## BEN LAWERS.

> By W. E. CARNEGIE DICKson.
> "Admiring Nature in her wildest grace, These northern scenes with weary feet I trace: O'er many a winding dale and painful steep, Th' abodes of covey'd grouse and timid sheep, My savage journey, curious I pursue, Till fam'd Breadalbane opens to my view".

Leaving Killin at 7.30 on a chilly Friday evening early in April, we set out for Lawers Inn, from which it was our purpose to climb the Ben on the following day. "It wad be", we were told, " about eight or nine miles to Lawers. The road was ferry coot. Oh, no, there was no hills, but some places was shust a wee bit higher than others whateffer'".

Soon after our start darkness began to fall. The road, making a slight detour by the Bridge of Lochay, crosses the river and ascends with easy gradient for some distance, lying picturesquely amongst the trees. Twilight soon gave place to darkness, and, as the road approached the Loch, a very striking scene met our gaze. The heights on the far side of the Loch were dimly illumined by the glare of burning heather, the fitful gleams being reflected on the calm surface of the water, while the trees stood out weirdly from the gloom all around.

The path continued to ascend, reaching a height of some 450 feet above Killin, which itself lies about 400 feet above sea level. Several times we brought matches into requisition to see our watches, and also to try to decipher various illegible milestones which seemed to be scattered at random along the turnpike; and, when we judged that a considerable part of eight miles lay behind us, we passed a tinkers' fire flickering amongst some trees a few yards from the road-side. On our asking the distance to Lawers, a voice replied that it was two miles and three-quarters-
very exact information-but, as we afterwards found, on a par with the usual "mile and a bittock". "The road was very good right on to Lawers", our informant also remarked, and out of the darkness came the somewhat puzzling question, "Are ye on a vesticle?" (Query-Is this Gaelic for a vehicle, or a bicycle, or is it a euphonious combination of both?)

At 9.45 , after passing a few more cottages and hamlets -the absence of lights in the windows of which shewed that their inhabitants were already wrapped in slumberand mistaking first a farm-house and then what seemed to be a church for the hotel, we reached our destination, where there awaited us in the cosy parlour of the Inn an ample Highland supper, to which-cela va sans dire-we did full justice.

Next morning was somewhat dull. Mist hovered over the snow-capped summit of Ben Lawers, and, as we sat at breakfast discussing our route, a brief but heavy shower of snow from the east spread a carpet of white over the foreground of the picture which was visible from the hotel window. Its wintry covering had, however, completely vanished when we left the Inn at 9.20 , and the sun was shining brightly over all the landscape, the tops of the higher hills alone being shrouded in morning mist, while the weather shewed every sign of clearing.

The name Ben Lawers, or Beinn-Latha-Ur, as it ought rather to be spelled, means "The Mountain of Dawn". The mountain itself attains a height of 3984 feet, and, together with its brother peak Beinn Ghlas, forms a prominent and outstanding feature in the scenery of the district. It is situated almost in the centre of Scotland, being nearly equidistant from John O'Groats and the Mull of Galloway, whilst it lies all but midway between the Atlantic and the German Oceans.

The geological formation of Ben Lawers is very interesting, and its external configuration does not in any way correspond to the internal arrangement of its component strata. Like almost all the hills of the Scottish Highlands, it is an example of what is known to geologists
as a mountain of denudation-that is to say, it owes its present elevation above the adjacent low country, not to some vast volcanic upheaval, but to the gradual and everconstant erosion of the surrounding valleys. In some early geological epoch the Highland rocks were thrown into huge irregular folds by earth-movement, and their original character profoundly changed by "regional metamorphosis", beds of sandstone becoming foliated and crystalline, while rocks already possessing crystalline structure were crushed and altered, new minerals being often developed along the planes of shearing. Mountains, especially those of any great geological antiquity, frequently correspond to the troughs or synclinal axes, and not, as might easily be supposed by the casual observer, to the arches or anticlinal axes of these huge earth-folds, the reason being that strata forming a synclinal axis are better able to withstand the weathering action of Nature's great denuding agents, wind, water, and frost, than are those of an anticline, which are eroded much more rapidly, and thus in the course of ages tend to form valleys such as that now occupied by Loch Tay. Although approximating in part to synclinal structure, the strata* which build up Ben Lawers are arranged in a very much more complex manner, exhibiting in some places what might almost be described as isoclinal structure, while in others they are twisted and contorted into almost every fantastic shape imaginable.

Ben Lawers, and, in fact, all the mountains of Breadal-

[^0]bane, have long been a happy hunting-ground for the botanist, and perhaps no other district in Great Britain is richer in the remains of the ancient Alpine Flora, which still lingers upon our higher hills, ousted from the fertile low grounds by the more vigorous Temperate or Germanic Flora of the present day. It is in its Cryptogamic Flora, however, that Ben Lawers is so rich-richer perhaps than any other place in the world, considering its small area. Several mosses and at least one lichen are found upon it which are met with nowhere else, while about three hundred mosses, all more or less rare, and even a larger number of lichens, have been described as occurring on its slopes. The crumbling schists of Lawers seem to be very favourable to the growth of many of our rarer plants, and a short list of some of these is appended, and may be of interest to botanical readers.

## FLORA OF THE LAWERS RANGE.*

## On Ben Lawers:-

Thalictrum alpinum.
Draba rupestris (near summit).
D. incana.

Cochlearia alpina.
Silene acaulis.
Sagina saxatilis.
S. nivalis (on steep sides of a ridge leading to the summit).
S. procumbens.
S. subulata.

Alsine rubella (in the west corrie).
Cherleria sedoides.
Cerastium alpinum.
Sibbaldia procumbens.
Potentilla maculata.
Rubus Chamaemorus.
Epilobium alpinum.
E. alsinifolium.

Saxifraga nivalis.
S. cernua (cup-like hollow near summit).
Cornus suecica.
Hieracium holosericeum.
Saussurea alpina.
Erigeron alpinum.
Gentiana nivalis (corrie on west side).
Myosotis alpestris (on rocks to S.-W. of summit).

Veronica saxatilis.
Salix reticulata.
S. herbacea.

Tofieldia palustris.
Juncus biglumis.
J. triglumis.

Luzula spicata.
Carex atrata.
Sesleria caerulia.

[^1]Poa Balfourii.
P. alpina.

Botrychium lunaria.
In Coire an Lochan a' Chatt:Caltha palustris $\beta$ minor. Ranunculus acris $\beta$ pumilus. Trollius europaeus.
Anemone nemorosa.
Parnassia palustris.
Draba verna.
Viola lutea var.
Sagina subulata.
Anthyllis vulneraria.
Alchemilla alpina.
Rubus saxatilis.
R. Chamaemorus.

Montia fontana.
Sedum Rhodiola.
Gallium boreale.
Antennaria dioica var.
Gnaphalium supinum.
Hieracium alpinum.
Apargia autumnalis $\beta$ Taraxaci.
Solidago virgaurea.
Arctostaphylos Uva-ursi.
Angelica sylvestris var.
Heracleum Sphondylium (at considerable altitude).
Vaccinium Myrtillus.
V. uliginosum.
V. Vitis-Idaea.

Oxyria reniformis.
Polygonum viviparum.
Empetrum nigrum.
Salix repens.
S. arbutifolia.
S. reticulata.

Juniperus communis var.
Tofieldia palustris.
Potamogeton oblongus.
Juncus triglumis.
Luzula spicata.
Saxifraga aizoides.
S. oppositifolia.
S. hypnoides (very variable).

Carex binervis.
C. flava.
C. glauca.
C. ovalis,
C. pallescens.
C. pilulifera.
C. pulicaris.
C. pulla.
C. vulgaris.
C. atrata.
C. rigida.

Agrostis vulgaris $\beta$ pumila.
Festuca ovina var. vivipara.
Phleum commutatum.
Poa alpina var. vivipara.
P. Balfourii.

Cerastium alpinum.
Draba incana.
Cherleria sedoides.
Silene acaulis.
Sibbaldia procumbens.
Epilobium alpinum.
E. alsinifolium.

Cornus Suecica.
Saussurea alpina.
Erigeron alpinus.
Polystichum Lonchitis.
Polypodium alpestre.
Lastrea dilatata.
Cystopteris montana.
Woodsia ilvensis var. hyperborea.

On Creag na Catllich:-
Thalictrum alpinum.
Draba incana.
Sagina nivalis.
S. saxatilis.

Cerastium alpinum.
C. trigynum.

Sibbaldia procumbens.
Potentilla maculata.
Rubus saxatilis.
R. Chamaemorus.

Dryas octopetala.
Epilobium alpinum.
Sedum Rhodiola.
Saxifraga stellaris.
S. aizoides.
S. hypnoides.
S. nivalis.

Adoxa Moschatellina.
Galium boreale.
Apargia autumnalis.

Hieracium crocatum. Carduus heterophyllus. Gnaphalium sylvaticum.
G. supinum.

Campanula latifolia.
Vaccinium Vitis-Idaea.
Gentiana campestris.
Melampyrum pratense.
Pedicularis sylvatica.
Veronica humifusa.
Galeopsis versicolor.
Armeria maritima.
Empetrum nigrum.
Salix reticulata.
S. herbacea.

Gymnadenia Conopsea.
G. albida.

Neottia Nidus-avis.
Narthecium ossifragum.
Juncus triglumis.
Luzula spicata.
Carex atrata.
Sesleria caerulea.
Triodia decumbens.
Festuca vivipara.
Poa alpina.
Cotraria glauca.
C. islandica.

Woodsia hyperboroa.
Polypodium alpestre.
On Meall Ghaordie:-
Cystopteris montana.
Bartsia alpina.
Drosera intermedia.
Thalictrum alpinum.
Trollius europaeus.
Corydalis claviculata.
Draba incana.
Cochlearia alpina.
Alchemilla alpina.
Epilobium alsinifolium.
Saxifraga oppositifolia.
Meum athamanticum.
Cornus suecica.
Saussurea alpina.
Vaccinium uliginosum.
Juncus biglumis.
Mosses, Lichens, \&c.:Sparganium natans.

Rhynchospora alba.
Carex rigida.
C. dioica.

Asplenium viride.
Polystichum Lonchitis.
Conostomum boreale (moss).
Polytrichum hercynicum (moss).
Solorina crocea (lichen), orange underside.
Verrucaria Hookeri (only found on rocks in crater-like hollow at the top of Ben Lawers).
Gymnostomum caespititium (crevices of rocks on highest summit, with Saxifraga cernua).
Splachnum vasculosum (in the channel of a rill on west shoulder).
Cyrtodon splachnoides (bogs below the summit of Craig Cailleach).
Encalypta rhaptocarpa (hollow on summit of Ben Lawers).
Grimmia torta.
Dicranum fulvellum.
Bryum Zierii.
Timmia Megapolitana.
Leucodon sciuroides.
Habrodon Notarisii (extremely rare-on sycamore tree beside Church, Killin, and on trees in avenue leading to the Pier of Loch Tay).
Hypnum trifarium.
H. Halleri (on rocks on summit -extremely rare).
H. dimorphum.
H. rugulosum.

Jungermannia juniperina.
J. ciliaris.
J. tormentilla.

Endocarpon laete-virens.
Lacidea fusco-lutea.
L. icmadophila.
L. marmorea.

Lacanora frustulosa (found only on schistose rocks at summit of Ben Lawers).
L. ventosa.
L. Upsaliensis.

Psora decipiens (rocks Larich an Lochan).
Synamaria laneslapus.
Parmelia encausta (rocks of quartz on summit of MeallGhlas).
P. stygia.

Solorina saccata. Peltidia venosa.
P. apthosa.

Gyrophora polyphylla.
G. erosa.
G. fellita.

Cornicularia tristis.
C. bicolor.
C. lanata.

Cladonia vermicularis.
C. furcata.

Scyphophoros bellidiflorus.

But to our climb. As I have already said, we made our start in sumshine, but as we left the Inn our host shook his head doubtfully when asked to give his "weather forecast" for the day, and a fishing party who were staying at the hotel kindly volunteered to organise a search party to look for us if we did not turn up in a day or two.

Our general plan was to make for Lochan a' Chait over the shoulder of the Ben, to follow up the course of the burn which flows into it from the south, and so to proceed straight up the steep slope to the top of the hill. From the hotel we made our way obliquely up the gradual but steady incline, crossing a small tributary of the Lawers Burn, and keeping the Meall Odhar Thuas well to our left. This larch-crowned hillock, and the corresponding knoll of Meall Odhar Thias, which guards the far side of Lawers Glen, are, from their cairn-like outline, supposed by local tradition to mark the last resting-place of the respective dead of two mighty hosts who in some long-past age met in deadly conflict on the adjoining mountain-side.

The slope was clothed with coarse bent springing from a spongy carpet of brownish-green moss, amongst which rose innumerable little springs, many of them completely frozen over. About the 2000 feet line we came upon our first large snow-patch, and here we halted for a few moments to rest, and to study the prospect that lay behind us. Far below to south and east, visible throughout almost its entire extent, lay

[^2]Beyond Loch Earn, some 15 miles to the south, Ben Vorlich rose amid the clouds, while more to the east lay the spotted Beinn Bhreac with its loftier neighbours Creagan na Beinne, Meall na Creige, and Ben Chonzie, each with its mantle of snow, cloud and sunbeam vying with each other for dominion over their summits. Just as we were about to resume our climb, the sky to east suddenly grew dark, and a great sheet of mist came rolling down like a curtain upon the eastern end of the Loch, burying from sight the trim little village of Kenmore with its handsome bridge and picturesquely situated little church, whose tapering spire just shews above the surrounding woods. The clouds came tearing headlong down the slopes of Beinn Bhreac, madly chasing one another across the darkening water, and mounting the rugged ridge of Meall Gruaidh and Meall Garbh, their dark and lowering aspect in vivid contrast to the brilliant sunlight on the snow-clad slopes to west of us.

Instead of following the usual track along the ridge, we now crossed the shoulder of the mountain, and presently found ourselves working along a fairly steep slope of frozen snow, streaked here and there with bands of ice, which marked the courses of numberless rivulets and springs that wended their way down to swell the waters of the Lawers Burn or flowed into the little Lochan a' Chait. These we could only cross by cutting steps with our axes, but on the whole this part of our climb was fairly easy. A few minutes' halt was called for lunch above the Lochan, which was reached about 11 o'clock-an hour and a half after our start from the Inn. The view spread out before us was magnificent. The snow-clad summits of Meall Garbh and Meall Gruaidh were touched with mist which rolled from east to west along their ridge, and their multitude of streams, turned to ice, glistened in the morning sun. Those two rocky heights, together with the great Ben Lawers towering above us to the south-west, formed one vast corrie white with snow, a huge half-circle of rocky precipices, with the lonely Loch of the Wild Cat lying frozen and dreary, imprisoned in their bleak and barren solitudes.

Leaving Lochan a' Chait behind us, we now struggled on up the steep snow slope, keeping as nearly as possible in the direction of the top of the mountain. We followed the left bank of the little burn which rushes down the hill-side to the Loch, of which it is the principal feeder. It was well frozen over, its course being marked by a track of ice amid the surrounding snow, amongst which, at a higher level, it was completely buried. The ascent was steep, and


LOCHAN A' CHAIT--BEN LAWERS.
the use of our axes became a matter of necessity, whereas hitherto they had been less help than hindrance. About half-way up the slope we again halted under the shelter of a large stone to "refresh the inner man" with a few more
sandwiches from the knapsack. But, oh ! these sandwiches were dreich, dreich! All the springs were frozen or deeply buried in snow, which does not itself seem intended by Nature to answer the purpose of a beverage.

Continuing on our upward "grind", we at length placed that slope of frozen snow below us, and, as the crest of the ridge was neared, the snow became deeper and softer, and we found ourselves enveloped in mist. A beautiful cornice adorned the summit of the ridge, and through rather than over this we had to struggle, receiving as we did so the full blast of the hail-laden east wind, which "blew as 'twad blawn its last", screaming and roaring up the corrie of the Allt an Tuim Bhric. Hitherto what wind there was had been at our backs, and the suddenness of the change almost took our breath away. Thankful I was for some extra wraps I had brought with me, and almost before I had time to don my trusty plaid I was chilled to the bone, while my less provident companion had to be content with a small scarf, which was all he had brought to withstand the weather of a Highland hill-top. Struggling on, however, along the ridge in an easterly direction, we arrived at what seemed to be the top of the mountain. Ours, however, was the fate that so often dogs the steps of those who venture on our Highland hills in such weather. Through a rift in the mist there loomed ahead of us, on the far side of a cup-like depression deeply filled with driven snow, a point still higher, and towards this we now ploughed our way; but, alas! behind it the ground rose yet more. The mist now lifted, and for a moment gave us a passing glimpse of what seemed to be a snowed-up cairn at the end of a short ridge, and a few seconds afterwards-at $12.20-$ we stood upon the summit, but not for long! It was snowing fast and furiously, and the wind seemed almost to pass through us, so keen and cold was its icy blast. While my companion, wrapping himself up in $m y$ plaid, crouched under shelter of the cairn, I vainly endeavoured to secure a photograph of it. No sooner had I turned my camera in its direction than the lens-aperture was completely snowed up! I could scarcely sing with the poet:

> "No record Art keeps
> Of her travails and throes, There is toil on the steepsOn the summits, repose".

The cairn is of some interest to the mountaineer, for, as Baddeley tells us, it enables him "to boast of having stood 4000 feet above sea level in his native land ". Unfortunately for its enthusiastic builder, Mr. Malcolm Ferguson, it can scarcely be looked upon as a legitimate addition to the height of the mountain, which is 3984 feet above the level of the sea. The following is an account of its construction, written by Dr. Armstrong for the People's Journal of 13th July, 1878:
"A very interesting ceremony took place on the top of Ben Lawers on Thursday. The old cairn of the Royal Engineers, built about thirty-three years ago, having fallen into decay, a new one was erected by Mr. Malcolm Ferguson, of Glasgow (a native of the district), and a few friends. The structure measures from 45 to 50 feet in circumference round the base, and about 20 feet in height, and forms an appropriate coronal to the noble hill. Its construction was superintended by Mr. Ferguson himself, who had summoned to the top about thirty Highlanders from Glen Lyon and Loch Tayside. The mountain top was a scene of busy animation all day, the men being scattered over the summit gathering large stones, and carrying them to be placed in position by two masons at the cairn. The work was completed about four o'clock, when the copestone, a huge mass of quartz rock, beautifully white, and weighing six to seven cwt., formed with a singularly fine conical point-as if it had lain there for ages shaped and prepared for such a purpose. It was carried from some distance on a hand-barrow, planks, etc., by about a score of active Highlanders. After it was got to the foot of the pyramid, it was securely slung in strong ropes, and with great difficulty and no small danger it was successfully raised bit by bit, and safely placed in its lofty position-the crest of the cairn. The event was signalised by a ringing cheer from the Highlanders, and strangers assembled, Mr. Ferguson being greeted with hearty congratulations on the success of his undertaking".

This second structure is unfortunately being rapidly overtaken by the fate of its predecessor, and, owing no
doubt to its lofty and exposed position, is now falling into a state of collapse.

A sudden break in the mist to the north-east shewed us Schichallion, some nine or ten miles off, its cone modified on its eastern slope into a long ridge. The vast amphitheatre of Coire an Lochan a' Chait, with its frozen lake, lay 1500 feet below, while its twin guardians Meall Gruaidh and Meall Garbh shewed rugged and grand in the back-ground-a scene worthy of Dante's "Inferno" itself. Again the mist closed, and again we were shut in. This was all our view, but preferable far to a summer's calm with its infinite expanse of hill and dale. The wrath of the elements is well in keeping with the stern beauty of our native hills. What better setting for the glimpse of distant hill and strath, mountain and glen, than the rolling mist and the driving snow? What adds more mystery and grandeur to crag and precipice than the scudding stormcloud; to the dark waters of the Loch than their canopy of gloom ?*

But to return to things more practical. The cold was intense even to lee of the great cairn, and we were soon hastening down the southern slope of the hill, our intention being to descend the corrie between Lawers and the neighbouring Beinn Ghlas by the Allt an Tuim Bhric. But in the mist we must have held too much to the south-east, and presently found ourselves on precipitous scree, the stones slippery with ice, while at its base were rocks and cliffs whose depths were swathed in all-pervading mist, through a break in which we had a passing glimpse of some snowclad hills away to the north-west, shewing white and beautiful in distant sunshine, while, beyond the western end of Loch Tay, the twin pyramids of Ben More and Am Binnein shewed their graceful outline against the sky. But unfortunately we were too much engrossed in the difficulties and dangers of our route to study to the full this effective picture. We were fairly cornered. Advance we

[^3]certainly could not, and it was with great difficulty that we managed to reascend the steep ice-covered scree, there being nothing for it but to return by the way we had come. Retracing our steps almost to the top of the hill, at 1.5 we recrossed the snow-filled hollow already alluded to, catching as we did so a momentary glimpse of the dark waters of Loch Tay far below us to the south; but almost before we had time to recognise it the mist closed again. We were now on the south-east face of Ben Lawers' pyramid-shaped top. This was covered with ice-hard snow, down which we had rather a difficult scramble, using our ice-axes as temporary anchors at every step. In an evil moment I was tempted to try to glissade down part of this slope, but the experiment failed in a most dismal fashion. My woollen gloves were glazed with ice, and I discovered rather too late for comfort that they simply slid off the smooth handle of the axe, bringing with them tre loop of cord which I had fastened to it for the very purpose of preventing my losing it in such a predicament. I had scarcely gone a dozen yards when the ice-axe stuck fast in the snow, and away I rattled merrily-or the reverse-down the steep incline withoutits restraining influence. Under the force of circumstances I was compelled to sit down most gracefully, the rapidity of my descent increasing every moment, reminding me most forcibly (afterwards) of Newton's Second Law of Motion:-"Change of motion is proportional to the impressed force, and takes place in the direction of the straight line in which the force acts". It was exciting, to say the least of it-quite like sledging, but, unfortunately for me, without the sledge-and the ice was hard and the stones were sharp, and over these I swiftly sped with ever-increasing velocity. Luckily I managed to sit facing the direction in which I was "travelling", and I could to some extent guide myself with my feet. I kept digging my heels into the ice, making, however, very little impression, until, "mair by chance than guid guidin'", I happened to pass over a somewhat softer piece, into which I plunged my heels most desperately, and thankful I was to find my speed slowly-very slowly-abating, and at last

I managed to pull up altogether. I ruefully felt myself all over to discover how many bones were broken, and how many joints I had dislocated, but to my intense relief I found that I had escaped with only a few bruises, while, marvellous to relate, a hand-camera which was in my knapsack escaped without a scratch. On looking up, I saw that my friend had managed to secure my faithless axe, and together we computed the distance of my somewhat unpremeditated descent at over a hundred yards! He pushed my axe down after me-rather an injudicious proceeding"but luckily I managed to capture it just as it was sliding past me, and until then I had no idea what a useful implement an ice-axe is. Before I recovered it I could move neither up nor down for fear of renewing my toboggan-like method of progression, and, as again I grasped its trusty ashen handle, I mentally vowed that no more that day, or for some time to come, would I try to glissade down such a place until I had mastered the rudiments, at least, of that noble art and science.

By this time my friend had rejoined me, inwardly hoping that he would not have to carry home my mangled remains, but fortunately I was none the worse for my rattle down the mountain-side, and we proceeded rather more carefully on our way, soon reaching less precipitous ground.

As our destination was Killin, not Lawers Hotel, we now took a somewhat oblique course to the south-west; and, leaving the snow behind us about the 2000 feet level, we struck at 1.45 the Allt an Tuim Bhric, a picturesque mountain torrent which comes brawling down the hill-side from its birthplace in the huge corrie between Lawers and Beinn Ghlas. On the banks of the stream we halted for half an hour for the triple purpose of admiring the magnificent view, resting ourselves, and consuming a few more of our sandwiches, of which by this time we stood in much need. About 30 minutes afterwards we struck the Killin road between the quaint little clachan of Carie and Balnreich, and in another hour and a half we reached the village of Killin, thoroughly satisfied with our day's work.
II. $\mathbf{P}$


[^0]:    * If the ascent of Ben Lawers is made from Lawers Hotel in a northwesterly direction, outcrops of the following strata will be observed in the order mentioned :-Mica, and to a small extent amphibolite schist; limestone; intrusive dyke of basalt ; mica and amphibolite schist; Ardrishaig, Ben Lawers, and Canlochan schist, of which the summit is composed; while, with the exception of the basalt dyke, and the addition of graphitic schist and quartzite, the same series is passed on descending into Glen Lyon. The exact position on the scale of geological antiquity of the metamorphic rocks of the Scottish Highlands has not as yet been fully investigated and determined, all being at present grouped together under the name "Dalradian", a somewhat comprehensive term, which includes amongst others the metamorphic rocks of the foregoing list, the basalt being most probably of subsequent intrusive origin.

[^1]:    * In the compilation of the above list (taken in part from records of class excursions of Professor Balfour), I have to acknowledge the kind assistance of the Rev. Hugh Macmillan, D.D., LL.D., F.R.S.E., who has personally gathered all the plants enumerated, in quest of which he has climbed Ben Lawers no fewer than thirty-three times!

[^2]:    "The queen of Scotia's classic lakes, The widely-famed Loch Tay; Fountain source of Britain's monarch stream, The clear, majestic, winding Tay".

[^3]:    *See "Observations from Fifty Scottish Mountains", C.C.J., Vol. I., p. 165.

