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I. Notice of Botanical Excursions in the Highlands of Scotland during the Autumn of 1867

Professor Balfour

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Professor BALFOUR read a letter from Dr P. Phœbus, Giessen, intimating that he wished to sell his Herbarium. It contains upwards of 6500 plants, and the sum asked for it is L.31, 10s.

Dr CLEGHORN presented to the Museum sections of 30 different kinds of native woods of Ceylon.

A letter was read from Mr CARRUTHERS, of the British Museum, regarding the "Journal of Botany," a magazine now published by Reeve & Co., London, and asking the Society to promote its circulation.

13th February 1868.—CHARLES JENNER, Esq., President,
in the Chair.

The following Gentlemen were elected Members of the Society:—

As a Corresponding Member.

WILLIAM WILSON, Warrington.

As an Associate.

ADAM MATHESON, Curator of the Jedburgh Museum.

The following Communications were read:—

- I. *Notice of Botanical Excursions in the Highlands of Scotland during the Autumn of 1867.* By Professor BALFOUR.

Professor Balfour remarked—It is useful to record every year the results of excursions, more especially when new localities have been examined. Several places of interest were visited by myself and pupils last autumn, and the results I will now lay before the meeting.

On 5th August 1867, a party, consisting of myself, the Rev. Charles T. Astley, the Rev. Robert C. Colvin, Dr W. Lauder Lindsay; Messrs P. Neill Fraser, Alexander Craig Christie, James W. Edmond, W. John Kennedy, Arthur A. Green, Thomas Jackson, Walter Dickson, and Alfred T. Coore, visited the district of Dalwhinnie, in Inverness-shire. We were all accommodated at Pullar's Inn, which

is the only house near the station. Dalwhinnie is 1157 feet above the level of the sea, and the district is composed of bare moors surrounded by lofty hills, and containing several lochs, some of which, such as Loch Ericht, are of great extent. On the evening of our arrival at Dalwhinnie we gathered *Pyrola secunda*, *Genista anglica*, *Cryptogramme crispa*, *Rumex aquaticus*, and *Utricularia minor*. Although the bedroom accommodation for the party was not very extensive, still we all got comfortably housed, and we were well supplied with provisions. In this respect the inn is in a better state than it was when the Queen visited it in 1861. The Queen remarks in her journal lately published, p. 226 :—

“ When we reached the inn of Dalwhinnie we went up-stairs; there was a drawing-room and a dining-room, and we had a very good-sized bed-room. Albert had a dressing-room of equal size. Mary Andrews (who was very useful and efficient) and Lady Churchill's maid had a room together, every one being in the house; but unfortunately there was hardly anything to eat, and there was only tea and two miserable starved Highland chickens, without any potatoes! No pudding and no *fun*; no little maid (the two there not wishing to come in) nor our two people—who were wet, and drying our and their things—to wait on us! It was not a nice supper, and the evening was wet. As it was late we soon retired to rest. Mary and Maxted (Lady Churchill's maid) had been dining below with Grant, Brown, and Stewart (who came the same as last time with the maids) in the ‘commercial room’ at the foot of the stairs. They had only the remnants of our two starved chickens!”

Our party, however, had no reason to complain of the provisions given by Mr Pullar, and the waiter, James, was most indefatigable and very good-natured. The inn has certainly improved since the time it was visited by the Queen.

On Tuesday, 6th August, we left after breakfast for Dalnaspidal (which is 1408 feet above the level of the sea) by train. One portion of the railway is about 1500 feet above the sea-level. We visited the mountains called Sow of Athole and Boar of Badenoch. On the former we found

Phyllodoce cærulea sparingly, but not in flower or fruit; *Azalea procumbens*, *Lycopodium clavatum*, *L. Selago*, *L. selaginoides*, *L. alpinum*, and *L. annotinum*, the latter being very abundant; *Cryptogramme crispa*, *Sibbaldia procumbens*, *Gnaphalium supinum*, *Listera cordata*, *Arctostaphylos Uva-ursi*, *Vaccinium Vitis-Idæa*, *Carex rigida* C. sp.? perhaps a peculiar form of *pilulifera*; *Rubus Chamæmorus*, *Cornus suecica*, *Epilobium alpinum*, *Hieracium alpinum*, *H. cæsium*, and many other alpine plants. The view from the summit of the mountain was very grand and extensive. The Boar of Badenoch is not such a productive mountain. A high hill called Benudemann is worthy of examination.

On Wednesday, 7th August, as the morning was favourable, we started between four and five A.M. for Ben Alder, a high hill, 3741 feet above the level of the sea, near Loch Ericht. We hired two boats, and rowed for about 12 or 13 miles down the loch, taking provisions with us for the day. One of the boatmen, Donald Kennedy, also acted as our guide, and assisted in carrying plants wanted for the Botanic Garden. We all took our turn in rowing, and now and then encountered squalls, which rendered the work not a little fatiguing. Upon the whole, however, the day was fine, and the morning view of the loch scenery was charming. Loch Ericht is 1000 feet above the sea. We had permission from Lord Henry Bentinck to visit a part of his deer forest, and we landed at his shooting-lodge 6 or 7 miles down the loch, for the purpose of consulting with his gamekeeper as to our mode of procedure. At ten A.M. we reached the point where we proposed to ascend the hill, and there we lunched most heartily. We ascended the side of the hill, gathering numerous ordinary alpine plants, and ultimately reached the top of the ridge, after passing various large patches of snow, on one of which we had a *glissade* with our poles. We saw several herd of red deer in the course of our ascent. We found the summit to be a long way from the top of the ridge, but we were determined to persevere, and on reaching it were well rewarded by the splendid view which we obtained of the surrounding country. We saw Schihallion, Ben na MacDhui, Ben Lawers, Ben Nevis, and the fine snowy hills about Loch Laggan. We descended by a deep corry where there was abundance of

snow, and where there was some difficulty in finding a path. We saw many good alpine plants—among others *Tofieldia palustris*, *Carduus heterophyllus*, of various forms; *Juncus trifidus*, *J. triglumis*, *Carex rigida*, *C. vaginata*, *Veronica alpina*, *V. humifusa*, *Trollius Europæus*, *Gentiana campestris*, *Cochlearia grælandica*, in a very fine state, with large flowers; *Azalea procumbens*, *Sibbaldia procumbens*, *Gnaphalium supinum*, *Silene acaulis*, *Salix herbacea*, *S. lapponum*, *Cerastium trigynum*, abundant; *Rubus Chamæmorus*, *Cornus suecica*, *Saussurea alpina*, and *Luzula spicata*. Among the ferns collected were *Cryptogramme crispa*, *Polypodium vulgare* and vars., *P. Phegopteris*, *P. Dryopteris*, *P. alpestre*, and *P. flexile*. The last-mentioned species was gathered sparingly near the lower part of the corry, but Mr Christie discovered it in large quantity among rocks at the base. The specimens were very marked in their appearance. The small specimens of *P. alpestre* had some resemblance to the *P. flexile*, but Mr Christie observed that the former never showed any fructification, while the latter did. This seems to be one of the best stations of this rare polypody. The best ground on Ben Alder is the corry just mentioned. It is, however, frequented by the deer, and therefore the access to it is not free, especially in particular conditions of the wind. Like all places where deer-stalking prevails, the botanist is not allowed to ramble as he chooses without running the risk of being attacked by gamekeepers and gillies. The corry may be visited by going up the valley from the shooting lodge on Loch Ericht, but the road is long and tedious. Mr Fraser and Mr Edmond, who visited the corry on the 9th, went by the lodge, and had the gamekeeper with them; but there was obviously much unwillingness on the part of officials to encourage “herb-gatherers” (as we were once called by the Prince Consort’s head gamekeeper, Grant) visiting the recesses of the Highland hills. Having a letter from Lord Henry Bentinck, we were better off than visitors generally are, and we had the assistance of the forester, Mr Clark, who was very obliging. On reaching the lower part of the corry we had to ascend the hills between it and Loch Ericht—no easy matter after a hard day’s work. The descent to Loch Ericht was very troublesome and steep, and, to add to our annoyance, when

we reached the shores of the loch, our boats were found to be several miles up the loch, so that we had to wait for some time until our guide went for them. In the loch we gathered *Isoetes lacustris*, *Subularia aquatica*, *Littorella lacustris*, and on its shores *Drosera anglica*. We did not reach Dalwhinnie till ten p.m., after having spent 18 or 19 hours in the excursion. In these circumstances the Queen's fare would not have been satisfactory.

Thursday, 8th August.—The weather was upon the whole promising, although there were showers now and then. After the fatigue of yesterday, the party were disposed to take easy work, and accordingly, after putting their plants in paper, they made short excursions in different directions. Mr Fraser and Mr Craig Christie examined the rocks on the south side of Loch Ericht, gathering *Polystichum Lonchitis*, *Asplenium viride* (these two plants are not common in the district), *Botrychium Lunaria*, *Carex vaginata*, and *Littorella lacustris*. Mr Coore examined the rocks on the side of the railway, north-east from Dalwhinnie, and found many good alpine species. The rocks are rather steep in some places. Among the plants gathered were *Hieracium alpinum*, *H. calendulifolium*, *Dryas octopetala*, in flower; *Salix arbutifolia*, *S. herbacea*, *Pyrola media*, *Habenaria viridis*, *Saxifraga oppositifolia*, *S. hypnoides*, *Silene acaulis*, *Juncus trifidus*, *Tofieldia palustris*, *Sibbaldia procumbens*, *Luzula spicata*. Mr Coore examined a corry about 2 or 3 miles from Dalwhinnie, on the right hand of the road going to Dalnaspidal, and he considered it to be well worthy of further exploration. Mr Kennedy and Mr Dixon went to Killiecrankie and Pitlochry by rail, while Mr Astley and myself walked to Cat Lodge, near Loch Laggan, the residence of my friend Mr Armitstead. This day Dr L. Lindsay and Mr Astley left for Perth and Edinburgh.

Friday, 9th August.—The party divided into two sets. Mr Fraser and Mr Edmond visited the great Ben Alder corry, accompanied by Mr Clark. After reaching Ericht Lodge they walked about 7 miles to the corry. They gathered most of the plants picked on the 7th, and saw large quantities of *Polypodium alpestre*, *P. flexile*, *Cryptogramme crispa*, and *Carex pulla*. The remainder of the

party, now numbering eight, proceeded at seven A.M. by a drag driven by John Macdonald to Loch Laggan, calling at Cat Lodge on the way, and meeting Mr and Mrs Armitstead, who wished us to breakfast with them. Their kind offer was declined, as we had breakfasted before our departure from Dalwhinnie. After reaching Laggan Inn, we drove about $3\frac{1}{2}$ miles along the shores of Loch Laggan (836 feet above the level of the sea), and then proceeded under the guidance of Donald Fraser (Captain Edwards' keeper) to a high alpine corry called Corryarder. The mountain called Aberarder reaches 3600 feet. The road taken by our party extended to 7 or 8 miles before we came to the rocks, which are very lofty and precipitous, and were in many places covered with snow. Some wreaths of snow in the rocky ravines were about 100 feet in length. One of the large patches, filling up a deep ravine, was found to be hollowed out below so as to form a fine vaulted passage or snow tunnel, extending for 100 or more feet, and with an arch 7 feet high. The snow was very hard, and a constant dripping took place at the edges of the arch at the entrance. In the lower part a small alpine stream of ice-cold water was running. Under the arch our party took shelter from a shower, and had our lunch. The rocks at first sight seemed to be very promising, and we certainly expected to add something new or rare in the way of plants. We were, however, disappointed, although we gathered very good alpine species. We walked by the foot of the high cliffs to the gap in the mountain range, called the Window or Corryarder, intending to visit the corry on the opposite side; but we had spent too much time in the early part of the day, and now the wind, hail, and rain became so terrible that we were fairly driven back at the pass, and compelled to return. We believe that the mountains in that quarter are well worthy of further examination. Among the plants collected I may enumerate the following:—*Polystichum Lonchitis*, *Polypodium alpestre* and vars., *Lastrea dilatata* and vars., *Cystopteris fragilis* and vars., *Cryptogramme crispa*, *Polypodium Dryopteris*, and *Phegopteris*; *Blechnum boreale*, *Veronica alpina* and *humifusa*, *Saxifraga oppositifolia*, *stellaris*, and *hypnoides*; *Cerastium alpinum* and *trigynum*, the latter in very large patches, and in fine flower;

Cochlearia grœnlandica, also very fine ; *Armeria maritima*, *Hieracium alpinum*, *vulgatum*, *calendulifolium*, *eximium*, and *strictum* ; *Vaccinium uliginosum*, very fine ; *Rubus Chamaemorus*, in fruit ; *Cornus suecica*, *Gymnadenia albida*, *Poa Balfourii*, in two states ; *Aira alpina vivipara*, *Carex atrata*, *vaginata*, and *pauciflora* ; *Epilobium alpinum*, *Sibbaldia procumbens*, *Gnaphalium supinum*, *Juncus triglumis* and *trifidus*, *Saussurea alpina*. The characteristics of the part of the mountain we visited may be said to be the ferns and *Cerastium alpinum* and *trigynum*. At six p.m., the party reached Loch Laggan Inn, and returned by the drag to Dalwhinnie a little after nine, very wet and fatigued. Many mountains we noticed near Loch Laggan seemed to be worthy of full examination. We could not get quarters at Loch Laggan Inn, as it was occupied by Dr Skae and a fishing party.

On Saturday, 10th August, our party concluded their labours in the district, and left Dalwhinnie by train at ten a.m. Mr Coore proceeded to Aberfeldy with the view of examining Ben Lawers ; Messrs Fraser, Christie, and Edmond went to Dunkeld, in order to visit Stenton rocks ; while the rest of the party proceeded to Edinburgh, which was reached about four p.m.

Professor Balfour then referred to other excursions made in August. On visiting the Pass of Killiecrankie, *Lathyrus niger* was found to be still growing there. On Ben-y-gloe, a mountain 3756 feet in height, he searched in vain, on 23d August, for *Rubus arcticus*, under the guidance of Mr Henry Gordon, who knew the locality in which the plant was said to have been gathered many years ago. In Glen Tilt, under the guidance of Miss M'Inroy of Lude, many rare mosses and *Jungermannia* were collected, particularly *Dicranum Grevilleanum*. Near Aberfeldy, on 23d August, along with Mr Sadler and Mr Macfarlane, *Polypodium calcareum* was gathered in an old limestone quarry. On the hill of Tulloch, near Blair Athole, *Asplenium viride* and *Draba incana* were collected. On 30th August Ben-y-Vrackie, a hill 2757 in height, near Pitlochry, was examined, and on it the following plants were collected :—*Polystichum Lonchitis*, *Asplenium viride*, *Potentilla alpestris*, *Draba incana*, *Saxifraga oppositifolia*, and other alpine *Saxifrages* ;

Sibbaldia procumbens, *Gnaphalium supinum*, &c. During the visit of the British Association to Dundee in September, *Aster salignus*, *Allium carinatum*, and *Astrantia major* were gathered on the banks of the Tay, near Seggieden, by Col. Drummond Hay. The Aster was formerly found by Professor Balfour near Dalguise, and it has since been found in England.

The President remarked that these excursions were of great interest and importance, and that students and others competent should be encouraged to undertake them. He subscribed for some travelling botanical excursions on the Continent, and would willingly contribute towards the expense of sending two students, or other eligible competent persons, to work together for a few weeks in autumn in some imperfectly explored Highland district. He was ready to give L.10 for this purpose, provided others would help in the matter. A zealous botanical student, well acquainted with Phanerogamous and Cryptogamous plants, might do much to advance our knowledge of the Scottish alpine flora.

II. *On Plants and Animals used for Food in Old Calabar.*

Extracted from the MS. Journals of the late Mr W. G. MILNE, by Mr JOHN SADLER.

In the public markets of Calabar, Mr Milne remarks that the kinds of food are not in such variety as amongst the different islands in the South Pacific which he had formerly visited. These islands have generally a heavy rich soil fitted for the cultivation of almost every tropical fruit and vegetable, while the soil in Western Africa is incapable, even in the most favourable locality, of producing anything like a heavy crop.

In the Calabar markets he observed for sale Indian corn, ground-nuts, several kinds of plantain, one species of banana, two species of fungi, two kinds of pepper, fruit and foliage of a species of gourd which are much used, apples of a *Solanum*, eight kinds of yam, two of cassava, sugar cane, coco nuts, pods of several leguminosæ, palm oil, palm nuts, oranges, mangoes, mints, pine apples, sweet potatoes (a kind of *convolvulus*), and the kernels of a native mango,