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#### IX. Remarks on some British species of Carex. By W. O. PRIESTLEY, F.B.S.E.

#### READ 13TH JUNE 1850.

HAVING been engaged studying the British Carices for some time past, and having made some observations which may be interesting, I have been induced to lay them in as brief a manner as possible before this Society. I have had my attention particularly directed to a mode of arranging them, by which they might be more correctly studied, and with greater ease. It is however by no means an easy matter to form divisions which will answer this purpose. The number of male and female spikelets, the arrangement of them on the stem, their being erect or pendulous, stalked or sessile, bracteated or ebracteated, are very variable characters, and a slight difference in situation may cause many and altered forms of the same plant. The most stable characters I believe will be found in the fruit,—in its form, nerves, and position on the spike, and I think so well marked are the differences, that a person familiar with these might recognise three-fourths of our Carices by the fruit alone. Still, this is not universal; there would be great difficulty for instance in distinguishing the fruit of C. remota from that of C. axillaris, and some of the intermediate forms between *cæspitosa* and *stricta*. Nature indeed appears as though she would be bound by no laws, and the same obstacles to accurate and stable arrangement which exist in every other branch of natural history are met with in many of the genera of plants. We must however have classification to assist us in the acquisition of every science, and if we cannot have a perfect one, we must be content to make exceptions.

Yet so important do I think the fruit as a means of diagnosis in Carices, that I think every one wishing to name them correctly should have authentic specimens, or at least correct drawings, for differences are not so easily described as they may be seen.

I have first to read a short description of a *Carex*, a living specimen of which is now before the Society, *C. montana*, and shall then notice two or three of our more obscure species.

#### C. montana.

Male spikelet terminal, clavate, fertile, 2-3 sessile, ovate, approximate, closely surrounding the barren spikelet. Bracts glumelike, membranous, terminating in a foliaceous scabrous apiculus, the lowest longer than its spikelet. Glumes purplish brown, the male obtuse, the fertile mucronate. Stigmas 3; style long, exserted. Fruit hairy, bluntly triquetrous, oblong obovate, acute below, emarginate at the apex, with the long beak of the nut protruded. A prominent line running down each anterior face. Colour pale, longer than the glumes when mature. Nut elliptical, attenuated below, with a rather long tapering beak. Stem 5-6 inches high, slender, triquetrous, with rough angles.

Leaves chiefly radical, confined to the base of the stem, narrow, linear, rough at the edges and keel. Root fibrous. Began to flower last month.

This *Carex* is described by Mr. Babington in the last edition of his 'Manual,' and said to have been found by Mr. W. Mitten near Tonbridge Wells. It is certainly a very rare *Carex* in Britain, and has been cultivated with success in the gardens here. As it has not previously been brought under the notice of this Society, I have taken the liberty of reading the description I made of the plant.

This appears to be the true C. montana of Linnzeus. Dr. Goodenough, although perhaps our most correct writer on this genus of plants, thought it but a starved specimen of C. pilulifera, described as a second species by Linnzeus, but it is essentially different either from C. pilulifera or C. præcox. In C. pilulifera the spikes when mature are rounded, the fruit spreading in all directions; whilst in C. montana they retain the ovate or elliptical form; again, the fruit and nut are both subglobose in C. pilulifera, while in C. montana they are both triquetrous. The habit and general appearance of the plant at once separate it from C. præcox.

I have next to notice the fructification of *C. intermedia*. In dissecting the fruit of this plant I at first found it invariably abortive, and became afraid I should not be able to procure the nut to add to my dissections, but fortunately having a considerable number of specimens, I noticed one in which the summits of the upper and lower spikelets were occupied by what I then thought immature florets; on examining these I found them to contain the nut perfectly developed, while the larger or inflated fruit, which is usually described by authors, was always abortive. I at once looked on the latter as a monstrosity, and the former as the true fruit, because it inclosed the nut. The abortive fruit is oblong lanceolate, inflated, with a swollen beak,

slightly incurved, and is twice the length of its glume. The fertile fruit is ovate lanceolate, straight, very narrowly winged, This abortive form is of and is scarcely longer than its glume. very general occurrence in C. intermedia; a perfectly fertile spike appears comparatively rare; I cannot tell to what cause we must attribute this anomaly. It seems not to be a form of ergot, as I have some specimens of a Carex so diseased, and it is very different, being firm and solid, while that in C. intermedia is hol-It appears to undergo some such change as the fruit of low. the common juniper found on the Pentland Hills. I saw a specimen of this Carex so changed, in the Museum of this Society, marked "infested with insects," but I am unable to say whether this be the cause of the monstrosity; or if so, why the insects should prefer this species to other individuals of the genus.

I have been somewhat particular in detailing this fact, as neither Hooker nor Babington distinctly notices it: the latter describes the abortive fruit without noticing the true one, and hence, if a perfect specimen were under examination, it might be believed to be another species.

Many opinions have been expressed, and much has been written, as to the identity of our British C. Œderi with C. flava. Sir W. J. Hooker scarcely knows how to distinguish one from the other, and Mr. Babington, at once decided, places it as a variety, but at the same time adds some new species equally hypothetical. If the arrangement of the spikes and habit of plant be regarded as characteristic, I really cannot tell where to mark the distinction. I met with both lately growing in the same tuft, and many intermediate varieties. The fruit in both is very much alike; it is the same shape, has a similar number of ribs, and the beak is often curved in the lower part of a spike of C. Œderi, while in specimens of C. flava, where the spikes are distant, and everything else is characteristic of *flava*, the beak is straight, or in short, the fruit has not been properly or quickly enough matured. The nut in each is identical. I have procured foreign specimens of C. Œderi, which agree with Schkuhr's description, and think it very probably may be a distinct species. The spikelets are very different from those of the same age in *flava*; the arrangement of them does not vary so much in the two, and it seems by no means a constant character that they should be approximated in *Œderi*; but the fruit is different in form. It can scarcely be said to be beaked, but is rather acuminate and cleft, while in flava the fruit in the youngest state is remarkable for the length of its beak.

Seeing then that our species does not correspond with the foreign C. *Œderi*, I have been led to believe that C. *Œderi* may be a distinct species, but that ours is nothing more than *flava* 

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stunted in its growth, and so better adapted for the elevated and bleak situations where it is usually found.

It is very difficult to say whether the *Carex Bænninghausiana* described by Mr. Babington, is a distinct species from *axillaris* or only a variety, and for the reason that mature specimens cannot be procured. It has been cultivated in the Botanic Garden of Edinburgh for some time, and Mr. M'Nab assures me that the fruit has never become matured, while both *remota* and *axillaris* have ripened fruit. All the specimens I have seen in the University herbarium and in Dr. Balfour's collection have unripe fruit, and Mr. Babington's description is evidently taken from one of these, as he is uncertain about the nut.

I think it highly necessary to see a plant in all its stages of growth, before we create it a new species, especially if it has a close affinity with others. Having the lowest spikelets composed of alternate spicula instead of crowded, is scarcely a sufficient distinction between this and *axillaris*, and I have a specimen in which there is an attempt to cluster in *Bænninghausiana*, while it preserves its other characters. The fruit can scarcely be admitted as evidence when immature; it undergoes many changes in form before it ripens, and the young fruit in *axillaris* and *remota* is identical with it.

The roughness reaches below the middle, it is said, in the perigonium of *Bænninghausiana*; so it does in *axillaris* when very young, and the thickening of the fruit and consequent forming of the beak appear to be from below upwards, where the embryo is first placed.

It may be a hybrid produced from the impregnation of *axillaris* by the pollen of another *Carex*, as *remota*. Be this as it may, it is very singular that it does not come to perfection, and this fact strengthens the idea that it may be a hybrid.

I think we are perfectly justified in regarding it as a variety of *axillaris*, unless, were it ever to mature, it should prove different.

The last *Carex* I shall notice is an alpine one placed by Mr. Babington as a distinct species under the name of *Carex Persoonii*. This too has evidently been examined in an immature state, as Mr. Babington is usually particular in mentioning the form of the nut, which he has omitted here. It turns out in fact to be identical with *Carex curta*; its spikelets as they ripen are becoming from oblong, roundish-elliptical, on account of the spreading of the fruit. The perigonium has become longer than the membranous glumes, and has taken the exact form of that in *curta*, the split beak having become an emarginate one, and the nut elliptical. This is an illustration of what I referred to before, and shows how necessary it is to have a mature plant before we write a description.