XVI. *Observations on the British Species of Carex.* By the Rev. Samuel Goodenough, L.L.D. F. R. S. Tr. L. S.

Read April 3, 1792.

THE plants arranged under the genus of *Carex*, seem always to have laboured under some degree of obscurity and difficulty. They were generally ranked, by the older botanists, under a very unmeaning name, *Cyperoides*; and having no striking virtues to recommend them, they were spoken of in an indistinct method, and were in a manner passed over as things unworthy of laborious investigation. In the third edition of Ray's Synopsis, *Cyperoides*, including *Cyperus*, answers to our genus *Carex*; the thing likened including and referring to itself for its original! The general character is, *Caules triquetri in omnibus, & in plerisque etiam femina*: a description very indefinite. Morison and Scheuchzer, to whose consummate accuracy his Agrostographia will be a monumentum ære perennius, observe, with respect to our genus of *Carex*, nearly the same method as Ray. I say nothing of the more ancient writers, especially Gerard and Parkinson; for their works, being in English, are not so universally known. All these authors pursued in fact nearly the same plan; and thus some species of *Scirpus*, *Schæenus* and *Cyperus*, and all the species of *Carex* (so vague was their generic character) were comprised under one name, *Cyperoides*, and formed one jarring family.

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In the beginning of the 18th century, *Ruppius*, *Monti*, *Jussieu*, and *Micheli*, divided the *Carices* of *Linnaeus* into two families. *Micheli*, who deserves most consideration, divides them into *Cyperoides* and *Carex*. Under the former division he classes the Linnean species which have *spicas sexu distinctas*, and under the latter those which have *spicas androgynas*: but, in doing this, he ranks *Carex dioica* under the former. I shall have occasion presently to speak of this division more particularly.

Tournefort, intent upon the corolla, gave a decisive character taken from that interesting feature. He speaks however only of twenty-three species, of which almost all are of the order *Sexu distinctæ*. But even in this arrangement he offends against his own generic character: for he describes his genus (which he styles *Cyperoides*) as having its terminal spike barren, and the inferior ones fertile; a description by no means according with the androgynous species.

Linnaeus thought it needless to extend his generic character to any farther degree of minuteness than what the nature of the flowers called for. The situation of the flowers was disregarded by him: it was sufficient for his purpose that the presence of male and female flowers determined their place in the class *Monœcia* of his system, and the parts of fructification determined the genus *Carex*.

Whether *Linnaeus*'s generic character be sufficiently exact, and whether, from the multitude of modern discoveries, it may not be advisable to restore the old division into two families, may possibly admit of some doubt. *Linnaeus* describes the Nectarium (by which he means the capsule or tunica enveloping the seed, for he alludes indifferently to all these three terms) as *inflatum tridentatum*, and the stigma as trifid. Supposing *tridentatum* to be an error of the press for *bidentatum*, still even then a large portion of the family will
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not accord with either of these characters. Perhaps the fault lies in including those with androgynous spikes, and those whose spikes are distinct in point of sex, in one family. But this carries me back to *Michelius*, one of the first who made a separation between them.

It is true that *Michelius*, by dividing and subdividing his families into so many orders, rather obscured the subject by his laborious particularity. But still his primary division into two families merits some consideration; for it seems a natural one. For, independent of the situation of the different flowers, all the androgynous species, except *C. pauciflora*, have their stigma bifid; and the rest, except three or four, trifid. Perhaps *Linnaeus*, though aware of this circumstance, had not carefully attended to it in forming his generic character. Be that as it will, this constant difference of the principal part of fructification, together with their outward habit (certainly very discordant), might have warranted their being retained as distinct genera; for the most ingenious artificial system appears to most advantage when most consonant with nature. What affinity is there in appearance between *C. dioica* and *riparia*, *C. vulpina* and *capillaris*? Nothing can be more dissimilar in habit, in nature, and œconomy. We all allow how impolitic it is to multiply genera without a sufficient cause. Equally impolitic is it to overload any genus with numerous species, which would naturally divide themselves into distinct families. Perspicuity is the end of system; and that is best attained by avoiding each extreme. I have not, however, ventured to separate them into two families. The British species, though numerous, do not absolutely require it: but I can easily conceive, that when all the known species of the world are brought together, some such division will contribute very much to the neatness of the system, and ease of the student. I throw out these hints, not presuming to direct, but wishing rather to excite
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and collect the thoughts of such as may be willing to turn their minds to this subject.

But however it is not so much to my present purpose, to enter very minutely into the generic character; that is a point to be reserved for future consideration: I am rather anxious to define the species of this family. When I first began to study them, I met with more difficulties than I had reason to apprehend. In the adoption of synonyms, *Linnaeus* himself has made some blunders of consequence: Mr. *Hudson's* *C. spicata*, is the *C. muricata* of *Linnaeus*—but *Linnaeus*, in quoting his synonyms, selects some expressive of Mr. *Hudson's* *spicata*, and others of his *muricata*: so also, thinking them to be the same, he quotes *Morison's* figure of *recurva* to his *cæspitosa*. I could mention more instances of the same kind.

Again, there has always prevailed an idea of the many varieties of the several species; a supposition by no means well founded.—Thus *Linnaeus* makes *sylvatica*, *vesicaria* and *ampullacea* varieties of each other. Thus also, *riparia*, *paludosa*, and *acuta*, have most unaccountably, by many authors, been looked upon as partakers of the same origin. The accurate Mr. *Curtis* first noted their respective limits.

As *Linnaeus*, not always having the whole plant before him, could not form any discriminating character from the root, so few of his followers have done it; whereas, in many of the species, it is of importance to know the root. Thus, when we know that *dioica* has a creeping root, and *pulicaris* a fibrous one, we are at once enabled to distinguish them in any stage of growth: their spikes at their first formation are often similar.

But the greatest perplexity to be met with arises from the *Linnean* division into spikes sessile and pedunculated: cultivation, or, in a natural state, a casual luxuriant growth, does away the whole distinction. Thus *C. distans* always has its spikes on long footstalks;

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but these being embraced by the petiolus or vagina of the foliaceous bractæ, gave occasion to *Linnaeus* to style them subseffile. But the least injury to the vagina would discover the footstalk, and perplex the young student beyond description. This latter difficulty principally induced me to have recourse to a new mark of discrimination, which appeared to be less liable to variety than most others: I mean the proportion which the petiolus or vagina of the foliaceous bractea, in the orders *spicis sexu distinctis*, bears to the footstalk on which the spike is supported. This mark will always hold out something worthy of observation; for if the footstalk be unusually long or short, in consequence of the luxuriance or barrenness of the soil, the vagina will be found to be affected somewhat in the same proportion.

In general, the proportion between the parts in the animal and vegetable kingdoms is less liable to variation than most other circumstances. Observing, therefore, how constant the length of the vagina was to that of the footstalk, I determined to take my leading character from it. Having begun to do so in some instances, I at length became compelled to adopt it in all; *idem enim in omnibus notandum est*. And I beg leave to offer this principally as my apology for constructing new descriptions throughout. Spikes being said to be seffile which were not so, called necessarily for new descriptions: this led on to a change in the description of their affinities, and thence onward, so that there was no stopping.

It is not to be expected, neither is it necessary, or indeed possible, in the short space of a specific description, to comprehend all the niceties of discrimination which a more leisure survey will point out; and yet many of these must strike every observer, and must be very serviceable to him in the pursuit of his enquiries. I will beg leave to suggest a few of them. Although some *Carices* are said to have one male spike only, and others more than one, yet some of
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the former order will be found most frequently to have two, as is the case particularly with *stricta* and *filiformis*.

The shape of the spikes is worth attending to. Observing *C. pilulifera* with round female spikes, we in most stages of growth can separate it from *C. præcox*: should any doubt be still entertained, as may happen in their infancy, the thin male spike of *pilulifera* will make an appearance quite different from the obovate or rather club-shaped one of *præcox*. The filiform slender female spikes of *C. acuta* make us wonder how it ever could be classed with the corpulency of *C. riparia*.

The shape of the glumæ, or, as they are often called, squamæ, affords, in many instances, a very characteristic mark, in none more so than in *C. rigida*.

The pendulosity of the spikes is also an interesting circumstance. However, in the judging of this circumstance, the state of the fructification must be considered: for many whose spikes are described to be pendulous, betray that circumstance only in the advanced state of fructification, as *C. recurva*: some only in the early and not in the riper age, as is frequently the case with *C. acuta*.

As *Linnaeus* founded his system upon the parts of fructification, it may seem strange that he was not more particular in noting the variation of the number of the stigmata. Perhaps his describing from dried and imperfect specimens occasionally prevented him from examining into this circumstance. Thus, *C. rigida* is readily discriminated from *præcox* by its having only two stigmata. The digynous appearance in the flowers of *acuta*, is its primary mark of separation from *C. paludosa*. I must observe, when *Linnaeus* described his *cæspitosa* in the *Fl. Suecica*, he referred to a plant in *Scheuchzer*, which had three stigmata. He excluded this synonym afterwards in his second edition of *Sp. Plant*.

In all plants the fruit is a leading circumstance. The capsule,

or, as it is often called, but I doubt whether with propriety, the nectarium, must be often called in to aid the description of *Carices*. The capsule is oblong, as in *pallefcens*; round, as in *pilulifera*; rostrated, as in *Pseudo-Cyperus*; smooth, as in *panicea*; downy, as in *præcox*; villous, as in *filiformis* and *hirta*; divided at the summit, as in *muricata*; entire, as in *stellulata*.

In a few species the foliaceous bractæ have little auricles at each side of their base, as is particularly observable in *stricta*, *cæspitosa*, *rigida*, and *acuta*. The length of the foliaceous bractæ is inconstant, and therefore must be admitted into descriptions with extreme caution. *C. arenaria* of Linnæus, and *C. divisa* of Mr. Hudson, are described by *spicis foliolo longiori instructis*; whereas nothing is more common than to find them with exceedingly short bractæ, and sometimes with none at all.

But above all modes whereby the distinction of plants is best discovered, cultivation and attention to the progress of their growth is the most useful. Beyond almost all other plants, our patience is required in the investigation of the grasses. When *Carices* are found in unnatural situations, it is impossible almost to be aware of the appearances which they will put on. On the high ground above Virginia water, I found *C. ovalis* with one male oblong spike, neither could I learn its name till I had cultivated it. *C. præcox*, on Hanwell heath, appeared with only one terminal female spike. These are irregularities which cultivation alone can detect. A good botanist will not be satisfied till he can ascertain his plants in all their stages. It is not less useful than satisfactory to know the grasses, even independent of their flowers: *C. limosa* not unfrequently produces no flowers; in this state, it has the singular property of throwing out long, branching, trailing shoots, which may be made to produce new plants by layers, or even by cuttings. Many more niceties of the same kind might be mentioned, but I forbear lest I should seem tedious.

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Of the uses of this tribe of plants all authors almost are silent. The older botanists declare themselves ignorant of any good to be derived from them: perhaps they looked only to the fattening of their cattle; but here it must be allowed,

Nec bos pinguescat male carice pastus acutâ.

Linnaeus, in his *Fl. Lapon.* adds an entertaining note to his description of *C. sylvatica*, wherein he tells us, that the Laplanders comb and dress this grass, as we do flax: when it is thus made soft, they stuff their gloves and shoes with it, to defend them from the piercing cold of their severe winters: so effectually are they secured by this covering, that chilblains are not known amongst them. In summer also the use of the same material is retained. The Laplander, unused to every species of luxury, having his shoes made of skins, not leather, is defended by this means from the bruises which he would receive in his travels, as he tends his flocks; and moreover, escapes the inconvenience of the heat—*sudorem enim pedum arcet*. It is not this grass only, but a variety of grasses are worked up in this manner. *Linnaeus* however observed that they were chiefly *Carices*, and of the *Carices* chiefly the *C. sylvatica*.

Mr. *Lightfoot*, speaking of *C. riparia*, which he calls *acuta*, observes, that “in Italy its leaves are used by the glass-makers to bind their wine flasks, by the chair-makers to bottom chairs, and by the coopers to place between the junctures of the timber in the heads of their casks, in the same manner as the leaves of the *Typha* are used in the same country, and the stalks of the *Scirpus lacustris* in England.” *Fl. Scot.* p. 566.

The young foliage and the flower-stalks of those *Carices* which grow on heaths, and where there is an abundance of cattle, are observed to be eaten off; of course they are not wholly without use. All *Carices* affect a very moist situation, and of course, in all
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probability, will yield an early foliage, and in times of drought a sure one. There may be countries where this circumstance may be worthy of consideration: the large coarser sorts might be worked up in all countries, with other materials, for thatching, and for the coarser purposes of covering and protecting against weather. All those *Carices* which have creeping roots, are admirably well qualified to give stability and firmness to the surface of quaking bogs. Many of this sort also grow by the sides of ditches and rivers, and occasion a tenacity in the banks, so that they can resist the violence of currents. Cattle are not fond of these; perhaps fortunately so, that man may more surely, as *Linnaeus* has remarked, receive benefit from their growth in places of this nature.

I do myself the honour of laying these observations before the Linnean Society, anxious to facilitate the knowledge of this difficult genus; hoping at the same time that others will improve upon them, and at length construct characters more distinctive than mine. They are the observations of solitary walks, and of hours which, through the prevalence of modern fashion, seem as it were privileged to be spent in nothingness. But the contemplative philosopher, even in these, finds the most solid delight in dwelling upon the works of the Almighty; and while he views "the things that are made," he confirms himself (and it is the true end of the study of nature) in the belief "of his eternal power and godhead," and of the revelation (for it is a natural deduction) which he hath given of his will.

Observation 1. Having, for brevity's sake, introduced a new term—*Vagina*—into many of my descriptions, I beg to define it thus:

Vagina est basis folii vaginantis.

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The culm of most grasses has what *Linnaeus* terms *folia vaginantia*. Some authors have called leaves of this sort petiolated leaves, but I think improperly: they are better defined *sheathing leaves*, for they embrace or inclose the stalk at their base. This sheath or vagina in the *Carices* usually bears a regular proportion to the length of the foot-stalks of the spikes: I call it, either *æquans*, when of the same length as the foot-stalk; *dimidiata*, when half of the length; *abbreviata*, when of a quarter of the length.

Obs. 2. I have purposely omitted mentioning the seed, not having as yet been able to examine it in a fresh state, in all the species.

Obs. 3. Where a plant is said to have vaginæ, the spikes are necessarily on foot-stalks (for the application of that term is to the floral leaf embracing the whole or part of the foot-stalk or peduncle); and therefore no mention of that circumstance is necessary in the several specific descriptions.

SYNOPSIS SPECIERUM.

Spicâ unicâ simplici.

1. *C. dioica*. Spicâ simplici dioicâ, capsularum marginibus ferrulatis.
2. *C. pulicaris*. Spicâ simplici androgynâ supernè masculâ, capsulis divaricatis retroflexis utrinque acuminatis.
3. *C. pauciflora*. Spicâ simplici androgynâ, floribus foemineis subternis remotiusculis patentibus; masculo sub-unico terminali.

* *Spicâ compositâ androgynâ.*

4. *C. stellulata*. Spiculis subternis remotis, capsulis divergentibus acutis: ore indiviso.

5. *C. curta*.

5. *C. curta*. Spiculis subsenis ovatis remotiusculis nudis, squamis ovatis acutiusculis capsulâ brevioribus.
6. *C. ovalis*. Spiculis subsenis ovalibus approximatis alternis, squamis lanceolatis acutis capsulam æquantibus.
7. *C. remota*. Spiculis axillaribus folitariis remotis subsessilibus, foliolis longissimis, capsulis apice indivisis.
8. *C. axillaris*. Spiculis axillaribus subternatis remotis sessilibus, foliolis longis, capsulis apice divisis.
9. *C. incurva*. Spicâ conicâ spiculis plurimis congestis sessilibus compositâ, involucri nullo, culmo incurvo.
10. *C. arenaria*. Spicâ foliosâ oblongâ acutiusculâ; spiculis plurimis: terminalibus masculis: inferioribus foemineis, culmo incurvo.
11. *C. intermedia*. Spicâ oblongâ obtusâ; spiculis plurimis: infimis terminalibusque: foemineis intermediis masculis, culmo erecto.
12. *C. divisa*. Spicâ ovatâ sub-decompositâ, foliolo erecto instructâ, spiculis subconfertis, capsulis adpressis, radice repenti.
13. *C. muricata*. Spicâ oblongâ sub-decompositâ, spiculis distinctis, capsulis divergentibus: ore diviso, radice fibrosâ.
14. *C. divulsa*. Spicâ elongatâ decompositâ basi sub-ramosâ; spiculis inferioribus remotis: summis contiguis, capsulis sub-erectis.
15. *C. vulpina*. Spicâ supradecompositâ coarctato-ramosâ obtusâ; spiculis supernè masculis, capsulis divergentibus, culmi angulis acutissimis.
16. *C. teretiuscula*. Spicâ supradecompositâ coarctato-ramosâ acutiusculâ; spiculis supernè masculis, capsulis patentibus, culmo teretiusculo.
17. *C. paniculata*. Spicâ supradecompositâ paniculato-ramosâ acutâ: ramis alternis remotiusculis, capsulis patentibus, culmo triquetro.

* *C. atrata*.

** *Spicis*

** *Spicis sexu distinctis: masculâ unicâ: bracteis membranaceis.*

18. *C. digitata*. Bracteis membranaceis subaphyllis vaginantibus dimidiatis, spicis linearibus erectis; masculâ breviori, capsulis distantibus.
19. *C. clandestina*. Bracteis membranaceis subaphyllis vaginantibus, spicis foemineis oblongis remotis vaginam vix exsuperantibus.

*** _____ : _____ : *bracteis foliaceis, & plerumque vaginantibus.*

20. *C. pendula*. Vaginis longis subæquantibus, spicis cylindricis longissimis pendulis, capsulis ovatis acutis.
21. *C. strigosa*. Vaginis longis subæquantibus, spicis filiformibus laxis pendulis, capsulis oblongis subtriquetris acutis.
22. *C. præcox*. Vaginis brevibus subæquantibus, spicis approximatis; masculâ sub-clavatâ; foemineis ovatis, capsulis subrotundis pubescentibus.
23. *C. filiformis*. Vaginis brevibus subæquantibus, spicis masculis sub-duabus linearibus; foemineis ovatis remotis, capsulis hirtis.
24. *C. flava*. Vaginis brevibus subæquantibus foliolo divaricato, spicâ masculâ lineari; foemineis subrotundis, capsulis rostrato-acuminatis.
25. *C. extensa*. Vaginis brevissimis æquantibus foliolo sub-reflexo, spicis confertis; foemineis subrotundis, capsulis ovatis acutis.
26. *C. fulva*. Vaginâ infimâ subdimidiatâ; superioribus subæquantibus, spicis foemineis duabus oblongis acutis, capsulis rostrato-acuminatis.
27. *C. distans*. Vaginâ infimâ ferè dimidiatâ; superioribus subæquantibus, spicis oblongis remotissimis, capsulis acutis.

28. *C. panicea*. Vaginâ infimâ sub-dimidiatâ; superioribus sub-æquantibus, spicis linearibus remotis, capsulis inflatis sub-distantibus obtusiusculis.
29. *C. capillaris*. Vaginis dimidiatis, spicis fœmineis oblongis laxis; fructiferis pendulis, pedunculis capillaribus, capsulis acuminatis.
30. *C. depauperata*. Vaginis plusquam dimidiatis, spicis fœmineis remotis paucifloris, capsulis inflatis ovatis rostrato-acuminatis.
31. *C. sylvatica*. Vaginis abbreviatis, spicis filiformibus laxis pendulis, capsulis ovatis aristato-rostratis.
32. *C. recurva*. Vaginis abbreviatis, spicis fœmineis sub-cylindricis pendulis, capsulis rotundato-ovatis, radice repenti.
33. *C. pallescens*. Vaginis abbreviatissimis, spicis fœmineis sub-cylindricis; fructiferis pendulis, capsulis subtriquetris oblongis obtusis.
34. *C. limosa*. Vaginis abbreviatissimis sub-nullis, spicis fœmineis ovatis pendulis, capsulis ovatis compressis, radice repenti.
35. *C. Pseudocyperus*. Vaginis sub-nullis, spicis fœmineis cylindricis pedunculatis pendulis, capsulis nervosis oblongis aristato-rostratis sub-divaricatis.
36. *C. atrata*. Vaginis sub-nullis, spicis omnibus androgynis, pedunculatis: fructiferis pendulis, capsulis ovatis acutiusculis.
37. *C. pilulifera*. Vaginis nullis, spicâ masculâ sub-lineari; fœmineis confertis subrotundis sessilibus, culmo debili.
38. *C. rigida*. Digyna, vaginis nullis, spicis oblongis subsessilibus, foliis sub-recurvis rigidis.
39. *C. cæspitosa*. Digyna, vaginis nullis, spicis subsessilibus sub-cylindricis obtusis, foliis erectis molliusculis.
40. *C. stricta*. Digyna, vaginis nullis, spicis subsessilibus cylindricis acutis; masculis sub-duabus, foliis erectis strictis.

**** *Spicis*

****. *Spicis sexu distinctis, masculis pluribus.*

41. *C. riparia*. Spicis oblongis acutis; masularum squamis lanceolatis: foeminearum aristato-acuminatis, capsulis ovato-lanceolatis apice furcato-dentatis.
 42. *C. paludosa*. Spicis oblongis sub-obtusis; masularum squamis obtusis: foeminearum lanceolatis, capsulis ovato-lanceolatis apice sub-dentatis.
 43. *C. acuta*. Digyna, spicis filiformibus; foemineis inflorescentibus nutantibus: fructiferis erectis, capsulis acutiusculis apice indivisis.
 44. *C. vesicaria*. Spicis masculis linearibus; foemineis oblongis patentibus, capsulis inflatis oblongis rostrato-acuminatis patentibus.
 45. *C. ampullacea*. Spicis filiformibus; masculis tenuioribus; foemineis teretibus erectis, capsulis inflatis globosis aristato-rostratis divaricatis.
 46. *C. hirta*. Pilosa, spicis omnibus oblongis; foemineis remotis vaginatis: vaginis hinc lanato-villosis, capsulis hirtis.
- * *C. filiformis, stricta, recurva; & quædam aliæ, quæ aliquando spicis masculis duabus, sed rariùs sunt notabiles.*

I. CAREX DIOICA.

C. Spicâ simplici dioicâ, capsularum marginibus ferrulatis. *Buddle Hort. Sic.* p. 32. n. 5.

Gramen cyperoides minimum spicâ simplici cassâ. *Hist. Ox.* III. 244. f. 8. t. 12. f. 22. *mas.*

Gramen cyperoides minimum ranunculi capitulo rotundo. *Hist. Ox.* III. 245. f. 8. t. 12. f. 36. *fœmina.*

Cyperoides parvum, n. 1 & 2. *Mich. Gen.* p. 56. t. 32. f. 1 & 2.
Scheuchzer, 497. t. 11. f. 9 & 10.
Fl. Suecica, n. 833. *Fl. Angl.* p. 401. *Fl. Dan.* 369. mas & fœmina.
Fl. Scot. 541. *Withering*, p. 1026.

Habitat in palustribus spongiosis. Junio.

DES. *Radix* repens, perennis. *Folia* fetacea, sub-triquetra, intus canaliculata, erecta, culmum floriferum sub-æquantia, glabra. *Culmus* tenuis, erectus, triqueter, angulis acutiusculis, glaber, 4—10 uncialis, foliis demum paulò longior. *Spica* mascula oblonga, bractea brevi ovata fusca in mucronem desinenti, $\frac{1}{2}$ —1 uncialis; squamis oblongis acutiusculis fulvis, nervo dorsali obsoletiusculo viridi. Filamenta tria; antheræ lineares flavæ. *Spica* fœminea oblonga demum subcylindrica, squamis ut in mascula, capsulâ brevioribus. *Capsulæ* sæpius sub-distichæ, patentes, ovatæ, acutæ, marginibus apicem versus minutissimè ferrulatis, ore integro. Stigmata duo.

So great a simlarity prevails between what are called *C. dioica* and *capitata*, that no author has as yet struck out a constant satisfactory difference of character. Mr. *Hudson*'s introduction of *Linnaeus*'s *C. capitata* into the catalogue of British plants, has excited an enquiry into the reality of that species, and in particular with respect to its being a native of Britain. Indeed the difference between them at most seems very trifling. In *C. capitata* the spike is round, and somewhat (owing to the male flowers at the top) conic: in the female *C. dioica*, it is ovato-oblong. The capsules seem broader in *capitata*. In *dioica* the capsules are most minutely ferrated towards the point; in *capitata* they are entire. In *dioica* the capsules are striated with nerves, which can scarcely be said to appear in the very few specimens of *capitata* which I have seen. I have found the male *dioica* with a female flower

flower or two at the base of the spike, the capsules of which very much resemble those of the Swedish *capitata*. In *Uvedale's Herbarium Rayanum*, vol. 12. fol. 68. n. 5. and in Mr. *Lightfoot's* herbarium, to which I had access, through her MAJESTY's most gracious condescension, who is now the possessor of it, are specimens of the female *dioica*, with several male flowers at the top of the spike. The leaves in both species are exactly the same; the style in each has two stigmata. I have seen capsules in *dioica* where there is no visible ferrulation on the edges. Swedish specimens of *capitata* are in the rich herbaria of Sir *Joseph Banks* and Dr. *Smith*. All my ideas of the plant are taken entirely from them.

The synonyms of *Ray* and *Morison*, which *Linnaeus* quotes for *capitata*, are undoubtedly to be referred to *C. dioica*. He himself referred them to it in *Fl. Suecica*. In the places so particularly mentioned by those authors, *C. dioica* and that only has ever been found.

The different figures of *Michelius* have led into some error.—I do not hesitate to say, that the female figure No. 1. is carelessly drawn: its being represented with three stigmata, instead of two which it ought to have (as is evident from a specimen in Mr. *Lightfoot's* herbarium), is a sufficient proof of it. This is that Irish variety mentioned by *Ray*, in his *Synopsis*, p. 425, n. 66. In *Michelius's* figure, n. 2. no male flowers are to be seen at the summit: neither are they in *Morison's* figure, n. 36. These figures are both very decent representations of the female *dioica*: they bear no similarity to the specimens of *capitata* mentioned before.

Scheuchzer's figure seems like *pulicaris*, rather than *dioica*. It is possible he may have confounded the two together, as any one might do in their infant state.

Upon the whole, therefore, I can see no reason why *C. capitata* should be continued as a British species, and therefore have excluded it.

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I do not pretend to be the *first* discoverer of the difference of the capsule in *capitata* and *dioica*, as mentioned above.—Dr. *Smith*, long before I had the happiness of his acquaintance, had, unknown to me, communicated it to some of his friends. As his herbarium must be considered as the fountain-head of all botanical authority, I was particularly happy in the coincidence of his opinion, and, in deference to it, added to the specific description of *C. dioica*, *capsularum marginibus ferrulatis*.

2. CAREX PULICARIS.

Spicâ simplici androgynâ supernè masculâ, capsulis divaricatis retroflexis utrinque acuminatis. *Uvedale, Herb. Rayan.* vol. 12. p. 68. n. 3.

Carex minima. *Mich. Gen.* 66. t. 33. f. 1.

Gramen cyperoides minimum, &c. *Morif. Hist. Ox.* III. p. 244. f. 8. t. 12. f. 1. *Pluk. ph.* t. 24. f. 10.

Fl. Lapon. n. 339. *Leers,* 198. t. 14. f. 1. *Fl. Ang.* 402. *Fl. Scot.* 543. *Fl. Dan.* 166.

Habitat in paludibus turfosis & limosis. Junio.

Radix fibrosa, perennis. *Folia* fetacea, saturatè virentia, rigida, glabra, erecta, culmo breviora canaliculata, hinc convexiuscula & nervoso-angulata. *Culmus* erectus teretiusculus glaber 3-12 uncialis. *Spica* simplex, cylindræa, terminalis. Flores masculi plurimi superiores, foeminei circiter totidem inferiores laxè imbricati. Squamæ subfuscae, ovatae, acutæ, capsulâ breviores, nervo dorsali viridi, deciduæ. *Capsulæ* ovatae utrinque acuminatae, trigonæ, glaberrimæ, mox divaricatae, demum pendulæ ore integro. Filamenta tria; antheræ lineares flavæ. *Stigmata* duo.

Obs. Squamæ florum masc. obtusiores quam foemin.

This plant is so very distinct in itself, and is so well distinguished by

by all authors, that there is no necessity of adding to the general mass of description.

He who would wish to peruse good descriptions of it, would do well to consult Mr. *Lightfoot's Flora Scotica*, and Mr. *Leers's Flora Herbornensis*—a book which ought to be in the hands of every botanist who wishes to enter into a practical study of his subject.

The figure in *Morison* is extremely characteristic.—*Leers* gives the plant in both a young and mature state, together with all the parts of fructification.—*Michelius's* figures in general are to be depended upon—but he is not faultless in his adapting of synonyms: he quotes *Mor.* figure 22, which is the male dioica, to this plant.

3. CAREX PAUCIFLORA.

C. spicâ simplici androgynâ, floribus fœmineis subternis remotiusculis patentibus; masculo sub-unico terminali. Lightfoot, Fl. Scot. 543. tab. vi. f. 2.

C. patula. Hudf. Fl. Ang. 402. Withering, p. 1027.

Habitat in ericetis montosis.

I have never had an opportunity of cultivating this species, or of seeing it alive, or even in a fresh state.

Mr. *Hudson* and Mr. *Lightfoot* have both described this plant. Their descriptions, although they differ in their mention of the number of the flowers, yet agree very well in setting forth the general habit of the plant, and the situation of the male and female flowers.

Mr. *Lightfoot* has given an excellent figure. As his publication was prior to Mr. *Hudson's*, and as his name is more expressive (and that is no slight object), I am an advocate for restoring the name *pauciflora*.

I take

I take the following description from specimens in Sir *Joseph Banks's* herbarium, transmitted by Mr. *Lightfoot*. Mr. *Lightfoot* favoured me also with several specimens, which entirely accord with Sir *Joseph's*.

Radix ———

Folia erecta, glabra, triquetra, culmo breviora.

Culmus 3-5 uncialis, præterquam ad basin nudus, triqueter, glaber.

Spica androgyna, simplex, laxa, floribus circiter quinque, quorum ultimus masculus. Squamæ elongatæ, lanceolatæ, acutæ, longitudine capsularum.

Capsulæ ———

Styli tres. An hoc semper?

4. CAREX STELLULATA.

C. spiculis sub-ternis remotis, capsulis divergentibus acutis, ore integro. *Buddle Hort. Sic.* p. 32. *Uvedale Herb. Ray.* vol. 12. p. 68. n. 1.

Carex spicis ternis echinatis, glumis lanceolatis, capsulæ mucrone simplici. *Haller Hist.* 1366.—*Raii Synops.* 424. n. 12.

Gramen cyperoides echinatum minimum. *Park.* 1272. *Morif. Hist. Ox.* III. 344. f. 8. t. 12. f. 26.—*Leers,* t. 14. f. 8. *opt.*—*Scheuchzer* 485. t. 11. f. 3.

Carex muricata. *Huds. Fl. Angl.* 406. *Fl. Scot.* 549. *Fl. Dan.* 284. *Witb.* 1034.

Habitat in palustribus. Maio, Junio.

Radix fibrosa, perennis. *Folia* pallidè viridia, erectiuscula patula, ad margines carinasque, præcipuè apicem versus aspera, angusta.

Culmus sub inflorescentiâ circiter 3-uncialis erectus foliis duplo brevior,

brevior, triqueter, angulis obtusiusculis obsoletè asperiusculis, mox pedalis & foliis longior. *Spica* composita androgyna, spiculis subternis, remotis, ovatis, sessilibus: ad spiculam inferiorem sæpius bractea, basi ovata, in foliolum fetaceum culmo brevius definens; ad cæteras oblonga est, membranacea, fusca, aphylla. *Flores* inferiores masculi laxius imbricati, superiores foeminei plures. Squamæ ovatæ, acutæ, fuscæ, margine membranaceo albo, nervo dorsali lato viridi, capsulâ maturâ breviores. *Capsula* oblonga acuminata, hinc plana, illinc convexiuscula, divergens, apice acuto sub-indiviso. *Filamenta* tria, antheris linearibus flavis. *Stylus* stigmatibus duobus.

This little plant is well known to every botanist. It stands in competition with none of its fraternity, and therefore cannot be mistaken.

It varies in height from three to ten inches, according to its soil and situation. On the Brecknockshire hills I have found it above a foot high.

A floral leaf sometimes, but by no means constantly, subtends the lowest spicula.

It is well observed by *Haller*, that this species differs from *muricata*, by having the point of the capsule acute, and not bifid.

5. CAREX CURTA.

C. spiculis subternis ovatis remotiusculis nudis, squamis ovatis acutiusculis capsulâ brevioribus.

Gramen cyperoides spicis curtis divulsis. *Loefel. Pruff.* p. 117. t. 32.

C. elongata, *Leers*, p. 200. t. 14. f. 7.

C. canescens, *Lightfoot*, *Fl. Scot.* p. 550.

C. brizoides, *Huds.* *Fl. Angl.* p. 406.

C. cinerea, *Withering*, p. 1033.

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U

Habitat,

Habitat, sed rarius, in palustribus & aquosis. Junio.

Radix sub-repens, perennis. *Folia* pallida sub-glaucâ, ad margines carinamque aspera, erecta angusta. *Culmus* pedalis aut paulò altior, foliis paulò longior, erectus, triqueter, angulis acutis asperiusculis. *Spica* composita androgyna, spiculis sex & ultra, erectis ovatis sessilibus alternis; ad spiculam inferiorem bractea, sed rarius, foliaceâ fetacea, ad cæteras ovata alba tenera membranacea. *Squamæ* albæ membranaceo-sericeæ, ovatæ, acutæ, concavæ, nervo dorsali viridi, capsulâ paulò breviores. Flores inferiores masculi. *Capsula* ovata, acuta; hinc plana, illinc convexiuscula, sub lente punctulatissima, marginibus integris, ore indiviso. *Filamenta* tria, antheris linearibus flavis. *Stylus* stigmatibus duobus.

That this *Carex* should have occasioned some difficulty is not to be wondered at, when *Linnaeus* himself seems to have forgotten his own original determination upon the matter. In Sir *Joseph Banks*'s herbarium there is a *Carex* named *brizoides*, which answers entirely to the Linnean description; "*Spicâ compositâ* DISTICHA *nudâ, spiculis androgynis* OBLONGIS CONTIGUIS, *culmo nudo*," in the *Sp. Plant.* p. 1381; to the synonym of *Haller*; and to the figure of *Michelius*, t. 33. f. 17. there quoted.

In the Linnean herbarium, the plant I am now speaking of is named *brizoides* by *Linnaeus* himself, and it accords with the synonyms of *Ray* and *Morison* quoted in the *Sp. Pl.* under *brizoides*. Still, however, as the figure of *Michelius* is a more pointed authority than the verbal descriptions of the authors just mentioned, I cannot but think that the plant in Sir *Joseph*'s herbarium is what was originally described and intended for *brizoides*: accordingly I shall beg leave to accept it as such, and name this anew. For, at all events, it cannot answer to the description of *Linnaeus*, for the spike

is never distich, the spiculæ are never oblong or contiguous. Hence has arisen frequent error: Mr. *Lightfoot*, amongst the rest, rejected the idea of this being *brizoides*, and called it *canescens*.

But the *C. canescens* of *Linnaeus* is similar in shape to *curta*; so much so, that the figure in *Loefel* is as applicable almost to the one as the other: but when they are brought together, the widest difference presents itself. The *curta* is smaller in all its parts; then the squamæ are silvery, and very tender: in the *canescens* they are membranaceous and hard, as in the rest of the genus, and are brown with a white edge, which gives it a real hoary appearance. We may gather from this circumstance, how necessary coloured figures are to mark the nicety of distinction requisite to ascertain some species in natural history. It is true, it makes the study very expensive; but it must be allowed, that unless very accurate descriptions accompany the uncoloured print, a difficulty of ascertainment may after all subsist.

The *capsules*, together with the *squamæ* of this species, are very early deciduous: I know not any *Carex* in which this impoverishment takes place so early, except in *C. stricta*. The whiteness and tenderness of the squamæ in this species are striking circumstances. These qualities are not to be found in any other. The root, though it cannot be called directly creeping, has a tendency to increase itself something in that way. The *brizoides* of Sir *Joseph Banks*'s herbarium has evidently a creeping root. As it is the only specimen that I have ever seen, I will beg leave to subjoin a description of it.

Radix repens, perennis. *Folia* pallidè virefcentia, tenuia, culmo longiora, ad margines carinamque aspera, inferiora (uti sæpius accidit) breviora, & culmi basin obvestientia. *Culmus* triqueter, angulis acutis asperis, erectus, nudus. *Spica* androgyna—Spiculæ circiter septem, teretes f. oblongiusculæ, sub-distichæ, approximatae, sæpius

contiguæ. Flores inferiores masculi. *Squamæ* oblongæ, acutæ, pallidæ, nervo dorsali viridi, teneriusculæ, margine albo tenerissimo, capsulas sub-æquantes. *Capsulæ* oblongæ, acutæ, glabræ, marginibus serrulatis, sub-triquetræ, hinc planæ, ore diviso. *Filamenta* tria—*Stylus* stigmatibus duobus.

As I take it for granted that *C. curta* is not the *brizoides* of Linnæus, and as the names of subsequent authors are not expressive of its distinction, I have restored *Loefel's* name, *curta*. Linnæus applies this figure of *Loefel* to his *canescens*, but, I have always thought, without sufficient authority; and I am happy in being countenanced in this idea, by our worthy President's remark in his edition of the *Flora Lapponica*. See n. 332.

The true *C. brizoides* is very properly described by *Schreber*, in his *Spicilegium Fl. Lips.* p. 63. n. 675.

6. CAREX OVALIS.

C. spiculis sub-fenis ovalibus approximatis alternis, squamis lanceolatis capsulam æquantibus. *Buddle, Hort. Sic.* p. 31. n. 2. *Pet. Hort. Sic.* vol. 1. p. 163. n. 2.

Gramen cyperoides majus spicâ divulsâ. *Morif. Hist. Ox.* III. 244. f. 8. t. 12. f. 29.

Gramen cyperoides spicâ e pluribus spicis mollibus compositâ. *Scheuchzer*, 456. t. 10. 15.

C. leporina. *Fl. Angl.* p. 404. *Fl. Scot.* 547. *Pollich*, n. 874. cujus descriptio bona. *Leers*, 199. t. 14. f. 6. *quoad formam scilicet, at non situm florum masc. & fæmin.* *Withering*, 1029.

Habitat in palustribus & pratis humidis. Junio.

Radix fibrosa, perennis. *Folia* saturatè viridia, ad oras carinasque asperiuscula, angusta, culmum sub-æquantia. *Culmus* erectus, pedalis,
tri-

triqueter, angulis acutis, asperiusculis. *Spica* androgyna composita, spiculis subsenis approximatis alternis sub-ovalibus. Ad basin spiculæ inferioris bractea basi ovata in setam spiculæ suæ longitudine definens, ad cæteras bractea oblonga est & aphylla. *Flores* inferiores masculi pauciores, cæteri plures foeminei. *Squamæ* ovato-lanceolatæ, acutæ, capsulam æquantes, fuscæ, margine albo, nervo dorsali viridi. *Capsulæ* oblongæ acuminatæ, hinc planæ, illinc convexiusculæ, erectæ, ore integro. *Filamenta* ut in cæteris—*Stylus* stigmatibus duobus.

It has been lately discovered, that we have all along been mistaken in this very common plant. The error perhaps rests with *Linnaeus* himself, who joined the plant, he originally named *leporina*, with this we are now treating of. The mistake took place even so early as the publication of *Fl. lapponica*, as appears from his quoting *Morison's* figures. The original *leporina*, now preserved in Dr. *Smith's* (the Linnean) herbarium has only three spikelets, is a plant much smaller, and differs in many respects.

C. ovalis is distinguishable in all its stages from others by the number of the spiculæ, the acuteness of the squamæ, and the situation of the male and female flowers. In this the male flowers are at the base of the spikes, and few in number; the female ones numerous, and terminal.

Leers describes his *leporina* as having the terminal florets male, and the inferior female. Although therefore his figure is a very exact representation in other particulars, the situation of the male and female flowers must not be taken from his description.

7. CAREX

7. CAREX REMOTA.

C. spiculis axillaribus solitariis remotis subfessilibus, foliolis longissimis, capsulis apice indivisis. *Buddle, Hort. Sic.* p. 31. n. 5.

Carex angustifolia, caule triquetro, capitulis pulchellis strigosioribus compactis, inter se distantibus, & in foliorum alis fessilibus. *Mich. Gen.* 70. t. 33. f. 15, 16.

Gramen cyperoides angustifolium spicis parvis fessilibus in foliorum alis. *Morif. Hist. Ox.* III. 243. f. 8. t. 12. f. 17. *Leers*, t. 15. f. 1. *Fl. Cantab.* n. 683. *Fl. Angl.* 407. *Withering*, 1035. *Pollich*, n. 878. *Fl. Scot.* 549. *Fl. Dan.* 370.

Habitat in sylvis humidis, & ad ripas udas fossarum. Maio, Junio.

Radix perennis, fibrosa. *Folia* radicalia angustissima compressa, marginibus omnino, at solum apicem versus carinâ aspera, culmo sub tempore inflorescentiæ longiora—*Caulina*, quæ & bractææ dicantur, ad basin spicularum sita (scilicet ad omnem spicam unicum fessile angustissimum) duo infima culmum fere semper cætera aliquando superant, carinâ marginibusque aspera. *Culmus* tenuis, debilis, erectus, triqueter, angulis acutis supernè asperis, infra bracteam inferiorem glabris. *Spica* composita androgyna, spiculis circiter 10, ovatis axillaribus solitariis remotis subfessilibus—Flores masculi inferiores. *Squamæ* ovatæ, acutæ, fuscescentes, membranaceæ, nervo dorsali viridi. *Capsulæ* ovatæ, acutæ, hinc planæ, illinc convexiusculæ, lateribus apicem versus ferrulatis, apice indiviso. *Filamenta* & *antheræ* ut in cæteris. *Stylus* stigmatibus duobus.

There is no difficulty in determining this species—There is only one in the whole family which has any affinity to it, viz. *C. axillaris*; but that is readily distinguished by having three or more spikelets at the base of each bractaceous leaf.

8. CAREX

8. CAREX AXILLARIS. TAB. 19. fig. 1.

C. spiculis axillaribus, subternatis, remotis, sessilibus, foliolis longis, capsulis apice divisis.

Præcedentis (remotæ) insignis varietas, si non species distincta.
Buddle, Hort. Sic. p. 31. n. 6.

Habitat prope Putney—Dom. *Curtis*, inter rariores. Maio, Junio.

Radix perennis, fibrosa—*Folia* radicalia angusta, compressa, marginibus omnino, carinâ circiter dimidiam partem asperis, culmo etiam sub inflorescentiâ brevioribus: Caulina, quæ & bractæa dicantur, ad basin spicularum sita sunt, scilicet ad omnem spicularum aggregationem unicum, sessile, quorum infimum culmo longius, cætera breviora; omnia marginibus carinâque asperrima. *Culmus* erectus, firmus, strictus, triqueter, angulis acutis, etiam infra bracteam inferiorem asperrimis, 1—fere 3-pedalis. *Spica* androgyna interrupta, spiculis axillaribus, inferioribus sub-ternis, quandoque quaternis, quinis, ad basin foliorum caulinorum f. bractearum, oblongæ, sessiles, aggregatæ—Flores inferiores masculi—Squamæ ovatæ, acutæ, fulcescentes, membranaceæ, nervo dorsali viridi, capsulam sub-æquantes. *Capsule* ovatæ, acutæ, hinc planæ, illinc convexiusculæ, lateribus apicem versus ferrulatis, apice diviso. *Filamenta* ut in cæteris. *Stylus* stigmatibus duobus.

The great difference between this and *remota*, to which it seems most allied, is, that *axillaris* has a strong and rigid culm, *remota* a soft, thin, and weak one. *Axillaris* has its spiculæ in the base of the leaves by threes, sometimes by fives, particularly the lowermost.

The

The *remota* never has more than one spikelet at the base of each leaf. *Remota* has its capsules entire at the apex—*Axillaris* bifid.

Linnaeus, in his *Sp. Pl.* seems to have described *C. remota* twice over, under the names of *axillaris* and *remota*. Whether he had seen this species, or whether he described *remota* twice through mere inadvertence, I know not. No person, I believe, has noticed this species, except Mr. *Buddle*, who very properly questions the propriety of its being classed with *remota*.

I am indebted to my very intelligent friend Mr. *Curtis* for roots of this plant, who first found it near *Putney*.

9. CAREX INCURVA.

C. spicâ conicâ spiculis plurimis congestis sessilibus compositâ, involucri nullo, culmo incurvo. Lightfoot Flora Scot. p. 544. pl. 24. Fl. Dan. 432.

Carex juncifolia. Allioni Fl. Pedemont. 2296. t. 92. f. 4.

Having never had the good fortune of seeing this plant growing, and having only imperfect specimens of it, I must refer to Mr. *Lightfoot's* description and figure. Mr. *Lightfoot's* figure represents the plant in flower: in its seedling state it loses something of its conic form, and becomes obtuse. The capsules are somewhat oblong and acute, and a little longer than the squamæ, which are ovate, and somewhat acute.

When honoured with permission to consult her *Majesty's* herbarium, I saw Mr. *Lightfoot's* original specimen. Fearful of doing any injury by handling it, I forbore taking a minute description of it. It ranks next to *C. arenaria*, from which it is sufficiently distinct, by its conic and compact spike.

10. CAREX

10. CAREX ARENARIA.

Spicâ foliosâ oblongâ acutiusculâ, spiculis plurimis; terminalibus masculis; inferioribus foemineis, culmo incurvo. *Buddle, Hort.*

Sic. p. 31. n. 7. *Mich. Gen.* p. 67. n. 1 & 2. f. 3. *quoad figuram spicæ, & f. 4.*

Carex arenaria. *Leers,* t. 14. f. 2. *Fl. Suec.* n. 835. *Fl. Angl.* p. 404. *Fl. Scot.* 545. *Withering,* 1029.

Habitat in arenosis maritimis. Junio.

Radix valde repens, crassa, ramis divaricatis. *Folia* angusta, nigro-viridia, ad margines carinamque asperiuscula, variantia culmo breviora, longiora. *Culmus* incurvus, 4-12 uncialis, triqueter, angulis acutis scabriusculis. *Spica* composita spiculis circiter 7-16 oblongis, androgynis, fursum imbricatis, infernè remotiusculis, bracteatis, bracteis foliaceis, inferioribus brevibus, in folium tenuissimum desinentibus; superioribus ovatis membranaceis sub-aphyllis. In omni fere spiculâ flores terminales masculi—Spiculæ inferiores sub-foemineæ, superiores sub-masculæ. Squamæ ovatæ, acutæ, (longo sæpiùs acumine), capsulas maturas æquantes. *Capsulæ* ovatæ, acuminatæ, hinc planæ fulcatæ, illinc carinatæ, apicem versus utrinque alatæ f. margine membranaceo, ore bifido. *Filamenta & antheræ* ut in cæteris. *Stylus* stigmatibus duobus.

Mr. *Lightfoot's* description of this plant is very well drawn: but I have spoken sufficiently of it under *C. intermedia*. It is not usually found but in the vicinity of the sea-shore, and there, for the most part, in loose sand. I have been told that it has been found in the inland parts of Germany, in sand, which evidently appears to be the same as what we call sea-sand, and, perhaps, before the diluvian wreck of the world, had its place on the sea-side.

I have often brought roots of it into my garden, but they would never flourish handsomely. They exist indeed, but scarcely ever produce flowers, and shew every token of distaste and disaffection.

I have scarcely a doubt but that *Michelius* was deceived in the specimens sent him, and drew his figure t. 33. f. 3. (which is quoted under *C. disticha* of Mr. *Hudson*) from an old dried specimen of *C. arenaria*, as any one may judge who will compare the specimens of that plant, which he will find withering in the months of August and September. Had the culm been represented incurved, I could have had no doubt. *Michelius* received his specimens from London and Paris.

II. CAREX INTERMEDIA.

- C. Spicâ oblongâ obtusâ, spiculis plurimis; infimis terminalique
fœmineis; intermediis masculis, culmo erecto. Buddle, Hort.
Sic. p. 31. n. 4.*
C. arenaria, Leers, t. 14. f. 2.
C. disticha, Fl. Angl. p. 403. Fl. Scot. 546. Withering, 1028.
C. spicata, Pollich, n. 875.

Habitat in palustribus. Junio.

Radix valdè repens, crassiuscula, perennis—*Folia* faturatè viridia, erecta, ad margines carinamque asperiuscula, culmo sæpe breviora. *Culmus* erectus, firmiusculus, triqueter, angulis acutis asperis, pedalis & ultra, nudus. *Spica* androgyna, composita, spiculis 8-20 approximatis, sursum imbricatis, ovatis, circiter tribus infimis & terminali sub-fœmineis, cæteris sub-masculis—in fœmineis scilicet sæpiùs flos unus aut alter masculus, & in masculis fœmineus conspicendus est. *Flores* fœminei semper inferiores. Ad spicam inferiorem

riorem bractea basi ovata, supernè in foliolum setaceum longiusculum definens—ad cæteras, bractea ovata sub-aphylla. Squamæ fuscæ, ovatæ, acutæ, capsulas æquantes, nervo carinali concolore. *Capsula* oblonga, acuminata, ore diviso, hinc plana, illinc convexiuscula lateribus (oculo bene armato), membranâ sub-lacerâ f. ferrulatâ marginatis. *Filamenta & antheræ* ut in cæteris. *Stylus* stigmatibus duobus.

The name *disticha* (which by no means corresponds with its growth) being applied to this plant, has occasioned its being not well known: *Pollich* revolts at the idea, and calls it *spicata*. Mr. *Lyons* observes, that the spike is *vix disticha*. As the leading character in this *Carex* is its having generally the intermediate spiculæ almost entirely male, I have ventured to apply a name which has immediate respect to this uncommon circumstance.

The *C. intermedia* and *arenaria* approach so nearly to each other, that I scarcely know what to make of the descriptions which some authors have given of them—I apprehend that they have trusted too much to their place of growth: no dependance can be placed on that matter. Although *C. intermedia* does not grow in sand, yet it is by no means unusual to find *arenaria* in meadows by the sea-side. Mr. *Lightfoot* had not a correct notion of *intermedia* (his *disticha*), for he says it differs from *C. arenaria* by *not* having a creeping root, whereas in fact no *Carex* is more strongly endowed with this injurious quality. *Pollich*'s description is not accurate, for he takes no notice of the female terminal spikelet. *Leers*, always accurate, rightly attends to this prominent feature: no one can mistake his figure.

Some of the spiculæ in this species, and in *arenaria*, being purely male, and others female, would almost justify the classing of them amongst those *sexu distinctas*—but it is not constant enough to war-

rant such a step as that; besides, the habit is altogether that of the androgynous ones. For although *Leers* says he found the intermediate spikelets purely male, yet in almost all of them two or three female flowers are to be seen at the base; and thus in the female spiculæ, male flowers from 1—3 at the summit. A few spiculæ are truly androgynous.

After all it must be allowed, that *intermedia* and *arenaria* are very nearly allied. Notwithstanding the obscurity thrown over these plants by the confusion arising from wrong synonyms and imperfect descriptions, yet there is character enough peculiar to each. In *intermedia*, the root creeps deeply under ground, and in a very irregular manner. In *arenaria*, it creeps just below the surface, and while the main shoot runs in a straight line, side-shoots strike off at right angles; it makes a beautiful appearance by this means, forming, with the shoots it sends up, *parterres*, &c. which become at once its ornament and distinction. In *intermedia* the culm is erect, in *arenaria* incurved. In *intermedia*, the spike (the terminal spicula being feminine) is obtuse: in *arenaria* (many of the terminal spiculæ being almost entirely male) it is acute. In *intermedia*, the capsule has its margin entire; in *arenaria*, it is margined on each side towards the apex with a broadish membrane.

I have never met with the variety β of Mr. *Hudson*. I have observed indeed, occasionally, some of the spikes with very few spiculæ; but I never found any plant throwing up all its culms in general with so few spiculæ as are represented in *Plukenet's* figure. Dr. *Witbering* supposes this figure to be a representation of Mr. *Hudson's* *C. brizoides*.

Leyser can scarcely be supposed to know Mr. *Hudson's* *C. disticha*; for he says, *Nulla laudabilis figura hujus Caricis quantum novi extat, Morif. Hist. 3. f. 8. t. 12. f. 32. illi quodammodo similis*. See *Leyser's Fl. Hal. C. disticha*.

But

But *Leers*'s figure is most excellent, which work he quotes. See *Carex acuta*, *Fl. Hal.* n. 959.

12. *CAREX DIVISA*. TAB. 19. fig. 2.

Spicâ ovatâ sub-decompositâ foliolo erecto instructâ, spiculis sub-confertis, capsulis adpressis, radice repenti. *Buddle's Hort. Sic* p. 31. n. 3. *Fl. Angl.* p. 405.—*Withering.* p. 1033.

Habitat in palustribus maritimis. Maio, Junio.

Radix valdè repens, crassa, perennis. *Folia* saturatè viridia, erecta, ad margines carinasque asperiuscula, culmo longiora, angusta, apicem versus tenuissima. *Culmus* erectus, debilis, pedalis & ultra, ad spicam foliosus foliolo sæpiùs longissimo (variat autem & brevi, immò brevissimo) tenui, erecto, triqueter angulis acutissimis (variat etiam obtusiusculis) asperiusculis. *Spica* composita est ubi nec rarò decomposita, quippe ad basin spicæ divisio fit, unde decompositio oritur. Scilicet ramulus brevissimus, si fas sit hoc nomine appellare, spiculas quasdam ovatas confertas gerit. Sub omni spiculâ bractea fusca, oblonga, inferius lata, apice in setam brevem desinens, subtenditur. Spiculæ ovatæ, sub-contiguæ, erectæ, floribus terminalibus masculis. Squamæ fuscæ, ovatæ, acutissimæ, capsulâ longiores. *Capsulæ* ovatæ, acutæ, hinc sub-cavæ, illinc gibbæ, arctè imbricatæ, rachi appressæ, nec minimè patentès, apicem versus sub-membranaceo-marginatæ. *Filamenta* ut in cæteris—*Stylus* stigmatibus duobus; & iisdem, sæpiùs præ maritos tardos exspectando, longioribus.

I have not ventured to adduce any synonyms from *Lobel*, *Gerard*, or *Parkinson*. The similarity between this and *muricata* is in some stages of growth and situations too close to be kept apart by such rude figures.

This

This plant varies very much—sometimes the culm is triquetrous with very sharp angles, sometimes it is rather blunt; sometimes the erect floral leaf is extremely short, sometimes it is extended to a great length: but the root is always very thick and creeping; the leaves very narrow and erect; the culm very thin, and has the habit of a *Scirpus*.—The spike has its spikelets sub-contiguous, often crowded; and the capsules are closely imbricated, and rather turning inward, not at all spreading or opening.

The male flowers, which in this species terminate the spikelets, appear very late, which often occasions a considerable elongation of the styles waiting for their impregnation. Perhaps this circumstance might be urged as a collateral proof of the truth of the sexual system.

13. CAREX MURICATA.

Spicâ oblongâ sub-decompositâ, spiculis distinctis, capsulis divergentibus ore fissis, radice fibrosâ. *Buddle, Hort. Sic.* p. 32. n. 3.

Petiver. Hort. Sic. vol. 1. p. 166. n. 4.

Gramen sylvaticum tenuifolium rigidiusculum. *Morif. Hist. Ox.* III. f. 8. t. 12. f. 27.

Gramen cyperoides minus spicis minoribus minusque compactis. *Scheuchzer*, 488. t. 11. f. 5.

Carex nemorosa, fibrosâ radice, angustifolia, minimâ caule exquisitè triangulari, spicâ brevi interruptâ. *Michel.* p. 69. t. 33. f. R, and fig. 14. *Fl. Suecica*, n. 839.

C. spicata. *Flo. Angl.* 405. *Withering* 1032. *Flora Scot.* 548.

Habitat in sylvis & pratis humidis. Maio, Junio.

Radix fibrosa, perennis. *Folia* amœnè viridia, angusta, ad oras carinasque aspera, culmo longiora. *Culmus* erectus, pedalis & ultra, triqueter,

triqueter, angulis acutis asperis. *Spica* androgyna, composita, sæpe decomposita: spiculæ circiter decem, internè remotæ, supernè contiguous, ovatæ, sessiles, apice masculæ, bracteata bractea basi sub-ovatâ, supernè in foliolum setaceum hispidum desinenti—hæc bractea ad inferiores spiculam suam longè superat—Squamæ ovatæ, acutæ, capsulâ breviores, fuscæ, margine membranaceo albo, nervo dorsali viridi. *Capsulæ* ovatæ, acutæ, hinc planæ, illinc convexæ, glabræ, ad margines supernè hispidiusculæ, sub-divergentes, ore bifido. *Filamenta* ut in plerisque. *Stylus* stigmatibus duobus.

The Linnean herbarium countenances my differing from the authors of our country in the naming of this plant *C. muricata*; for it stands there so inscribed by *Linnaeus* himself. Indeed the little plant which is usually called *muricata*, by no means justifies the accuracy of appellation for which *Linnaeus* was so remarkable. On the contrary, this plant fully corresponds with the appearance which might be expected from that name.

I am very fully persuaded that *Linnaeus*, and after him the Swedish botanists, confounded the two plants. This appears pretty evident from the figures quoted by *Linnaeus*; and it is but fair to imagine that they thought it varied from soil and situation. *Haller*, in his history, n. 1366, says he received Mr. *Hudson's* *muricata* from *Sweden* under the name *muricata*. This circumstance, and *Linnaeus's* naming this plant of which I am now speaking *muricata* also, confirm me in my idea.

C. muricata differs from *vulpina*, by never having its spike supra-decomposite, nor the culm enlarged beneath the spike. It differs from *C. divisa* of Mr. *Hudson*, by its fibrous root, and by having its capsules diverging, and no erect leaf under the spike. It differs from *stellulata*, by its numerous and contiguous spiculæ, and its capsules divided at the summit.

Var.

Var. β . There is a variety rather slenderer in its form, with its spike rarely decompound—The culm is not so rough on its angles, and towards the base it is roundish, inasmuch that many have taken it for *divisa* of *Huds.* inclined so to do by his specific description, and by *Parkinson's* synonym. *Michelius*, t. 33. f. 12, and *Scheuchzer*, t. 11. f. 5. are rather representations of this variety. A plant of it is preserved in vol. 12. of *Uvedale's Herb. Rayanum*, p. 72. n. 2.

14. CAREX DIVULSA.

Spicâ decompositâ elongatâ basi sub-ramosâ, spiculis inferioribus remotis; summis contiguis, capsulis sub-erectis. *Buddle, Hort. Sic.* p. 32. n. 4. *Pet. Hort. Sic.* p. 166. n. 2. and p. 167. n. 1.

Carex nemorosa, fibrosâ radice, caule exquisitè triangulari, spicâ longâ divulsâ seu interruptâ, capitulis solitariis, præterquam ultimo. *Mich. Gen.* 69. t. 33. f. 10. *Withering*, 1035.

C. canescens, *Fl. Ang.* 405.

Habitat in nemorosis humidis. Maio, Junio, Julio.

Radix perennis, fibrosa. *Folia* saturatè viridia, subangusta, carinâ marginibusque asperis, culmo longiora. *Culmus* pedalis, sesquipedalis, debilis, sub-reclinatus, triqueter, angulis acutis asperiusculis. *Spica* interrupta, elongata, basi sub-ramosa, androgyna—Spiculæ inferiores remotæ, plurimæ, ovatæ, sessiles, bracteis setaceis hispidis; superiores contiguæ floribus masculis terminalibus. Squamæ membranaceæ, albæ, ovatæ, mucronatæ, nervo dorsali viridi qui in mucronem exit, capsulis longiores. *Capsula* ovata, acuta, hinc plana, illinc convexiuscula, erectiuscula, ore bifido. *Stamina* tria. *Stylus* brevis, stigmatibus duobus.

The figure of *Michelius* is too accurately drawn to admit of any doubt in the application of it: neither would this plant have ever come into dispute, had not *Loefel*'s figure t. 32, been adduced to represent it. How that mistake arose I know not—It seems to have originated with Mr. *Ray** himself. See *Ray Syn.* p. 424. *Loefel*'s figure aptly enough represents *Linnaeus*'s *C. canescens* and *Hudson*'s *brizoides*, particularly the latter, for the outline of both is nearly the same: but it has nothing to do with *C. divulsa*.

Carex divulsa has a weakish reclining culm, a long interrupted spike, with one or two branches at the base; the spikelets are remote; and the capsules, though standing loose and a little spreading, yet are not diverging. This last circumstance is worth attending to, as it keeps it distinct from thin starved specimens of *Carex vulpina*, as figured by *Leers*, t. 14. f. 3.

15. CAREX VULPINA.

C. spicâ supra-decompositâ coarctato-ramosâ obtusâ, spiculis supernè masculis, capsulis divergentibus, culmi angulis acutissimis. Budâc Hort. Sic. p. 32. n. 1.

Carex palustris major, radice fibrosâ, caule exquisitè triangulari, spicâ brevi habitiori compactâ. Mich. Gen. 69. t. 33. f. 13.

Gramen cyperoides palustre majus. Park. 1266. Moris. Hist. Oxon. III. 244. f. 8. t. 12. f. 24.

Leers, t. 14. f. 5. With. 1030, where see an account of the several varieties of this species. Fl. Dan. t. 308. Pollich. n. 876. Fl. Suecica, n. 838. Fl. Angl. p. 404.

* Mr. *Ray* was in general so very accurate that it may be questioned whether later writers have not mistaken him. *Loefel*'s figure is so plain and characteristic, that it may be doubted whether *Ray*'s synonym does not actually relate to *Loefel*, that is, to our *C. curta*.

Habitat passim in palustribus, & ad ripas fossarum & fluviorum.
Maio.

Radix fibrosa, perennis. *Folia* saturatè viridia, latiuscula, ad oras carinasque aspera, culmum superantia. *Culmus* erectus, firmus, rachis spicæ multo auctior, pedalis, bipedalis, triqueter, lateribus sub-excavatis, & inde angulis acutissimis, asperis. *Spica* androgyna, supradecomposita, coarctato-ramosa, oblonga, obtusa, ramis distantibus rigidis. Ad basin omnis rami, bractea basi ovata, supernè in foliolum setaceum hispidum desinens—Spiculæ sessiles, ovato-rotundæ, supernè masculæ—Squamæ ovatæ, acuminatæ, fuscæ, membranaceæ, nervo dorsali viridi, capsulis paulò longiores. *Capsulæ* oblongæ, acuminatæ, hinc planæ, illinc convexiusculæ, divergentes, ore bifido. *Filamenta* tria, antheris linearibus flavis. *Stylus* stigmatibus duobus.

Of this well-known species no doubt can be entertained.—The stoutness of its culm, the closeness and rigid nature of the spike, and its supradecomposition, mark it very strongly. Dr. *Withering* notes several varieties, but they all fall under the general description which I have given above. To distinguish it still more nicely from some of its affinities, observe—1. That the spike is furnished with many bractæ ending in a setaceous leaf, and that the culm is most sharply triangular, and the sides are hollowed, or sink in.—Then the capsules are divaricated. Moreover, the culm is enlarged below the spike, and seems suddenly contracted when it meets the rachis of the spike. Hence it seems to be very different from *muricata*, to which it is most nearly allied; and also from *teretiuscula*, which has its culm somewhat roundish.

Leers fig. t. 14. f. 3. is a variety of this plant, and not *Carex divulsa*, as is evident from the diverging of the capsules.

16. CAREX TERETIUSCULA. TAB. 19. fig. 3.

Spicâ supra-decompositâ coarctato-ramosâ acutiusculâ, spiculis glomeratis supernè masculis, capsulis patentibus, culmo teretiusculo.

Habitat in palustribus propè Norwich. *Dom. Crowe*. Maio.

Radix fibrosa, perennis. *Folia* viridia, erecta, rigidiuscula, culmi ferè dimidium vaginantia, vaginâ superâ hinc membranaceâ transversim rugosâ, basi extus convexa, intus canaliculata, supernè carinata ut in cæteris accidit, oris carinâque aspera, culmo florifero longiora—Folium superum cæteris longius evadit.—*Culmus* florifer foliis $\frac{1}{2}$ brevior, triqueter angulis acutis asperis, inter angulos autem quasi torus longitudinalis prominulus, adèd ut culmus teretiusculus visus est. Culmus tandem pedalis, sesquipedalis evadit.—*Spica* androgyna, terminalis, ovato-oblonga, acutiuscula, supra-decomposita, bracteâ infimâ brevissimâ, basi dilatatâ, utrinque membranaceâ fuscâ, margine ipso albo, in fetam desinenti spiculâ suâ breviori. Spiculæ & spiculellæ ovatæ, acutæ, sessiles—Flores masculi superiores, plures; fœminei inferiores, circiter sex—Squamæ fuscæ margine albo membranaceæ, nervo dorsali viridi abbreviato, ovatæ, acutæ.—*Capsulæ* ovatæ, acutæ, hinc planiusculæ, illinc convexæ, gibbæ, marginibus ferrato-hispidis, patentès—Maturæ squamâ subtensâ $\frac{1}{2}$ longiores. *Filamenta* tria, antheris linearibus flavis. *Stigmata* duo.

I understand that Mr. *Crowe* of Norwich is the discoverer of this plant. It comes very near *C. paniculata*, but it is nearly twice as small in all its parts.

As far as cultivating it three years will enable me to speak, I will beg leave to state a difference. Its spike is never in the least paniced, but always close: its seeds are remarkably gibbous on one side, which is not observable in *paniculata*: its culm is not triangular, like that of *paniculata*, but, owing to a prominent line running down the planes of the sides, roundish—not but that it always retains somewhat of a triangular form, with its angles rough. Its leaves are erect, and usually incurved—*Paniculata* has them always spreading. It differs in œconomy also, not forming those large tufts of grass for which *paniculata* is so remarkable.

It has no affinity to *vulpina*, for its capsules are never diverging, nor its culm enlarged beneath the rachis of the spike.

As the round appearance of the culm is an obvious mark of distinction, I rest the specific difference principally upon that circumstance. The gibbosity of the capsule also is very constant.

Mr. *Curtis* favoured me with roots of this plant.

17. CAREX PANICULATA.

C. spicâ supra-decompositâ paniculato-ramosâ acutâ; ramis alternis remotiusculis, capsulis patentibus, culmo triquetro. Buddle Hort. Sic. p. 31. n. 1. Pet. Hort. Sic. Vol. I. p. 163. n. 1. both varieties?

Cyperus alpinus longus inodorus, paniculâ ferrugineâ minus sparsâ. Scheuchzer 499. prod. t. 8.

Carex radice repenti caule exquisitè triangulari spicâ multiplici ferrugineâ & fuscâ. Mich. Gen. 68. t. 33. f. 7.

Gramen cyperoides palustre elatius spicâ longiore laxâ. Moris. Hist. Oxon. III. 244. f. 8. t. 12. f. 23. Sp. Plant. p. 1383. Leers, t. 14. f. 4. Pollich. n. 882. Fl. Angl. 403. Withering 1036.

Habi-

Habitat in palustribus putridis & aquosis. Junio.

Virginia Water.

Radix fibrosa, perennis. *Folia* viridia, ad oras carinasque valdè aspera, culmo longiora, sub-angusta, canaliculata, exteriora breviora. *Culmus* pedalis, 2-pedalis & ultra, infernè foliis obfitus, erectus, strictus, triqueter, angulis acutioribus asperis. *Spica* supra-decomposita, paniculato-ramosa, androgyna. Ad basin cujusque ramuli, bractea ovata in mucronem elongatum nonnunquam in setam definens, fulva, membranacea, margine albo. Ad omnem etiam spiculam unica ejusdem formæ. Spiculæ inferæ remotæ, superæ congestæ, ovatæ, omnes sessiles, floribus inferioribus, circiter quatuor foemineis, superioribus pluribus masculis—Squamæ ovatæ, concavæ, acutæ, membranaceæ, fuscæ, margine albæ, carinatæ, carinâ ciliato-hispidâ, nervo dorsali viridi, capsularum fere longitudine. *Capsulæ* ovatæ, acutæ, laxæ, patentes, hinc planæ, illinc convexæ, ad margines ferrulatæ, acuminatæ, ore bifido. *Filamenta* tria, antheris linearibus flavis. *Stylus* brevis, stigmatibus duobus.

The lax branchy disposition of the spike is a sufficient mark of discrimination in this species. As the term *racemus compositus*, though scientifically exact, and applicable to this species, seldom occurs in the Linnean description, I have changed it for one of a more general and popular nature, *spica paniculato-ramosa*.

The branches are alternate, and somewhat distant from each other.—The capsules in this species are sometimes somewhat diverging, and of the same length as the squama which guards them.—The whole spike is triquetrous, oblong, and acute at its first opening.

This *Carex* is admirably well qualified for planting in loose boggy

boggy ground; its immense tufts forming firm support for the heaviest bodies.

The Var. β of *Wüthering*, upon being cultivated in a rich wet soil, formed its spike as branching as Var. α .

18. CAREX DIGITATA.

C. bracteis membranaceis sub aphyllis vaginantibus dimidiatis, spicis linearibus erectis: masculâ breviori, capsulis distantibus.

Gramen caryophyllatum polycarpon fructu triangulo. *Loef. Prusf.* p. 112. t. 27.

Gramen caryophyllatum montanum spicâ varia. *Baubin. Prodr.* p. 9. *Scheuchzer*, p. 448. t. 10. f. 14.

Cyperoides montanum nemorosum, caule triquetro, compresso, spicis ferrugineis tenuioribus inter se distantibus; capsulis rarius dispositis, oblongis, turbinatis, trilateris. *Mich. Gen.* 65. t. 32. f. 9. *Leers*, t. 16. f. 4. *Fl. Angl.* p. 409. *Pollich.* n. 884. *Fl. Suecica*, n. 844. *Wüthering*, 1041.

Habitat in fylvis & umbrosis propè Bath. *D. Sole.*

Radix fibrosa, perennis; partes quæ radici proximæ, seu culmi five folia sint, omnes rubræ. *Folia* nigro-viridia, culmo inflorescenti longiora, marginibus ad basin retrorsum hispidis, ad medium lævibus, apicem versus antrorsum hispidis, carinâ lævissimâ. *Culmus* 6—12 uncialis erectiusculus, obsoletè triqueter, angulis obsoletis, basi squamis striatis vaginantibus in foliolum acutum brevissimum desinentibus obvestitus. *Spicæ* sexu distinctæ, terminalis mascula, tres aliquando duæ subjectæ fœmineæ, omnes lineares—Spica mascula tenuis, squamis rubro-ferrugineis, oblongo-ovatis, obtusis, nervo dorsali viridi. *Spicæ* fœmineæ etiam tenues, circiter 7-floræ, pedunculatæ,

dunculatæ, bractea membranaceâ sub-aphyllâ (rariùs scilicet in foliolum brevissimum acutum definit) dimidium pedunculi cujusque amplectenti; superior ad basin spicæ masculæ sita est, & eandem altitudine superat—cæteræ inferiores remotiusculæ. Flores laxè imbricati, alterni, distantes—Squamæ ut in masculâ capsulam æquantes. *Capsulæ* obovatæ, trigonæ, acutæ, pubescentes, apice indiviso. *Filamenta* tria—*Stigmata* tria.

19. CAREX CLANDESTINA.

C. bracteis membranaceis sub-aphyllis vaginantibus, spicis fœmineis remotis vaginam vix exsuperantibus.

Cyperoides montanum humile angustifolium, culmo veluti folioso spicis obfesso. *Scheuchzer*, 407. t. 10. f. 1. *Mich. Gen.* 63. t. 32. f. 8. ex auctoritate cel. *Schreberi*, *Spic. fl. lipf.* p. 65. n. 1013.

Habitat in rupe Sancti Vincentii dictâ, propè Bristol. *D. Sole*.

Radix perennis, fibrosa. *Folia* tenuia, culmo triplo & ultra longiora, canaliculata, marginibus carinâque apicem versus aspera. *Culmus* brevis, erectus, teretiusculus, hinc planiusculus, glaber. *Spicæ* sexu distinctæ, una mascula, tres fœmineæ, omnes remotæ. *Spica mascula* terminalis, oblonga, acuta, femuncialis, squamis fusco-ferrugineis, ovato-oblongis, obtusis, margine lato, membranaceo, albo, nervo dorsali viridi. *Spicæ fœmineæ* oblongiusculæ, paucifloræ, pedunculatæ—Ad unamquamque spicam bractea membranacea, sæpius aphylla, quæ non modo pedunculum, verum etiam spicam ipsam, sæpius sinu fovet. Hæc bractea nonnunquam in foliolum brevissimum exit.—Squamæ ut in masculâ, capsulam subæquantes. *Capsula* ovata, trigona, acutiuscula, ore indiviso. *Filamenta* ut in cæteris. *Stylus* stigmatibus tribus, longis.

If the very singular mode of growth in the *C. digitata* and *clandestina* did not strike the eye of the most incurious, the membranaceous vagina would be a sufficient distinction. In this species the spikes are pedunculated, but still, in their flowering state, rarely exceed the length of the vagina. This circumstance, and the flowering culms themselves being hidden among the leaves, induced me to call it *clandestina*. It flowers very early in the Spring, in the very beginning of April. He who cultivates it would do well to shelter it at that season from frost and wet, which often prevent it from ripening its seeds, or indeed opening its flower. It thrives in the garden, almost equally well in the common border, or in a watery situation. But all *Carices* certainly prefer moisture.

This plant, as I am informed, has been spoken of by *Dick* and other pupils of *Haller* under the name of *argentea*, and by *Allioni* under the name of *prostrata*. It is the *humilis* of *Leyser* and of *Schreber*.

The leaves, which overshadow the culms at their first appearance, are those of the preceding year, which usually continue green till their successors are enabled to take their place, and continue the system of protection.

20. CAREX PENDULA.

C. vaginis longis subæquantibus, spicis cylindricis longissimis pendulis, capsulis confertissimis ovatis acutis. *Buddle, Hort. Sic.* p. 28. n. 2. *Uvedale, Herb. Ray*, vol. 12. p. 65. A & B.

Gramen cyperoides spicâ pendulâ longiore. *Morif. Hist. Ox.* III. 242. f. 8. t. 12. f. 4. *Fl. Angl.* 411. *Withering*, 1046. *Fl. Scot.* 564. *Curtis Fl. Londinensis*.

Habitat in fylvis, & sepibus frequentius. Maio, Junio.

Radix

Radix fibrosa, perennis. *Folia* lata, crassa, rigida, nigro-viridia; subtus glaucescentia; ad margines carinasque asperrima, culmo breviora. *Culmus* 2—6 pedalis, erectus, firmus, triqueter, angulis internè acutis, supernè obtusiusculis, omnino glabris, nisi ad summum ubi internodium unum aut alterum asperiusculum est. *Spica* una mascula, circiter sex foemineæ. *Spica* mascula triquetra, angulis acutis, sub-clavata, 2—4 uncialis, terminalis, squamis oblongis, acutis, fuscis, membranaceis, nervo dorsali viridi. *Spica* foemineæ cylindricæ, pedunculatæ, 4—6 unciales, pendulæ, bracteis longè breviores, remotæ, floribus inferioribus remotis, superioribus arctiùs imbricatis. *Squamæ* membranaceæ, nigræ, oblongæ, acutæ, nervo dorsali viridi lato. Ad basin omnis pedunculi bractea, f. folium vaginans longum, vagina plerumque pedunculi longitudine. *Capsula* ovata, triquetra, glabra, acuta, ore indiviso, squamâ suâ longior. *Filamenta* tria. *Stylus* stigmatibus tribus.

The great size of this *Carex*, and its very long pendulous cylindrical spikes, enable the botanist to discriminate it at a great distance—It has remarkably small capsules for its size.

21. *CAREX STRIGOSA*. TAB. 20, fig. 4

C. vagin longis subæquantibus, spicis filiformibus laxis pendulis, capsulis oblongis sub-triquetris acutis.

Uvedale, Herb. Rayn. vol. 12. p. 64. n. 2. *Fl. Angl.* 411.
Withering, 1047.

Habitat in sylvis & sepibus—In sylvâ Witham dictâ, propè Oxoniam.

Dr. Sheffield. Aprili, Maio.

Radix fibrosa, perennis. *Folia* lætè viridia, lata, marginibus carinâque asperis. *Culmus* erectus, 2-pedalis & ultra, triqueter, angulis acutis glabris, foliis longior. *Spica* unica mascula, circiter sep-

tem foemineæ. Spica mascula terminalis, linearis, teretiufculus, biuncialis, recta. Squamæ pallidè virentes, ovato-oblongæ, acutæ, margine membranaceo, albo, nervo dorsali lato, viridi. Spicæ foemineæ circiter septem, omnes filiformes, teretes, remotæ, primò erectæ, mox pendulæ, pedunculatæ, floribus laxè imbricatis; superiores sæpiùs floribus aliquot masculis terminalibus. Squamæ ut in masculâ. Ad basin omnis pedunculi bractea, f. folium vaginans, satis longum, vaginâ pedunculi longitudine. Capsula oblonga, triquetra, acuta, ore indiviso, squamâ demum fere duplo longior. Filamenta tria, antheris linearibus, pallidè flavis. Stylus stigmatibus tribus.

In *Ray's Synopsis*, p. 419. n. 11. there is a short, but very expressive description of this plant. In noting however the affinity between this and *C. sylvatica*, it is alledged that this has either none or very short footstalks; and other authors have copied this error—It has in fact long footstalks, but they are concealed within the vagina—This concealment led the old botanists to describe it as having none.

It differs from *sylvatica* by its having its peduncles scarcely longer than the vagina, and by its capsules being three-cornered and acute, but not with a long taper rostrum.

My friend Dr. *John Sibthorp*, the learned *Regius* Professor of Botany in the university of *Oxford*, has lately discovered this plant in another situation in the neighbourhood of *Oxford*.

22. CAREX PRÆCOX.

C. vaginis brevibus subæquantibus, spicis approximatis; masculâ subclavatâ; foemineis ovatis, capsulis subrotundis pubescentibus. Buddle, Hort. Sic. p. 30. n. 6 & 8. Uvedale, Herb. Rayan, vol. 12. p. 63. n. 3.

Gramen

Gramen cyperoides spicatum, Gerard. *em.* p. 22.

Gramen spicatum foliis caryophylleis. Park. 1160. *Jacquin Fl. Austriac.* 46. *Withering*, 1043.

Carex montana, *Fl. Angl.* 407. *Fl. Scot.* 551.

Habitat in pratis & ericetis. Aprili, Maio.

Radix repens, perennis. *Folia* saturatè viridia, tenuia, ad margines carinamque aspera, culmo breviora. *Culmus* erectus, 6—12 uncialis, triqueter, angulis obtusiusculis glabris. *Spicæ* una mascula, tres foemineæ, approximatae propè summum culmi. Spica mascula semuncialis & ultra, oblonga, sæpius sub-clavata, triquetra, erecta, squamis membranaceis, sub-ferrugineis, oblongis, acutis, nervo dorsali viridi. *Spicæ* foemineæ ad basin masculæ, ovatae, breviter pedunculatae, erectae, floribus densiusculè imbricatis; squamis ovatis, acutis, capsulas subæquantibus. Ad basin pedunculorum, præsertim inferioris, bractea, s. foliolum vaginans, breve, vaginâ brevi, pedunculum brevem æquantî. Hoc foliolum nunquam aut rarissimè culmum superat. *Capsula* ovata, sub-triquetra, acutiuscula, ore indiviso, tomentosa, mox nigricans. *Filamenta* ut in cæteris. *Stylus* stigmatibus tribus.

This plant is very easy to be distinguished from the *pilulifera* and *saxatilis* of Mr. Hudson, by its having its spikes shortly pedunculated, and its peduncles encompassed by a vagina or sheath equaling them in length. *Pilulifera* and *saxatilis* of Mr. Hudson have no vaginæ. If the vagina be attended to, it will soon be discovered that no one of the British species bears any resemblance to this. *C. præcox* has a creeping root and an erect stalk, with angles somewhat sharpish. It is a very common plant, growing on most of our heaths and in meadows.

23. CAREX FILIFORMIS. TAB. 20. fig. 5.

C. vaginis brevibus subæquantibus, spicis masculis sub-duabus linearibus; fœmineis ovatis remotis, capsulis hirtis.

Cyperoides sylvaticum angustifolium, spicis parvis tenuibus spadiceo-viridibus. *Scheuchzer*, 425. t. 10. f. 11. *Fl. Suecica*, n. 847.

Carex tomentosa, *Fl. Scot.* p. 553.

Habitat propè *Eaton*, in com. *Salop.* Rev. *E. Williams*.

At the south end of *Air Links*. Dr. *Hope*. Junio.

Radix repens, perennis. *Folia* tenuiora, erecta, in apicem tenuissimum definentia, marginibus carinâque asperiuscula 1—3 pedalia. *Culmus* erectus, tenuis, triqueter, angulis acutis hispidis, foliis subæqualis. *Spicæ* sæpiùs duæ masculæ, totidem fœmineæ—Mascula superior 1½—2 uncialis; inferior vix uncialis; ambæ lineares; f. filiformes, erectæ, squamis oblongis, acutis, nigro-ferrugineis, nervo dorsali viridi. *Spicæ* fœmineæ sæpiùs duæ (aliquando unica tantum sese protrudit), ovatæ, erectæ, brevissimè pedunculatæ distantes.—Ad basim pedunculorum bractea, f. folium vaginans, vaginâ perbrevis, pedunculum perbrevem omnino fere amplectenti—Vagina in foliolum abit culmo paulò brevius—Squamæ ut in spicâ masculâ, capsulas subæquantes. *Capsula* hirta, sive lanato-villosa, sub-triquetra, oblongiuscula, ore hiantè furcato.—*Filamenta* tria. *Stylus* stigmatibus tribus, villosis, crassiusculis.

Obs. Spica fœminea superior sæpè sessilis.

Anxious to determine this species, I solicited the honour of being permitted to consult Mr. *Lightfoot's* herbarium, which is now,

as I have before observed, in her MAJESTY'S possession.—I am therefore enabled to pronounce, that this plant is Mr. *Lightfoot*'s *Carex tomentosa*.

It is readily distinguished from all *Carices* in its very foliage. Its leaves are narrow, very long, oftentimes a yard; and they end in a long and very taper point, something like the American *Dactylis cynosuroides*. In fructification it is equally distinct, by having generally two male spikes and never more, and capsules downy, almost woolly. This is in the Linnean herbarium with the name *filiformis* inscribed by *Linnaeus* himself, therefore we can have no doubt about its identity. It is somewhat surprising that *Linnaeus* never mentioned the downiness of the capsules—This omission naturally led Mr. *Lightfoot*, who otherwise suspected it to be *Linnaeus*'s *filiformis*, to call it *tomentosa*.

The narrowness of the foliage being so remarkable, I wonder that *Linnaeus* did not take the hint from *Scheuchzer*, and name it *C. tenuifolia*.

I am much indebted to the Rev. Mr. *Williams* of *Eaton*, near *Shrewsbury*, for roots and specimens of this plant. I received roots also from my friend Dr. *Sibthorp* of *Oxford*, who was likewise indebted to Mr. *Williams* for them. Cultivated in a garden, it never, or rarely flowers.

24. CAREX FLAVA.

C. vaginis brevibus sub-æquantibus foliolo divaricato, spicâ masculâ lineari; fœmineis subrotundis, capsulis rostrato-acuminatis.
Buddle, Hort. Sic. p. 30. n. 11.

Gramen cyperoides aculeatum Germanicum. *Mor. Hist. Ox. III.*
243. f. 8. t. 12. f. 19.

Gramen

Gramen palustre echinatum, *Ger.* 17. *Park.* 1187.

Fl. Suecica, n. 843. *Leers*, t. 15. f. 6. *Fl. Dan.* 1047. *Fl.*

Angl. 407. *Fl. Scot.* 551. *Withering*, 1037.

Habitat in paludosis passim. Maio, Junio.

Radix repens, perennis. *Folia* amœnè viridia, ad margines carinamque asperiuscula, culmo longiora. *Culmus* erectus, triqueter, angulis acutis, glabris, altitudine varius, uncialis, pedalis, & ultra. *Spicæ* una mascula, tres fœmineæ—*Spica* mascula terminalis, sublinearis, erecta, semuncialis-uncialis, sub-triquetra; squamis ovato-oblongis, obtusiusculis, fulvis, nervo dorsali viridi. *Spicæ* fœmineæ modo omnes ad summam culmi congestæ; modo inferior remota, cæteris propè masculam congestis, modo, quod sæpe accidit, omnes a se invicem remotæ, subrotundæ, sed variant & præsertim inferior, oblongæ, pedunculo vaginâ suâ paulò longiori. Squamæ fere ut in masculâ, capsulâ breviores—Ad basin omnis pedunculi bractea, f. folium vaginans, vaginâ pedunculi longitudine. Veruntamen est ubi pedunculus inferior, præcipuè cum remotus sit, vaginam suam fere dimidio superat. *Vagina in foliolum* abit, culmo longius, divaricatum. *Capsula* sub-triquetra, ovata, rostrata, rostro sæpe sub-reflexo, ore plerumque indiviso, & ad basin spicæ, ex rotunditate f. contractione receptaculi, deorsum spectans. *Filamenta* ut in cæteris. *Stylus* stigmatibus tribus.

Obs Variat sed rariùs spicis masculis duabus, tum culmi angulis asperiusculis.

The long divaricated foliaceous bractea is a very constant discriminating mark in this species: this, together with its round prickly heads, render the investigation perfectly easy.

It

It may however be difficult to keep it always distinct from the two following, which have been considered as varieties of it. The capsule is a good guide to distinguish it from *C. extensa*, being in *C. flava* oblong, with a long taper point, and in *C. extensa* ovate and acute. But the capsule is no guide in its separation from *C. fulva*, being apparently the same. *C. flava* has always three female spikes, and *C. fulva* as constantly two—Then *C. flava* has its bractæ divaricated; *C. fulva* upright, particularly the lowest. The division of the apex of the capsule has always appeared to me constant in *C. fulva*, but is by no means so in *C. flava*. The habit of these two plants seems very different. And the female spikes in *C. fulva* are always acute, and never round.

25. *CAREX EXTENSA*. TAB. 21. fig. 7.

C. vaginis brevissimis æquantibus foliolo sub-reflexo, spicis confertis; foemineis sub-rotundis, capsulis ovatis acutis.

Buddle, Hort. Sic. p. 30. n. 10.

Carex flava, Var. β. Hudf. Flora Anglica, p. 407.

Habitat in palustribus, propè Harwich—On the marshy part of Braunton Burrows in Devonshire. Junio.

Radix ——— perennis. *Folia* radicalia sub-angusta, culmo breviora (quæ autem culmi basin amplectuntur, eundem sæpe æquant, sæpe superant) summitatem versus marginibus carinâque asperiusculis. *Culmus* erectus, pedalis & ultra, triqueter, angulis obtusiusculis, glabris. *Spicæ* una (rarius duæ) mascula; duæ, sæpe tres, foemineæ. *Spica* mascula linearis, femuncialis & ultra (si duæ adsint altera quintuplo brevior) terminalis; squamis fuscis, nervo dorsali viridi, oblongis, sub-obtusis. *Spicæ* foemineæ sæpiùs ad basin

basin masculæ, confertiusculæ; aliquando autem inferior remotiuscula, ovata (superiores sub-conicæ), acutiuscula; omnes plerumque breviter pedunculatæ; squamis ovatis, fuscis, nervo dorsali crassiusculo, qui in mucronem prominulum definit, capsulâ demum duplo brevioribus. Ad basin spicarum fœminearum bractea foliacea, quæ vaginâ suâ pedunculum totum, qui quidem omnino brevis est, amplectitur: inferior longissima, & culmum longissimè superat: superiores breviores; interdum superior culmo brevior. Omnes denique reflexæ. *Capsulæ* glabræ, patentes, sub-trigonæ, nervosæ, ovatæ, acutæ, apice in denticulos duos diviso, rostro (si rostrum fas sit dicere) brevissimo. *Filamenta* tria. *Stylus* stigmatibus tribus.

This plant has always, I believe, passed as a variety of *Carex flava*. However, the fructification proves it to be entirely distinct.

In *C. extensa* the leaves are narrower than in *C. flava*, and the whole plant is slenderer and taller. The squamæ of the female spikes are ovate and bluntish, with the nerve ending in a very short projecting point, and are shorter in proportion to the capsule than in *C. flava*. The capsules are rather acuminate, but by no means rostrated or beaked, and the summit is slightly bifid. The bractæ are usually reflexed. The female spikes have their peduncles only of the length of the vagina, and not longer. The capsules also are patent, but very rarely divaricated. This plant does not owe its height to being drawn up by the surrounding herbage, for I have always found it in open places.

I have found it in the marshy ground near *Harwich*, and in the marshy ground on the west side of *Braunton Burrows*, in the north of Devonshire. It is not a common plant.

Obs. The circumstance of the spikes being clustered together is very constant in this species, but it is by no means so in *C. flava*.

26. *CAREX FULVA*. TAB. 20. fig. 6.

*C. vaginâ infimâ subdimidiatâ; superioribus subæquantibus, spicis
fœmineis duabus oblongis acutis, capsulis rostrato-acuminatis.*

Carex distans. Fl. Dan. t. 1049.

Habitat propè Eaton, juxta Shrewsbury, in agro Salopienfi.

Rev. E. Williams. Junio, Julio.

Radix repens, perennis. *Folia* erecta, angustâ, marginibus carinâque asperis, culmo breviora. *Culmus* erectus, tenuis, sub-pedalis, triqueter, angulis acutis, asperis. *Spicæ*, una mascula, duæ plerumque fœmineæ. *Spica* mascula terminalis, sub-linearis, femuncialis & ultra, acutiuscula; squamis flavescentibus, margine albo, oblongis, modo obtusis, modo obtusiusculis. *Spicæ* fœmineæ sæpius remotæ, ovato-oblongæ, acutæ, inferior pedunculata, pedunculo longiusculo, superior subsessilis; squamis oblongis, acutis, sæpe acutiusculis, capsulam fere æquantibus. Ad basin omnis *spicæ* fœmineæ bractea f. folium vaginans; inferior erecta, culmum plerumque æquans, vaginâ plusquam dimidium pedunculi amplectente; superior sub-divaricata, culmo plerumque brevior, pedunculum, qui profecto brevissimus est, totum fere vaginâ occupans—interdum totum occupat. *Capsulæ* sub-trigonæ, nervis striatæ, oblongæ, rostrato-acuminatæ, squamas sub-æquantes, sæpe excedentes, apice divisæ, patentes, nec divaricatæ, aut deorsum spectantes.—*Filamenta* tria—*Stylus* stigmatibus tribus.

Obs. Variat, sed rarius, spicis fœmineis tribus.

This plant is scarcely removed from *C. flava*. However, it differs from it in having the angles of the culm sharp and rough. The female spikes are remote, oblong and acute, not round; the lowermost is supported by a long footstalk, half of which nearly

appears above the vagina. Besides, it has scarcely ever more than two female spikes. The lowermost bractea is erect, and not divaricated. The capsules are not divaricated, but patent, and are slightly divided at the summit. I regret that I have had no opportunity of cultivating it.

I am indebted to the *Reverend Mr. Williams* of *Eaton* near *Shrewsbury* for my knowledge of this plant as a native of Britain—I have received it from *America* and *Newfoundland*, but never understood till very lately that it was an inhabitant of our country.

27. CAREX DISTANS.

C. vaginâ infimâ ferè dimidiatâ ; superioribus subæquantibus, spicis oblongis remotissimis, capsulis acutis.

Buddle, Hort. Sic. p. 29. f. 5.

Uvedale, Herb. Rayn. vol. 12. p. 66. n. 1.

Gramen cyperoides palustre, spicis tribus subrotundis vix aculeatis, spatio distantibus. *Mor. Hist. Ox. 243. f. 8. t. 12. f. 18.*

Carex spicis parvis longe distantibus. *Scheuchzer, 431. Withering, 1049. Fl. Angl. 412. Fl. Scot. 561. Fl. Dan. 1049.*

Carex panicea, Fl. Suecica, Var. α ?

Habitat in palustribus, præcipuè maritimis. Junio.

Radix fibrosa, perennis. *Folia* pallidè virescentia, marginibus carinâque asperiusculis, culmuni floriferum sub-æquantia. *Culmus* erectus, triqueter, angulis acutis, glabris, pedalis, bipedalis. *Spicæ*, una mascula, rarius duæ; tres fœmineæ. *Spica* mascula terminalis erecta, sub-linearis, flavescent, quandoque nigricans, uncialis & ultra; squamis sub-flavescentibus, nervo dorsali viridi, marginibus albis, obtusis. *Spicæ* fœmineæ oblongæ, unciales & ultra, erectæ,

erectæ, pedunculatæ, valdè remotæ; squamis acutiusculis, capsulâ brevioribus. Ad basin omnis pedunculi bractea s. folium vaginans. Vagina inferior non pedunculi longitudine, tamen plusquam dimidium occupat; superiores pedunculos suos æquant. Vaginæ in foliola abeunt spicis suis multoties longiora, at culmo breviora—*Capsule* sub-triquetræ, ovatæ, acuminatæ, ore sub-diviso. *Filamenta* ut in cæteris—*Stylus* stigmatibus tribus.

The remarkable distance at which the female spikes are placed from each other, is a distinction too obvious to admit of any doubt. *C. hirta* has them situated in the same manner; but the leaves are hairy, and the capsules villous, in that species—in *C. distans* they are both perfectly smooth.

It usually flowers in May and June.

28. CAREX PANICEA.

C. vaginâ infimâ subdimidiatâ; superioribus sub-æquantibus; spicis erectis remotis, capsulis inflatis obtusiusculis sub-distantibus.

Uvedale, Herb. Rayan. vol. 12. p. 62. n. 1.

Cyperoides foliis caryophylleis (caule rotundo-triquetro), spicis rarioribus & tumidioribus vesicis compositis. *Mich. Gen.* t. 32. f. 11.

Fl. Suecica, 853, Var. β .

Leers, t. 15. f. 5. *Fl. Dan.* 261. *inala.* *Fl. Scot.* 558. *Withering*, 1044.

Habitat in pratis & pascuis humidis. Maio, Junio.

Radix repens, perennis. *Folia* glauca, marginibus carinâque asperiusculis, culmo breviora. *Culmus* erectus, triqueter, angulis acutiusculis, glabris, sub-pedalis. *Spicæ*, una (rarius duæ) mascula,

A 2 2

circiter

circiter tres foemineæ. Spica mascula terminalis, oblonga, uncialis; squamis fulvis, oblongo-ovatis, acutiusculis. Spicæ foemineæ omnes a se invicem remotæ, ovatæ, erectæ, pedunculatæ, floribus laxè imbricatis, squamis oblongo-ovatis acutis, capsulâ brevioribus, nervo dorsali viridi.—Ad basin finguli pedunculi bractea f. folium vaginans, vaginâ inferiori circiter dimidium, aut paulo plus, pedunculi amplectente; cæteris pedunculos suos fere æquantibus. Hæ bracteæ in foliola desinunt culmo breviora, spicis suis longiora. Capsula pallida, subovata, basi compressiuscula, supernè inflata, obtusiuscula, ore clauso, indiviso. Filamenta ut in cæteris.—Stylus. stigmatibus tribus.

C. panicea, in its younger state, is very like the young specimens of *C. recurva*; but it is at once distinguished by the vagina.—In *panicea* the lowermost vagina is full half the length of the footstalk, in *recurva* about one quarter only. It is distinguishable also by its alternate distant capsules; in *recurva* they are crowded in a thicker spike.

29. CAREX CAPILLARIS.

C. vaginis dimidiatis, spicis foemineis oblongis laxis: fructiferis-pendulis, pedunculis capillaribus, capsulis acuminatis.

Fl. Scot. p. 557. *Fl. Dan.* t. 168. *Scop. Fl. Carniol.* 1152. t. 59.

Habitat in montosis Scotiis.

Radix fibrosa, perennis—*Folia* tenuissima, culmo fere triplo breviora. *Culmus* erectus, triqueter, angulis obtusiusculis, glabris, 2—5 uncialis. *Spicæ*, una mascula, duæ foemineæ, omnes ad summum
tatem

tatem culmi. Mascula erecta, oblonga, f. sub-linearis, flavescent; squamæ oblongæ, acutiusculæ. Fœmineæ ambæ ex eodem nodo prodeunt, pedunculatæ, mox pendulæ, oblongæ, paucifloræ—Bractea f. folium vaginans dimidium pedunculorum, qui capillares sunt, occupat. Vagina in foliolum exit culmo paulum longius. Squamæ deciduæ, ovatæ, obtusæ, sub-fulvæ, capsulâ breviores. Capsula ovata, rostrato-acuminata, ore indiviso. Stigmata tria.

Obf. Spica mascula admodum pauciflora.

The diminutive stature of this plant, its capillary peduncles, its female spikes pendulous, lax, with few flowers, from four to eight, and the squamæ of the same being *deciduous*, place it in too *conspicuous* a light to be mistaken.

I never have had the good fortune to see this plant growing; I have therefore been obliged to take my description from dried specimens.

30. CAREX DEPAUPERATA.

C. vaginis plusquam dimidiatis, spicis fœmineis remotis paucifloris, capsulis ovatis inflatis rostrato-acuminatis.

Cyperoides fylvarum angustifolium caule trilatero, spicis parvis, capsulis rarius dispositis, obesis, &c.. *Mich. Gen.* p. 56. t. 32. f. 5. *Withering*, p. 1049.

Carex ventricosa. *Fl. Londin. bona.*

Habitat in sylvâ *Charlton* dictâ—In sylvis propè *Godalming* in agro Surreiano. Maio, Junio.

Radix fibrosa, perennis. *Folia* pallidè virescentia, marginibus carinâque asperis; radicalia ad basin rufa, culmo breviora. *Culmus* erectus, pedalis, bipedalis, triqueter, angulis obtusiusculis, glabris.
Spicæ,

Spicæ, una mascula, terminalis, linearis, squamis flavescentibus, nervo dorsali viridi, ovato-oblongis, acutiusculis. Spicæ fœmineæ remotæ, longè pedunculatæ, erectæ, paucifloræ—quæque scilicet spica circiter 3—6 flores gerit. Flores laxè dispositi. Squamæ flavescentes, nervo dorsali viridi (qui nervus in mucronem definit), oblongo-ovata, acutæ, capsulâ fere dimidio breviores. Ad basin omnis pedunculi bractea f. folium vaginans, quod circiter tertiam partem pedunculi, nec dimidium, amplectitur. Vagina in foliolum abit sæpissimè culmo longius. Capsula oblongo-ovata, inflata, sub-triquetra, erecta, rostrata, ore indiviso. Filamenta tria, antheris linearibus flavis. Stylus stigmatibus tribus.

Obs. Capsulæ sæpius bifariam imbricatæ.

I do not hesitate to adduce the synonym and figure of *Micheliæ*. It certainly belongs to this plant, as any one may satisfy himself who will take the trouble to observe how accurately the vaginæ are represented. In the *vesicaria*, to which it has been applied, there are no vaginæ—In this they embrace almost half of the peduncle or footstalk. *Micheliæ*'s figure plainly conveys this idea.

Its distant long-pedunculated spikes, and few capsules, readily distinguish this species from all others. This last circumstance induced the late Dr. *Solander* to name it in his MSS. *C. depauperata*, whom Dr. *Withering* first followed.

Mr. *Curtis* has given us an excellent figure of it under the name of *Carex ventricosa*.

I had the good fortune to find this species in *Charlton* wood—Mr. *Dickson* has told me that it is not unfrequent in dry woods near *Godalmin* in *Surrey*. I apprehend, from the form of the capsule, that it has been taken for a starved variety of *C. vesicaria*; as

I cannot

I cannot think it possible that a plant of this size, in the neighbourhood of London, could have escaped so long unnoticed. Probably the vagina was never attended to.

31. CAREX SYLVATICA.

C. vaginis abbreviatis, spicis filiformibus laxis pendulis, capsulis ovatis aristato-rostratis.

Buddle, Hort. Sic. p. 29. n. 4.

Uvedale, Herb. Rayn. vol. 12. p. 67. n. 1.

p. 69. n. 1.

p. 73. n. 1.

Gramen cyperoides sylvarum tenuius spicatum.

Morif. Hist. Oxon. III. 243. f. 8. t. 12. f. 9.

Park. 1172. Scheuchzer, 418.

Leers, 15. 2. Withering, 1047. Fl. Dan. 404. Fl. Angl. 411.

Fl. Scot. 562.

Carex patula. Pollich. n. 896.

Habitat in sylvis passim. Maio, Junio.

Radix fibrosa, perennis. *Folia* pallidè virescentia, ad margines carinamque supernè hispida, culmo breviora. *Culmus* bipedalis & ultra, erectus, triqueter, angulis supernè obtusiusculis, glabris: *Spicæ*, una (rarius duæ) mascula, circiter sex foemineæ, omnes a se invicem remotæ. *Spica* mascula terminalis, erecta, linearis, triquetra, uncialis, biuncialis, atque etiam ultra. *Squamæ* flavescentes, basi albâ, nervo dorsali viridi, oblongæ, acutæ. *Spicæ* foemineæ longius pedunculatæ, citò pendulæ, filiformes, floribus laxè imbricatis. *Squamæ* flavescentes, nervo dorsali viridi, ovatæ, acuminatæ, capsulâ breviores. Ad basin omnis pedunculi bractea f. folium vaginans.

vaginans, cujus vagina circiter quartam partem pedunculi amplectitur. Vagina in folium abit suâ spicâ paulò longius. *Capsula* ovata, acuminata, rostrata, rostro tenui, ore indiviso. *Filamenta* ut in cæteris.—*Stylus* stigmatibus tribus.

None of the figures of this plant, except that of *Leers*, give its due character. The figures of *Morison*, *Parkinson*, and *Fl. Danica*, represent it in its first stage of flowering when the spikes are erect. It does not long continue in this attitude; for the spikes, by reason of their thin and long footstalks, as soon as the impregnation of their flowers has taken place, are too heavy for their weak supporters. It usually produces five or six female spikes, and one male, very rarely two.

Every one must be surpris'd at *Linnaeus*'s joining this as a variety to *vesicaria* and *ampullacea*.

32. CAREX RECURVA.

C. vaginis abbreviatis, spicis foemineis sub-cylindricis pendulis, capsulis rotundato-ovatis, radice repente.

Buddle, Hort. Sic. p. 30. n. 3. 4.

Gramen nemorosum spicâ subnigrâ recurvâ. *Morif. Hist. Ox. f. 8. t. 12. f. 14.*

Carex limosa. Leers, Var. β. t. 15. f. 3. Fl. Angl. p. 413. Withering, 1050. Fl. Dan. 1051.

Habitat in pratis, pascuis, nemoribus & ericetis. Maio, Junio.

Radix repens, perennis. *Folia* glauca, pro magnitudine plantæ latiuscula, marginibus carinâque asperrima. *Culmus* erectus, triqueter, angulis acutiusculis, glabriusculis, foliis radicalibus longior, pedalis. *Spicæ*, una (sæpè duæ, rarò tres) mascula, tres foemineæ.

I

Spica

Spica mascula terminalis, oblonga, sub-cylindrica, plus minusve uncialis, squamis nigro-ferrugineis, oblongis, obtusis, nervo dorsali viridi, margine membranaceo albo. Spicæ foemineæ sub-cylindricæ, unciales, fescunciales, longius pedunculatæ, primum erectæ, mox maturiores pendulæ, remotæ. Ad basin pedunculorum bractea, vaginâ abbreviatâ, f. vix quartam partem pedunculi amplectente, utrinque basi auriculata, auriculâ sub-rotundâ. Vagina in folium definit culmo sæpè longius. Squamæ oblongæ, acutæ, capsulâ paulo breviores. Capsula ovata, sub-triquetra, obtusiuscula, ore clauso, primum viridis, inde gradatim flavesces, ferruginea, nigra, sub lente sub-tomentosa. Filamenta tria. Stylus stigmatibus tribus, crassiusculis, villosis.

Although no *Carex* can be said to vary more in size and habit than this, yet, to an attentive observer, there will be no difficulty in determining it. Its cylindrical pendulous black spikes, its glaucous leaves, short vaginæ, roundish capsules, smooth culm, and creeping root, are obvious distinctions.

It seems strange that so common a *Carex* as this is should have been so little noticed by the old authors. I recollect no old figure of it beside *Morison's*—that indeed characterises it sufficiently. *Leers's* figure is tolerable; he seems to have joined *C. limosa* his Var. α , and *recurva* his Var. β . in one—which is a confusion very unusual to his general consummate accuracy.

I should almost have apprehended that Mr. *Lightfoot* had intended this plant by his *C. caespitosa*, Var. α . had he not expressly mentioned that it had only two stigmata—whereas this invariably has three, and protrudes them in a manner not easy to be mistaken, being thicker, longer, and more villous than in the generality of this family.

33. CAREX PALLESCENS.

C. vaginis abbreviatissimis, spicis fœmineis sub-cylindricis: fructiferis pendulis, capsulis oblongis obtusis.

Buddle, Hort. Sic. p. 30. n. 5.

Gramen cyperoides polystachion flavicans, spicis brevibus propè summitatem caulis. *Mich. Gen. 61. t. 32. f. 13. Pluk. t. 34. f. 5.*

Sp. Pl. 1386. Fl. Suecica, n. 852. Leers, t. 15. f. 4. Fl. Angl. 410. Withering, p. 1043. Pollich. n. 889. Fl. Scot. 558. Fl. Dan. 1050.

Habitat in fylvis, pratis, & pascuis humidis. Maio, Junio.

Radix fibrosa, perennis. *Folia* angusta, pallida, ad margines carinaeque scabriuscula, culmo dimidio breviora, pilosa. *Culmus* erectus, pedalis, sesquipedalis, triqueter, angulis supernè acutissimis, infernè obtusiusculis, asperis. *Spicæ*, una mascula, tres fœmineæ, omnes ad summitatem culmi approximatae. Spica mascula terminalis, oblonga, triquetra, semuncialis; squamis flavescentibus, nervo dorsali viridi, acutiusculis. Spicæ fœmineæ sub-cylindricæ, obtusæ, pedunculatae, mox pendulae; squamis ovatis, acutis, capsulâ paulò brevioribus. Ad basin pedunculorum bractea, quæ culmum longè superat, vaginâ brevissimâ, ne quidem octavam pedunculi partem amplectenti. Flores densè imbricati. *Capsula* pallida, viridis, oblonga, obtusa, ore integro.—*Filamenta & antheræ* ut in cæteris.—*Stylus* stigmatibus tribus.

None of the figures give a good representation of the female spikes in their mature state—at that time they are nearly cylindrical, whereas in the figures here quoted we have only the ovate form, in which they appear when first in flower.

34. CAREX LIMOSA.

C. vaginis abbreviatissimis sub-nullis, spicis foemineis ovatis pendulis, capsulis ovatis compressis, radice repenti.

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

Flor. Suecic. n. 850. *Fl. Angl.* 409. *Withering*, 1041. *Pollich.* n. 888. *Fl. Dan.* 646.

Habitat in paludibus turfosis, in comitatibus Eboracensi, Lancastriensi, Westmorelandico, &c. passim. Junio.

Radix repens, perennis. *Folia* glauca, erecta, tenuia, marginibus carinâque aspera. *Culmus* erectus, triqueter, angulis acutis, asperiusculis. *Spicæ*, una mascula, duæ foemineæ. Spica mascula terminalis, oblonga, sub-linearis; squamis flavescentibus f. subferrugineis, oblongis, acutis. Spicæ foemineæ longius pedunculatæ, mox pendulæ, ovatæ, acutiusculæ; squamis ovatis, acutis, sæpe mucronatis, fuscis, nervo dorsali viridi, capsulâ paulo longioribus. Ad basin pedunculorum bractea culmo longior, quæ vix ac ne vix quidem ullam partem pedunculi complectitur. *Capsula* sub-compressa, nervosa, ovata, mucronata, ore integro. *Filamenta* ut in cæteris. *Stylus* stigmatibus tribus.

This plant has been confounded with *recurva*, from which it is readily distinguishable by its very short vaginæ, by its ovate spikes, and by the shape and colour of its capsules, which are compressed; of a cæsius green colour when young, and brown when ripe; not round, ovate, and black as in *recurva*.

Upon cultivating it, I observed, that it frequently threw up barren leafy stalks; upon cutting these off, and planting them in

pots plunged in water, they readily took root, and formed luxuriant plants. The name *stolonifera* would have been peculiarly proper for it.

This species, when cultivated in a garden, rarely flowers. In a wild state I have never seen it with more than *two* female spikes, usually with *one* only.

35. CAREX PSEUDO-CYPERUS.

C. vaginis sub-nullis, spicis foemineis cylindricis pedunculatis pendulis, capsulis aristato-rostratis sub-divaricatis.

Uvedale, Herb. Rayan. vol. 12. p. 65. C.

Pseudo-cyperus, Ger. em. 29. Park. 1266.

Gramen cyperoides spicâ pendulâ breviori. Mor. Hist. Ox. III. 242. f. 8. t. 12. f. 5.

Fl. Suecica. 854. Fl. Angl. 410.

Fl. Scot. 559. Pollich. n. 891. Withering, 1045.

Habitat in nemorosis humidis, & ad ripas fossarum. Junio.

Radix fibrosa, perennis. Folia pallidè viridia, lata, canaliculata, marginibus carinâque asperis, culmo ferè duplo longiora, omnia longitudine ferè æqualia. Culmus pedalis & ultra, ad summum ferè foliosus, erectus, triqueter, angulis acutis, asperis. Spicæ, una mascula, quatuor foemineæ; omnes lineares, tenues, pallidæ. Spica mascula terminalis, sub-triquetra, bracteata, bractea setacea, spicâ dimidio breviori; squamis sub-setaceis, pallidis, nervo dorsali viridi, ad apicem marginibus carinâque hispidis. Spicæ foemineæ pedunculatæ, pedunculo spicâ suâ longiori, teretes, fructiferæ pendulæ; intermediæ geminatæ, cæteræ solitariae; squamæ ut in spicâ masculâ, capsulas sub-æquantes. Ad omnem spicam foemineam bractea

tea foliacea, inferior *culmum* longè superans, cæteræ etiam *culmum* superantes; omnes subseffiles, aut basin pedunculi, brevissimè quidem, amplectentes. *Capsulæ* oblongæ, striatæ, medio sub-ventricosæ, rostratæ, rostro longo, tenui, apice diviso, f. sub-furcato, sub-divaricatæ.—*Filamenta* tria.—*Stylus* stigmatibus tribus, albis.

Linnaeus took his character of this plant from its having two *peduncles* rising from each joint of the *culm*. However, that is so very uncertain a mark, that it is not possible to place any dependence upon it. The circumstance of its having no *vaginæ*, or at best very minute ones, and *capsules* nearly divaricated, and ending in a long point, represents it in a sufficiently-distinguishable light. The intermediate *peduncles* are not unfrequently found doubled.

36. CAREX ATRATA.

C. vaginis sub-nullis, spicis omnibus androgynis-terminalibus pedunculatis: fructiferis pendulis, capsulis ovatis acutiusculis.

Cyperoides Alpinum pulchrum foliis caryophylleis, spicis atris & tumentibus.

Scheuchzer, p. 481. t. 11. f. 1. 2.

Fl. Suecica, 849. *Fl. Anglica*, 409. *Fl. Dan.* 158.

Fl. Scot. 555. *Withering*, 1040.

Habitat in montibus Cambro-Britannicis & Scoticis. Maio, Junio, Julio.

Radix fibrosa, perennis. *Folia* lata, culmo breviora, carinata, marginibus carinâque asperis. *Culmus* erectus, triqueter, angulis acutis asperiusculis, pedalis. *Spicæ* non sexu distinctæ, quippe summa non mascula, at plerumque foeminea, & ad basin flores masculos gerit, nec non quosdam hermaphroditicos sparsos, quod etiam

etiam in cæteris quandoque accidit. Spicæ omnes oblongæ, acutæ, femunciales, pedunculatæ, pedunculo longo, demùm pendulæ, approximatae. Squamæ ovatae, acutæ, nigræ, nervo tenuiori dorsali, viridi, capsulâ paulò longiores. Ad omnem pedunculum bractea foliacea; infima culmo plerumque longior, sed variat brevior, subsessilis: est ubi inferior basin pedunculi, at brevissimè, amplectitur. *Capsula* viridis, ovata, sæpe acuta, compressa, apice breviter diviso. *Filamenta* duo, antheris linearibus flavis. *Stylus* stigmatibus tribus, villosis.

This species with us has all its spikes androgynous; in strict justice, therefore, it should be arranged under the order *Spicis androgynis*. But there is something in its habit so perfectly conformable to those styled *Spicis sexu distinctis*, that rigid rule must give way:—the singularity in this species is, that it has for the most part only two stamina, and a few hermaphrodite flowers.

Its having no vaginæ, or at least very minute ones, and black ovate spikes, are marks sufficient to distinguish it readily from all others with which it can come in any competition.

The specimen in the *Linnean herbarium* seems to be the same as our English plant; but that has its terminal spike evidently male.

Scheuchzer's figure gives no bad representation of the hermaphrodite flower.

37. CAREX PILULIFERA.

C. vaginis nullis, spicâ masculâ sub-lineari, foemineis subrotundis sessilibus confertis, culmo debili.

Buddle Hort. Sic. p. 30. n. 9.

Gramen cyperoides tenuifolium, spicis ad summum caulem sessilibus globulorum æmulis. *Pluk. ph. t. 91. f. 8.*

Mor. Hist. Ox. III. 243. f. 8. t. 12. f. 16.

C. mon-

- C. montana*. *Fl. Suecica*, n. 845. *Leers*, t. 16. f. 6.
C. pilulifera. *Sp. Pl.* 1385. *Fl. Angl.* 408. *Fl. Scot.* 554.
Withering, 1039. *Fl. Dan.* 1048.

Habitat in pascuis & ericetis humidis passim. Aprili, Maio.

Radix fibrosa, perennis. *Folia* ex flavescenti amœnè viridia, tenuia, culmo breviora, marginibus carinâque apicem versus hispida. *Culmus* debilis, incurvus, sæpiùs recumbens, triqueter, angulis acutis sub-lævibus, 3—6 uncialis, & ultra. *Spicæ*, una mascula, & circiter tres foemineæ. Spica mascula terminalis, linearis, aliquando oblongiuscula, tenuis; squamis oblongo-ovatis, acutis, fuscis, nervo dorsali viridi, margine tenero albido. Foemineæ tres, ad basin masculæ, approximatae, oblongæ, acutæ, maturiores subrotundæ; duæ inferiores bractea brevi, foliaceâ, sessili, subtenduntur; superior bractea membranaceâ, ovatâ, carinatâ, quæ denuò in mucronem foliaceum definit; squamæ fere ut in masculâ sed pallidiores, capsulam maturam subæquantes. *Capsula* mox nigricans, subrotunda, sub-tomentosa, mucronata, mucrone brevi obtusiusculo, apice indiviso. *Filamenta* ut in cæteris. *Stylus* stigmatibus tribus.

Obs. In spicis foemineis, flores terminales plerumque masculi. Post breve tempus hi decidui sunt, unde spicæ sæpiùs rotundæ evadunt. Spica inferior variat, sed rarius, breviter pedunculata.

I own that I still hesitate what name I ought to add to this species. Dr. *Smith* tells me, it certainly is the *C. montana* of the Linnean herbarium; and that, from the quotation of *Plukenet*'s figure, we may be equally certain *Linnaeus* described it from thence as his original *C. pilulifera*, without having a specimen in his collection.

lection. It must be confessed, that the plant in the Linnean herbarium, *afterwards* gathered by Dr. *Solander* in Lapland, and named *pilulifera*, is very different from this I am now treating of. It is very robust and erect, the spikes also are larger and more crowded, neither is there any male spike to be seen. Probably it is the *Carex alpina* of the *Fl. Danica* 403. It must therefore be concluded that that was not the plant which *Linnaeus* originally intended. I have no doubt but he spoke of one and the same plant under two names. I should think that in its more fruitful state, with three female spikes, he called it *pilulifera*: in its more starved appearance, when produced on elevated and dry plains, where it has only two, and not unfrequently only one female spike, he called it *montana*.

The figures in *Plukenet* and *Morison* are very expressive, but are too erect. The roundness of the female spikes happens from the terminal flowers being usually male and deciduous: as these wither away, the spikes assume their round form, otherwise they are in general oblong. The capsules are somewhat downy, as in *C. præcox*, but the linear male spike, the female ones sessile, and the reclining culm, mark its distinction in all stages of its growth.

Mr. *Hudson* having adopted the name *pilulifera*, and in consequence that name having universally obtained with us, not to mention that it is more expressive than *montana*, I thought it best, upon mature deliberation, to continue it.

38. *CAREX RIGIDA*. TAB. 22. fig. 10.

C. digyna, vaginis nullis, spicis oblongis sub-fessilibus, foliis sub-recurvis rigidis.

Cyperoides germanicum, foliis brevibus rigidis acutis, &c. *Mich. Nov. Gen.* p. 61. t. 32. f. 4.

Carex faxatilis. *Fl. Angl.* 408.

Habitat in summo vertice montis Snowdon. Mr. *Hudson*.

In alpinis Scotiis. Mr. *Dickson*.

Aprili, Maio.

Radix crassa, valde repens, perennis. *Folia* rigida, nigro-viridia, glaucescentia, marginibus carinâque apicem versus asperis, recurva, culmo paulò breviora. *Culmus* erectus, sæpe incurvus, circiter $4\frac{1}{2}$ uncias altus, triqueter, angulis acutissimis asperis, præ cæteris suæ altitudinis crassus, rigidus. *Spicæ*, unica mascula (rariùs duæ), duæ, tres foemineæ, ad summum culmi approximatae—Spica mascula terminalis, oblonga, acutiuscula, circiter $\frac{1}{2}$ unc. longa; squamis nigris, ovatis, obtusissimis, margine membranaceo, nervo abbreviato dorsali viridi—Spicæ foemineæ mari approximatae, inferior remotiuscula, oblongæ, acutiusculæ, sessiles (inferior sæpè pedunculata), longitudine maris, floribus densè imbricatis, flore uno aut altero terminali, præcipuè in spicis superioribus, masculino; squamæ nigræ, ovatae, obtusissimæ, &c. ut in masculâ, demum capsulâ dimidio breviores. Ad spicas foemineas bractea foliacea sessilis, basi utrinque auriculatâ—quæ ad spicam inferiorem sita est, spicâ suâ longior est, & recurva—quæ ad superiores, erectæ, & spicis suis breviores,

basi pariter auriculatæ. *Capsula* ovata, hinc planiuscula, glabra, obtusiuscula; variat autem producta, acutiuscula, sub-recurva.—*Filamenta* ut in cæteris. *Stylus* stigmatibus duobus, crassiusculis, albis, pilosis.

Obs. Flores inferiores sæpè remotiusculi. *Capsulæ* ore indiviso. Bractearum auriculæ fatis magnæ, sub-rotundæ.

This plant has often been confounded with the *saxatilis* of *Linnaeus*, and the *montana* of Mr. *Hudson*. It differs from the *montana*, by its having no vaginæ, two stigmata, and smooth capsules; from the *saxatilis*, by its being a thicker and much smaller plant; and from both, by the great rigidity of its leaves and incurved stalk. In Sir *Joseph Banks*'s herbarium is a fine specimen collected by Mr. *Hudson*, the culms of which are much incurved. I have cultivated this plant, and find that the culm keeps the tendency to incurvation. I should apprehend that the bleak exposure on the tops of mountains contributes to the incurvation observable in its wild state.

~~The rigidity of its leaves, and their being spread abroad, or, as it~~ oftener happens, bent back, distinguish it from *cæspitosa*, whose leaves are upright and soft. By the same marks it may always be kept separate from *C. stricta*, which also is altogether upright. But the fructification of these three species, especially in the number of styles, is very similar.

It is possible that the root leaves of this plant, arched back, and of a firm nature, may afford protection to many of the winged inhabitants of the windy tops of alpine situations.

Considering the cold situation of the natal soil of this plant, it
 2 seems

seems somewhat surprising that, when planted in a garden, its leaves should wither at the first approach of winter; but even in that state they retain much of their rigidity.

I am indebted to that acute observer, Mr. *Dickson*, for plants of this species brought by him from *Scotland*, where it is frequent upon the tops of high hills.

39. *CAREX CÆSPITOSA*. TAB. 21. fig. 8.

C. digyna, vaginis nullis, spicis sub-seffilibus sub-cylindricis obtusis, foliis erectis molliusculis.

Buddle Hort. Sic. p. 30. n. 2.

Fl. Suecica, n. 855.

Habitat in palustribus, in nemorosis humidis. *Maio*.

Radix valdè repens, perennis. *Folia* molliuscula, amœnè viridia, sub-glaucæ, erecta, culmum æquantia, marginibus carinâque apicem versus asperiuscula. *Culmus* erectus 4-12 uncialis & ultra, sub-debilis, triqueter, angulis acutis, asperiusculis. *Spicæ*, una mascula (rariùs duæ), tres fœmineæ. Spica mascula erecta, terminalis, oblonga, triquetra, $\frac{1}{4}$ -1 unciam longa; squamis ovatis, obtusis—Spicæ fœmineæ duæ aut tres, sub-cylindricæ, obtusæ, sub-seffiles—scilicet inferior breviter pedunculata, superiores seffiles. Flores plerumque sexfariâ, rarò octofariâ, densè imbricati—Squamæ ovatæ, acutiusculæ (sed variant nec infrequenter obtusæ), capsulâ maturâ breviores, nigræ, nervo dorsali viridi. Ad spicas fœmineas bractea foliacea, erecta, seffilis, i. e. culmum ne minimè quidem amplectens,

basi utrinque auriculata, auriculâ nigrâ rotundâ persistenti, culmum modo æquans, plerumque superans, interdum brevior. *Capsula* ovata, obtusiuscula, sub-compressa, glabra, apice indiviso. *Filamenta* ut in cæteris. *Stylus* stigmatibus duobus.

Obs. Capsulæ persistentes, nec deciduæ.

Having spoken very fully of this plant in my remarks upon *C. stricta*, I have only in this place to say, that this plant has been generally mistaken in consequence of the various assertions of authors who have written upon it. It was not till after repeated and careful examinations of the Linnean herbarium, that I could determine it; for the specimens there preserved seem chosen ones, and of course do not appear at first sight to bear that exact resemblance to the general habit which is observable with us. I was relieved from all doubt by Mr. *Afzelius*, who, from his intimate and accurate knowledge of the Swedish plants, and not less perhaps of those of our country, traced out to me *certain* marks of similarity.

Obs. The capsules usually adhere to the rachis of the spike, even in decay. In *C. stricta*, they are deciduous as soon almost as they come to maturity—*C. caespitosa* comes into flower a very considerable time after *C. stricta*, nearly or quite a month.

40. CAREX STRICTA. TAB. 21. fig. 9.

C. digyna, vaginis nullis, spicis sub-seffilibus cylindricis acutis; masculis sub-duabus, foliis erectis strictis.

Gramen

Gramen cyperoides palustre spicâ pendulâ.

Loef. Pruss. p. 116. t. 30.

C. cæspitosa. *Fl. Angl.* 412. *Fl. Scot.* p. 560. var. β .

Habitat in palustribus. Propè Norwich. *D. Pitchford.*
Aprili.

Radix valdè repens, perennis. *Folia* glaucescentia, erecta, rectissima, culmo breviora, marginibus carinâque asperis. *Culmus* pedalis, bipedalis & ultra, erectus, triqueter, angulis acutis asperis. *Spicæ* masculæ plerumque duæ, foemineæ tres, omnes erectæ, subcylindricæ, acutæ. *Spicæ* masculæ triquetrae 1—2 unciales, squamis oblongis, acutiusculis, nigris, nervo dorsali viridi. *Spicæ* foemineæ 1—2 unciales, infima breviter pedunculata, cæteræ sessiles, floribus masculis terminatæ, & inde acutæ; squamæ oblongæ acutæ, capsulis octofariam imbricatis, paulò breviores. Ad spicas foemineas bractea foliacea, sessilis, erecta, inferior culmo plerumque paulò brevior (sed variat culmo longior, necnon longè brevior), junior sæpiùs auriculata, auriculâ oblongiuscula, citò elongatâ, mox evanidâ—superiores breviores, pariter auriculatæ. *Capsula* compressa, ovata, acuta, glabra, apice indivisio. *Filamenta* ut in cæteris. *Stylus* stigmatibus duobus, albis, crassiusculis, villosis.

Obs. Folia radicalia, quæ basin culmi amplectuntur, vaginam hinc membranaceam habent: membrana autem culmo luxurianti, mirè disrumpitur, & quasi in filamenta reticulato-connexa laceratur. Capsula citiùs decidua.

This *Carex* has many particulars in common with the *cæspitosa*; its upright culm and leaves, no vaginæ, sessile spikes, and to appearance digynous flowers: hence many have thought them the
same

same species. I am quite of a different opinion.—In the first place, *C. stricta* has the root-leaves which embrace the base of the culm, with the membranous part of the vagina, split into threads after the manner of open net-work: then the root-leaves and the bractæ are shorter than the culm at the time of flowering. Add to this, the bractæ, particularly the lowermost, have either no auricles, or oblong ones, which are presently so elongated as to disappear, i. e. to lose all form of auricles. The female spikes are acute, owing to their having male flowers at the summit. The scales are all acute—their capfules are set in eight rows, and two male spikes for the most part terminate the culm.

On the contrary, *C. cæspitosa* has the root-leaves, which embrace the base of the culm, with the membranous part always entire.—The root-leaves equal the culm in point of length at the time of flowering, the bractæ are longer—The bractæ always have little round auricles on each side of the base, which do not change their shape: the female spikes are obtuse, and have no male flowers at their summit. The scales (though sometimes they may be somewhat acute) are in general bluntish, not unfrequently very much so—The capfules are generally set in six, very rarely in eight rows, and it is seldom found with more than one male spike; besides, it is every way a much smaller, weaker, and softer plant. I speak here of the *general* appearance of these two species.

I have little doubt but *Loefel* meant this plant, though he speaks of it *spicâ pendulâ*; I suppose he means with an inclining stalk. He does not say, *spicis pendulis*—that would have been decisive against me; but *spicâ pendulâ*, i. e. as I interpret him, with that part of the culm which bears the spikes, inclining: not that I ever scarcely observed it even so, for it is in general remarkably upright in its stature. Most probably *Loefel* drew his figure from a dried specimen.

specimen. However, the habit of the plant which he has figured, the shortness of the leaves, and the apparent strictness of the culm, make me look upon it to be *C. stricta*. Had it been drawn upright, there would have been little or no doubt.

I should suppose that Dr. *Withering* meant this plant for his *cæspitosa*: but in some particulars the descriptions do not accord; perhaps they are taken from *cæspitosa* and *stricta* promiscuously, on a supposition that they are the same.

The younger *Linnæus* once told me, that this was his father's *C. acuta*, var. *ruffa*. i. e. the var. α of the *Flora Suecica*, to which is quoted *Micheliûs's* figure t. 32. f. 12. which is there said to be exact. (We were examining a living plant in Kew-garden when this conversation passed). Now that figure has the female spikes with longish peduncles, which I never have observed the *stricta* to have. Had the spikes been sessile, it would have been a very decent representation of it. It could not be the *acuta* var. β of *Flora Suecica*, for that is, as appears evidently in the *Linnean herbarium*, the *C. gracilis* of Mr. *Curtis*. Certainly the growth of this plant answers to the name of *acuta* better than any other, having all its parts erect and sharp pointed. I wished to have named it so; but as the *gracilis* of Mr. *Curtis* is preserved in the *Linnean herbarium* under the name of *acuta* (by which means we are sure of one of the varieties), and as this has its title of *acuta*, var. *ruffa*, only from a conversation held accidentally with the younger *Linnæus*, I do not venture to change the name upon this authority. There would, I own, be great propriety in calling this plant *acuta*, and suffering Mr. *Curtis's* very apt appellation of *gracilis* to remain with the other.

I must confess that I have but little doubt of this being the *acuta* var. *ruffa* of *Linnæus* *.—It is the only plant which accords with

* Since the reading of this paper, the Baroness d'Itzenplitz favoured me with a sight of some *Carices*, sent her from Upsal, among which I observed this plant named *acuta*.

Mr. *Curtis's gracilis*, in the leading points of the Linnean character: *Spicis masculis pluribus, floribus digynis*.

It is observable, that *Michelius's* figure has the female spikes acute, rendered so by the male flowers at the top; which appearance no *Carex* has so constantly as this.

Some years ago I received roots of this plant from Mr. *Pitchford* of *Norwich*: I have cultivated it ever since, together with *C. cæspitosa*; neither have I observed either of them vary from the description given above.

41. CAREX RIPARIA.

C. spicis oblongis acutis; mascularum squamis lanceolatis: foeminearum aristato-acuminatis, capsulis ovato-lanceolatis apice furcato-dentatis.

Petiv. Hort. Sic. vol. 1. p. 157.

Buddle, Hort. Sic. p. 28. n. 3, 4.

Cyperoides aquaticum maximum, &c. squamis in aristam longius productis, capsulis oblongis, bifidis. Michel. Nov. Gen. p. 57. t. 32. f. 6, 7.

Gramen cyperoides latifolium spicâ rufâ caule triangulo. Mor. Hist. Ox. III. f. 8. t. 12. f. 1.

Carex acuta, var. α. Hudf. Fl. Angl. p. 413. Fl. Scot. p. 565.

Carex riparia, Flora Londin. & Withering, p. 1056.

Habitat ad ripas fossarum fluviorumque; in palustribus, & pratis humidioribus. Aprili, Maio.

Radix valdè repens, crassa, perennis. *Folia* lata, erecta, supra pallidiora, subtus nigro-viridia, glauca, marginibus carinâque asperri-
mis,

mis, culmum inflorescentem sub-æquantia—quæ culmi basin ambiunt, vaginâ nervosâ, nervis pulchrè reticulatis. *Culmus* erectus, firmus, triqueter, angulis acutissimis, asperis, bipedalis & ultra. *Spicæ* tres masculæ, totidem fœmineæ. *Spicæ* masculæ terminales oblongæ, acutæ, triquetrae, angulis acutis, confertæ; squamis lanceolatis, acuminatis, nigris, nervo dorsali viridi. *Spicæ* fœmineæ oblongæ, & præ floribus terminalibus plerumque masculis acutæ: una aut altera inferior pedunculata, pedunculo sæpè longiusculo, superiores subsessiles, omnes erectæ. *Squamæ* lanceolatæ, aristato-acuminatæ, nigræ, nervo dorsali viridi, capsulâ longiores. Ad spicas fœmineas bractea foliacea; una aut altera inferior culmum sæpiùs longè superans, pedunculi basin vaginâ brevissimâ occupans: superiores subsessiles, basi plerumque auriculatæ, auriculatâ rotundiusculâ, culmum aut æquantes aut paulò breviores, tenuiores. *Capsulæ* sub-octofariam imbricatæ, oblongo-ovatæ, acuminatæ, apice diviso furcato, nervosæ. *Filamenta* tria, antheris linearibus flavis. *Stylus* stigmatibus tribus.

There is scarcely a possibility of mistaking this plant for any other. Its black, triangular, acute male spikes, and acuminate bifurcated capsules, must ever point out a most decided distinction.

He who would wish to obtain farther information, would do well to consult the excellent figure and observations of Mr. *Curtis* in his *Flora Londinensis*, or Mr. *Lightfoot*'s accurate description in his *Flora Scotica*.

It varies a little occasionally as to the robustness of its stature, and is met with sometimes with blunt male spikes. *Buddle*'s No. 4. is an instance of it.

42. CAREX PALUDOSA.

C. spicis oblongis sub-obtusis; mascularum squamis obtusis: foeminearum lanceolatis, capsulis ovato-lanceolatis apice sub-dentatis.

Carex acuta. *Fl. Londinensis. Withering*, p. 1054.

Habitat in palustribus, & ad ripas fossarum. Maio, Junio.

Radix valdè repens, perennis. *Folia* circiter semunciam lata, glauco-viridia, erecta, marginibus carinâque aspera, culmo breviora, basi rubra. *Culmus* pedalis, bipedalis, erectus, inæqualiter triquetus, angulis acutis asperis. *Spicæ* plerumque tres masculæ, totidem foemineæ. *Spicæ* masculæ terminales, approximatae, triquetrae, angulis obtusiusculis, oblongæ, obtusæ; squamis fuscis, nervo dorsali viridi, oblongis, obtusis. *Spicæ* foemineæ oblongæ, sæpiùs obtusiusculæ (sed variant obtusæ & acutæ pro præsentia aut absentia florum masculorum terminalium; ubi enim hi adsunt, acutæ evadunt), erectæ, inferior una aut altera breviter pedunculata, floribus arctim imbricatis: squamæ lanceolatae, valdè acutæ, fuscae, nervo dorsali viridi, capsulâ sæpè longiores. Ad omnem spicam foemineam bractea foliacea, inferior una aut altera culmo longior, basi pedunculum brevissimè amplectens; superiores aut culmum æquantes, aut paulò breviores; basi rariùs auriculatae. *Capsulae* sub-octofariam imbricatae, nervosæ, ovato-lanceolatae, acutiusculæ, apice ante maturitatem integro, demum denticulis duobus brevissimis conspiciendo. *Filamenta* ut in cæteris. *Stylus* stigmatibus tribus.

This plant, which is so common with us, does not appear to have been noticed by *Linnaeus*. It is often very variable in its

appearance, and comes so near *riparia*, that it is not to be separated from it without a little close attention. The scales of the male spike will afford a constant character: they are always more or less blunt in this species, and very acute in *riparia*. Its capsules are either not at all, or very slightly divided at the summit, but not rostrated or furcated. From this circumstance I am inclined to add the synonym of *Michelius*, t. 32. f. 6. to *riparia*—never having observed the capsules of *paludosa* half so deeply divided.

43. CAREX ACUTA.

C. digyna, spicis filiformibus; foemineis inflorescentibus nutantibus: fructiferis erectis, capsulis acutiusculis apice indiviso.

Uvedale, Herb. Rayn. vol. 12. p. 61. n. 1.

Carex acuta, Var. β . *Fl. Suecica*, n. 857.

Carex gracilis. Flora Londin.—& Withering, 1053.

Maio.

Radix perennis, repens. *Folia* angusta, amœnè viridia, erecta, apicibus pendulis, marginibus carinâque asperis, culmo breviora. *Culmus* altitudine mirè variat, pro solo & situ, trientalis, pedalis, bipedalis & ultra, triqueter, angulis acutissimis, asperis, sub inflorescentiâ sæpiùs cernuus. *Spicæ* masculæ duæ, rarò tres; foemineæ tres; omnes filiformes, tenues. *Spicæ* masculæ rectiusculæ, 1—3 unciales, squamis oblongis, obtusis, nigris, nervo dorsali viridi, inferiores breviores. *Spicæ* foemineæ subsessiles (est ubi inferior una aut altera breviter pedunculata), sub inflorescentiâ nutantes f. recurvæ, maturiores erectæ, floribus terminalibus sæpè masculis, &

inde acutæ. Squamæ oblongæ, acutæ, nigræ, nervo dorsali viridi, capsulâ paulò breviores. Ad omnem spicam fœmineam bractea foliacea, sessilis, basi sæpè auriculata, inferior culmo paulò longior, superiores aut æquantes aut breviores. Capsulæ sub-octofariâ imbricatæ, ovatæ, acutiusculæ, compressæ, apice indiviso, clauso, arcuim imbricatæ. Filamenta tria, antheris linearibus flavis. Stylus stigmatibus duobus.

Whatever were the other variety of *C. acuta*, mentioned in the several writings of *Linnaeus*, we are quite sure that this was one, for it is now in Dr. *Smith*'s herbarium, so named by *Linnaeus* himself. Unfortunately the other is not preserved: however I can scarcely have a doubt but it was *C. stricta*, that being the only one which I know of, which bears any resemblance to *Michelius*'s figure, t. 32. f. 12. I would not however wish to appear to be positive upon this head, as there is not that exact resemblance in the figure, which, after the commendation bestowed upon it by *Linnaeus*, we have a right to expect.

The slenderness of the habit of this plant in all its parts, its filiform spikes, pendulous when in flower, its having the pistillum with two styles, and the capsules of a compressed form or flattish, and undivided at the summit, keep it evidently distinct from all others. I have never seen it less than three or four inches high (and that only in dry starved land), and therefore state it as such.

Mr. *Curtis*, Dr. *Stokes*, and Mr. *Woodward*, all shewed good judgment in long ago suspecting this to be the *C. acuta* of *Linnaeus*. I derive my information only from seeing the plant since in the Linnean herbarium. I do not therefore take any merit to myself, as being wiser than those respectable gentlemen, but only deem myself more fortunate
in

in my opportunity. *Linnaeus* evidently confounded two species under the name *acuta*. As *Michelius*'s figure was said by *Linnaeus* to be an exact likeness of his first variety, and as there was no figure quoted to his second, Mr. *Curtis*, unable to reconcile this plant to *Michelius*'s figure, judged it to be a distinct species, (who would not have done the same ?) and called it *gracilis* accordingly.

44. CAREX VESICARIA.

C. spicis masculis linearibus ; foemineis oblongis patentibus, capulis inflatis oblongis rostrato-acuminatis patentibus.

Buddle, Hort. Sic. p. 29. n. 2.

Gramen cyperoides majus præcox, spicis turgidis teretibus flavescentibus. *Hist. Ox. III. 242. f. 8. t. 12 f. 6.*

Fl. Suecica, n. 856. Pollich. n. 895. Var. β. Leers, t. 16. f. 2. III.

C. inflata. Fl. Angl. 412. Fl. Scot. 567. Withering, p. 1057. Fl. Dan. 647.

Habitat in palustribus. Maïo.

Radix repens, perennis. *Folia* pallidè virentia, culmum sub inflorescentiâ superantia, marginibus carinâque asperis, angusta. *Culmus* bipedalis, erectus, triqueter, angulis acutissimis asperis. *Spicæ* circiter tres masculæ, totidem foemineæ. *Spicæ* masculæ terminales, erectæ, superior 1—2 unciales, cæteræ breviores, lineares, sub-triquetræ ; squamis oblongis, obtusiusculis, flavis, marginibus apicem versus albidis, nervo dorsali viridi, obsoleteiusculo. *Spicæ* foemineæ oblongæ, pedunculatæ (inferior pedunculo fatis longo, superiores brevioribus), 1—2 unciales, erectiusculæ ; f. sub-patentes.

patentes. Squamæ lanceolatæ, angustæ, acutissimæ, pallidæ, sub inflorescentiâ capsulâ ferè duplo longiores, demum sub maturefcentiâ iisdem ferè duplo breviores. Ad omnem spicam foemineam bractea foliacea, sessilis, culmo longior. Bractea tenuis spicas masculas etiam sæpiùs subtendit; hæc culmo plerumque brevior.—*Capsulæ* laxiusculè dispositæ, patentes, glabræ, flavescentes, nervosæ, ovato-oblongæ, acuminatæ, & quasi rostratæ, ore bifido. *Filamenta* ut in cæteris. *Stylus* stigmatibus tribus.

Obs. Capsulam *C. depauperatæ* refert, at spicis foemineis oblongis *multifloris*, & masculis *pluribus* distinctissima.

Linnaeus failed no where so much as in describing his *C. vesicaria*. He makes this his first variety, *C. sylvatica* his second, and *C. ampullacea* his third. Amidst so much confusion, it was scarcely possible to find any union of opinion amongst the several authors who afterwards treated of the same subject. It was plainly to be seen that they were distinct species—the difficulty lay in determining which was the original, and which the variety. Hence Mr. *Hudson* (to whom we must all be ever indebted, as being the first author of a Linnean arrangement of the British plants), and Mr. *Lightfoot*, judged *ampullacea* to be the original, and under that impression named this *inflata*. We are at length happily corrected as to these doubts by the herbarium of *Linnaeus*, wherein this plant is named *vesicaria*. Its yellow hue, narrow short scales, and inflated smooth conic capsules, point it out beyond all danger of mistake.

Scheuchzer gives a long description of this plant, p. 470.

45. *CAREX AMPULLACEA*.

C. spicis filiformibus; masculis tenuioribus; foemineis teretibus erectis, capsulis inflatis globosis aristato-rostratis divaricatis.

Buddle, Hort. Sic. p. 29. n. 1.

Gramen cyperoides medium angustifolium, spicis teretibus erectis flavescentibus. *Morif. Hist. Oxon.* III. 242. f. 8. t. 12. f. 8.

Carex vesicaria. *Fl. Angl.* 413. *Fl. Scot.* 566. *Pollich.* n. 895.

Var. α .

Carex rostrata. *Withering,* p. 1059.

Habitat in palustribus aquosis. Maio.

Radix valdè repens, perennis. *Folia* glauca, erecta, angusta, culmo longiora, marginibus carinâque magnâ ex parte aspera.—*Culmus* pedalis, bipedalis, erectus, triqueter, angulis acutis, summum versus asperis, sæpiùs autem infra spicam inferiorem glabris. *Spicæ* duæ aut tres masculæ, totidem foemineæ. *Spicæ* masculæ ex lineari filiformes; summa sæpiùs modicè incurva, uncialis etiam aliquando biuncialis, cæteræ breviores—*Squamæ* oblongæ, acutiusculæ (variant etiam obtusæ), flavescentes, nervo dorsali viridi, margine tenero albo. *Spicæ* foemineæ cylindricæ, unciales, biunciales, erectæ, pedunculatæ, pedunculis brevibus, inferiori longiore. *Squamæ* lanceolatæ, acutæ, flavescentes, margine pallido, nervo dorsali viridi, capsulâ ferè duplo breviores, interdum præ morbo quodam fortasse, æquales. Ad omnem spicam, vel masculam vel foemineam, bractea foliacea, angusta, erecta; superiores culmo breviores, una aut altera inferior multo longior, omnes sessiles. *Capsule* arctim octofariam imbricatæ, inflatæ, globosæ, aristato-acuminatæ,

nata f. rostrata, divaricata, ore bidenticulato, flavescentes, nervosæ.—*Filamenta* ut in cæteris—*Stylus* stigmatibus tribus.

Obs. Folia radicalia quæ culmi basin obvestiunt vaginâ hinc membranaceâ, quæ mox in filamenta reticulatim connexa diffrumpitur, uti in *C. strictâ* accidit.

As *Linnaeus* has distinguished other plants which have their seed-vessels shaped somewhat like this, by the trivial name of *ampullaceus*, I have adopted that appellation, as being more expressive than *rostrata*, which is a term common to many, viz. *Pseudo-cyperus*, *depauperata*, *sylvatica*, *vesicaria*, &c. &c. Besides we have the authority of *Haller* for this name, who had first described it, *capsulis ampullatis rostratis*.

This species is not common near *London*; although, from the different authors which I have cited, it appears to be an inhabitant of many parts of this island. It is to be met with plentifully at Virginia water. I do not know how to add *Leers's* figure 16. 2. n. 2. because he describes the female spikes pendulous—a circumstance I do not remember ever to have seen.

46. CAREX HIRTA.

C. pilosa, spicis omnibus oblongis; foemineis remotis vaginatis: vaginis hinc lanato-villosis, capsulis hirtis.

Buddle, Hort. Sic. p. 30. n. 1.

Gramen cyperoides polystachion lanuginosum. *Mor. Hist. Ox.* III. 243. f. 8. t. 12. f. 10.

Flor. Suec. 858. *Leers*, t. 16. f. 3. *Fl. Angl.* 414. *Fl. Scot.* 568.

Pollich. n. 897. *Fl. Dan.* 379.

Habitat

Habitat in pratis & pascuis humidis, in aquosis & palustribus.

Maio, Junio.

Radix valdè repens, perennis. *Folia* ferè semunciam lata, villosa, ad oras carinasque hispida, culmo sub-breviora. *Culmus* erectus, triqueter, angulis acutissimis, asperis. *Spicæ* duæ masculæ, tres foemineæ—*Spicæ* masculæ oblongæ, sub-unciales, erectæ; squamis ovatis, fuscis, margine albo, nervo dorsali viridi, pilosis, obtusis, & ex nervo prominenti brevissimè mucronatis. *Spicæ* foemineæ sæpiùs valdè remotæ, oblongæ, erectæ, inferiores longius pedunculatæ; squamis villosis, ovatis, longiùs mucronato-acuminatis, margine albido, nervo dorsali viridi. Ad omnem spicam foemineam bractea foliacea, quæ ad spicas inferiores ferè dimidium pedunculi occupat, vaginâ hinc lanato-villosâ.—Porro bractea una aut altera inferior culmum sæpiùs superat. *Capsulæ* laxiusculè dispositæ, ovatæ, acutæ, hinc planæ, illinc convexæ, hirtæ, sub-rostratæ, rostro bifido, squamis paulò longiores. *Filamenta* tria, antheris fordidiusculè flavis. *Stylus* stigmatibus tribus.

The thick down which covers the leaves, and particularly the vaginæ and capsules of this species, keeps it most manifestly distinct from all others.

I have specimens of a *Carex*, given me by Mr. *Lightfoot*, which he informed me he met with in Scotland; it is an androgynous species, and nearly related to *axillaris*, if not the very same. The terminal spike is for the most part, but not altogether, male; a few female flowers appearing at the base. The spikes are sessile in the axillæ of slender bractææ, which are longer than

the culm; neither are they, except the lowermost, remote from each other. I do not observe any male flowers in the axillary spikes. The scales are oblong and acute, with a strong nerve on the back, which forms an acute point. The capsules are oblong and acute, and slightly bifid at the point, and do not appear to be quite so long as the scales. The spikes are all solitary.

It is distinct from *remota* by its bifid capsule.—It seems different from *axillaris* by all the spikes being solitary: but this last circumstance has raised a doubt in my mind, whether the specific character which I have given *axillaris*, be just: in particular, it prevented me from calling it *aggregata*, under which title my very skilful and accurate friend and fellow-labourer, Mr. *Curtis*, has spoken of it. As he has not yet published his observations, I take the advantage of consulting my fears, viz. that in bleak and barren exposures it produces its spikes solitary and not aggregate; and give it the name of *axillaris*, a name by which possibly it was known originally to *Linnaeus*, though, perhaps afterwards thinking it the same as *remota*, he rejected it as a distinct species.

My specimens are too small and too much damaged to enable me to speak, with certainty, whether it be *axillaris* or not. They are specimens of the whole plant from the crown of the roots, but not of the root itself: they appear to be from four to six inches high.

I have thus the honour of laying before the Linnean Society, my observations upon the British species of the genus *Carex*. I have purposely gone no farther into minuteness of investigation than appeared to be necessary to a sufficient knowledge of the objects themselves. I am aware, however, that the more minutely objects
are

3. *C. tereti-uncula*. p. 163.

2. *C. divisa*. p. 157.

1. *C. axillaris*. p. 151.

6. *C. fulva*. p. 177.

5. *C. filiformis*. p. 172.

4. *C. strigosa*. p. 169.

C. stricta. p. 196.

C. conspitosa. p. 196.

C. extensa. p. 195.

10. *C. rigida*. p. 193.

EXPLANATION of the PLATES of Dr. GOODENOUGH's Paper on
CARICES.

PLATE 19.

- FIG. 1. *Carex axillaris*.—N. B. The long foliaceous bractea, which subtends the lowermost cluster of spiculæ, is by accident omitted.
2. *Carex divisa*.—The small figure represents the spike at its first appearance—The large one exhibits it in its more advanced state—Underneath is the germen with its gluma or squama.
3. *Carex teretiuscula*.—The small figure represents the spike at its early appearance—Underneath it is a transverse section of the culm, to shew its roundishness—The larger figure shews it in its more advanced state, when the panicle separates a little—The figure does not sufficiently express the supra-decomposition of the spike—Underneath is a capsule, placed so as to shew the gibbosity of the exterior part.

PLATE 20.

4. *Carex strigosa*.—The spikes represented as they appear before the ripe seeds weigh down their extremities. Underneath is the fructification in its various stages, with the glumæ or squamæ.
5. *Carex filiformis*.—Represented in a state of fructification, with the germen, stamina and glumæ underneath.
6. *Carex fulva*.—In both its early and advanced stage—Underneath are the stamina and germen with their glumæ—A ripe capsule is added, but the figure does not represent it sufficiently beaked.

PLATE 21.

7. *Carex extensa*.—Both figures are drawn from specimens in their most advanced state—Underneath is a ripe capsule, with its gluma or squama.

FIG.

EXPLANATION, &c.

- FIG. 8. *Carex stricta*.—In the figure of the younger plant the leaves, which grow close to the culm and parallel to it, are drawn open to shew the reticulated filaments—Underneath are the stamina and germen with the squamæ.
9. *Carex caespitosa*.—Both specimens in a state of inflorescence—Underneath are the stamina and a capsule nearly ripe, with their squamæ.

PLATE 22.

10. *Carex rigida*.—In both its early and advanced stage—Underneath are the stamina and germen with their glumæ or squamæ—There is added a ripe capsule—It is very seldom so obtuse as is represented in the figure here given.

N. B. In p. 151, line 17, for *oblongæ sessiles aggregatæ* read *oblongis sessilibus aggregatis*.

are examined, the more striking are their differences. Still, however, much is due to the consideration of practical study—He is the best mechanic, who produces the greatest effect, by the least given power: and thus, in a study like ours, he who discriminates most plainly, be the plainness simple as it may be, discriminates most laudably and satisfactorily.

There are four points of some importance to the completing of the arrangement of the *Carices*, which I have scarcely touched upon, viz. the defining with exactness the true limits of the generic character—the settling of the synonyma—the collecting and settling of the essential differences of the foreign species—and the drawing out microscopic descriptions of the parts of fructification. My object is attained, if I have contributed at all to the knowledge of those of our own country, and that by means open to easy observation.

Before I conclude, I must beg leave to return my particular thanks to Dr. *Smith* for the opportunities he has given me of consulting the Linnean Herbarium; and especially to Sir *Joseph Banks*, whose matchless library, and most extensive collections, so liberally open to the perusal of all real lovers of Natural History, were of most essential service to me in the execution of this Tract.