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NOTES

OF A

BOTANICAL EXCURSION

(WITH PUPILS),

TO THE

MOUNTAINS OF BRAEMAR, GLENISLA, AND CLOVA, AND TO BENLAWERS,

IN AUGUST 1847.

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NOTES, &c.

Excursions may be truly said to be the *life* of the botanist. They enable him to study the science practically, by the examination of plants in their living state, and in their native localities; they impress upon his mind the structural and physiological lessons he has received; they exhibit to him the geographical range of species, both as regards latitude and altitude; and with the pursuit of scientific knowledge, they combine that healthful and spirit-stirring recreation which tends materially to aid mental efforts. The companionship too of those who are prosecuting with zeal and enthusiasm the same path of science, is not the least delightful feature of such excursions. The various phases of character exhibited, the pleasing incidents that diversified the walk, the jokes that passed, and even the very mishaps or annoyances that occurred,—all become objects of interest, and unite the members of the party by ties of no ordinary kind. And the feelings thus excited are by no means of an evanescent or fleeting nature; they last during life, and are always recalled by the sight of the specimens which were collected. These apparently insignificant remnants of vegetation recal many a tale of adventure, and are associated with the delightful recollection of many a friend. It is not indeed a matter of surprise that those who have lived and walked for weeks together in a Highland ramble, who have met in sunshine and in tempest, who have climbed together the misty summits, and have slept in the miserable sheiling—should have such scenes indelibly impressed on their memory. There is, moreover, something peculiarly attractive in the collecting of *alpine* plants. Their comparative rarity, the localities in which they grow, and frequently their beautiful hues, conspire in shedding around them a halo of interest far exceeding that connected with lowland productions. The alpine Veronica displaying its lovely blue corolla on the verge of

dissolving snows; the Forget-me-not of the mountain summit, whose tints far excel those of its namesake of the brooks; the Woodsia with its tufted fronds adorning the clefts of the rocks; the snowy Gentian concealing its eye of blue in the ledges of the steep crags; the alpine Astragalus enlivening the turf with its purple clusters; the Lychnis choosing the stony and dry knoll for the evolution of its pink petals; the Sonchus (*Mulgedium*) raising its stately stalk and azure heads in spots which try the enthusiasm of the adventurous collector; the pale-flowered Oxytropis confining itself to a single British cliff; the Azalea forming a carpet of the richest crimson; the Saxifrages with their white, yellow, and pink blossoms clothing the sides of the streams; the Saussurea and Erigeron crowning the rocks with their purple and pink capitula; the pendent Cinquefoil blending its yellow flowers with the white of the alpine Cerastiums and the bright blue of the stony Veronica; the stemless Silene giving a pink and velvety covering to the decomposing granite; the yellow Hieracia whose varied transition forms have furnished such a fertile cause of dispute among botanists; the slender and delicate grasses, the chickweeds, the carices, and the rushes, which spring up on the moist alpine summits; the graceful ferns, the tiny mosses, with their urn-like thecæ, the crustaceous dry lichens with their spore-bearing apothecia, all these add such a charm to Highland botany as to throw a comparative shade over the vegetation of the plains.

A party, consisting of Messrs Murchison, Gilby, Ivory, Hewetson, Morse, Douglas, H. Balfour, and myself, met at Aberdeen on the 6th of August 1847, with the view of making an extended botanical trip. Some of the party had been attending the Highland Society's Agricultural Show at Aberdeen, and had made an excursion with Dr Dickie to Denmore, in the course of which they gathered *Diphyscium foliosum*, *Goodyera repens*, *Utricularia minor* in flower, and large specimens of *Drosera anglica*. On the 7th August, the whole party left Aberdeen by the mail for Ballater, a small village, beautifully situated on the Dee, about 780 feet above the level of the sea, and famous as the resort of invalids who wish to enjoy mountain air, and to have the benefit of the

chalybeate springs of Pannanich wells. In many of the woods on Deeside, *Goodyera repens* was observed; and on visiting the hills in the vicinity of Ballater, some of the common subalpine species were gathered, and *Equisetum umbrosum* was found in quantity. On the 9th, the route lay along the banks of the river Muick, which furnished specimens of *Melampyrum sylvaticum*, *Hieracium boreale*, *denticulatum*, *inuloides* var. *latifolium*, and a species resembling *diaphanum* of Fries. After visiting the Linn of Muick, where the water falls from a height of 36 feet, and reaching *The Hut*, the party ascended Lochnagar. On the western side of the hill, near a large patch of snow, *Azalea procumbens* in full flower was seen, and a species of *Gnaphalium*, which seems to resemble the *G. norvegicum* of Swedish botanists. *Carex rariflora* abounded in marshy ground not far from the summit, and *Carex vaginata* was also common. Castleton Braemar was reached in the evening, and became the head-quarters of the party whence they visited the various mountains in the vicinity.

In Glen Callater, on the 10th, among numerous species picked may be noticed, *Carex rupestris*, *Salix lanata*, *myrsinites β arbutifolia*, and various alpine forms of *Hieracia*, including *H. alpinum*, *Halleri*, *nigrescens*, *Lawsoni*. The forms commonly included under *H. alpinum* exhibited great variations as regarded their leaves, some being rounded and broad, others narrow and spathulate.

A visit to Ben Aven and Little Craigindal supplied some interesting species. Near the summit of the former, which is about 3964 feet above the level of the sea, *Carex vaginata* grows in profusion. The latter mountain, although by no means promising in its aspect, is nevertheless rich in alpine species. The following is an enumeration of some of those which were seen:—*Astragalus alpinus* in profusion, *Potentilla alpestris*, *Thalictrum alpinum*, *Dryas octopetala*, *Silene acaulis*, *Pyrola secunda* and *media*, *Saxifraga oppositifolia*, *Saussurea alpina*, *Carex vaginata*, *capillaris*, *rupestris*, and *rigida*, *Luzula spicata*, *Poa alpina*, *Lycopodium annotinum*, *Azalea procumbens*, *Arctostaphylos Uva Ursi*, *Epilobium alpinum*, *Cornus suecica*, *Rubus chamæmorus*, and *Botrychium Lunaria*.

On the 13th August, the party proceeded to Ben Muich

Dhui, and examined particularly the cliffs on the north-eastern side, where specimens of *Arabis petræa*, *Veronica alpina* in fine flower, *Stellaria cerastoides*, *Hieracium alpinum* in various forms, and *Carex vaginata*, were found.

On the crumbling granite rocks near the summit, *Silene acaulis*, *Luzula spicata* and *arcuata* abound. The day was remarkably fine, and the party enjoyed a most extensive view from the summit, which is about 4300 feet above the level of the sea, and nearly 70 feet lower than Ben Nevis, according to the statement of the engineers connected with the Government survey, who were quartered on the summit during the visit of our party.

From Ben na Muich Dhui the party walked to Cairngorm, on the summit of which were seen the following plants :—*Salix herbacea*, *Carex rigida*, *Festuca vivipara*, *Aira cæspitosa* alpine form, *Silene acaulis*, *Juncus trifidus*, *Empetrum nigrum*, *Luzula spicata*, and *Lycopodium Selago*. The descent was effected by a rocky ravine leading to Loch Aven, and after visiting the *Shelter Stone* the party again reached the summit of Ben Muich Dhui at sunset, and were kindly accommodated for the night in the huts of the engineering party. The rocks in the vicinity of Loch Aven and Loch Etichan supplied profusion of alpine *Hieracia*, especially the form denominated *H. nigrescens*.

On the 14th, starting at sunrise, the "grisly rocks that guard the infant rills of Highland Dee" were visited, and yielded *Veronica alpina*, *Sibbaldia procumbens*, *Phleum commutatum*, and apparently a peculiar alpine form of *P. pratense*, and magnificent specimens of *Stellaria cerastoides* and *Cerastium alpinum*. After reaching the valley of the Dee, where the river *wells out* in a remarkable manner from among the loose rocks, the party ascended the Breriach ridge, gathering *Luzula arcuata*, and many alpine species. The summit of the ridge presents a table land, consisting of dry disintegrated granite, the only patches of verdure being at the spots where the wells of the Dee pour forth their waters. It is chiefly in the moist crumbling rocks forming the sides of the mountain that the rare alpine species are found. The walk, therefore, along the flat plateau of the Breriach summits was monoto-

nous as regards vegetation; and as the day was oppressively hot, it was with no small delight the party rested by the refreshing springs of the Dee, the highest of which is situated nearly 4000 feet above the level of the sea. The cold ice-like waters of these springs gush forth from the ground like bubbling fountains, and take a meandering course through a dry and parched ground, until they fall into the mountain crevices. They really are springs of water in a thirsty land, and streams in a dry place.

The rocks in the vicinity of Loch Ennich appeared to be worthy of examination, but the party had not time to visit them. Their next point of ascent was Cairn Toul, a mountain continuous with the Breriach ridge, and rising to the height of 4245 feet above the level of the sea. Here *Carex leporina* was gathered in considerable quantity, this being the second British station for the plant. *Luzula arcuata* was also found, a plant which appears to grow on all the Braemar hills, such as Lochnagar, Ben Aven, Ben Muich Dhui, Cairngorm, and Cairn Toul. From the latter hill the party descended to the Dee, after picking, on the moist cliffs, *Poa alpina*, *Veronica alpina*, and *Phleum commutatum*.

The mountains at the source of the Dee seem to be well worthy of the attention of botanists. The chief difficulty, in the way of examining them carefully, is the want of proper accommodation in their immediate vicinity. Much better would it be if proprietors, in place of driving parties from the Highland hills and glens, would give naturalists facilities for prosecuting their researches, by providing shelter for them in these wild spots.

Our excursion to Lochnagar on the 16th enabled the party to add to their treasures *Mulgedium alpinum* (*Sonchus alpinus*), which was discovered by Mr W. Douglas in great quantity on the cliffs, *Saxifraga rivularis* (some specimens five or six inches in length), *Allosorus crispus*, which sent up large and elegant fronds from the crevices of the rocks; *Poa laxa*, and the alpine form called by Parnell *P. Balfourii*, a remarkably hairy *Hieracium*, with very long leaves, which seems to be *H. alpinum* β *longifolium*, *Flor. Siles.* *Carex leporina* was also picked sparingly in Dr Dickie's original station. On the 17th,

the ground examined was Canlochan Glen, at the head of Glen Isla. This is a well-known botanical district, which has long been celebrated for its floral treasures. Among the plants gathered, the following deserve notice:—*Potentilla alpestris, Erigeron alpinus, Carex vaginata, Salix reticulata, Gentiana nivalis, Woodsia hyperborea, Sonchus alpinus, Polystichum Lonchitis, Saxifraga nivalis, Saussurea alpina, Juncus castaneus, Alopecurus alpinus,* and *Veronica saxatilis.*

A short excursion was made on the 18th and 19th to Glen Phee, Glen Dole, and the Clova district. The Serpentine of Little Gilrannoch yielded a very scanty supply of *Lychnis alpina.* This plant seems to have been nearly eradicated by the rapacity of botanists. Along with it, *Cherleria sedoides, Armeria maritima,* var. *alpina,* and a dwarf alpine form of *Cochlearia officinalis* were seen; and in the marshy places in the vicinity, *Carex aquatilis* and *Alopecurus alpinus* in abundance. In Glen Phee, *Carex Vahlii, Salix lanata, Woodsia hyperborea,* and *Oxytropis campestris* were picked; while, in Glen Dole, and by the banks of the White Water, the party observed *Sonchus alpinus, Salix reticulata, phylicifolia,* and many of the rare alpine species already enumerated.

The adventures of the 21st will not soon be obliterated from the recollection of the party, inasmuch as they were interrupted in their scientific researches in a glen not far from Blair Atholl, which has been famous in the annals of geology since the days of Hutton, and is now celebrated as a tabooed spot, where the votary of science must not tread with impunity.

The Pass of Killiecrankie was visited on the 23d, and *Orobus niger* was gathered. Near Aberfeldy, *Lysimachia vulgaris, Quercus sessiliflora, Rubus discolor, plicatus, Hieracium umbellatum* and *inuloides* were seen. Benlawers was ascended on the 25th, and the party was rewarded with specimens of *Draba incana* and *rupestris, Woodsia hyperborea, Myosotis suaveolens, Saxifraga cernua, Alsine rubella, Juncus biglumis* and *castaneus,* and *Carex saxatilis.* At Killin, *Carex vesicaria,* and at Inverarnan, *Malaxis paludosa* and *Lycopodium inundatum* were the chief plants noticed. Glen Falloch abounds in specimens of *Quercus pedunculata,* exhibiting

numerous variations in the size and division of the leaves, as well as in the length of the peduncle, and along with them grew a few specimens of *Q. sessiliflora*, which were at first sight distinguished by their peculiarly broad leaves reflexed at the margin.

The number of alpine and subalpine species of phanerogamous plants collected during the trip amounted to about 130. The excursion occupied three weeks, during which the richest alpine districts in Britain were examined. The discovery of *Carex leporina* on Cairn Toul; of *Hieracium alpinum β longifolium* and of *Sonchus alpinus* on Lochnagar; of *Woodsia hyperborea* in several localities; the finding of *Luzula arcuata* on every mountain in the Braemar district; and of *Carex vaginata* on all the hills visited, are facts which are interesting to British botanists.

In taking a general review of the nature of the country visited, it may be remarked, that the rocks which produced the greatest variety of rare species were the crumbling gneiss and mica-slate rocks of Clova, Glenisla, and Benlawers. The granitic rocks of the Braemar district often presented large tracts of dry unproductive stony soil, and displayed fertility only where moisture and the atmosphere had been able to pulverise the rocks.

It is curious to notice the occurrence of species such as *Oxytropis campestris* and *Lychnis alpina* on single rocks in Britain. The latter we have already stated to be serpentine, and in the case of the former, the rock appears in some respects to differ from those in its immediate vicinity. *Luzula arcuata* seems to prefer the granite in the district visited, and the same thing has been remarked in Sutherlandshire, where it is found in the granite of Foinivan. *Carex Vahlii* grows on gneiss, *C. leporina* on granite, while *Astragalus alpinus* is common to both; *Alsine rubella* and *Myosotis suaveolens* occur on mica-slate. The ordinary alpine species appear to grow indifferently on granite, gneiss, or mica-slate.