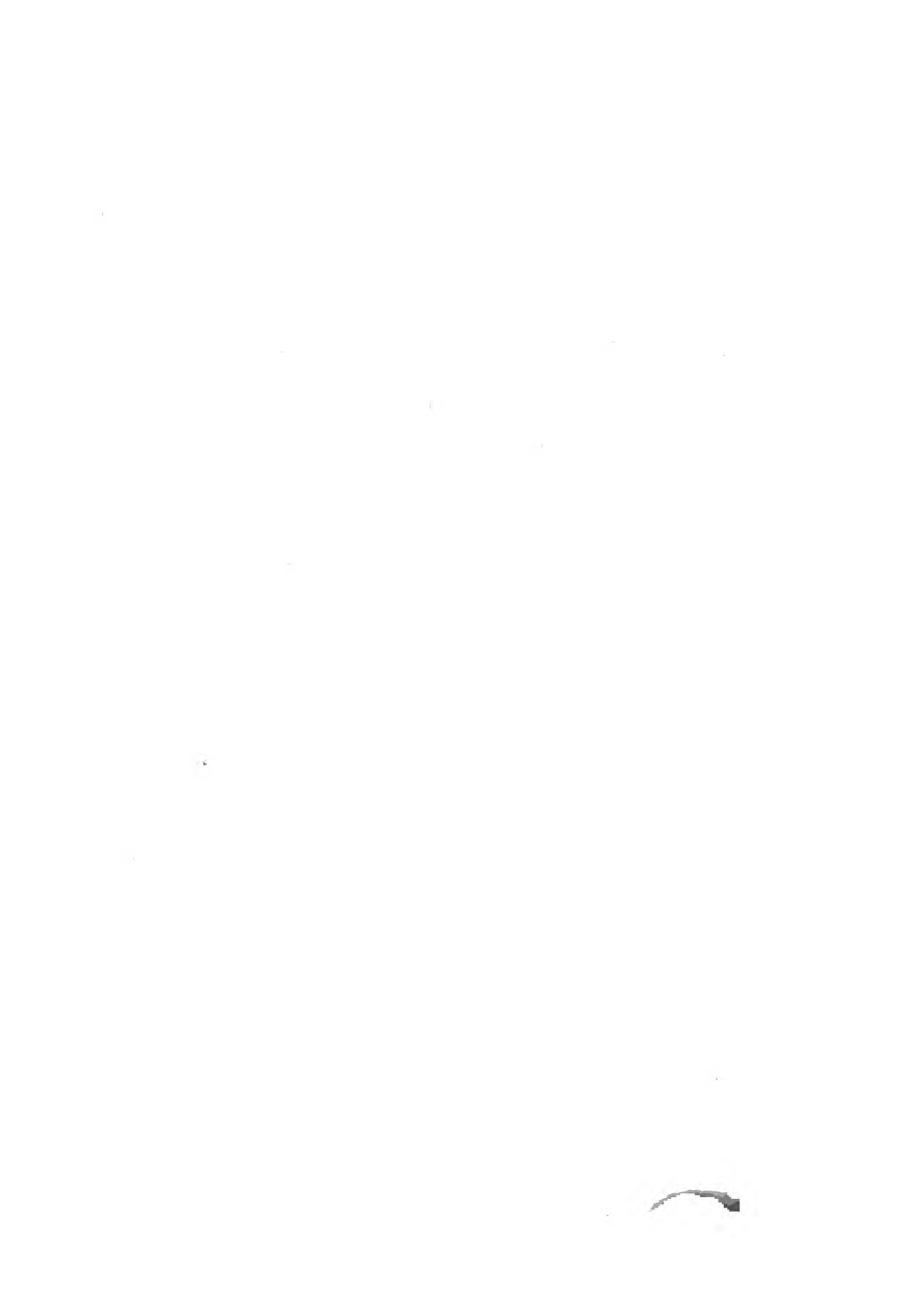
The Scotch Fir lives to the age of 400 years or more, and is lofty and straight in its growth. The leaves are linear, acute, in pairs from membranous sheaths. Male catkins yellow, in dense spikes, which afterwards become branches. Pollen copious. Cones ovate, tessellated, tubercled, but not spinous.



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